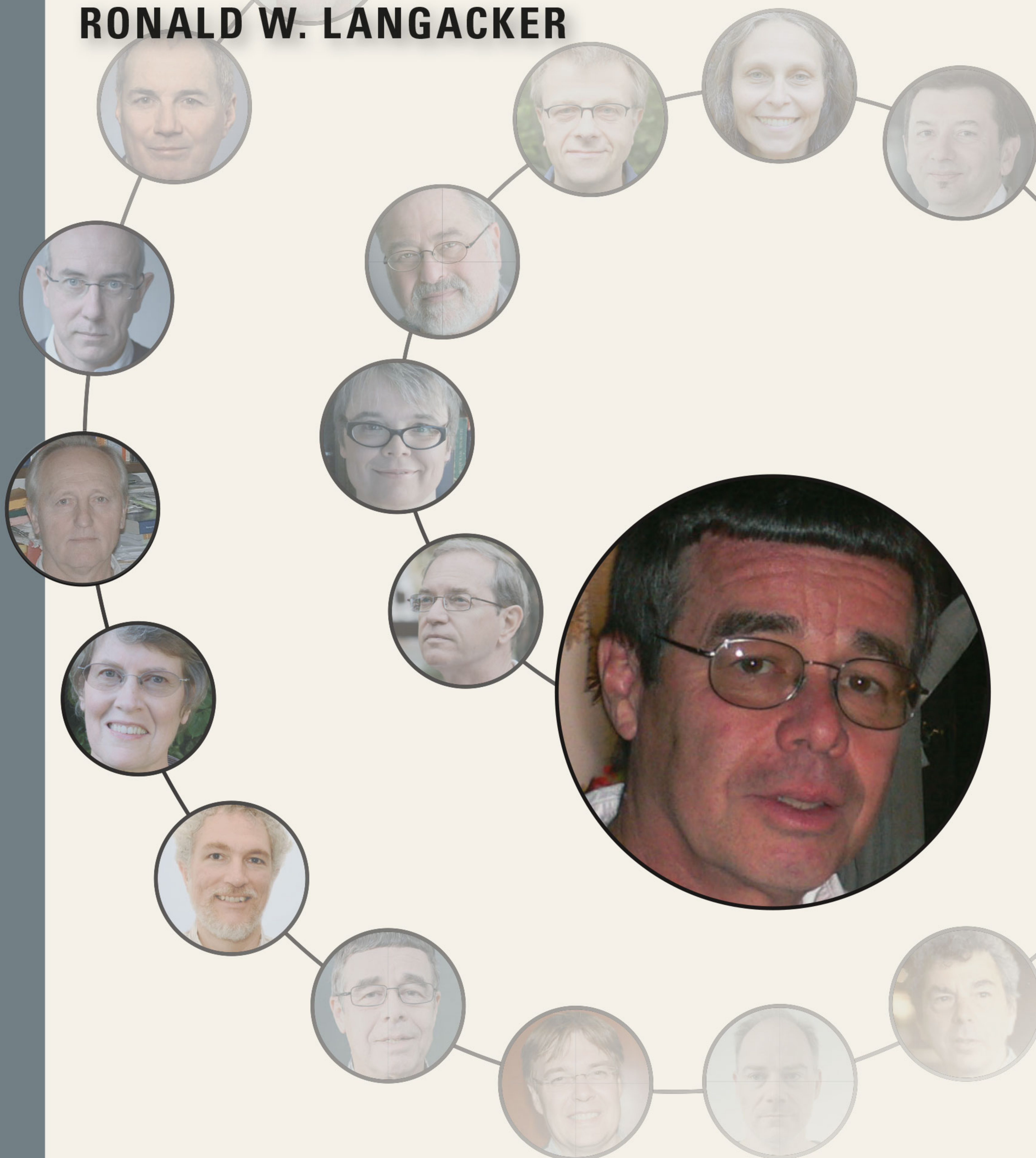


TEN LECTURES ON THE BASICS OF COGNITIVE GRAMMAR

RONALD W. LANGACKER



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Ten Lectures on the Basics of Cognitive Grammar

Distinguished Lectures in Cognitive Linguistics

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by

Ronald W. Langacker



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Preface

The present text, titled *Ten Lectures on the Basics of Cognitive Grammar*, is a transcribed version of lectures given by Ronald Langacker in Beijing in April 2006. Prof. Langacker's lectures are part of a lecture series hosted by the English Department and the Research Institute of Foreign Languages of Beihang University. The series lectures were cosponsored by the English Departments of Tsinghua University, Beijing Normal University, Beijing Foreign Studies University, and Beijing Language University. Also, this book belongs to the *Beihang Linguistics Lecture Series*, edited by us. It is our hope that the publication of this book—accompanied by its videodisc counterpart—will boost cognitive linguistic studies in the Chinese mainland.

It was due to Professor Langacker's pioneering and seminal contribution to Cognitive Linguistics that a large audience was attracted to Beijing from various parts of China as well as from a number of neighboring countries. Professor Langacker has done a great deal to establish Cognitive Linguistics as a serious academic approach to language. He was one of the main initiators of the *Cognitive Linguistics Research* series and the journal *Cognitive Linguistics*, both started in 1990 and published by Mouton de Gruyter. Professor Langacker has published 16 books and over 100 articles, supervised 31 doctoral students, and sponsored 48 visiting scholars. He is the originator of the theory of Cognitive Grammar, which is presented most fully in the two-volume monograph *Foundations of Cognitive Grammar* (1987, 1991).

As editors of the *Beihang Linguistics Lecture Series*, we express our truest gratitude to Professor Langacker for his line-by-line proofreading of the transcripts. However, any errors and discrepancies between the printed version and the video remain our responsibility.

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Conceptual Semantics

I'm very happy to be here. I'm grateful for the opportunity, the chance to come back to this great city in this great country, representing a great culture and the most unique language, and a strong linguistic tradition. It's a real pleasure to be here. My only regret is that I can not be speaking to you in Chinese. My parents were not very thoughtful in that regard. I also want to thank Thomas for the nice introduction. There will be a series of ten lectures if I survive this. Each lecture, I hope, will be self-contained so that people will be able to understand it by itself, but there will also be progression from one to the next, so things will get more complex and more interesting. Also we'll start out with semantics because a cognitive view of grammar has to be based on a conceptual view of meaning, and that has to be in place first before we can start to talk about grammar in a motivated way. So these first two presentations in particular will be about conceptual meaning, then with three and four tomorrow, we'll get into the basics of grammar, and then in five and six on the next day into more advanced things in grammar, including some things that are of interest to Chinese although it will not be focused on Chinese specifically. So this first presentation on conceptual semantics is quite introductory. Things will get less so with each successive talk. And I hope everyone has this handout called conceptual semantics.

(Now let's see. It must be on. OK, got all our technology in order here? Yes, OK. Somewhere there was also a pointer, a laser pointer. Ah, that ... Now we are all arranged.) Right, as I said to begin, a cognitive view of grammar has to be based on meaning. I think any sensible approach to grammar has to be based on meaning. A basic claim of cognitive grammar is that grammar is symbolic in nature, and by symbolic I mean that it symbolizes meaning. So we have to start with semantics, and in cognitive linguistics, meaning is identified with a kind of conceptualization. But conceptualization in a very broad sense of that term as I spell it out in No. (1) on the handout. Any aspect of our mental experience can be called conceptualization, not just the most abstract kinds of concepts, but also immediate experience: sensory experience, motor experience, emotive experience. Also, apprehension of the context in all these dimensions: the physical, linguistic, social, and cultural context. And semantic structures will be those conceptualizations which function as the meanings of linguistic elements. So semantics is a sub-part of conceptualization. Semantics is conceptualization adapted for purposes of speech and language. I emphasize this

because the position has been drastically misrepresented by prominent people like Levinson who say that I do not distinguish between conceptualization in general and linguistic meaning. Levinson apparently had never read my books before making these claims in print. I say very clearly “linguistic meanings are conceptualizations adapted for expressive purposes in accordance with the conventions of the language.”

Now, how do we describe meanings? Well, first of all, a complete and definitive description of meaning is not really possible, short of a complete description of human psychology and cognitive processing. I’ve given some reasons for that in No. (2) on the handout. First of all, semantic structures have too many different aspects or dimensions of different natures for them all to be reducible to a single formalism. You might think of the formalism of, say, symbolic logic, or something of that sort or, say, formal semantics of other sorts. There is an expectation very often in linguistics that semantics should be reducible to some discrete set of symbols arranged in a certain way on a page, and there should be a formal account of it, that this is possible. And also we want to be precise, and I often use formulas for these purposes. I never think of these as being complete or definitive or as necessarily faithfully capturing the nature of the phenomenon. We have to try to characterize conceptualization. For instance, part of the meaning of many words is some kind of visual image or auditory image or motor image. Part of the meaning of a word, like, say, *trumpet*, is an auditory image of what a trumpet sounds like and also, what one looks like, a visual image of what it looks like. Part of the meaning of a verb like *walk* is what it feels like to walk—sensory motor images. And it’s hard to imagine that these would be expressible in the same kind of formalism in any realistic way as other aspects of meaning. So, we have to have realistic expectations about what linguistic meaning is like, what an account of linguistic meaning could look like, it has to be diverse and accommodate different kinds of phenomena. Also, linguistic meanings are not self-contained or well delimited. They are not sharply divided from other kinds of knowledge. I’ll be talking about this a little bit later. So linguistic meanings are built upon our conceptualizations, our knowledge of the world, rather than being separate, and there is no particular dividing line, no specific dividing line between what is linguistic and what’s extra-linguistic. Also, meanings are variable and context-dependent, they are always shifting in use even though there is a stable and conventional basis. So it’s probably true that an expression is never used twice with exactly the same conceptual import—exactly the same. I’ll talk about all these things as we go on today.

So I’m talking about some basic notions of semantics. And the next one here is No. (3) polysemy. A common claim in cognitive linguistics is that most common expressions have multiple established meanings, not just a single

meaning, a family of related meanings. These are sometimes called senses, and among these are some senses that are prototypical relative to others, or some are schematic relative to others. This is an example I've often used, the noun *ring* in English. And these are some senses of the noun *ring* in English today. If you use the noun *ring* out of context, someone would probably think that is a piece of jewelry, a circular piece of jewelry you wear on the finger, that's the basic sense, the prototypical sense which I've shown with a thick box. But more abstractly, a *ring* can be a circular piece of jewelry regardless of where you wear it, maybe not on the finger, it might be an earring or a navel ring or nowadays rings go all sorts of places. More abstractly still, it could be a circular object of any sort, not necessarily a piece of jewelry. It doesn't even have to be an object. It can be a mark. When you drain the water from a bathtub and there is dirt around the bathtub we call that a ring. So that's a circular entity, it's a mark. I use the solid lines for relations of schematicity or elaboration. So a circular entity is the schema that circular mark and circular object both instantiate. And circular piece of jewelry is a special case of circular object and circular piece of jewelry for the finger is a special case of circular piece of jewelry. So, these are all different senses, different conventional ways we can understand *ring*. And there are others still. Metaphorically, a *ring* can be a group of people who operate together secretly, like a smuggling ring or a spy ring. That's a kind of metaphor. That's sort of seeing it as, somehow, circular with an interior, which goes along with the notion of secret. But we also talk about an arena, a circular arena as a ring. So bull fights are in a bull ring, which is circular. But once that gets established, that gets extended to rectangular arenas, so we talk about boxing arenas, wrestling rings, usually these are rectangular, not circles, but they are still rings. And the schema which these share would be just the notion of arena.

So, we have at least these senses just for the noun *ring*. They are all closely related to one another. Everyone feels that they are related, but it's all conventional. You have to know what these conventional senses are. You can not predict a priori what will be the conventional meanings. Some are schematic. There is not necessarily a schema for all of them because there can be extensions in different directions and there might not be anything that all the uses share. There may or may not be, it depends on the case.

In No. (5) on the handout, I just explain these arrows, the two kinds of categorizing relationships. The solid arrow for elaboration, the dashed arrow for extension. These are types of categorization we all talk about. With the solid arrow—A arrow B—A is schematic for B. A is schematic, B is specific; B elaborates A; B is an instance of A. This implies compatibility between A and B. It's just that B is specified in more detail, a finer-grained description. In the case of extension, which I use the dashed arrow for, as in the metaphorical extension

I give up there, A is a more central or prototypical sense. B is more peripheral. In this case, there is some conflict in meaning. B does not completely match A, it suspends certain features of A. It changes A in some way. These are just aspects of a single broader phenomenon. I would want to give a unified account of these, but for rough purposes we at least have to recognize these two possibilities.

I already indicated that semantic extension, marked by the dashed arrow, often involves metaphor, as with a smuggling ring, a spy ring; but it can also involve metonymy, like the word *church*, which can either designate a building or something associated with the building, namely, a religious group. Those are not related by similarity, but by association, so that's called metonymy, as opposed to metaphor. Since we have at least one person here from Japan, I have some Japanese examples. Again a standard example, I think Lakoff has written about this in *Women, Fire and Dangerous Things*. This is the classifier *hon* in Japanese, which prototypically is used with LONG THIN OBJECTS. I assume with this group I don't have to explain what a classifier is (for an American audience I might have to). But LONG THIN OBJECTS like the first ones listed in (8): sticks, canes, pencils, candles, trees, ropes, hair and so forth (I don't know about snakes). But then, around this are all sorts of associated meanings, where the association typically is metonymy, so MARTIAL ARTS CONTEST WITH STAFF/SWORD. So staff or sword is the LONG THIN OBJECT, and the *hon* is used not to name that object or not to classify that object, but rather the contest, the combat. Once the classifier gets applied to MARTIAL ARTS contests of that sort, it can be generalized and used for things like a JUDO MATCH which don't use LONG THIN OBJECTS. That's a natural path of extension. Or MEDICAL INJECTION, where the LONG THIN OBJECT is a needle, associated by metonymy. Or a ROLL OF TAPE, which is rolled up, but could be stretched out to be a LONG THIN OBJECT. Or a film or a movie, or a wire as a special case, and then a telephone call, by metonymical extension from a wire. Or a HIT in baseball, that could either be metonymy or metaphor. Since you hit with a bat, which is a long thin object, that could be by metonymy or by metaphor. A hit, usually the ball goes along a trajectory, which is usually a line drive which has a flat trajectory and that resembles a long thin object. So those are more examples of this.

So we have to describe families of related meanings for many items. So how do you describe meanings? What are they made of? Traditional semantics very often says we can't even talk about conceptualization because it is so mysterious. Semantics textbooks, especially written by the British, do this even today. They do not talk about conceptual meaning, and say you can not,

it's unscientific, which is not true. You have to talk about conceptual meaning, because that's what meaning consists of, conceptualization, and you can do that in a rigorous way, in a motivated way, but how?

Well, there are various proposals. A well-known proposal in cognitive linguistics is the notion of image-schemas. This is from Lakoff, although Lakoff has attributed the term to me actually, but the term is his, and it is not really my idea, in fact I have quibbles with it.

Image schemas, I try to define them in No. (10), and the people who talk about them most really don't usually bother to define them. But they are schematic and imagistic concepts which are abstracted from pre-conceptual bodily experience, function as constituents of more complex notions and provide the structure projected metaphorically to more abstract domains. That's the kind of thing image schema has been claimed to be. And examples are given in (11). The longest list of examples was provided by Mark Johnson in his book *The Body in the Mind*. That list is taken from his book. Things like container; blockage; enablement; source-path-goal; cycle; part-whole; full-empty; counterforce; link; near-far; merging; contact; compulsion; restraint-removal; count-mass; superimposition; process; collection. I'm not going to talk much about image schemas, the notion has been rather vague. I think the list that's given is very diverse. There are different kinds of notions there. I'm very happy to recognize all those as very fundamental conceptual notions and I'm happy to use them in semantic descriptions. I think that's legitimate. But you want to ask what is the most fundamental aspect of meaning, what do you have to talk about to talk about conceptual structure? I tend to think about it in another way as I try to spell it out in No. (12) on the handout.

I find it more helpful myself to divide things into, first of all, cognitive domains, which provide conceptual content, and I'll talk about that in the next section this morning. Secondly, various kinds of cognitive abilities, and these go into the phenomena that I call construal, which I'll also talk about this morning. And then, there are different kinds of concepts which are basic, but there are different ways in which things can be basic. So the term basic is not self-explanatory. There are different kinds of basicness. Image schemas are basic in one way, conceptual archetypes are basic in another way.

So let me give you a sketch of that, then we'll go into more detail about things.

What do I mean by cognitive domain? I made up the term *domain*, because I needed a very general term. It's any area or product of conceptualization, relative to which semantic structures can be characterized. So I'm going to ultimately say that the meaning of any expression takes as its basis some set of cognitive domains. So cognitive domains give you the content on which

meanings are established. There are at least two general sorts, which I call basic domain and non-basic domain. A basic domain is cognitively irreducible. It is something that can not be reduced to something more fundamental conceptually, so things like time and space and color and pitch and smell, things associated with senses, maybe there are some basic emotive experiences that are not reducible to anything more fundamental. By color, I mean the color sensations we can experience, OK?

Now we talk about these things metaphorically. We use space for metaphorical expressions for time, we use metaphors to talk about different sensory expressions and so on. I'm not talking about things at that level. We can talk about basic domains in many different ways, using concepts from other domains to talk about them metaphorically, but I'm talking about just the fundamental experience itself, it is not reducible to anything more basic.

Now, basic domains are not concepts. They are regions of conceptual potential. They give you the possibility of concepts. So take color space, the range of color sensations we are capable of experiencing. That's just cognitive potential that I'm talking about there. That's the basic domain of color space. A particular color concept, like red or green, that's a concept which realizes that potential in a certain way, and that will be a non-basic domain. As soon as you talk about actual concepts or conceptualization or knowledge or knowledge systems, all of those are non-basic domains. Whether any kind of concept or conceptualization or product of conceptualization, their metaphorical construal, anything—I use the term quite generally, and they range from very simple to extremely complex, from something simple, like the notion red or to something as complex as your knowledge of Chinese history. OK.

And the point is that the meaning of a linguistic expression is going to rely on some set of cognitive domains. Those domains might be anywhere in that hierarchy. They might be very simple notions or they might be elaborate systems of knowledge or combinations of these. And some set of domains give you the basis for meaning, but they do not constitute the meanings of linguistic expressions because that also involves how we construe these domains, what do we do with this content. So meaning is a function of both the content and the construal. The domains give us the content, then cognitive abilities give us the construal.

Some types of basic conceptual entities are listed in (14). These are things I find it useful to think about as types of basic entities. First of all, minimal concepts in particular basic domains. So the notion of a line would be a minimal concept in the domain of space; or angle or curvature, other minimal notions in the domain of space; or particular focal colors, like focal red, focal blue; or the notion of temporal sequencing, a minimal notion in time; or the exertion

of muscular force, OK, in the kinesthetic domain. Secondly, basic in another way are what I call conceptual archetypes. These are rather complex notions but psychologically they are very basic and fundamental despite their complexity. These have a lot of content to them. These are notions like physical object, the spatial motion of a physical object, the conception of the human face, the conception of the human body, a physical container and its contents, a whole and its parts, the experience of seeing something, holding something, handing something to someone, exerting force to make a change. OK. These are experientially grounded. With these things we learned through experience, although some of these may have an innate basis, but certainly they are grounded in experience. They are rather elaborate. There is a lot that goes into our conception of the human face, and they are very hard to define—try to characterize what a physical object is. It's not easy to say conceptually what a physical object is. But obviously we come into this world expecting to find physical objects, we are equipped to deal with them, conceptually these things are like minimal notions even though they conceal a lot of complexity within them. These give us prototypes. These are the kinds of notions that function as prototypes for linguistic categories, like physical object as prototype for nouns or part-whole as one of the prototypes for possession or exerting a force to make a change as the prototype perhaps for verbs.

There are also highly schematic notions that are independent of particular domains. They can be manifested in many different domains. Notions in (14) c, like point vs. extension, contrast, boundary, change, continuity, contact, inclusion, separation, proximity, group, these we can apply to space or to more abstract domains or to time or to colors, anything. So those are basic in still another sense.

Image schemas as Lakoff and Johnson and others use the term are somewhere between b and c, their image schemas seem to be a mixture of these different kinds of notions. But I find it useful to try to sort out the different kinds of basicness.

So I have this working hypothesis in (15). It won't be an emphasis in this particular series of lectures, but you'll see it in my works. I think some fundamental and basic and universal grammatical notions like noun and verb and subject and object and possessive, maybe count and mass noun, and the correspondents for verbs, I think those are some universal and fundamental notions. I think these have two kinds of semantic characterizations that are both basic. On the one hand, they have prototypes, and their prototypes are conceptual archetypes, like physical object for nouns and force dynamic interaction causing a change for verbs. But the same notions also have schematic characterizations, abstract meanings which apply to all members of the categories

like to all nouns or to all verbs or to all possessives. Those have to be far more schematic and independent of any particular content. Those are described in terms of basic cognitive abilities, like in the case of nouns, I talk about the ability to mentally group things and to reify a group by treating it as a single thing for higher level cognitive purposes. I can't go into details here, but that's a cognitive ability, and that ability is first manifested in the prototypical cases, and then is later extended to other cases. So it is that ability which gives us the ability to perceive physical objects in the first place. It is sort of automatic in the case of physical objects. We don't even notice we are doing anything because it's so obvious and automatic that we treat a physical object as a unitary entity conceptually. But the same ability that lets us to do that can later in development be applied to other cases like when I talk about everyone being here as an *audience* and use a count noun for what are obviously discrete things. I have to group you all and treat you as one thing for some higher level cognitive purpose. It is the same ability that lets me perceive a physical object in the first place, but it's now applied in a place where it wasn't originally applied, and that, I think, is a key to grammar, to see things happening at those two levels: a schema level which gives us general definitions and the prototype level which sort of motivates the categories in the first place. A lot of people in linguistics would accept the prototype level characterization, but even in cognitive linguistics there are people who would not accept the schematic characterization which I think is equally critical.

OK. Now there you see the organization of this talk. That is one section. We have three more sections. First, I'll talk about cognitive domains, providing conceptual content; then, construal; and then depending on how much time there is left, I'll talk about dynamicity and fictivity, which will be foreshadowing what we will do in this afternoon. So it doesn't matter whether we get through it or not. And we will see about things like questions and discussion. I'll try to save some time at the end for a certain amount of questions and discussion. Certain talks in this series will be longer than the others, so there might be longer question periods in some cases than other cases. Let's see how things go.

All right. I'm starting section B, No. (16). The meaning of a linguistic expression consists of both conceptual content and a particular way of construing or viewing that content. And I often use this example as a convenient example to illustrate that—an initial example of content vs. construal. There are 4 expressions in (17) which correspond to diagrams (a), (b), (c), and (d). The expressions are: *the glass with water in it*; *the water in the glass*; *the glass is half-full*; *the glass is half-empty*. All of these have very much the same conceptual content. All of them evoke this situation. There is a physical container of a certain

sort, there is liquid inside and the liquid doesn't fill the container. That much is pretty much shared by all of those four expressions. And the four expressions don't have much additional content, ignoring things like the definite article and the word *be*. All the essential content is shared, but those expressions are both grammatically very different and semantically very different. The question is, where do these differences come from since they are all describing the same situation, the same content. They are describing, they are construing that content in different ways however, so they are not the same in meaning. So construal No. (1) corresponds to the expression *the glass with water in it*. Obviously, that expression refers to the container, so the dark lines, what I call profiling, that's what the expression designates, what it refers to, and that expression refers to the container. On the other hand, *the water in the glass* profiles or refers to the liquid, and not the container. The container is still part of the meaning of the expression. All right? *the water in the glass*, the notion of the glass holding the water. That's all part of the meaning of the expression, but what the expression refers to, is the liquid, whereas it refers to the container in the first example. Those two expressions are nominal, the other two are clauses, *the glass is half-full* and *the glass is half-empty*, and you all know about half-full and half-empty glasses. These profile relationships. So *the glass is half-full* takes as its basis the concept of filling, so it has the notion of a container and then something going and reaching the top of the container so that the container is completely full, but when you describe something half-full, you are saying that the actual extent of the filling only reaches the half-way point, so that's a particular way of construing that content. It contrasts with half-empty, which gives you the potential for there not being anything in the container, the notion of emptying or taking something out. How much? It could be just vacant, and the potential is represented by the long arrow again, but what is actual is that the extent is only half of that. So, those are four different construals on the same content and you can see these correspond to different linguistic expressions. The elements that profile entities or things are nouns; the ones that profile relationships are clauses. So you see a connection with grammar right away. That's not an accident.

OK. So we have content and construal. How do we get the content? The content consists of cognitive domains. Some set of cognitive domains. These can represent any degree of complexity or any level of cognitive organization. I said they can be very simple like the notion of a body part or the notion of a point or a line or the notion of liquid; or they can be extremely complex, like a whole body of knowledge of some sort. Typically, an expression has a lot of domains as the basis for its meaning, not just one, and these domains, collectively, I call them the matrix. That's not a term I've used a lot. But in each of these

domains, the profiled entity, the referent has some role. Importantly, the domains are related to one another in various ways. The domains are not like separate discrete objects. They are not like beads on a string or they are not like jars on a shelf. They are related to one another, they overlap with one another. They are sometimes contained in others. They intersect or they can be connected by correspondences. That's what happens in, say, metaphor and mental space configurations. This is where metaphor or mental space configurations come in, through cognitive domains. That is, mental spaces or source domain and target domain which correspond in various ways to one another. I won't be talking a lot about those, but this is where they enter the picture.

I find it helpful to go through one example in a lot of detail, and so I took the example *glass*. And in (21), to give you an idea what I mean by a set of cognitive domains, I just try to list some of the domains for *glass*. This is the thing you drink out of. So one domain is the domain of space. That's a basic domain. Space, a glass obviously exists in space. Next, shape. There is the concept of a glass-like shape, the shape that a *glass* has typically, and that's something like a cylinder, and the cylinder is closed at one end. OK. So that's a shape concept, it is a non-basic domain. However, this builds on the previous domain. It presupposes space. A physical shape is a shape in space. Then there is a notion of orientation, how a glass is oriented in space. So this brings in the picture of horizontal versus vertical dimensions and we define it in part by gravity. And the orientation of the glass is that, typically, the long dimension of the cylinder is oriented in the vertical dimension, and the closed end of the cylinder is at the bottom, not the top, you know it very well if you are going to use a glass to drink out of, that's the way you want to hold it, or you are going to have trouble. So there is a third conception, typical orientation in space. That incorporates the previous two. That requires the shape conception and also the notion of space. Then we come to the functions. Function No. 1. A glass is a container for liquid as in those diagrams. OK. So this brings in previous domains like orientation, but also presupposes liquid, the notion of spatial inclusion, then there is the notion of potential motion. The liquid could move and it would move unless the glass held it, so there is potential motion. And there is the notion of force because of potential motion and the glass blocking it. Those are force dynamic notions. There is constancy through time because if a container is successful the water is not moving, the situation is stable through time. So there's a lot of additional concepts being brought in. All of those concepts contribute to the notion of function No. 1.

Now function No. 1 is one of the domains that's incorporated in function No. 2: the role in the process of drinking. So in addition to function No. 1, which incorporates all those previous domains, in addition to that, you have

the conception of the human body and of grasping with the hand, and motion with the arm to bring the glass up to the face, the notion of ingestion. All those things go into function No. 2.

Then other domains. The material that a glass is made of. It's usually the material we call *glass*. The size of glass, something easily held in one hand—if we had a glass the size of this room, it will be very hard to drink out of, OK, at least in the usual way. Other domains, how much a glass costs, how you wash it, notions of storing it, the possibility of breaking, where you put a glass on the table at a meal, how you manufacture it, and coming in matching sets, and no doubt others. OK.

So all of these notions come into play as part of the meaning of the term *glass*, to say a single lexical item. So a large set of cognitive domains illustrated there. Now in this diagram I simply try to show graphically what I just said. The ellipses stand for cognitive domains. And the point of this diagram is simply that the domains are not separate, they overlap, many are included in others as I just show without an example. The profiled entity, what the entity refers to, is shown by this thick line circle. That's the profile. It plays some role in all of these domains and thus ties them all together.

Now, a basic question then arises. Given that all of those domains are part of what we know about glasses, how much of all that knowledge I just went through, how much of that is linguistic and how much is general knowledge, extra-linguistic knowledge? What part of that is language and what part of that is just general knowledge? And that's a fundamental question. It's a controversial question. Linguists usually assume that, say, lexical items like *glass* have meanings and those meanings are limited. So I'd give you some kind of formula or some definition, and that's the linguistic meaning of the expression. Obviously when we talk about glasses, all sorts of other knowledge comes into play, but only some small portion of our total knowledge of these entities, I'm using *glass* of course as an example, but it could be any lexical item. Only a small portion of our knowledge is considered the linguistic meaning, and the rest is extra-linguistic or general knowledge. That's metaphorically called the dictionary view of linguistic semantics. It suggests that linguistic meanings are the sorts of things you would find in a dictionary entry, so a few lines of description is sufficient for the capture of the linguistic meaning. The problem is that nobody really knows how to draw a line around what is linguistic and separate it from what is non-linguistic. The boundary seems arbitrary from a linguistic standpoint or from any other standpoint. I'm not going to argue this. I'm going to illustrate it a little bit, but I won't argue it. It's been argued elsewhere. It's still a controversial issue. But there is an alternative which I think matches the linguistic facts much better, and that is metaphorically called the

encyclopedic view of linguistic semantics, which says that the meaning of an expression is more like an encyclopedia entry than a dictionary entry, that is, a list of all sorts of things, essentially anything we know about the type of entity in question. So that on the encyclopedia view, all of these aspects of meaning that I talked about for *glass* would be part or at least available for the linguistic meaning of *glass*.

Now, this is crucial. Not all of that knowledge is equal. When we learn a lexical item like *glass*, we are not simply labeling a body of knowledge. We are structuring that body of knowledge in a certain way, providing a conventional way of accessing it, such that certain specifications are by convention and by learning more central than others. And that's the point of the second diagram here, diagram B. In diagram B the domains are actually overlapping, they include one another, they intersect and so forth. But artificially, for analytical purposes, I've separated them here and shown them as separate, just to show that they can be put on a scale, ranging from highly central to highly peripheral, that is, most essential to the meaning to the least essential to the meaning, but this is a gradation and may be anywhere in between. And when I went through the specifications for *glass*, the early ones were central, the later ones were peripheral. It's sort of obvious that's the case just because you understand the term. But it's very flexible, and when we use a term, the term *glass* in a particular sentence, for example, in a particular context, we are not going to activate all of our knowledge about glasses, most of it will be irrelevant on a particular occasion. We are going to tend to activate the most central specifications or some subset of the central specifications, and only when need arises do we access the other specifications. I try to show that in this diagram. In different uses of the expression, think of *glass* or it could be any other expression, these are the domains now ranked for centrality. And in this diagram, the thickness of the ellipse is in this case the degree of activation, degree of activation on a particular usage. So, one time you use *glass*, when you drink out of a glass, you are activating only the central concepts to any significant degree, more or less in the order of the centrality, but on another occasion, in another context, other properties might be more relevant, and it might not activate the central properties as much or even at all. Other things might be activated to different degrees. And if you take all the cognitive domains into account and take degree of activation into account, as influenced by need and by context and by priming and things of that sort, it may be the case that you do not ever have exactly the same degree of activation over exactly the same domains on any two occasions, which is what I mean when I say that it may be the case that an expression is never used with exactly the same meaning twice. Every usage

is a little bit unique as shaped by the usage circumstances. So all of these are part of the encyclopedic view of meaning, and I take it as the right view without trying to argue that in any detail here.

I have one example in (26). The lexical item here is *cat*. I could have used *glass*, but we talk about cats so often that is a very convenient example. So there are a bunch of sentences here involving *cat*, and the understanding of *cat* in the sense I just described is different from example to example, because each example makes different domains more or less relevant, so different things are activated by the context here.

(a) *When she picked up the cat, it started purring.* There you are pretty much limited to central specifications of *cat*, that is, an animal of a certain size, of a certain shape and covered with fur and so on, makes a certain sound. But all of the other sentences invoke, as a basis for understanding, more peripheral specifications of the sort that might not even get into a dictionary. *He was saved by his cat-like reflexes.* So you know how cats jump: really quick and respond very fast. That you might not find in a dictionary, but it's clearly essential to understanding this sentence. Or *A cat is a mammal.* Things about classification. Or *It was a real cat-fight.* OK, so what we think we know about how cats fight. *Watch out for ladders, black cats, and broken mirrors!* This is alluding to the role of cats in superstition in American culture. All those things are unlucky. If we say *Is this birdcage cat-proof?*, how do we understand the word *cat-proof*? It means that the cat cannot get in the cage to reach the bird. This relies on a bit of cultural knowledge or cultural belief about cats, they like to catch birds and are always trying to do that. That's how you understand *cat-proof* with respect to a birdcage. We are putting together cultural knowledge with the lexical meaning of *birdcage* and *cat-proof* to make sense of it all, and *cat-proof* is understood in one particular way—the cat can not get inside something. But if we say *Is this sofa cat-proof*, we are not talking about the cat being unable to get inside the sofa. Here we are invoking another domain of knowledge concerning cats, that cats like to scratch on furniture and tend to ruin the furniture with their claws. OK. So *cat-proof* means something different there. And if we say *Is this rug cat-proof*, you are probably talking about different kinds of excretions that cats are guilty of, so they can get the rug all dirty in various ways.

So if this encyclopedic semantics makes any sense, and I think it is the only approach that makes sense when you think things through, there is no specific dividing line between what's linguistic and what's extra-linguistic, but linguistic structure tells you what's central and what's more peripheral, it gives you a particular way of accessing the associated bodies of knowledge. There is a balance between convention and creativity here, but there isn't any specific

boundary. The meaning of the lexical item is based on general knowledge and uses that knowledge in a certain way, but it's not that the general knowledge is contained in the lexical item—that's the dictionary view, metaphorically, but the linguistic elements exploit the general knowledge in a certain conventional way.

If this is true, we have the consequences in (27). First of all, semantic structure can not be exhaustively described. To describe it exhaustively, you'd have to describe all of human knowledge. Secondly, language including semantics is not a distinct and self-contained module in the brain, that is, it draws upon, it incorporates, depends upon encyclopedic knowledge of *cat*, for example, and similarly for other lexical items, but it's not separate, the linguistic meaning is not isolated and stored in a different part of the brain. It exploits that in a certain way and builds on it. And it also means that semantics is not fully compositional. You can not derive the meaning of the whole from the meanings of the parts by means of regular general rules. That follows immediately from the fact that the meanings of lexical items are not themselves fixed and definite. If *cat* or *glass* means something a little bit different every time it is used, then the meaning of a lexical item itself is not even fully compositional, that is, it's context dependent. So the meaning of an entire sentence can not be fully compositional because it doesn't even have fixed parts to begin with as the basis for its meaning.

And of course many other things come into meaning besides conceptual content: elaborate mental constructions with metaphor and blending and mental spaces and so on, which show even more forcefully that semantics is not fully compositional.

All right. So that was section B, and we are doing OK for time here. We are going to go right on to Section C Construal.

Conceptual content is only half of the story of semantics at best. Some set of cognitive domains provide this conceptual content, but the meaning of an expression is not just that, it also includes what we do with that. Construal is our ability to conceive and portray the same situation in different ways, and there are many aspects or dimensions of construal. They can be divided up and categorized in many different ways. I've just given three broad classes of construal here, I call them *level of specificity*, *prominence*, and *perspective*. There are different ways you could categorize these things, and different things you could include in each category. That's not important. The important thing is to realize all of the different kinds of phenomena that are involved, however you group them.

The first one in a sense is the simplest. That's the level of specificity or schematicity. It's the same notion that figured in categorization with the solid

arrow, A arrow B, where A is schematic, B is specific. There is an elaborative relation between A and B. And that is illustrated by hierarchies like the ones in (29), starting from the most schematic going down to the most specific. We have things like *thing*, *creature*, *animal*, *mammal*, *dog*, *poodle*, where the solid arrow indicates that each term is more specific than the preceding one or each term elaborates the preceding one, specifies it in finer detail, with more precision, bringing in more information from more domains perhaps; or going in the other direction, these expressions from right to left get more and more schematic, so *thing* in the most general sense of the term is schematic for all of the things to the right. This is the sense of *thing* that we have in words like *something*. *Something* can refer to abstract as well as physical entities, can refer to count or mass, very general term. And of course it's not just nouns, similarly for verbs. *Do*, *act*, *move*, *run*, *sprint* in (29)b. Those are successively more specific, left to right, so *sprinting* is a particular kind of *running*, *running* is a kind of *moving*, *moving* is a kind of *acting* and *acting* is a kind of *doing*, and you go on even further. That's the main verb *do* I had in mind there. There is the auxiliary verb *do*, which is still more schematic, I'll talk about that tomorrow, I think.

Now, those are just lexical items. These lexical items show you immediately that this is a dimension we operate with. Some terms are more specific, others are more schematic. But it's not limited to lexical items because when we put together complex expressions, we can also choose to operate at any level of specificity or schematicity as I exemplify in (30)a. (We've gone a whole hour now and I think I'm reaching the point that I know you well enough that I can take off my jacket.)

I might say something like *A dog ran into the room*. That would be more like our normal level of operating in terms of specificity. But if I have reason to, I could be more abstract, more schematic and simply say *An animal moved*. That's not too informative, usually, but it tells you something at least, or still more schematically: *Something happened*. Sometimes there are just real reasons to be totally vague about things. OK? Obviously, almost always it's true that something has happened. OK?

So we operate at different levels for different purposes, and of course different parts of the sentence can be specific or schematic. It doesn't all have to be equal. So in (30)b I'm being specific about the events, but schematic about the participants, so *An animal sprinted recklessly into the room*, or I could do the opposite, and be schematic about the event and more specific about the things: *A dirty poodle entered the kitchen of our cottage*. And of course all depends on the discourse context and our purposes and so on.

OK, so that's specificity. I'll talk a while about prominence and then about perspective. Certain elements in a conceived situation are made prominent to different degrees in different ways. This is one aspect of construal: same content, but differences in meaning because of how prominent things are within the conceived situation, within the conceptual content. So in logical terms, the situation could be exactly the same, but now the prominence we accord to things constitutes a linguistic meaning difference. There are many kinds of prominence. Prominence is one of these terms that is too general to be useful unless you become more specific about what you intend. I'm not teaching anymore, but I always used to tell a student, if you write a paper, don't just try to explain something by saying this is prominent. That doesn't say anything. There are too many kinds of prominence. You start doing something linguistically interesting only when you separate out the different kinds of prominence and what function they play linguistically.

For example, things in the physical realm tend to be more prominent for us than things that are abstract, OK just intuitively. That's one kind of prominence. Or a prototype is more prominent in a category than peripheral members of the category. That's another kind of prominence. I'm not going to talk about those things anymore. I'm going to talk about the ones that are most directly relevant for grammar or in a discourse, notions like topic or focus involve a kind of prominence or different kinds of prominence. Those are not equivalent notions, but both of them involve kinds of prominence. Those are all different. And whether they are all properly grouped under the label prominent, whether there is some content to that notion, I don't really know, I think there probably is something they all have in common. It's not important really. The important thing is to recognize all the phenomena.

Now, two that are specially important for grammar are profiling, which I'll briefly mention, and then what I call trajector/landmark organization, that's the prominence of participants in a relationship. So I need these to talk about grammar. These are the ones I spend most time on.

First, profiling. An expression evokes a certain body of conceptual content as the basis for its meaning. I've said that before, but I describe this content as a set of cognitive domains. I sometimes call that the conceptual base. It's the basis for meaning. Conceptual content is the basis for an expression's meaning, but it's not the meaning. The meaning involves how you construe that content and one kind of construal is profiling. An expression's profile is what it designates or refers to within its conceptual base. And I have some standard examples here. One of them is the term *hypotenuse*, a term from geometry or

trigonometry. And what is *hypotenuse*? Well, you start with a right triangle. That's a triangle with one of the angles a right angle. And the hypotenuse of a right triangle is the line that's opposite the right angle. So that's the technical definition. The thick line here indicates profiling. The term *hypotenuse* profiles one side of a right triangle, a particular side of a right triangle. The conceptual base is the concept of a right triangle, and without that concept as its base, you could not characterize *hypotenuse*. This line by itself will not be a hypotenuse. It's only a hypotenuse in relation to this concept, and this concept itself is not the meaning of *hypotenuse*. You only get the notion of hypotenuse by adding the information that you are referring to this side of it. So, it's the one in relation to the other that gives us the meaning of *hypotenuse*. The profile is imposed on the base.

Similarly with many other examples, in fact, every expression is an example of that, in one way or another. This is the conception of a human eye, just the physical object which has a certain appearance. The terms *iris* and *pupil* profile parts of the eye, and the conception of the entire configuration is necessary to understand what *iris* and *pupil* mean. An opening is not a pupil. A pupil is only the opening in this configuration, the opening through which one sees. Or something this shape and this color would not be an *iris* unless a part of this larger configuration constituting an eye.

I imagine those are not common enough terms. These are new terms for some of you. That's what *iris* and *pupil* are, those parts of the eye. The example also shows that expressions can have the same base, but profile different parts of the base and they have different meanings because they have different profiles. Now, there is more to the meanings of these terms than just these configurations, but if this were all there were to it, you could still see that the difference in profiling contributes to a difference in meaning, and that might be the only difference in meaning in some cases.

Now, we can either profile things, and these are all examples of things, or we can also profile relationships, like the verb *admire* profiles a relationship.

Here we start getting into grammar a little bit. What is the conceptual base for something like *admire*? Well, there is the notion of, first of all, some person who is capable of cognition and capable of attitudes, that's one notion. Then there is another thing that's involved in the *admire* relationship. It can be another person or it can be, say, an activity or a country or anything. Then there is activity, the mental activity directed toward that object, and that includes the attitude, the positive versus negative attitude.

This is not a serious diagram, I simply abbreviate all of these relational specifications with this dashed arrow. I often use a dashed arrow for mental or psychological relationships or perceptual relationships. So this represents now this individual having a positive mental attitude in regard to that conceived entity. So, a lot of abbreviation here, but I'm only trying to show the importance of prominence. The verb *admire* profiles that entire configuration, profiles the relationship. And since the participants in a relationship are essential to conceptualize a relationship, they are part of the profile too.

Contrast the verb *admire* with the noun *admirer*, with the *-er* ending. An *admirer* is one who admires. And think about the difference in meaning between the verb and the noun. The verb profiles a relationship, this process, this mental attitude extending through time. *Admirer* is a person who has such an attitude, but all the conceptual content is the same—*admirer* has all of the content of *admire* because you need that to understand what an *admirer* is. And the content of *admire* has to include reference to the person who does it. So that the content is the same. What's different is that *admirer* profiles the individual who has the attitude, whereas the verb *admire* profiles the relationship. Same content, different profiles. And the difference in profiles is basically the only difference in meaning here. And it's not an accident that the one is a verb and the other is a noun. The verb profiles a relationship, the noun profiles a thing, that is, a participant in that relation.

So you start seeing the relevance of profiling to grammar, right there. Of course we'll talk more about that. Profiling is a kind of focusing of attention. That's its psychological basis, a kind of focusing of attention, there might be multiple kinds, but it's the focusing of attention for purposes of linguistic symbolization with respect to what an expression is taken to as referring to, conceptual reference.

So that covers the things in (32) and (33) and (34) on the handout. There are some other examples to make the notion of profile a little bit more concrete. The terms *hub*, *spoke* and *rim* all refer to parts of a wheel: the central part, the connecting part and then the peripheral part. And again, the content is the same, because you need to understand the entire configuration of a wheel to understand any of these terms. But there are obviously different meanings because of what they profile within that configuration; or terms for parts invoke the notion of the whole as part of their conception. So, one aspect of the meaning of *knuckle* is that it profiles a portion of a finger. Without the conception of a finger overall, you cannot understand what a knuckle is. Or terms like *parent* and *child*, which are inverses here. This is a minimal kinship configuration. These are the two parents. These are the offspring. Understanding *parent* as someone who has a child or understanding *child* as someone who

has parents—I'm not talking about *child* as someone who is young, but as someone who has parents—that's the sense of a child that I'm interested in. These are inverses. They have the same conceptual content. They both invoke this configuration. They differ as whether they profile the older member or younger one within this configuration.

You can see that it is actually a very important point. If you try to give verbal definitions of what a parent or a child is, you might fall into circularity very easily. What's a parent? Well, a parent is someone who has a child, but what's a child in the offspring sense? It's someone who has parents. OK? How do you break out of that circularity? Well, there is no circularity here. The conceptual base is the same, but the conceptual base is the kinship configuration. It's a concept. It's not a term. It's this. It's the conceptual base for the two, neither of the expressions is derived from the other or defined in terms of the other. The two expressions simply access this base in different ways by imposing different profiles on it, so the circularity disappears.

Of course there can be more complex expressions like *aunt*, which invoke a larger kinship configuration involving parents at two levels. This is the reference individual, the person that someone is an aunt with respect to, and you can trace up through the kinship tree to parents, siblings, female offspring. So the sister of a parent in other words, another profile-base configuration.

Most of these have been things, but let's get into relationships now. Relationships can also be profiled.

Consider *above*. Relationships are a little bit harder to draw and represent in diagrams. So I use arrows and lines a lot to represent relationships. I typically use circles for things.

What does *above* refer to? Well, it designates a relationship in space. That relation involves two participants which are both things typically. And critical is that space is oriented. It's oriented space, so there is a horizontal plane, there is a vertical dimension, and the two participants are both located somewhere along the vertical axis in space but in different positions along the vertical axis. Along the horizontal axis they are roughly in the same position, maybe not exactly but roughly. But what *above* profiles is a relationship between two things which are found in that configuration in space. So, this little arrow abbreviates these different assessments: that the two things are at different positions along the vertical axis, in the same position along the horizontal axis. *Below* is similar, as you see. We'll come back to that in a moment.

So the relationship consists in those assessments. It's about where things are in space, in absolute terms and in relation to one another. Some other relational expressions are the adjective *parallel* and the verb *rise*. *Parallel* is something we say about lines. Here are the two lines. The relationship is more complex

in this case. *Parallel* involves making an assessment that the two lines are in different positions. They don't coincide. And if you check at different positions along the axis of the lines, you find that they don't coincide anywhere; and if you measure the distance between the lines at any point, say, compare this difference with this one, you find that they are the same. The lines are the same distance apart anywhere you measure. These arrows are just meant to roughly give you an idea of the kinds of mental assessments which go into apprehending this notion of these two lines being parallel. The technical definition that the lines will never intersect may be part of our understanding, but I think conceptually we have a more basic understanding which is like what I just indicated. Or take the verb *rise*. Again it indicates the vertical axis, but *rise* also requires development through time, changes through time. This is time arrow, *t* for time. There is a single participant. The participant starts out at a certain position along the vertical axis, and through time, that participant occupies different positions along the vertical axis and by and large it's farther from the origin with the passage of time. The dotted lines indicate what I call correspondences, that means it is the same participant that we are talking about at these different temporal stages. And the relationship that is profiled is the changing position through time of these things with respect to the vertical axis.

One other set of examples. Just so you get a feel for this notion of profiling. *Give* versus *receive*, OK? These are rather complicated diagrams, but it's really simple when you look at the pieces. A is an agent, M is a mover, R is a recipient. The mover is a thing that is given. The transfer is from the agent to the recipient. It follows this path. So this solid arrow is the path of motion. The double arrow I often use for force, or energy transmission, or force of causation. So the agent exerts some force on the mover, which causes the mover then to move into a position where the recipient can interact with it in various ways: by perceiving it, by taking possession of it, by controlling it subsequently. The circles indicate the regions of control. Originally, the mover is under the control of the agent, and then because of what the agent does, there is transfer, and then the mover is then under the control of the recipient.

This is a conceptual archetype. It's a very basic verb. It is very complex when you're trying to explain it, but you obviously know what it means. The point here is that *give* and *receive* both invoke this content, they have the same content, or at least they can have the same content. If you think about, say, just the physical act of handing something to someone and that person receives it, the *receiving* and *giving* both involve this entire scenario. But obviously, *give* and *receive* are different in meaning even though they have the same content. And they differ primarily in what they profile. *Give* profiles the actions of the

agent on the mover. I think it may also incorporate as part of the profile what the recipient is doing, although I haven't shown that here. The important thing, though, is that *receive* only profiles the interaction between the recipient and the mover. It implies the agent, includes all of this or at least often invokes an agent, but it doesn't profile what the agent does. It profiles this interaction. So, different profiles on the same or similar conceptual base.

Finally, a last word about profiling. Profiling is the basis for metonymy. I've mentioned that previously, but metonymy, at least in many cases of what we call metonymy, are shifts in profile as you see in diagram (41) on the next page. This is the example of *church* I gave before. In contemporary English, *church* refers primarily to a building, where religious organizations hold their meetings, but by metonymy, it can also refer to a religious organization. You talk about the Catholic Church, for example. So, a shift in profile, the two senses are related by having different profiles on the same conceptual base.

All right. That's one kind of prominence—profiling. A second kind of prominence is what I call *trajector-landmark organization*. That's prominence of participants in a relationship. So, let's go back to *above* and *below*. Recall what I said about *above* in terms of conceptual content: it involves oriented space and two things which are in different positions in space, and the profiled relationship is that there is a different position along the vertical axis and a shared position along the horizontal plane. And so, one participant is farther from the origin along the vertical axis than the other participant is, and it's that complex assessment that's referred to by the preposition *above*. That's its profile. But everything I just said about *above* is true for *below*, and the diagram you see is essentially the same. Same elements. An *above* relation is referentially also a *below* relation. If I say *x is above y*, I could equally well say that *y is below x*. They refer to the same configuration in space. So, there is no difference in content or in profiling. However, *above* and *below* have different meanings, and the question is where does that meaning difference come from. It doesn't come from the conceptual content. There is nothing in the scene that's different. There is no difference in what's being referred to. It's the same relationship that's being referred to, but still there is a difference in meaning. If you don't know what *below* means and you look into your dictionary, and the meaning of *below* says *above*, you should get a different dictionary. OK? But where does the difference come from?

Well, semanticists have terms for this. They talk about relational opposites or inverses, terms like this, but those are just terms. They don't explain it. They are just terms. What conceptually does that consist in? I don't see any possibility of an answer other than it consists in the relative prominence of the

participants. That's these labels *tr* for trajector and *lm* for landmark. The basic idea I spelled out in (42): when you profile a relationship, its participants are made prominent to different degrees. This is different from profiling now. This is within the profile. The participants are different, prominent to different degrees. The most prominent is what I call the trajector. That's the entity that we construe the expression as locating or evaluating or describing. The trajector is somehow what the expression is about, it's sort of a predicate-internal topic if you like. That's what I often want to say. Or it's also the primary focus of attention, the primary figure within the scene in terms of figure-ground organization.

There's different ways of describing it that I use which I think are all consistent with one another ultimately. I'll be talking more about this in coming days to show you how there may be different ways of describing the same conceptual phenomenon.

So in most relationships, there is a trajector that's the primary focal participant. The entity we're locating, evaluating and describing—primary figure. Often, there is another participant that also has focal prominence but to a secondary degree, and this is what I call the landmark.

So, in the case of *above*, the upper of these two things is the one we are trying to describe the position of. If I say *x is above y*, I'm characterizing the location of *x*. And I'm invoking its position relative to some lower object as the way to say where *x* is. But if I say *y is below x*, *y* is the element I'm trying to characterize. That's the trajector. It was below. And I'm invoking some higher entity as the basis for assessment, the basis for calculating the relationship. And that's where the difference lies or so I'm claiming.

There are lots of pairs like this, another one is *before* and *after*. You can see it in the next diagram, in (43). Here we have temporal precedence in time. This is maybe a minimal concept in the basic domain of time. That's two events located at different positions along the temporal axis. So, this is the relation of temporal precedence between the two events. But *before* and *after* both have this characterization. They have the same conceptual content. They both designate the same relationship because event 1 is before event 2. It's also the case that event 2 is after event 1. It's the same relationship referentially. But the difference in meaning is that in the case of *before*, we are trying to locate event 1, and we invoke a later event as the basis for its location, and we do the opposite in the case of *after*.

So this is a different kind of prominence and has a different role in language. It's critical for distinguishing the meanings of things like *before* and *after*, *above* and *below*, active and passive and many other pairs. But this is all with respect to the same profile very often. So, you need this notion for purposes of

semantic description. You can not describe these basic meaning differences without some notion like this. Whether I got the details right or not is another question, but it has to be something like this. As evidence for this characterization that the trajector is the entity that is construed as the one that we are trying to locate or evaluate or describe, you can turn to some basic discourse evidence like (44).

If I ask *Where is the lamp?*, so that in the discourse context, it's clear that the lamp is the entity we are trying to locate, a good answer should be an answer that tells you where the lamp is—lamp as the trajector. So, you could answer by saying *the lamp is above the table*. It would be very funny if someone asks where is the lamp, to answer by saying *the table is below the lamp*. It gives you the same information. Effectively it answers the question, but it doesn't answer the question in the way it was asked. It's a different construal imposed on the scene. Of course if you ask *where is the table?*, then you could say that the table is below the lamp. That's a good answer for that one.

OK. I think we are doing alright for time. We'll finish by one o'clock, and I'll probably save about ten minutes for questions even, because we've got through the most essential stuff.

A little bit about perspective. Prominence and specificity are only two aspects of construal. Perspective is another. And there are many different aspects of perspective. One of course is vantage point. We can describe scenes from different vantage points, and the presumed vantage point is part of the meanings of expressions, and I think that's probably true of all expressions in a very general sense, but for some expressions in particular, it's critical and obvious and central.

For example, with spatial scenes, here is a large boulder of some sort, a big rock. Here is a tree. And here are two possible vantage points, vantage point 1, vantage point No. 2. The dashed line indicates perception, a line of sight. So, we could either be standing at vantage point 1, looking in this direction. Or we could stand at vantage point 2 and look in this direction, and pretty clearly, you would describe the scene differently depending on your vantage point. As in (46), from vantage point 1, you would say *the rock is in front of the tree* or *the tree is behind the rock*. From vantage point No. 2, you would say that *the tree is in front of the rock* or *the rock is behind the tree*.

The point being here that prepositions like *in front of* or *behind*, I could have also said *in back of*, prepositions like these incorporate three elements, not just two. Three elements. There is the trajector and the landmark. The profiled relation is a relation between these elements, but the vantage point is another ingredient in their meaning, at least when we use it with respect to unoriented objects like rocks and trees. Things like houses and desks and so forth, they

have intrinsic front and back and you don't need that third element, but it's implicit in how you characterize their front and back in the first place. But there are three elements. There is the vantage point, which is not the profile. The profiled relationship is this. The profiled participants are these, but the vantage point enters into how we calculate this relationship, how we make assessments in the first place. And basically, the difference of course is trajectory and landmark organization, which is the trajectory. In the case of *in front of*, the trajectory intervenes in the line of sight between the vantage point and the landmark. You hit the trajectory first in tracing this path. In the case of *behind*, you arrive at the landmark first in tracing this path. So, it's the sequence of perceptual access in a certain way.

Now the vantage point doesn't have to be the actual one that we're looking at things from, obviously. We can describe things as they appear from someone else's vantage point. It could be the speaker's vantage point or the listener's or someone else's, or it can be a totally imagined vantage point. Suppose we are both here at vantage point No. 1, and I'm saying that the rock is in front of the tree, I can go on to say what I've given there in (49). Now, if you were standing over here at vantage point No. 2, then the rock would be behind the tree, the tree would be in front of the rock, where, hypothetically, we send the listener to another vantage point, and the speaker is describing what the listener would see from the hypothetical vantage point. And we have no trouble at all in understanding these things, we compute these things very rapidly and easily because we imagine ourselves in those positions, adopting other people's viewpoint.

And the vantage point is not something limited to a spatial region. We can consider the notion in more general terms. For example in time. *Next year will be full of surprises*. That involves a vantage point in time. So the conceptual base for *next year*, first of all, involves the basic domain of time, but also the notion of years and a sequence of years following one after another. So this is the basic domain, and then the non-basic domain for measuring time, dividing time into years which follow one another in an unending sequence. *Next year* involves a vantage point and orientation in time. This is the vantage point. We are in some year, and we are looking towards the future as the orientation, considering future direction, not past direction. And given this conceptual base, all of this, including the vantage point and orientation, *next year* profiles the year adjacent to the one that contains the vantage point. *Last year* would profile the one preceding that if you are looking in the other direction. *The year after next* profiles this year and so on.

And of course the vantage point doesn't have to be the actual vantage point. We can imagine other vantage points and shift the temporal vantage point like in (50)b. I've given you an example, but I don't think I'll talk about that.

Now, some other aspects of perspective. Not just vantage point, but also the general viewing arrangement, and one aspect of that is whether the viewer is fixed in position or is moving. Normally, the viewer would coincide with the speaker, but it doesn't have to; normally the viewer would be fixed in position, but of course sometimes the viewer is moving. And we can fictively adopt a viewing situation different from the actual one. We can imagine a different viewing situation from the actual one. So, consider (52)a *I sat in the car and watched the scenery rush past me*. The way that's encoded linguistically presupposes that you are in a fixed position in the car and the surroundings are moving. Literally that's what you are saying, and that might be true, I mean. Somehow you can imagine a special circumstance where you imagine suspending the car and then move the earth underneath the car and the scenery rushes past. But you will normally understand this as being implausible because the meaning of this sentence incorporates all sorts of general knowledge and pragmatic considerations, we would normally interpret it in a reasonable way, which is that I'm moving in a car. The scenery is fixed, but to describe this linguistically, I adopt a fiction. I'm describing the scene as it appears to me or as it would, as it appears to me, but I'm describing it by assuming that I'm in the normal viewing situation of being in one place, I'm describing it as if I'm in one place in the normal way and describing how things appear under that assumption, even though I know that really I am moving and the surroundings are fixed.

Now this is the kind of thing I would call an elaborate mental construction. We are imagining, we are setting up this hypothetical viewing situation of being fixed in position. This coincides with the normal viewing situation, but the actual one is different, and the meaning of the entire expression includes both the actual one and the one we create for purposes of linguistic expression and the relation between them.

Or there is another kind of example here from Leonard Talmy. *There is a house every now and then through the valley*. I will come back to this at the end, if there is a moment or two left, but you might ponder that for yourselves: how would you describe sentence (52)b and what's going on semantically and grammatically? If you get bored with what I say in the last few minutes here, you can just work on this as a puzzle for yourself. How do you describe what's happening in that example? I may or may not have the time to tell you when we get to the end.

Just a couple of more things before we reach that point. One more aspect of construal which I've placed under perspective is what I call scope, described in number (53). An expression's maximal scope is the full array of conceptual content it evokes as the basis for its meaning. That's all the content we are

using. So, scope is coverage in the active domains. How much of the domains we are using for a particular conceptual purpose. Now often, besides the maximal scope, there is an immediate scope, which is more limited. It's a smaller portion. That's the portion that is directly relevant for a particular purpose. Metaphorically I call the immediate scope the onstage region, the general region of viewing attention. And the profile is the focus of attention within the immediate scope. OK. All of that is in the abstract, but it becomes clear with a particular example. Consider body part terms like *elbow* or *hand*. We understand those as being parts of the body, and the conception of the entire human body is therefore invoked as the basis for their meaning. These are body part terms. But it is quite clear that the conception of the body as a whole is not as relevant, directly speaking, as the conception of the arm in particular. If you describe what an elbow is, you would almost have to mention the arm as part of your description. You wouldn't just say the elbow is something that's on the body, it's a little bit above the wrist and so on, where you don't involve the arm. The arm is the portion of the body that's directly relevant, that's the immediate scope, it's the onstage region, what we directly have to invoke, and the profile is a certain portion of the arm then, the part that bends. *Hand* has the same immediate scope, the same maximal scope. It profiles another part.

So, this is a clear example of scope. Different portions of the overall content being more directly relevant for particular purposes. And in the case of part-whole relationships, especially with the body, we can have whole hierarchies. Here I have a sequence of terms: *body*, *arm*, *hand*, *finger*, *knuckle*. Each of these terms profiles something which functions as the immediate scope for the next. So, *body* evokes a region of space and profiles a physical entity with a certain shape in space, *body* profiles the entire thing, but that entire body functions as the immediate scope for characterizing *arm*, which profiles a subpart. The concept of an arm is the immediate scope for conceptualizing what a *hand* is, and that functions as the immediate scope for characterizing the notion *finger*, and that functions as the immediate scope for *knuckle*.

I just relied on intuition in saying these things. Nobody has ever questioned this being reasonable. You know I've given these examples many times for many audiences. It's intuitively obvious, but it's linguistically established also. This has linguistic consequences. You can see it in linguistic phenomena, a variety of phenomena. I've taken only one example here, in (56).

In English, there are numerous compounds for parts of the body. So, *finger-tip*, OK, tip of your finger. *Finger-nail*, it's that thing. Or *toenail* or *eyelash*, *eyelid*, *eyeball*. OK? And there are many others. *Kneecap*. What you notice about those terms is that there are two elements of the compound, the first noun and

the second noun. The first noun always profiles the immediate scope for the second noun. So, the finger is the immediate scope for characterizing *fingertip*. Or the eye. Here *eye* means this general region as the eye, as it's used in this compound. That is the immediate scope for characterizing *eyebrow* or *eyelid* or *eyelash* or *eyeball*. The first element of that compound is at one level like *finger*, and the second element of the compound is characterized relative to it, *fingertip* or *fingernail*. If we jump levels in the first element, say it's here and the next element is there, it doesn't work. So, even if you know what body part is intended, we can not say things like *bodytip* instead of *fingertip*, and we can not say things like *armnail* or *facelash* or *headball*. OK? It seems funny. Right?

There is a prototypical grammatical pattern for forming compounds with this function, and to describe this pattern, you have to refer to these immediate scope relations. It's the linguistic manifestation of that conceptual phenomenon.

I'll skip the progressives in (57) and (58), that's another case of scope, applied to time, and just say a couple of words about Section D to get towards the conclusion here.

Two other very fundamental aspects of conception and conceptual semantics, which I'll be talking about this afternoon and later, I call dynamicity and fictivity. By dynamicity, I mean how conceptualization evolves through time. Conceptualization always takes time. Any concept takes time. Sometimes it's so brief we can not really perceive the internal structure of a conceptualization through time, but sometimes we can. Sometimes when we are not even aware of how things develop through time conceptually, it's still crucial to an expression's meaning. So, one such example is given in (60). (a) *A scar runs from his elbow to his wrist*. (b) *A scar runs from his wrist to his elbow*. These are describing exactly the same situation. The same scar. There is no movement. Nothing is moving. Same situation, but there is a difference in meaning, a difference in form. Why do we do it this way? Why do we use a verb like *run*, which means motion through space—nothing is moving? Why do we say *from* and *to*, which indicate source and goal of motion? But nothing is moving. The answer, basically speaking, is that there is motion, but it's not motion in the scene, it's a conceptual motion. We are conceptualizing, we are apprehending the scene in one direction or another. I like to describe it by saying we are building up to a full conception of the profiled relationship by scanning mentally along the expanse of the scar in one direction or the other. This subjective motion is opposed to objective motion. But it unfolds through time. The conception is different in different moments of time as we build up to the full conception. That's a case of dynamicity. Or the cases in (61), where we zoom in or zoom

out to describe exactly the same configuration: *Your camera is upstairs, in the bedroom, in the closet, on the top shelf.* Or *your camera is on the top shelf, in the closet, in the bedroom, upstairs.* Semantically quite different, even though objectively exactly the same, it has the same linguistic pieces, just accessed in a different sequence, zooming in mentally, and zooming out—the total conception is being built up differently through time.

Fictivity. Those are things where we describe situations that are virtual or imaginary or fictive, and do so even when we are intending to describe actual situations. I'll give you lots of examples this afternoon, but, for instance, in (66) *He doesn't have a sister.* Well, I refer to his sister in saying that he doesn't have one, a sister. Or if I say *Each boy was holding a frog,* I'm saying something about some actual situation involving boys and frogs, but the ones I mention, *each boy* and *a frog*, are not any actual boy or any actual frog. These are imaginary creatures, fictive instances of these types, invoked in order to make a kind of generalization. Or fictive change. There's some nice examples from Japanese which I won't go through, I'll just take (64). Consider *broken line* or *scattered villages* or *sunken bathtub*. The language we use, which is actually analogous to the Japanese example in (63), is the language we use for changes and resulting states. So consider a *broken pencil*. It is a pencil that has undergone the process of breaking, and it is now in a different state because it has undergone that process. A *broken pencil* is one that has undergone the process of breaking. But what about a *broken line*? Do you start with a whole line and break it? No, you probably just drew it that way to begin with. Right? But why do we say *broken line* then with the form that's basically devoted to changes and resulting states, change of states? What's happening is that we are using the conception of change to calculate how a situation differs from a more typical situation, but there isn't any actual change; we are describing the actual situation of a broken line in relation to the more canonical, typical situation of an unbroken line in order to see how it differs from that. So we are sort of mentally computing the change without ascribing it to actuality. Similarly, you don't start with villages which are together and then scatter them the way you scatter marbles, but given the fact that they are far apart, we can calculate their distribution by using the same language. It's analogous to the scanning along a line we are doing at (60), except it's now more general. Or a *sunken bathtub* has probably never actually sunk. It was probably just built right into the floor.

Let's just go quickly back to that last example (52)b *There is a house every now and then through the valley.* I'm sure you've all been thinking about this now. So what I'm going to say just confirms what you were going to say yourselves. How do we describe this? First of all, there is a problem. *There is a house every*

now and then through the valley. We have two adverbs *every now and then* and *through the valley*. What do these adverbs modify? *Every now and then* is a frequency adverb, describing events happening with a certain frequency, every now and then, occasionally. But *there is a house* doesn't describe an event. If I say *there is a house, there is a lake here*, that's a static situation, not an event. But we have a frequency adverb with a stable situation. Or *through the valley*, that describes a path of motion, but nothing is moving, at least nothing explicit in the sentence is moving. *There is a house*, no motion verb, no mover. So, what do these adverbs modify? You probably understood the sentence easily the first time you saw it. I certainly understood the first time I saw it from Len Talmy. And obviously it involves motion, but it's imagined motion. You are imagining the scenario of someone moving through the valley. This is evoked. It's not encoded linguistically with a verb of motion, or reference to a mover, but we construct this as a mental construction. We construct it mentally, we conceive of someone moving through the valley, and viewing things while moving, like looking out of the window of a train. So as you are moving through a valley, there is a field of view, what you can see at any one time, that field of view moves along with you. OK? And then at a given moment it might be the case that within that field of view there is a house, at a given moment, it could be the case that in that field of view, there is a house. What the first part of the sentence, *there is a house*, is describing and encoding linguistically is that configuration *there is a house*, which is this part of this elaborate scenario of moving through the valley, and then the adverbs are telling you or qualifying this. *Every now and then* is quantifying how often it is the case that in this viewing frame there is a house. So it's a different house each time, and the house referred to is not any actual house, it's a virtual house. The house is what's instantiated in all those actual viewing cases, but it's not in itself an actual house. And *through the valley* is describing the path of imagined motion.

Now what the adverbs are modifying are things that are not there in the sentence grammatically. They are modifying aspects of the conceptualization, which isn't even directly triggered by the grammatical form. The sentence is a mental construction. We arrive at it by putting all the pieces together and interpreting them in such a way that they make sense. So, this illustrates dynamicity and fictivity, and also the fact that the meaning as a whole is not fully compositionally derived from the meanings of the parts. If you are going to do grammar, even something as basic as describing what adverbs modify in the sentence, you have to have all this apparatus of conceptual semantics to make sense of grammar in the first place.

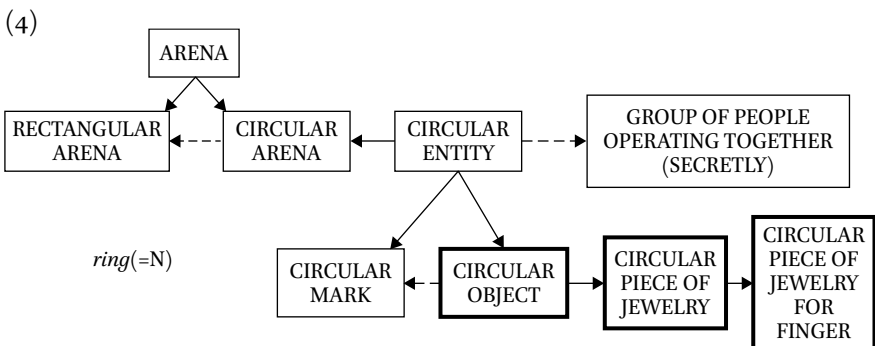
So those are some very fundamental points of conceptual semantics and cognitive grammar, based on it, I didn't save you quite as much time as I said,

but I've saved a few minutes at least for any comments or discussion, so there you have it for this morning. Thanks.

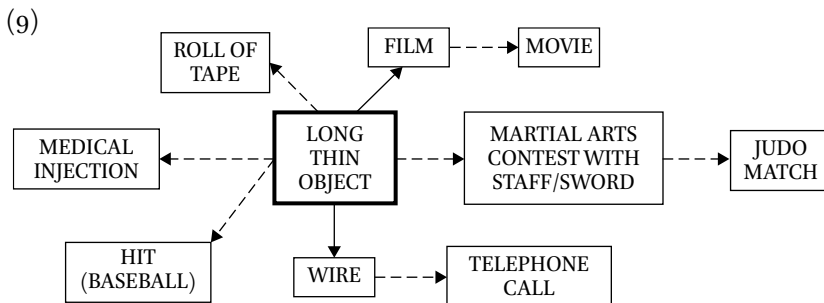
Conceptual Semantics

1 Basic Notions

- (1) The term **conceptualization** is used to refer to any facet of mental experience, including apprehension of the physical, linguistic, social, and cultural context. **Semantic structures** are conceptualizations employed for linguistic purposes (primarily as the *semantic pole* of expressions).
- (2) A complete and definitive description of semantic structures is not a realistic goal, nor do strings of discrete symbols fully represent these conceptualizations in a cognitively realistic manner.
 - Semantic structures involve too many facets or dimensions, of diverse character, for any single formalism to handle them all.
 - Linguistic meanings are not self-contained or well-delimited. Rather, they are open-ended, potentially “encyclopedic” in scope, and shade off into general and contextual knowledge.
 - Meanings are variable and context-dependent. An expression is probably never used twice with *exactly* the same conceptual import.
- (3) **Polysemy:** It is normal for a frequently used lexical item to have multiple, related meanings that have all been conventionalized to some degree. Among these “senses”, some are more central, or *prototypical*, than others. To some extent the senses are linked by *categorizing relationships* to form a network.



- (5) Types of categorizing relationships
- Elaboration** ($A \rightarrow B$): A is schematic, B is specific. B *elaborates* A. B is an *instance* of A. B is compatible with A but is specified in more detail.
 - Extension** ($A \dashrightarrow B$): A is more central or prototypical, B is more peripheral. B is an *extension* from A. B is not fully compatible with A, but is related to A on the basis of similarity or association.
- (6) Semantic extension often involves either **metaphor** (based on an abstract *similarity*) or **metonymy** (based on *association*).
- (7) (a) *They are building a new church outside of town.*
 (b) *The church is gaining new members all the time.*
- (8) Some uses of the classifier *hon* in Japanese:
- sticks, canes, pencils, candles, trees, ropes, hair, dead snakes
 - medical injections [metonymy]
 - martial arts contests with staffs or swords [metonymy]
 - judo matches
 - hits in baseball [metaphor and metonymy]
 - telephone calls [metonymy]
 - rolls of tape
 - movies



- (10) **Image schemas:** schematic and imagistic concepts which are abstracted from pre-conceptual bodily experience, function as constituents of more complex notions, and provide the structure projected metaphorically to more abstract domains.

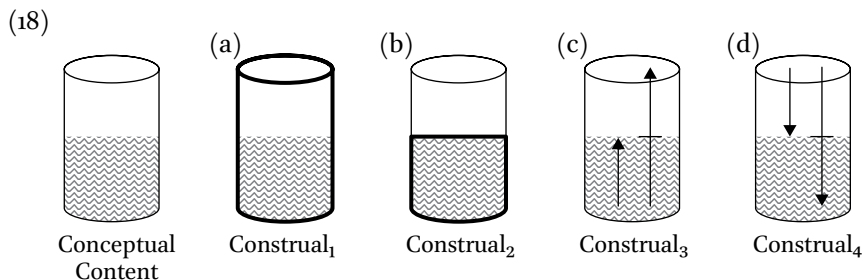
- (11) Some **image schemas**: container; blockage; enablement; source-path-goal; cycle; part-whole; full-empty; iteration; surface; balance; counterforce; attraction; link; near-far; merging; matching; contact; object; compulsion; restraint removal; mass-count; center-periphery; scale; splitting; superimposition; process; collection.
- (12) Elements of conceptual structure include **cognitive domains** (providing “content”), various kinds of **cognitive abilities** (notably the various dimensions of *construal*), and different sorts of **concepts** that are “basic” in one way or another (such as *image schemas* and *conceptual archetypes*).
- (13) **Cognitive domain**: Any coherent area or product of conceptualization, relative to which semantic structures can be characterized. A **basic domain** (time, space, color, pitch, smell, etc.) is one that is not reducible to more fundamental notions, a realm of experience providing the *potential* for conceptualization to occur. A **non-basic** (or “abstract”) **domain** can be a concept or conceptual complex of any size representing any level of conceptual organization.
- (14) Suggested types of “basic” conceptual entities
 - (a) **Minimal concepts** in basic domains: line, angle, curvature, (focal) colors, temporal precedence, exertion of muscular force ...
 - (b) Experientially grounded **conceptual archetypes**: physical object, spatial motion of an object, the human face, the human body, a physical container and its contents, a whole and its parts, seeing something, holding something, handing something to someone, exerting force to effect a desired change, speaking, a face-to-face social encounter ...
 - (c) **Maximally schematic notions** independent of specific domains: point vs. extension, contrast, boundary, change, continuity, contact, inclusion, separation, proximity, multiplicity, group ...
- (15) Working hypothesis: Certain fundamental and universal grammatical notions are characterized in terms of both a *prototype* and a *schematic* meaning instantiated by all instances. Such notions involve a natural relationship between an experientially grounded *conceptual archetype*, functioning as the prototype, and a basic, presumably inborn *cognitive ability*, providing the schematic characterization. The ability, which makes it possible for structured experience to occur in the first place, is

initially manifested in the archetype and then applied to other realms of experience.

2 Cognitive Domains

(16) A meaning consists of both conceptual **content** and a particular way of **construing** (or “viewing”) that content.

- (17) (a) *the glass with water in it*
 (b) *the water in the glass*
 (c) *the glass is half-full*
 (d) *the glass is half-empty*



(19) An expression's *content* is provided by a set of cognitive **domains**, representing any degree of complexity or level of conceptual organization.

(20) For its semantic characterization, an expression typically invokes multiple domains (a **complex matrix**), in each of which the designated entity has some role. The domains of a matrix need not be disjoint or clearly delimited. They have varying degrees of *centrality* (likelihood of activation).

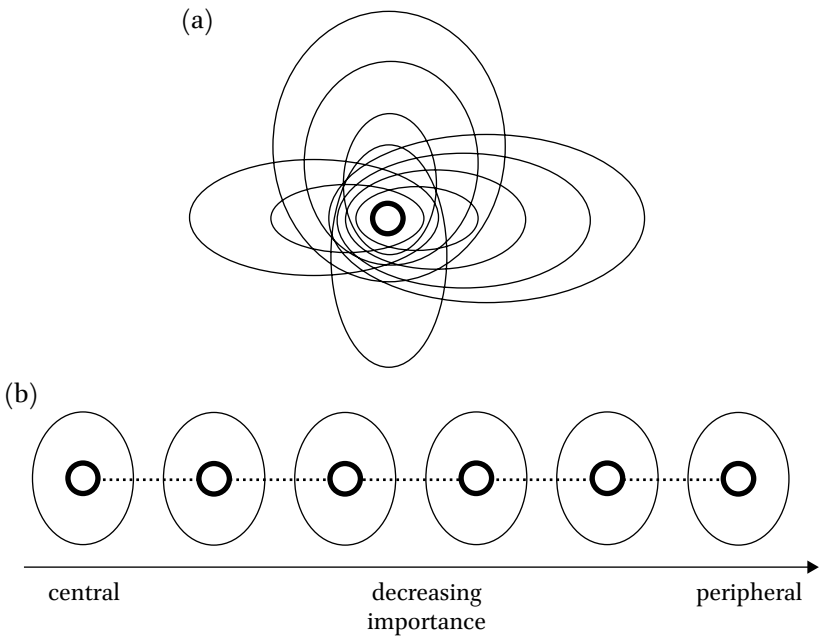
(21) Some domains for *glass*:

- space [basic domain]
- shape [cylinder, closed at one end] (Presupposes space. Space is the domain in which a shape conception is manifested.)
- typical orientation in space [long dimension aligned along vertical axis, closed end at bottom] (Incorporates space, verticality, and shape conception.)
- function₁ [container for liquid] (Presupposes orientation, liquid, spatial inclusion, potential motion, force, constancy through time.)

- function2 [role in the process of drinking] (Incorporates function1, the conception of the human body, of grasping, of motion with the arm, of ingestion, etc.)
- material [usually the substance glass]
- size [easily held in one hand]
- others (e.g. cost, washing, storage, possibility of breaking, position on table at meal, matching sets, method of manufacture, ...)

(22) Two conceptions occupy different **levels of conceptual organization** when, asymmetrically, one presupposes the other as part of its characterization.

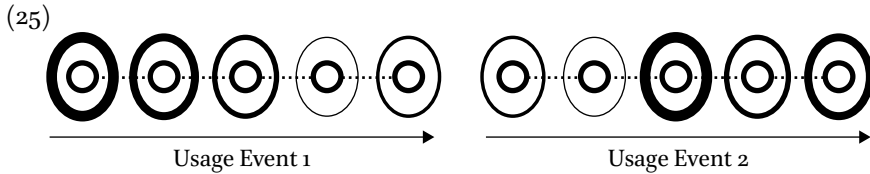
(23)



(24) **Encyclopedic** view of semantics:

- (a) There is **no specific boundary** between linguistic and non-linguistic knowledge. Language *draws on* general knowledge, and *evokes* it in particular ways, but it is not separate and distinct from such knowledge, nor are there any strict limitations on what portions of it can be evoked for linguistic purposes.

- (b) A lexical item represents a conventional way of *accessing* a set of domains. Some domains are **central** to its value (with a high likelihood of being accessed), others more **peripheral** (less likely to be accessed). Still, domains are flexibly and variably evoked, as determined by the context.



- (26) (a) *When she picked up the cat it started purring.*
 (b) *He was saved by his cat-like reflexes.*
 (c) *A cat is a mammal.*
 (d) *It was a real cat-fight.*
 (e) *Watch out for ladders, black cats, and broken mirrors!*
 (f) *Is this birdcage cat-proof?*
 (g) *Is this sofa cat-proof?*
 (h) *Is this rug cat-proof?*
- (27) Theoretical consequences: semantic structure cannot be exhaustively described; language (including semantics) is not a distinct and self-contained module; semantics is not fully compositional.

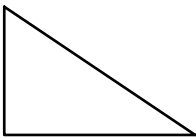
3 *Construal*

- (28) **Construal** is our ability to conceive and portray the same situation in alternate ways. Some dimensions of construal are *level of specificity*, *prominence*, and *perspective*.
- (29) (a) *thing* → *creature* → *animal* → *mammal* → *dog* → *poodle*
 (b) *do* → *act* → *move* → *run* → *sprint*
- (30) (a) *Something happened.* → *An animal moved.* → *A dog ran into the room.*
 → *A dirty poodle sprinted recklessly into the kitchen of our cottage.*
 (b) *An animal sprinted recklessly into the room.*
 (c) *A dirty poodle entered the kitchen of our cottage.*

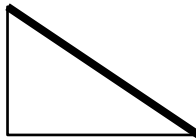
- (31) Certain elements in a conceived situation are made **prominent** in various ways and to different degrees. Two kinds of prominence that are especially important for grammar are *profiling* and the *prominence of participants in a relationship*.
- (32) An expression evokes a certain body of conceptual content, called its **base**. Within this base, it gives special prominence to some substructure, called its **profile**. An expression's profile is what it *refers to* or *designates* within its conceptual base. It is therefore a kind of *focus of attention*.
- (33) (a) In diagrams, the profile is indicated with heavy lines.
 (b) Expressions can have the same conceptual content but differ in meaning because they have different profiles.
 (c) An expression can profile either a *thing* or a *relationship*.

(34)

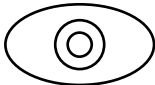
(a) Conceptual Base



hypotenuse



(b) Conceptual Base



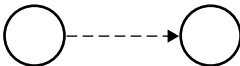
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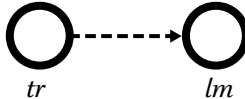
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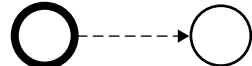
(c) Conceptual Base



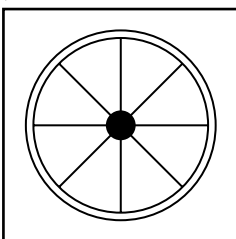
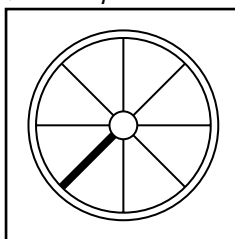
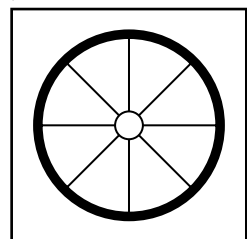
admire

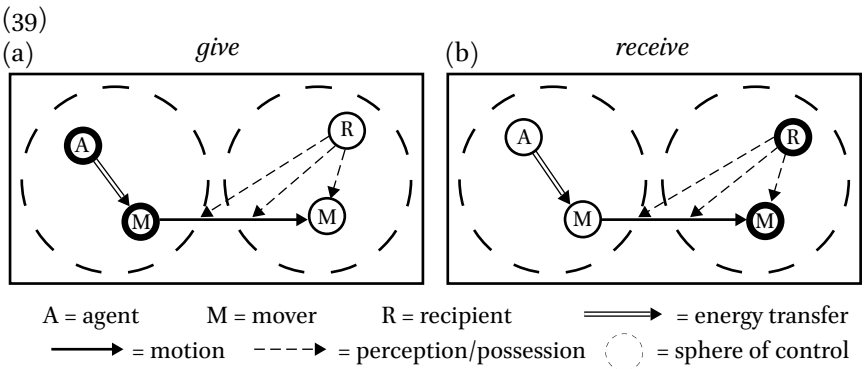
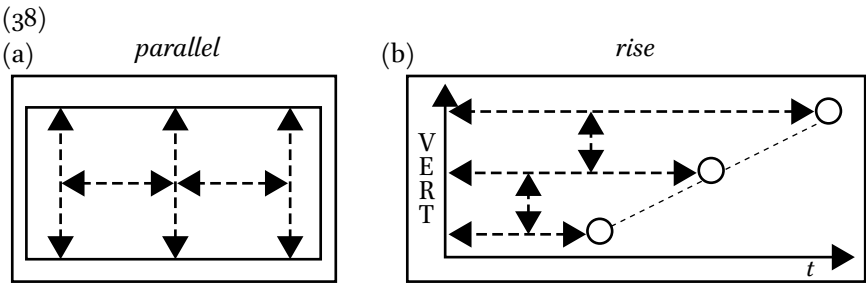
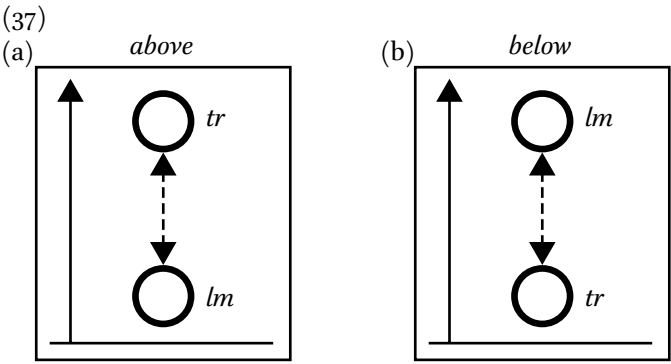
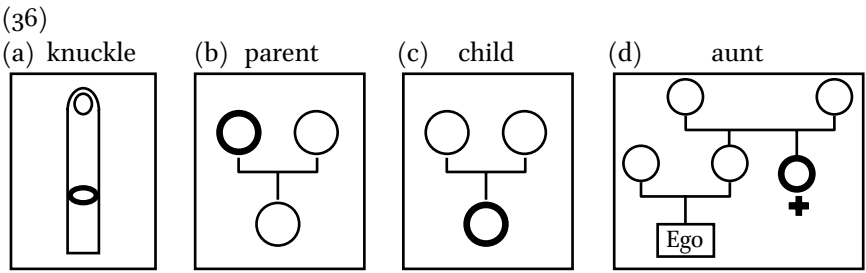


admirer



(35)

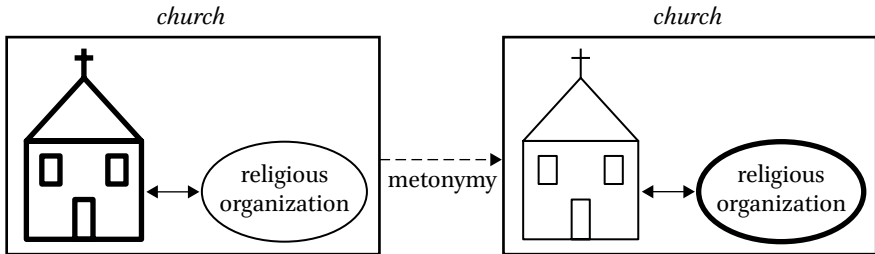
(a) *hub*(b) *spoke*(c) *rim*



A = agent M = mover R = recipient \Longrightarrow = energy transfer
 \longrightarrow = motion \dashrightarrow = perception/possession \circ = sphere of control

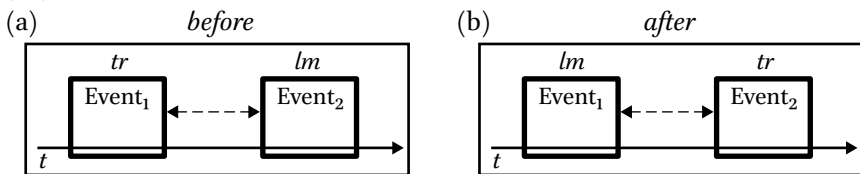
- (40) **Metonymy** is a shift in profile. An expression that normally profiles one entity is used instead to profile some other entity within the same conceptual base.

(41)



- (42) (a) When a relationship is profiled, its participants are made prominent to varying degrees.
- (b) The most prominent participant, called the **trajector** (*tr*), is construed as the entity being located, evaluated, or described. It is the *primary focus* ("figure") within the profiled relationship.
- (c) Often another participant is made prominent as a *secondary focus*. This is called a **landmark** (*lm*).
- (d) Expressions can have the same content, and profile the same relationship, but differ in meaning because they make different choices of trajector and landmark.

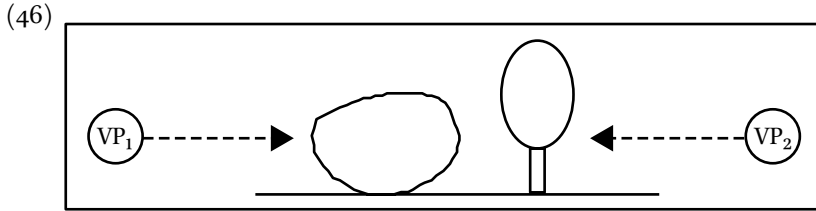
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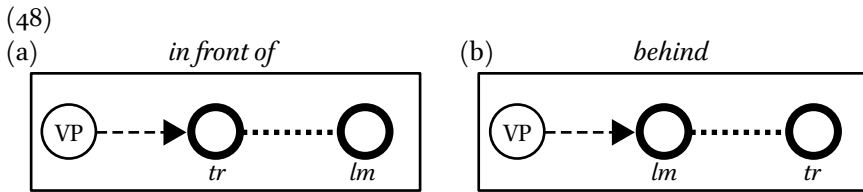
- (44) (a) *Where is the lamp?*
- (i) *The lamp (tr) is above the table (lm).*
- (ii) **The table (tr) is below the lamp (lm).*

- (b) *Where is the table?*
 (i) *The table (**tr**) is below the lamp (**lm**).*
 (ii) **The lamp (**tr**) is above the table (**lm**).*

(45) **Perspective** includes a presumed *vantage point* and a variety of other factors pertaining to the viewing circumstances.

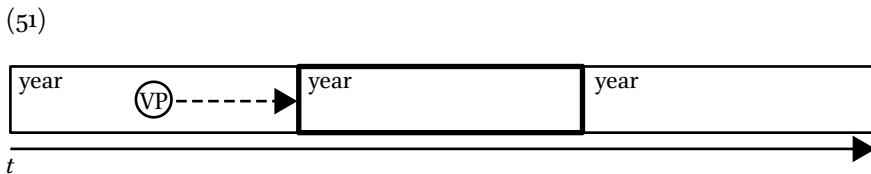


- (47) (a) VP_1 : *The rock is in front of the tree. The tree is behind the rock.*
 (b) VP_2 : *The tree is in front of the rock. The rock is behind the tree.*



(49) *If you were standing over there [at VP_2], the tree would be in front of the rock.*

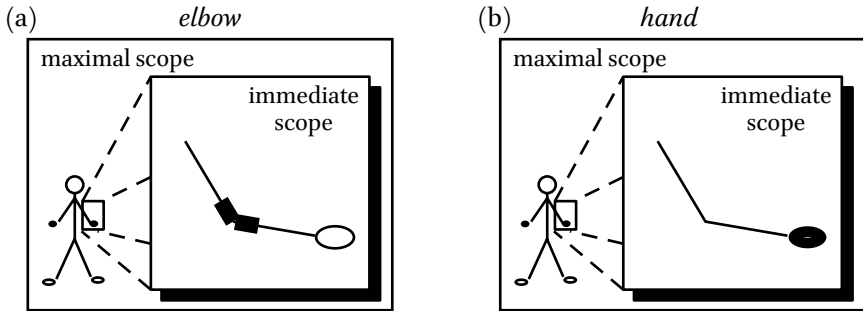
- (50) (a) *Next year will be full of surprises.*
 (b) *Joe believed that next year would be full of surprises.*



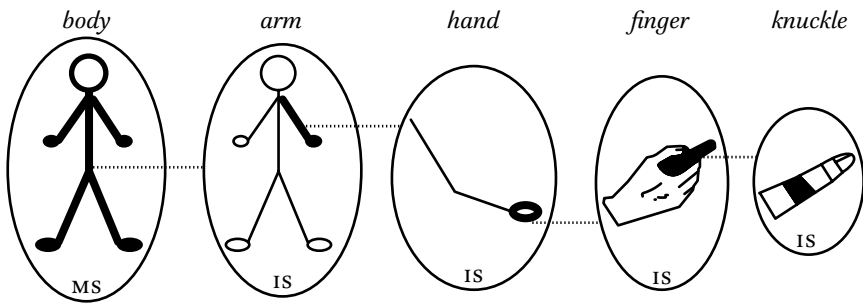
- (52) (a) *I sat in the car and watched the scenery rush past me.*
 (b) *There is a house every now and then through the valley.*

- (53) (a) An expression's **maximal scope** is the full array of conceptual content it evokes as the basis for its meaning.
- (b) Within the maximal scope, there is often a limited **immediate scope**, the portion directly relevant for a particular purpose. Metaphorically, the immediate scope is the "onstage region", the general region of viewing attention.
- (c) An expression's profile is the specific *focus* of attention within the immediate scope.

(54)

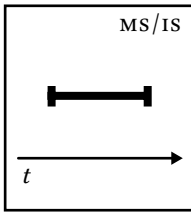
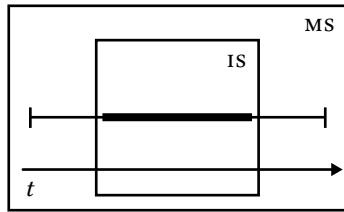


(55)



- (56) (a) *fingertip; fingernail; toenail; eyelash; eyelid; eyeball*
- (b) **bodytip; *armnail; *legnail; *facelash; *bodylid; *headball*
- (57) (a) *He painted his house.*
- (b) *He was painting his house.*

(58)

(a) *Perfective*(b) *Progressive*

4 *Dynamicity and Fictivity*

(59) **Dynamicity:** Conceptualization requires time. It takes place through processing time (T). How it develops through processing time is often crucial to an expression's meaning.

(60) (a) *A scar runs from his elbow to his wrist.*

(b) *A scar runs from his wrist to his elbow.*

(61) (a) *Your camera is upstairs, in the bedroom, in the closet, on the top shelf.*

(b) *Your camera is on the top shelf, in the closet, in the bedroom, upstairs.*

(62) Sono heya wa marui. 'The room is round.' [Japanese]
the room T round

(63) Sono heya wa maruku na-tte iru.
the room T round become-STAT be
'The room is [in the state of having become] round.'

(64) *broken line* (cf. *broken pencil*); *scattered villages* (cf. *scattered marbles*);
sunken bathtub (cf. *sunken ship*)

(65) (a) *The company's president keeps getting younger.*

(b) *The trees get shorter at higher altitudes.*

(c) *The water got deeper as he swam away from the shore.*

(66) (a) *He doesn't have a sister.*

(b) *If she writes a novel, she will try to publish it.*

(c) *A kitten likes to chase its tail.*

(d) *Each boy was holding a frog.*

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All original audio-recordings and other supplementary material, such as any hand-outs and powerpoint presentations for the lecture series, have been made available online and are referenced via unique DOI numbers on the website www.figshare.com. They may be accessed via this QR code and the following dynamic link: <https://doi.org/10.6084/m9.figshare.4775365>.

Dynamicity, Fictivity, and Scanning

OK. Everyone ready?

I hope you have this second handout now. Dynamicity, Fictivity and Scanning. (I'm going to cause an electronic hum or murmuring.)

I'm going to elaborate what I was saying at the end of the first lecture, about fictivity and dynamicity, and I'm going to combine these in a certain way. So first, some general remarks about cognitive semantics to elaborate a little bit about what we are talking about. Then I'll talk about dynamicity, then fictivity, then we combine them, and then depending on time, we'll talk about some particular cases.

Cognitive semantics. (I keep hearing the hum. I hope this isn't too bad. Turn the volume down?) Cognitive semantics definitely identifies meaning with conceptualization, and that's the cognitive activity constituting our apprehension of the world. Again, that's something I should emphasize. Some people have the idea that since we talk about conceptualization, everything is inside the head, and there is no way that a conceptual account of meaning can deal with social interaction or with the world or the give-and-take of discourse, but that's exactly wrong. Conceptualization is how we engage the world, and that includes our conceptualization of the social interaction in a discourse, and the ongoing discourse, and until you talk about what the speaker and hearer are thinking about each other and about each other's minds, you can't explain the social basis of language and the interactive basis of language. So a social-interactive semantics in linguistics, I think, has to be cognitive.

Construal. Our ability to conceive and portray the same situation in alternative ways. I have talked about that this morning. Here I'll talk more about imaginative abilities. Things like metaphor and metonymy and mental spaces and conceptual blending and fictivity should be added to that list. So I'll go through some of these. And embodiment, that's the general notion of cognitive semantics, that conceptual structure is grounded in everyday bodily experience, things like motion and perception and muscular exertion, and what we feel when we move and use our muscles, force dynamics.

So, some initial examples coming up. In number 2, we have examples of how we metaphorically describe change in terms of motion. We say *We went to the store*, that's simple motion, but then *The situation went from bad to worse*. So metaphorically, we are no longer describing physical motion, but we are

using motion to describe change. Or *The weather turned cold*, with the motion verb *turn*.

Various people, including myself and Talmy and Sweetser, analyze modals in terms of force and degrees of force although it's not physical force. It's force in more abstract domains. So the root modals involve force in the domain of social interaction, *You (must/should/may) attend this rally*. *Must* exerts the greatest degree of force, and *should*, a somewhat less degree, and *may*, a very weak kind of force, which is only a matter of permission or not stopping something from happening. But also in the epistemic domain. When we are assessing the truth of a statement, *She must be home by now*, that's not obligating her to be home. It's a matter of saying that the force of reasoning forces us to the conclusion that she is home by now. So it's a force of judgment, and it's weaker with *should* and *may*. To get into imaginative capacities of other sorts, let's take a well-known example: the specific, non-specific contrast in English with indefinites. Like, *Joe wants to meet an actress*. That sentence is ambiguous. OK? There is the specific reading and the non-specific interpretation. The specific interpretation, she wants to meet a particular person, a particular actress, the word *certain* forces that interpretation. So 4a could be rephrased as 4b *Joe wants to meet a certain actress*, this particular person. Or it could mean that Joe wants to meet an actress, and he doesn't care which one, any actress will be sufficient. That's the non-specific interpretation, and both are possible for 4a.

So sometimes people talk about the indefinite article *a* as having two meanings, specific and non-specific. That's rather inadequate because the same ambiguity happens with other indefinites like *some* and so on. And it's really not a matter of the meaning of the indefinite article, it's rather a matter of mental spaces, this is Fauconnier's analysis of mental spaces. I'm going through it here because it illustrates various things.

The two interpretations are shown in this diagram. (I think I'll maybe use a mechanical pointer this time and see how that works. Lower technology, but there are fewer problems with lower technology. Right?) These ellipses indicate mental spaces, and there is the reality space, the larger ellipse. OK? And in both interpretations, in reality, we have Joe, and Joe wants something. The verb *want*, in Fauconnier's terms, creates a mental space, the desire space, which is just the representation of what it is that Joe wants. So this is internal to Joe's mind. This distinguishes it from reality. It's a separate working space. In that mental space, there is Joe, and Joe meets an actress. That's true in both interpretations. And the indefinite article is simply saying that we have to introduce an instance of *actress* into the discourse. OK, that's here, as the object of meeting with Joe. And that's all there is to say from the standpoint of the indefinite

article. The difference between the two interpretations is whether the actress that's taken as the referent occupies only this desire space or whether she corresponds to someone who is also taken as existing in reality. This is the difference, same mental space configuration, but it's where the actress is, whether there is a real actress, who also figures in the desire or whether there is only the actress in the desire space. That's the difference in meaning. The indefinite article is compatible with both of these scenarios. All that it requires is introducing an instance of actress as the object of *meet* in the sentence.

So the ambiguity has nothing to do with the meaning of *a* per se, but this illustrates the non-specific interpretation. The actress in question is not any actual actress. It's an imagined one or a fictive one or a virtual one. I use those terms interchangeably, fictive, non-actual, virtual, imaginary, I use them in contrast to actual.

So a fictive instance of a type is one we imagine or conjure up just for some particular purpose, and the instance that's imagined is limited to a particular mental space, in these cases the desire space. It doesn't have any existence outside of that space. But this is part of what we regularly do in linguistic semantics. And much of what we do, I'll be suggesting, is fictive; a lot of what we talk about in linguistic expressions, even when we are describing the real actual world out there, we describe it through fictive entities like this. So you'll be seeing examples of that.

So those are some initial points. I'm going to talk in more detail about dynamicity, then in more detail about fictivity, and then we start to bring things together.

The point of dynamicity is that conceptual structure develops through processing time. Conceptualization has a time course, things develop through time in a particular way whether we are aware of that or not. And sometimes how it develops, how it unfolds through processing time makes a big difference. It's important linguistically, even if we are not always aware of it.

In talking about sequentiality like this, it's important to be realistic. I'm not saying that our processing of a sentence just goes through the sentence left to right in one path. Things are very complicated. There is processing on different levels of organization, on different time scales. So at one level, we are doing fine articulation of speech sounds over spans of milliseconds. At another level of organization, we are planning sentences, and that takes place over a second or two. Then we're also at the same time planning a discourse or monitoring discourse. That takes place on a still larger time scale where we're aware of the sequences.

Also we can go back. We can do some processing, but then back up and re-process the same material, or we can keep things in memory until we've

accumulated enough in memory to figure out how everything is supposed to fit together. So even though everything is dynamic and unfolding through time, that doesn't mean we just go through a sentence once in a particular sequence. All these things are happening in a very complicated way.

All right. I've given some of these examples before, in number 9, the nested locatives just to illustrate the importance of dynamicity. *Your camera is upstairs, in the bedroom, in the closet, on the top shelf.* Mentally, you are zooming in, you are starting from a large area, and you go to smaller and smaller areas. And even if you use the same locative expressions, 9b is very different conceptually, because you are starting with the final location, *Your camera is on the top shelf*, but then you zoom out and look at larger and larger areas until you have enough material so that you know exactly where it is. *On the top shelf, in the closet, in the bedroom, upstairs*, OK.

So, I'll claim that those are semantically different even though they add up to the same thing in terms of truth conditions or the nature of the objective situation. It's all how we mentally access that situation through time.

Another example is in 10. The neutral word order in English has a subject first as in Chinese. *A dead rat lay in the middle of the kitchen floor.* But we have a different order. *In the middle of the floor lay a dead rat.* We put the locative first and put the subject after the verb. This directs the flow of attention. Here we are specifically invoking a location first, and then establishing something in that location. A different kind of mental progression. It's not neutral, but something that specifically leads us through the scene in a certain way, a less typical way. This would be used usually when we were introducing a new participant into the discourse, but the location has already been established, so that the old information comes first. And it has this discourse use, and that shows up in 11. The speaker is always presupposed to be available in the discourse. So you can say *I lay in the middle of the kitchen floor*, but it's very funny to say *In the middle of the kitchen floor lay I*, because this inverted construction is a way of introducing a new participant in a discourse, but the speaker is not a new participant, the speaker is presupposed. It shows you that the word order is doing something conceptually. That's important, and this thing carries over to discourse. We had this example in 12 before. The difference between *A scar extends from his ankle to his knee* versus *A scar extends from his knee to his ankle*. You're mentally scanning along the path, the same path in different directions, in building up your conception of the scene, accessing the scene mentally, and that's where the *from* and the *to* come in.

But I want to push this a little bit further. Here *from* comes first and *to* comes later. In fact I know Chinese likes this kind of iconicity. That's the natural order.

You start with the origin. That's the ankle, and you trace the path to the knee, the goal. Can you change this around? Can you say 13 *A scar extends to his knee from his ankle*? The word order is leading us through things in a certain sequence, but one that's out of sync with the prepositions, the first preposition *to* describes the end of the path, and the second preposition describes the beginning of the path. I put a question mark on that because I find this kind of sentence a little bit awkward. Most people would consider it grammatical, and you will find sentences like this. But it's a little bit more awkward, I think it's a little bit more difficult to process. That could be tested experimentally. I haven't tried to test it. I'm not a person to do experiments because I'd probably do them badly, but in principle you can test that, and intuitively it's pretty obvious. What we are doing in the sentence, you start by naming the scar, *A scar extends*, so you have this notion of extension, and then you come to the phrase *to the knee*, to his knee. You are building up a conception of the path, reaching the goal of the knee, reaching the end point. Then, you come, as you process the sentence, you come to the next prepositional phrase, you get the *from* phrase, *from the ankle, to the knee from the ankle*, so you have to sort of back up to the beginning of the path, you start tracing up. And this is my working hypothesis. Again, it's a speculation, but I can't imagine this is not true. To really apprehend, to understand the situation, you have to complete the scanning all in the right sequence, you have to recapitulate the scanning too, before you really get your mind on what's being said.

So there is an awkwardness. I think there is extra processing effort. Certainly, there is some kind of conflict between the direction suggested by the word order and by the prepositions. In these various diagrams, I'll be using the dashed arrow to indicate the sequence of mental access. Here we are scanning *to the knee*, and we are scanning *from the ankle*, and then we have to continue that and scan the whole path in that direction in fully understanding the phrase. Some cases are clearer than others, going down to 15. I'm now looking at conflicts between the ordering that word order gives you and the ordering that's given by the meanings of the words. It seems perfectly possible and natural to say that *The rainy season starts in December and runs through March*. But I think it's very peculiar to say that *The rainy season runs through March and starts in December*. I can't imagine someone actually saying that although I suppose it to be grammatical. Or *they raised tuition from \$ 15,000 to \$ 20,000*. I find that easier to process and say than *they raised tuition to \$ 20,000 from \$ 15,000*. I have to tell you at home I read newspapers, and in our newspaper at home, they always do it like 15d. They would always say *they raised tuition to 20,000 dollars from 15,000 dollars*. There is someone directing the style of newspaper writers, and they are instructed to do it that way. It has to be the case.

And every time I read this, I misunderstand it. *They raised tuition to 20,000 dollars*, I expect that to be first, the lower figure, and then I come to the *from* phrase, which is lower, and then I realize that they got it reversed. I misprocess it every time even though I'm aware of this.

Or *the stores stay open from 7 o'clock to 10 o'clock*. It would be very funny to say that *the stores stay open to 10 o'clock from 7 o'clock*. So, I don't know why it's better in some cases than others, but sometimes it's really striking how bad it is to force the processing in the unnatural sequence. Something I'll be talking about a lot, starting, I guess, the day after tomorrow, is the notion of reference point. This is another manifestation of dynamicity. This is the idea of invoking one entity as a mental reference point in order to establish mental contact with another entity, the target. This is mentally accessing one entity through another.

I'll describe possession in these terms, and then I'll describe other phenomena in these terms, like topic constructions, but the only one I choose here for now is metonymy. Metonymy involves a sequence of mental access. In this case it has nothing to do with word order. This dynamicity is not tied to word order. It's something independent of word order, but word order is one dimension of processing, so it tends to be mixed up with it. But dynamicity and sequence of processing doesn't have to be along that path of access and metonymy is a case where it's not, because there is only one word. For example, *Chernobyl was a great tragedy*, that city is in the Ukraine where there was a nuclear incident with all the radiation released. *Chernobyl* is the name of a city, but here it's being used to name an event, the city for event metonymy, which is a very common kind of thing. The name is enough to mentally evoke the event, so the name *Chernobyl*, the name of the city occurs in the sentence, and then given that, and the rest of the sentence, we're able to figure out the actual referent of *Chernobyl* is the event, the release of radiation. Or if I say *That car is evidently lost*, cars don't get lost, it's the driver that gets lost, but the car is what we see, so metonymically, we refer to the car to say that the driver is lost.

So there is a sequence of mental access through the symbolized element to the intended referent, and a directionality to that.

That's some words on dynamicity. Now, I return to fictivity. If you think about traditional views, at least in the West, of language and what it does, especially in philosophy, where all the emphasis is on truth conditions and reality and conditions for verification and so on, there is this idea behind this emphasis that language is primarily a vehicle or a way of describing actual individuals and actual events that occur in the world around us. We use the language to make true statements with evidence in order to persuade people of a truth that they don't know previously. Because this is the way philosophers tend to talk,

but that's what philosophers tend to do in their professional life, so maybe they have a biased view of what language is like.

If you look at language in its own terms, you find something rather different, that the entities that we directly describe linguistically are very often fictive or virtual or imaginary, and we talk in terms of fictive entities even when our purpose is to say something about actual situations and actual individuals. So there is something rather important here. I'm not just talking about imaginary worlds like novels or movies and stuff like that. I'm leaving that aside. I'm talking about ordinary language about real world situations. OK. We still use an awful lot of references to fictive entities in order to deal with that.

I'll go through a bunch of examples because they get very interesting, and you can see that they are very fundamental to language. Almost all of language involves fictive entities in one way or another. Starting with the notion of types versus instances. So, if we take a noun phrase, a full nominal or noun phrase, like *this cat* or *some oxygen*. Let's take *this cat*. A full noun phrase refers to some specific individual, some instance of *cat*, and it's related to the speech situation by a determiner like *this*. The noun *cat* by itself, however, merely names a type. If you just look at common nouns, by themselves, they don't refer to individual creatures or instances, they specify a type, and a type is a fictive thing. It's an imagined thing. So, *cat* is not the same in reference as any actual cat. It's an abstracted notion, whatever that is like. And it's only in combination with other elements like a demonstrative or an article or in a discourse context that it takes on a specific reference.

So right away we have a large inventory of thousands of nouns in a language, all of which have virtual reference, and we use them to label things. And when we use them to label particular things, then they acquire specific reference; although I say *cat* profiles a type of thing, it profiles a type that is a virtual entity, and not an actual one. The same with verbs. A verb profiles a type of process, as I call it, a relationship scanned through time. But by itself a verb like *chase* for instance, or *love*, profiles not any particular instances of the process, but just the process type, as only in combination with the grounding elements, that is, things like tense and modals in the case of English, does it take on specific reference to a particular event or situation, as in *I chased it* or *She may love him*.

That's the point of the next diagram in 21, just to make the distinction between types and instances. Here, I'll be using the metaphor of planes, but I can talk about mental spaces, I could use some other metaphor. The word plane isn't important here. The point is that we are talking about things at two different levels. There is a level of specific instances and there is a level of types. So, this would be the noun *cat*, by itself it simply evokes a type. But there are

many objects and creatures in the world of that type. They all correspond to and instantiate that type specification, and full noun phrases like *this cat* or *that cat* or *some cat* or *my cat* will pick out a particular instance of that type in a particular discourse context for discourse purposes. But very often we operate at the type level. We don't always go down to the instance level even when we are talking about things that do have instantiations.

So, consider 22. If I say *Sarah loves this cat*, with the verb *love* in the present tense, and then *this cat*, with the demonstrative, that sentence is picking out a particular instance of the love relationship, and a particular instance of the cat type, and making that into a coherent statement. But I might also choose to say 22b *Sarah is a cat-lover*, using *cat* and *love* again, but without ever grounding them, without ever turning them into instances. If I use a compound like *cat-lover* or I use a nominalized form like *lover* instead of a tense marker, *cat* and *love* are being used simply as type specifications. They are not referring to instances of either *cat* or *love*, but by making this general statement at the level of the type *Sarah is a cat-lover*, we can deduce that there must be instances of cats and loving that are involved. You probably wouldn't say this unless there is actual love of particular cats on the part of Sarah. But we don't necessarily always go to that level. We sometimes stay at the virtual level and simply specify types.

But there are more striking examples. I'm going over to 24, and I've given you the definition in 23. We've sort of covered this. A virtual instance of a type is a non-actual instance, which is imagined or conjured up for a special purpose. It has no status outside the mental space or the plane that's constructed for that purpose. I think a very striking example is the one in 24. So let's imagine that I give a class, (luckily I'm retired, I don't give classes any more, but I might) and during this class, there are three occasions when the students ask questions. There are three different students, three different questions. They are all good questions. So, afterwards I might describe this by saying 24a *Three times during the class, students asked intelligent questions*. OK. There were multiple students, there were multiple questions. So these occur in the plural referring to actual occurrences and actual people. No problem. But 24a is not the way I would probably actually say it. The more natural way to say it is 24b *Three times during the class, a student asked an intelligent question*. Same situation. I'm describing a situation where there were three different students and three different questions. That's the situation I have in mind, and I say *a student asked an intelligent question*, in the singular. Why singular when there are three of them? It's like a psycholinguistic puzzle, and the answer is that I'm not describing any particular occurrence, I'm describing a fictive occurrence, a virtual occurrence,

involving a virtual student, a virtual question, a virtual event of asking. This is really very important for language, and it's not something that people point out. It's not generally noticed, even. What you are doing linguistically and what situations you apply it to, there seems to be a mismatch.

So this is the actual situation. (I hope you can see that better back there than I can here.) There are three events of a student asking a question: student one asks question one, student two asks question two, here is the third event involving another student and another question. This is what I'm describing. This is real, actual. What I encode linguistically, what appears in the sentence is *a student asked a question*, just one instance with one student, one question. This is the profiled event. These are the profiled participants in the singular, but this is by way of making a generalization. I'm describing the actual events, but I'm describing them indirectly. What is directly expressed in the sentence is this virtual event, involving a virtual student and a virtual question. The student is not any of these. The question is not any of these. It's abstracted to stand for all of them. So you imagine an event of this sort. But the meaning of the expression involves this total configuration. The adverb is important. *Three times during the class*, the adverb tells us how the encoded situation corresponds to the actual one. Three times an event of this sort occurred. So it tells us how to make the mapping from this level down to this level. Or to look at it in the other way, there were three events of the same type that occur. So I'm making a generalization, there is a mental progression to make this generalization, which is expressed through virtual entities. And that was linguistically encoded, plus the adverb which tells us how these map onto one another.

So, as a rather elaborate mental construction, the meaning of this expression is all of this. There is the part that's explicitly encoded in the main clause. There is the adverb which tells us about the mapping. And it's the interaction between these planes that gives us the total meaning of the expression. And this is quite common. It's quite typical of language. It's not just a matter of taking the individual words and combining them in some mechanical way. It's a matter of doing mental construction to make sense of things and involves all sorts of fictive entities and special mental spaces or planes as I use that metaphor here. The type plane is different from the instance plane, the generalization plane is different from the actual plane. In all these diagrams I'll be showing the actual situation. And then the abstract, fictive situation in another plane, and there will be different labels for these planes: generalization, type plane, and there will be other labels, but they are all fictive. What they share is that these are all mental constructions involving fictive or virtual entities,

but they are the entities encoded linguistically. They are what we are directly talking about.

Let's see some other examples to get the feel for this. Generics are quite like this, so, 26 *A cat eats salmon*. It's very much a similar diagram, what's encoded linguistically is the singular *A cat eats salmon*. All singular. But that's meant to be a generalization over any number of instances of a particular cat eating a particular piece of salmon. This time I call this the structural plane. Generic sentences involve a different kind of fictive mental space. I'll try to describe that. It is within the brackets in the handout. With a generic like *A cat eats salmon*, I'm making a global generalization, something that's taken as reflecting the world's intrinsic nature. Something that describes the actual structure of the world. Whereas if I say *Three times in the class a student asked an intelligent question*, that's a local generalization. It's based on accidental occurrences. It just happened that this took place. It was a phenomenal statement as opposed to something that directly reflects the nature of the structure of the world. But in both cases we are making a generalization where the fictive event maps onto different numbers of actual events. We are letting the virtual events stand for the actual ones. But the basis for the generalization is different, they involve different mental constructions. In the one case, we are just making a generalization of some occurrences that were similar, it just happened that way. In the latter case, with the generics, we have this mental, idealized cognitive model that there is a certain structure that the world has by its very nature, and we are giving statements which reflect this inherent nature.

Fictive change, OK, here is one of Fauconnier's examples: *The general's limousine keeps getting longer*. Now that's a funny sentence if you think about it. *Limousines* are usually built with a certain fixed size and how can they get longer? You have to put them in a shop and it takes a lot of effort to make them longer. But that's probably not what happened. I mean maybe that happened. It could be that every month the limousine goes into the shop and they add material and they saw it apart and then stretch it out and put new bars in and it gets longer, but probably that's not what was involved. Probably there were different limousines. He gets a new limousine each month and each one is longer than the previous one. But that's not what the sentence says. It says the limousine gets longer, describes the change. And several different limousines of different lengths don't constitute a change. So there is a kind of fictivity involved. In fact, there are levels of virtuality involved here. So let me go into at least three levels of virtuality involved in this example. First, there is the actual situation. In the actual situation, let's say, there are three different limousines, limousine number one, number two, number three, and limousine number

two is longer than number one, three is longer than number two. This is the actual situation. It's a normal thing. But we don't say that there were several limousines in the sentence, we say *the general's limousine*. That's a virtual entity. It maps onto these three actual ones. This is what Fauconnier calls a role, *role* (as opposed to a *Rolls*, which is a type of limousine). And he calls these values of the role, but the role is part of a scenario. We have this idea of important people having chauffeurs and limousines. This is the whole scenario, and the limousine is one element in this scenario, and that applies to indefinitely many particular individuals. So the limousine in question is not an actual one. It's the limousine that fits as part of this scenario, and it can correspond to any number of actual ones. Of course that's a full noun phrase. That's a definite limousine. That itself is an instantiation of the type *limousine*, which I didn't show here, but I could show that up on top. Limousine itself is a type. *The general's limousine* is an instance of that type within the scenario, and the actual limousines are instantiations of that. So already we have at least three levels, two of which are virtual: the type level, the role level, and then the actual level. But there is a kind of fictivity that's involved there, three separate limousines, and what the sentence does is effectively treat those three different limousines as if they were the same object. So, virtually speaking, I've shown correspondence lines here to indicate that these are taken to be the same object: limousine sub-*i*, all the way through. We ignore, we just abstract away from the fact that they are physically different cars and treat them as if they are the same entity. And when we do that, we have a change: the limousine gets longer.

And this too is very common, this type of thing. Another example is virtual motion, one type of virtual motion. So, let's go through that one. I'm down to number 30 on the handout now. Virtual motion has been looked at quite a bit. There have even been a lot of psychological experiments on it to show that it really does involve the conception of motion, even in the virtual cases. We start with 30a with the case which describes actual motion: *The balloon rose quickly*. OK. No problem, actual event, something moves through space in the way I described this morning. But there are at least two kinds of virtual motion that could be based on a simple verb like *rise*. I call them perfective and imperfective here, and they are different. I could say *The path rose quickly as we climbed*. The path rose quickly. OK, think about that. The path isn't going anywhere. The path is just there. It's static, but we use the verb *rise* just as with a balloon. Or I could do that in the present tense, say *The path rises quickly near the top*. That's an imperfective type. Now why do I distinguish these? I distinguish them first of all because linguistically you have to. They are different. And you can say that given the way English verbs work with tense and aspect, but there

is a different psychological mechanism behind them. I don't have time to go through the details, but English has two basic classes of verbs which I call perfective and imperfective. Perfective verbs are bounded events. Imperfectives are steady state situations that extend indefinitely. *Rise* will typically describe an event. It's perfective by nature. In English, the perfective verbs don't occur in the simple present tense usually, and they do take the progressive, I'd say *The balloon is rising*, but I do not say *The balloon rises*. Imperfectives are the opposite. Imperfectives do occur in the simple present. An imperfective would be something like *be tall*, *He is tall* or *He likes her*. Those do occur in the simple present and do not take the progressive. We do not say *He is being tall* or *He is liking her*. So the way English verbs work, I know that in 30c *The path rises quickly near the top* is in the present tense. This must be an imperfective verb. It's describing some stable situation. In 30b I could put in the progressive, say *The path is rising quickly as we climb*, I can use the progressive on it, so I know it's perfective.

So those are just basic facts of analysis and sort of straightforward given English tense and aspect, but what would provide the virtual motion? Nothing is actually moving. The path is there. It's static. So how do we get these? What's going on conceptually? And how are they different?

With the perfective verbs that I give, the examples in 31, these are perfective virtual motion cases. *The trail is rising quickly as we approach the summit*. *The highway ran along the coast, then turned inland*. *The bike path went from Santa Barbara to Goleta*. Perfective virtual motion does involve motion. There is the idea of someone moving along the path. So there is imagined motion and maybe actual motion. These are the types of sentences you would say when you are moving along the path or when you imagine someone moving along the path, and very often, the mover is mentioned as in 31a *The trail is rising quickly as we approach the summit* or I could say *The highway is running along the coast now*. So this is tied to motion along the path, which may be actual motion or may be imagined motion. Whereas the imperfective ones are not tied to moving along the path, they are the sorts of things you would say when you can see the entire path at once and make a general statement about the overall configuration of the path, from a distance, like *The trail rises quickly near the summit*. I could be looking at a map or looking through a telescope and see the shape, the overall shape of it all at once. And with these you don't usually have a mover, you don't mention a mover. So one case would be: if someone has a forehead with a certain shape, I could say *His forehead rises steeply*, *his forehead rises less steeply near the hairline*. In other words, there is a sloping forehead, and when you get near the hair, it sort of flattens out. But normally you see a

person's forehead all at once. So you use imperfective. *His forehead rises steeply or less steeply near the hair line*. If I try to use perfective virtual motion, say *His forehead is rising steeply near the hairline*, that doesn't work. That suggests someone moving along that path, but, you know, who is going to move along someone's forehead? I mean that forehead is small, a person is big. No one is likely to be moving along a person's forehead. It's hard to imagine there being a mover tracing along that path. So it's very funny to say *His forehead is rising less steeply near the hairline*. But there is an exception, I say it's OK while climbing Mount Rushmore. I don't know if you know it, but there is a mountain in the state of South Dakota in the United States. It's a big mountain. And on this big mountain are carved the giant heads of four American presidents. You could climb these in principle, and if you could imagine someone is climbing up the forehead of George Washington, you could say *Ah, his forehead is rising less steeply near the hairline*. It has nothing to do with it being a forehead, but rather, the possibility of imagining actually moving along that path.

So, that's the general picture. How in detail do these constructions work? Perfective virtual motion has a certain resemblance to the example we did this morning *There is a house every now and then through the valley*, which also involves a moving viewer. And a field of view moves along with the viewer on the path of motion. And in the field of view, it was a different house each time. The house is a virtual one. Virtual motion is similar in the case of perfectives.

So, here is time. Here is a path. This would be something like *the path is rising steeply*. There is the path. The situation is stable through time, but there is a viewer. Someone is imagining moving along this path, and it might be a report of what the speaker is actually doing. Let's assume that the speaker is moving along the path, the speaker is viewing this situation. And this box represents the field of view. This is the box representing how much the viewer can see at any one moment. So if the viewer is here, it can see this much. If it moves up here, it can see this much and so on. And the key to this type of sentence is that what is encoded linguistically as the path is defined by the field of view. I say the path is rising, well, the path is what the viewer can see at any one moment, and that's really a different portion of the path each time, as a kind of metonymy, just defined on the basis of viewing experiences from moment to moment. But then, just like the general's limousine, this path, this path segment which is what's being called here *the path*, is identified as if it were the same object objectively. In other words, we are defining the notion path by what we can see, and that changes from instant to instant objectively in the world, even though experientially it's the same entity in a certain sense. So, it's a kind of fictive identification of these path segments, and once you identify these path

segments, then, by golly, the path is rising! It's getting higher and higher, this fictive creature, even though any actual path segment is in one place. So, it is just like the general's limousine in that regard, except it involves motion in this case. But the imperfective virtual motion is different. That involves a kind of mental scanning. That's just like the scar example *the scar goes from the wrist to the elbow*. We build up a larger and larger conception of the expanse of the scar mentally until we arrive at the full conceptual expanse. This case is the path. So, the path rises. This is now processing time. This was conceived time, the time of events, small t. Processing time, capital T. This is happening mentally, not something we are conceiving as happening through time in the world. We build up a more and more elaborate conception of the path until we build up the entire configuration of the path. And this is the profiled situation, and this is stable through time, this is what it profiles. It's stable through time. And that's why the verb is imperfective. Here the verb is perfective because there is a change through time, the virtual path is moving, is rising. Here, we sort of have the rise built into our conception of what the path looks like in the first place but we are describing a stable situation from a global perspective, we are still using a change verb *rise*, a motion verb even though there isn't any actual motion. It's all subjective or mental motion, conceptual motion in building up to our conception of the scene.

So, I don't know how many details of that were clear, hopefully, they were clear to some people, but maybe the general idea is clear anyway, that there are lots of subtle conceptual things going on here, at different levels, and they have direct linguistic manifestations, this is what's showing up in the grammar. So, you can't really ignore that in doing grammar.

All right. Now, that was a long initial discussion of fictivity. We got dynamicity and fictivity both established here as things I can talk about. And we are going to get into still more interesting cases, which bring them together in certain ways. Again these are very common linguistic phenomena. These are all over the place, but they are not very often talked about because they don't fit into traditional semantics in any way. They don't even fit into things like metaphor, so they are just sort of ignored for the most part, I think. We have the possibility of mentally accessing things in a certain sequence, which doesn't have to correspond to change through time or anything of that sort, but just mental access through time. And once things are at the mental level, and they are no longer tied to things like physical motion, they are no longer tied to things like space, it can be done on a more general basis. And there are quite a number of phenomena which seem to involve what I call here fictive scanning. That's where there is some mental progression. We mentally access things in a certain sequence, and this is encoded linguistically in a way which reflects that

sequentiality. But, in fact, there is a kind of fictivity to it also, as you'll see it in just a second. So there are some initial examples in 36. *From one restaurant to the next, prices vary greatly.* So again we have a *from-to* expression, which suggests a path of motion, but nothing is moving in this sentence. The restaurants are there, and the prices are there, but what's going on? Why do we have *from* and *to*? And why do we have *vary*? Or *As body size increases, the average gestation period gets longer.* Gestation, that's when a mother is carrying the offspring before birth. Well, we are not talking here about any actual body getting bigger. We are just surveying across species. Different species are involved. And the increase is simply the increase in the size of the species that we are considering. As you go from, say, mice, to cats, to elephants, and the average body size is larger, the gestation period gets longer. But there is no creature that starts out the size of a mouse and winds up the size of an elephant, we're moving mentally from one body size to another. Or *From the brightest student in the class to the dumbest, they all work very hard, from-to*, OK. But what's moving? Only the conceptualizer is moving.

So, these all involve some kind of change or motion, which is really all subjective. It's done at the mental level in terms of what is mentally accessed. It's not a change or progression in the world, but it's still reflected in dynamic language like *increase* and *from-to*.

Let's look at the last of those examples: *From the brightest student to the dumbest, they all work very hard.* This, *from the brightest student to the dumbest*, is shown up here. Everything that happens here is virtual. The dashed arrow again is the path of mental access. The sentence is saying *From the brightest student to the dumbest*, so here are the students, student one, student two and all the way through student n, the last one. This is an intelligence scale. The students are ranked in intelligence. And the sentence is saying, alright, let's scan mentally through these students in the reverse order of intelligence, from the brightest to the dumbest. The sentence is instructing us to do the mental scanning along this gradation. It's taking us along that path somehow. This is all virtual because even though there are students and they have different degrees of intelligence, we don't know anything about how those students map on to actual students. And even worse than that, we don't really do the scanning that we are instructed to either. Suppose there are 50 students in the class, and I say *from the brightest to the dumbest, they all work hard.* Well, as I produce that sentence and as you understand that sentence, neither of us mentally runs through all 50 students in order. We imagine doing that, but we don't actually mentally go through the sequence involving all 50. Even the scanning has a kind of virtuality, we don't do the full scanning. We do a little model of it. We kind of simulate it like I do in the diagram. Here I just show some arbitrary

students on the scale, and say there are a bunch of others, but we don't know how many, and we just mentally scan through this little fictive sample, which is supposed to stand for all 50. And I think we do something like this in apprehending this expression. Certainly the form suggests that. We don't know how many students there might be, we don't know which ones are intelligent, which ones are dumb, but this is meant to say something about the actual situation. There is an actuality here, and this represents it, but it's represented, first of all, with fictive scanning, and secondly, it's fictive also in sense of just involving a sample of the elements.

So, that's what I'm calling fictive scanning, and again it gets more interesting still. I have some examples coming up involving adverbs. All sorts of adverbial uses involve things like this. The cases I've shown here first are *still* and *already*. We think of these as temporal adverbs as in 38 *Jack is still writing his dissertation, but Jill has already finished hers*. So, what's involved with, say, *still*? Let's look at the actual case first. *Jack is still writing his dissertation*. *Still* tells us that some process continues longer than you expect it to. *Already* tells you that a process terminates sooner than you expect, but we'll just focus on *still*. So, *Jack is still writing his dissertation*. So, we have time. This is the time arrow. P is some process. In this case, it's the process of writing the dissertation. P is the process of writing the dissertation, and that continues through some span of time. This little vertical line indicates the time we expect the process to terminate. This would be the expected time of termination of the process, but in using *still*, we are saying that this process continues past that time. And this is the portion we are looking at in the sentence in the present tense *Jack is still writing his dissertation*. This is the profiled portion *is writing his dissertation*, and that's part of an ongoing sequence which has continued past the expected cut-off point. And this is the scanning direction, we see that the process continues beyond that point and *still* is ongoing now when we are encoding this sentence.

But now let's go down to 39. *You won't get very far with a contribution of \$10,000, or even \$25,000. And \$50,000 is still not enough for a private interview with the president. Or Forget about calculus—elementary algebra is already too difficult for him*. These are cases of *still* and *already* that don't involve continuation of events or early completion of events because nothing is happening in these sentences. These sentences are describing stable situations, not events. There is a certain price structure for getting to meet the president, and the sentence is describing that price structure, but that's stable. It's not a matter of anyone reaching or not reaching that level. It's just describing the entire

structure of it. Or we are talking about algebra, how bright someone is in terms of math, but nothing is changing or ending or continuing, except the stable situation.

So, why do we use *still* and *already*? Well, we are doing a mental scanning along some scale, and that scanning is comparable to what's happening when we watch actual events through time. So in the *still* example, we have a scale. Instead of scanning through time, we are scanning along a scale, and all this is a stable situation, but we have a scale with different values. So the circles represent different values on the scale. In the particular example, these values are amounts of money, amounts of contributions: \$10,000, \$20,000, \$30,000, \$40,000, \$50,000. OK. So those are the circles. And P is some property that's associated with these values. In this example, the property is not being enough money to have an interview with the president. So, the circles are amounts of money, and the property is not being enough. And we are then scanning along the scale, and we are trying to find that property P, and see how long that property endures along that scale with different values. And we observe that the property endures past the expected cut-off point. You might think \$20,000 would be enough, but no, 50,000 still isn't enough. You see the analogy to what's happening with the actual event situation, but here it's all mental, it's scanning along the scale, access. (Can you still hear?) But it's often virtual. We often don't even scan through all the values, it's like the student example, sometimes we just imagine it.

See the example in 39b, *Forget about calculus—elementary algebra is already too difficult for him*. Here we are scanning negatively along a scale of difficulty. Oh, I'm sorry, we are scanning positively, we are scanning through subjects of mathematics towards more complex mathematics, and we are seeing how long it's going to take to reach the level where things are too difficult for him. And *already* at algebra, it's too difficult; we reach the cut-off point earlier than expected.

However, to understand that sentence, you don't actually have to imagine in turn each mathematical subject and think about the presence or absence of the property. You probably didn't think about any mathematical subject except calculus and algebra. We don't actually scan through all the values. We just simulate this, we imagine doing it, we think of a couple of representative examples. So the scanning is fictive, but it's still a simulation. We are still doing something dynamic. That's the view I'm trying to build up here.

This is nothing extraordinary. I mean it's amazing that we can do it, but it's nothing that unusual when you think about it. Suppose I tell you that last year

three million people visited the San Diego Zoo, three million people, alright. Well, you sort of imagine people going through the turnstiles until they reach the three million mark, but in understanding that sentence, you don't actually visualize three million people going through the turnstiles one by one. You just imagine some going through and then we have ways of projecting and assessing large numbers. It's a simulation, fictive scanning along the number scale.

I hope you get the idea that phenomenon after phenomenon involve these mental operations and kinds and levels of fictivity. We are doing the same sorts of things we do in more concrete actual circumstances, but we are doing it in some abstract way. But the abstract way of doing it is what's showing up directly in language even when we are describing actual situations.

There is another nice example here with frequency adverbs, which appear to be used as nominal quantifiers. So the examples in 41 *A professional basketball player is usually tall*. OK, so think about that. *Usually*, that's the frequency of events. There is a professional basketball player, and I say, "He is usually tall. On Tuesdays and Thursdays and Fridays and Saturdays and Sundays, he is tall, but there is a period on Monday morning when he is short." That's what this sentence looks like. He is usually tall. There is only one basketball player mentioned. OK? And we have this *usually*, which quantifies over events, the frequency of events. But that not how you understand it. Right? You understand that as meaning that most professional basketball players are tall, and they presumably are tall for most of their lives, stably. How do we get that?

Or *A professor is always arrogant*. There are professors who are always arrogant, but what this probably means is that all professors are arrogant, always.

Or *Theoretical linguists are often obtuse*. That means many theoretical linguists are obtuse.

Or *Politicians are seldom honest*. OK. Well, that has a literal interpretation: there are few occasions when politicians are honest; but it probably means that very few politicians are honest.

So, they seem to be quantifying not events, but rather sets, the sets of basketball players or professors or politicians; but the quantification shows up adverbially as if they were quantifying events, even though the sentences don't describe events. *Be tall* is not an event. It's a stable situation. So just look at the linguistic facts, and it's all a big puzzle. Alright. And it is taken to be a problem. I gave a paper a few years ago in Rome. It was on dynamicity, actually. And the paper before mine was presented by Gennaro Chierchia, a well-known formal linguist, who dealt with exactly this phenomenon in formal semantic terms and tried to give an account of how these adverbs could wind up being nominal quantifiers semantically.

But actually it's rather simple when you think about it, and if you have a realistic idea of what's happening with linguistic meaning. It's not a matter of using adverbs as nominal quantifiers, it's a matter of fictivity. Imagined scenarios, fictive scenarios involving a kind of scanning. So this is now again sort of similar to the example *There is a house every now and then through the valley*. There is an imagined scenario here. This is a scenario which is something like this. You imagine moving through the world or moving through life and through the world, and encountering different instances of a certain type along your journey. OK. Some imaginary scenario like that. So in my life, I'm going to, maybe, encounter a certain number of professional basketball players, I'm going to encounter a certain number of professors. Enough that they constitute a representative sample for the class. It doesn't matter that you might never in your life meet a professional basketball player. You just have to imagine that you go through life and meet a certain number of professional basketball players. Relative to that imagined scenario, the adverbs are being used in their regular value as frequency adverbs. So here is how it works. This is all virtual, but it's being invoked by this sentence as the basis for its meaning. So here are the members of a class, the circles. They could be professional basketball players or professors or politicians or whatever. Then we are looking for a property, the property of being tall or arrogant or honest. That's P and certain members of this set have that property, certain members do not have that property. This is the mental access, the conception of moving through the world, encountering members of this class and checking on these members to see whether they have the property P or not. So these are events, events of encountering an instance of the type and seeing that it does or does not have the property P. Those are the events that are being qualified by these adverbs, like *usually*, *seldom*, *always*. So these adverbs are expressing the frequency of events in which property P is encountered. It might be a low frequency or a high frequency, but there's some frequency of events where P is encountered, relative to the total possible number of events. But the way this mental construction is set up, the frequency of events with property P will correspond exactly to the proportion of members of the set with property P. Every event here which constitutes the frequency is going to be an event in which a member of the set has the property. So we can think of this as nominal quantification, how many members of the class have the property, that's going to be the same proportion as the number of events in which you encounter the property. It's these encountering events which are quantified by the adverbs like *always* or *usually* or *frequently* or *sometimes* or *seldom*. Not just a few adverbs, lots and lots of frequency adverbs can be used this way.

Once you just realize that we have this scenario, this covert scenario of going through the world and encountering members of a class and assessing for this property, then everything is automatic. It's just that the meaning of the sentence is based on that scenario, and there is no sense in which the adverbs are being used to quantify over the members of a set of things. It's just quantifying over events. The linguistic form is then straightforward, but it's straightforward relative to this mental construction. Again, the same model or the same conclusion, more or less, as we got with the example *There is a house every now and then through the valley*, where the adverbs are modifying something that isn't there overtly in the sentence. It's part of the scenario that's being invoked.

Alright. There is a little time left to talk about some of the logical elements. Now there is really a kind of irony here. Cognitive semantics is a radical alternative to formal theories of meaning, where the emphasis is on correspondences to the world, the emphasis is on things like truth and reality and verification and things of that sort, conditions of truth, everything is logical. There is not usually room in these approaches to linguistic semantics for things like metaphor and all these other imaginative phenomena. They aren't even recognized. I'll just leave it at that. But the elements that figure most prominently in formal approaches to meaning, so called logical elements, like the connectives and so forth, turn out to be the ones where fictivity and imaginative phenomena are the most important for their meaning. Lakoff already indicated this years ago in *Women, Fire, and Dangerous Things*, when he said that image schemas have an inherent logic in them, and this logic is what we actually use in reasoning and deduction; it's really the manipulation of image schemas that underlies our reasoning capacity, so the modeling of this in formal semantics, and logical deductive systems with *modus ponens* and things of that sort are really based on metaphor. So I just take his one example here, the syllogistic form: *modus ponens*. *All linguists are mammals. Wang Yin is a linguist, therefore, Wang is a mammal*. OK. Now this is Lakoff's analysis although he didn't use Wang Yin as an example. Lakoff claims that we conceive of sets metaphorically as containers. Sets are metaphorical containers and the members of a set are the things that are in the containers. Based on that metaphor and the image schema of container-content, we do logical deduction like *modus ponens* by manipulating image schema structure.

So, here is what we do. First of all, the first premise: All linguists are mammals. OK, there are two sets there, the set of linguists and the set of mammals. The sets are metaphorically thought of as containers. So this is now a container. M is the mammal container. All the mammals are in that container, as the set of mammals. And L is the set of linguists. So that's a linguist container.

And of course there are mammals who are not linguists. As hard as that is to believe. So it's a smaller set, but the linguist container is inside the mammal container. Put one container inside another, because it's hard to think of any linguists who are not mammals. That's premise number one; all linguists are mammals.

Then premise No. 2: *Wang Yin is a linguist*. He is inside the linguist container. Now, these are two image schema representations based on the container metaphor. OK. What we do is we superimpose these. This is an image schema transformation. We add these two together. Here is L. Here is L. We just superimpose these into one image, a composite image, so we have then the mammal container, the linguist container, and there is Wang Yin in the middle of it. This is manipulating image schemas all based on metaphor: the container metaphor for sets, on which we do more image schema manipulation. We simply fade out the linguist container. We just erase it, we just fade it out, we don't focus on it, we focus on the other two, and we are left with this: we see that Wang Yin is inside the mammal container. I haven't done anything fancy in terms of logical formalisms. I've just manipulated images. And the claim that Lakoff made is that's how we reason even in the most mathematical aspects of our reasoning; and that's what mathematicians do, that's what logicians do. In fact psychological experiments tend to bear this out. Of course you know probably about the works by Lakoff and Núñez on trying to explicate the entire foundations of mathematics as metaphors and image schemas and manipulation of them.

So, that's what we are talking about here, that these are sorts of things that language itself leads us to postulate. In this case it was image schemas and metaphor. It gives us a radically different view of tracing the implications for how cognition works even in the most arcane areas. But in all the things that logicians like to talk about, we have fictivity, we have virtuality, we have this dynamicity, all these things are going on. I'll just run through some of them quickly.

Say, conditionals, as Fauconnier and Sweetser and others have talked about. *If... then. If P, then Q*. Here, actually, by nature conditionals involve virtual entities. Here I call it the hypothetical plane. This is a different kind of virtuality, but we are still dealing with fictive entities. What a conditional does with *if*, it says look for or imagine a mental space, imagine a situation, that is, create a mental space where P is found. So this is our mental progression. We depart from the actual plane, and construct this hypothetical mental space, and we find P in there. And the conditional sentence says: once you construct that, and you work out the implications of what you find there, you'll also find Q in that same space. So P and Q might have nothing to do with actuality. They

don't exist at all. They are not actual, but the relationship between them does have actuality. It's the connection between them that is said to be something valid about the world, so that if you find a situation where P is found in actuality, then you can figure out that Q will also be there. But what's actually expressed is all at the virtual level. Similarly with negation. Various people have pointed out that a negative in a way invokes the positive. If you say that there are no dinosaurs in China, I mean, gee, you sort of knew that! Right? But why would you even think about that? Why would you use a negative unless the possibility had arisen that there were dinosaurs in China? And in fact, the negative sentence is based on the positive sentence in terms of its form. You add something to it, like a "not" in English. So negatives are statements that are intended to say something about the actual world, but they go through a virtual level where you set up a fictive situation specifically in order to say that that's what the world is not like. That sounds circular the way I said it, but I hope you get the idea. That is, a negative sentence evokes a fictive situation, and that can be applied to actuality, but the point is that this will remain fictive in its entirety. The portion in the box is the portion which conflicts with reality. That's what's called the focus sometimes, so the other elements might hold, but F will not hold.

I'll quickly say a few things about quantifiers, and then we'll wrap up and leave time for questions. I won't quite go through everything on this handout. It's not important that we do.

First, quantifier scope. Let's take 49, *Three boys lifted two chairs*. That has various interpretations. There is an actual interpretation where there isn't any scope relation. It says there were three boys. These are actual boys. And there are actual chairs. And the boys participated in lifting in regard to the chairs. OK. That's one interpretation. Everything here is actual. There is actual lifting, there are three actual boys, there are two actual chairs. But it's more likely that the sentence means what's sketched here in the second diagram, diagram B, that there were three actual boys, but the number of chairs is indeterminate. On the scope interpretation, three is said to have scope over two. There are three actual boys, and each boy participated in an event of the type "lift two chairs", but they might be different chairs. There might have been six chairs altogether, but there are only three boys. But the sentence says three boys lifted two chairs—they lifted two each, so there were six. OK. That's the scope interpretation. That's the interesting case. What is involved is a split in this type of sentence: the subject is encoding three actual boys, the predicate "lift two chairs" is virtual. That's an event type—the event of lifting involving two chairs, but those are imagined chairs. So you define a type of event and

one instance of that event type is associated with each of the three actual boys. So the chairs referred to in this sentence are virtual. The boys are actual. The chairs are part of a type description, not actual individuals. And with quantifier scope in general, that's the kind of thing that's happening. There is reference to virtual entities, and that tells us indirectly how things work in actual terms, but what's directly encoded linguistically are virtual entities.

The last thing I'll mention here quickly is all the universal quantifiers of English, *all* is one of them. We have at least four: *all*, *every*, *each* and *any*, and actually there are a couple of others, including zero. *All cultures are worth preserving; Every culture is worth preserving; Each culture is worth preserving; Any culture is worth preserving.* In formal logic, these might all be modeled in the same way with a universal quantifier. If it's the same notion, universal quantification, why does English have so many different ways of saying it? The answer is they are all semantically different, they come out logically the same perhaps, but semantically, conceptually they are different, because they involve different kinds of virtual structures evoked in order to describe the same overall situation. Now these quantifiers break down into two groups—what I call the proportional quantifiers: *all*, *most*, *some*; and then what I call the representative instance quantifiers: *every*, *each*, and *any*. And what you notice is that the proportional quantifiers occur with plurals: *all* cultures, *most* cultures, *some* cultures. The representative instance quantifiers occur with singulars: *every* culture, *each* culture, *any* culture, although *any* also allows plural. So there is a difference, and that should remind you of things in the past, like *Three times in the class, a student asked an intelligent question*, a singular virtual entity being evoked to stand for actual entities. That's why I call these representative instance quantifiers. But *all* of these quantifiers, *each* of these quantifiers, *any* of these quantifiers are referring to virtual entities. But there are different strategies.

With the proportional quantifiers, a crucial notion is what I call the maximal extension of a type. That's indicated by the symbol $E_{sub\ t}$. The maximal extension of the type *t* is the set of all instances of *t*. So the maximal extension of the type *cat* would be the set of all cats, and that's shown here with the large ellipse. The proportional quantifiers specify a mass as being some proportion of $E_{sub\ t}$. In the case of *all*, the two masses coincide; in the case of *most*, when you superimpose one mass on the other mass, you find out that it doesn't quite reach the boundaries, it comes close, but it doesn't quite reach the boundaries of the maximal extension; in the case of *some*, it doesn't even come close to the boundaries. Some proportion of the total is represented. My suggestion, I guess I can't really prove this, my suggestion is that we conceive of

these in spatial terms. We really do think of these as continuous masses which form some kind of delimited expanse, and we superimpose one mass on the other, and measure how close it comes to reaching the boundaries of the other: either a coincidence of boundaries or approximation to boundaries or non-approximation to the boundaries.

People find this intuitively natural, and I do think that's what's going on. But what's relevant here is that everything here is imaginary, everything is fictive. There is no such thing as the maximal extension of some type. Where in the world would you ever look to find the set of all cats? Is it this world or all possible worlds we're talking about? The present, or the future, or all possible futures and all possible pasts? I mean, where is the set of all cats? And even if you could imagine what the set consists of, they don't form any continuous mass of a certain size so that you could lay down another on top of it, 'cause the cats are scattered all over the universe, all over our world anyway. What we are doing is an elaborate mental construction. We create this entity, called the set of all cats, they are the maximal extension of the type, and we spatialize these and think of it as continuous and having a certain expanse, and then, we think of the profiled set, like all cats or most cats, also as some continuous mass. And then we imagine superimposing one on the other, and seeing how close we come to reaching the boundaries and do a comparison, but it's all imaginary.

Is this a plausible claim? Well, this is just what we do in lots of other cases. For example, in a mathematics textbook, you might see representations like 57 for the set of prime numbers. What do you see in 57? Well, there is a set of brackets and then a bunch of numbers, 1, 2, 3, 5, 7, 11, ... representing the prime numbers. You've done just the same thing. We've created a compact, spatially continuous bounded representation of the set of prime numbers, but where did we get this from? The prime numbers, if you could even see them, would be in different places, they would be non-continuous in the number scale. We mentally put these together to make them a spatially contiguous unit, which we represent and we bound with brackets. But it's all simulated because we don't really go through all the prime numbers, we put the three dots in there to say that this continues as a continuous mass. Of course, we can superimpose that with another set and talk about how sets relate to one another. That's just a kind of thing I'm saying is going on with *all* and *most* and so on. It's all a matter of manipulating these images, which are based on concrete bodily experiences. We do things in real life like bringing together objects of a certain type and putting them into a pile or a group, and we do things like measuring one thing against another by superimposing it and comparing the size. These are

all things we do concretely in actuality. We do the same things mentally in a totally fictive way for all sorts of purposes, like talking about prime numbers or using quantifiers like *all* and *most* and *some*.

In the case of *every* and *any* and *each*—*every* culture, *each* culture, and *any* culture—there we have singulars, referring to all members of a set. So we know that these must be virtual in nature. If I say *Every cat is lazy*, it doesn't make any sense to say which cat is the one that's lazy. The cat we are talking about is a virtual creature conjured up, imagined in order to be representative of the class of cats as a whole. Now the interesting thing about these quantifiers, apart from that, is why there are three of them and how they differ. These are representative of the set as a whole, but a key thing with fictivity is how you do the mapping between actuality and the virtual construct you use to talk indirectly about actuality. And in this case, we have something interesting. Here is my suggestion. All of these involve E sub t, this is the maximal extension of the type, like the set of all cats, and all of these profile just one instance of the type. But it's a fictive, it's an imagined instance, and this instance is taken as being representative, as mapping onto all other instances. It's representative, so any property that you ascribe to the profiled instance is going to carry over to other instances. But what makes it representative? And here the story is that these three quantifiers differ by an imagined way of accessing the instances of a type. How do we reach all the instances of a type to access the property? In the case of *any*, it's imagined that it's a random choice. I try to show that with this squiggly line. It's like reaching into a bag and pulling out a member at random, and this is *any*. OK?

Any one you choose; pick a card, any card. Take any piece of candy at random. If you make a random choice from a set, and say that whatever it's going to be, it's going to have the property, that means all the members will have the property.

The case of *each* is sequential examination. There is this fictive notion of examining each instance one at a time. Look through them one at a time, and the result will always be that. Whatever you are looking at, it will have the property, but you are examining them one at a time. That's how you mentally ensure the universality of the statement even though we are actually describing just one instance. *Every* is sort of like *each*, except it doesn't have the sequentiality. It's like they are all simultaneously in view, and you just focus on one. So this is like reaching into a bag of candy and picking out a piece at random. This is like looking at things one by one, like you have a stack of letters and you look at them one by one to make sure that they all have stamps. And this would be like looking at the members of a chorus, where you can see everybody at once and you just focus on one arbitrary individual.

I have various linguistic evidence that these semantic descriptions are correct. Let me mention just the one case in 61: *Tonight you can see every star in the Milky Way. Tonight you can see each star in the Milky Way. Tonight you can see any star in the Milky Way.* I don't know what kind of intuition you have about English, but I've used this example, which is originally due to George Lakoff, I've used these examples many times with students in classes and in giving talks. And I asked people, "All right, the Milky Way is this constellation in the sky, this galaxy that we're part of. So looking at all these stars in the sky, how would you interpret these sentences? What impression do you get? What's the difference among these?" You ask this always before you give the analysis. And very often, someone will answer—this is a very common response and nobody disagrees with it ever—if you say, "Tonight you can see every star in the Milky Way," they say, "Well, you can see them all at once." If you say, "Tonight you can see each star in the Milky Way," they say, "Well, one at a time, as you go from here to here, here, here, you can see them all." If you say, "Tonight you can see any star in the Milky Way," it means, *well, whichever one you want to see, you can see it.*

There it is, to the extent that people have a clear intuition. This is all in the background. It's always like that. And these are just abstract analogues of what we do concretely in random choice or sequential examination or seeing things simultaneously. Again, these are abstract analogues, totally fictive in nature, of what we do concretely in real life.

Things follow from this. For example, *any* occurs with plurals and count nouns and mass nouns. I can say *any cats, any cat, any coin, any coins, any money*; *any* occurs with all three sorts. Well, you know, that follows. Suppose you've got this bag of candy, separate pieces of candy, you can reach in and pick out one, any piece, or you can reach in and pick out a handful, any pieces of candy, but if it's all melted, and it's just a mass of chocolate, you could reach in, say, and grab some chocolate, or any candy that you pull out.

Random choice doesn't force it to be discrete, singular or plural or count or mass. Random choice is compatible with all of these. But if we say *every* and *each* it has to be just one discrete object. It has to be singular, a singular count noun. That's because of the nature of the mental model that's involved here.

OK. We started a few minutes late and I went a few minutes longer than I thought, but I think we can continue this time for a while and have some questions and discussion if you like. I turn things over to the floor for any discussion that you have.

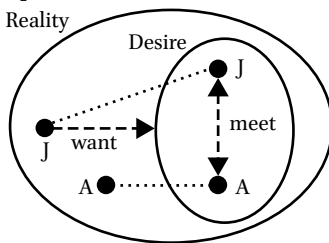
Dynamicity, Fictivity, and Scanning

1 Cognitive Semantics

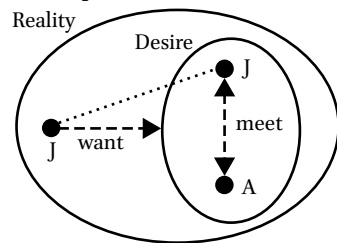
- (1) (a) **Cognitive semantics** unequivocally identifies meaning with **conceptualization**, i.e. the cognitive activity constituting our apprehension of the world.
 - (b) **Construal**: Our ability to conceive and portray the same situation in alternate ways.
 - (c) **Imaginative capacities**: metaphor, metonymy, mental spaces, conceptual blending.
 - (d) **Embodiment**: The grounding of conceptual structure in everyday bodily experience (e.g. motion, perception, muscular exertion).
- (2) (a) (i) *We went to the store.* (ii) *The situation went from bad to worse.*
 - (b) (i) *She turned to face him.* (ii) *The weather turned cold.*
- (3) (a) *You {must/should/may} attend this protest rally.* [root modals]
 - (b) *She {must/should/may} be home by now.* [epistemic modals]
- (4) (a) *Joe wants to meet **an** actress.* [ambiguous]
 - (b) *Joe wants to meet **a certain** actress.* [specific]
 - (c) *Joe wants to meet **an** actress—**any** actress.* [non-specific]

(5)

(a) Specific



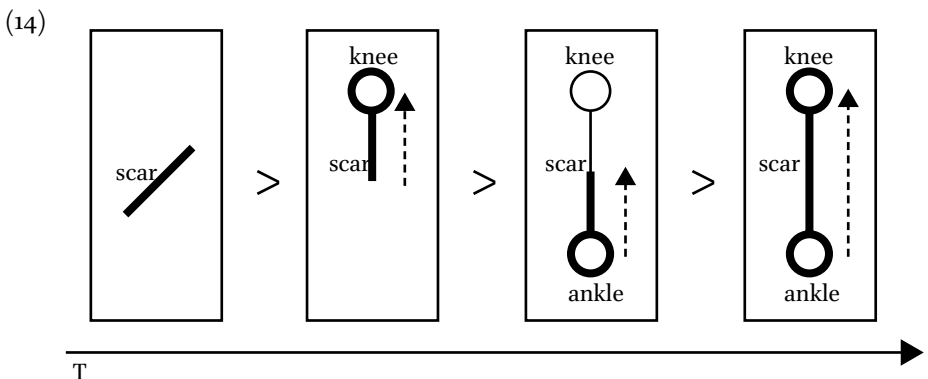
(b) Non-Specific



- (6) (a) *Joe wants to meet **an** actress. **She** is very talented.* [specific]
- (b) *Joe wants to meet **an** actress. **She** has to be very talented, though.* [non-specific]

2 *Dynamicity*

- (7) Conceptual structure is **dynamic**: it emerges and develops through *processing time*, this temporal dimension being inherent and essential to its characterization.
- (8) Sequenced processing occurs simultaneously in multiple dimensions and on different time scales, some too small for conscious awareness. It does not preclude backtracking (allowing the reexamination and reanalysis of material already encountered) or holding analysis in abeyance until sufficient material has accumulated for successful resolution.
- (9) (a) *Your camera is upstairs, in the bedroom, in the closet, on the top shelf.*
 (b) *Your camera is on the top shelf, in the closet, in the bedroom, upstairs.*
- (10) (a) *A dead rat lay in the middle of the kitchen floor.*
 (b) *In the middle of the kitchen floor lay a dead rat.*
- (11) (a) *I lay in the middle of the kitchen floor.*
 (b) *?*In the middle of the kitchen floor lay I.*
- (12) (a) *A scar extends from his ankle to his knee.*
 (b) *A scar extends from his knee to his ankle.*
- (13) *?A scar extends to his knee from his ankle.*

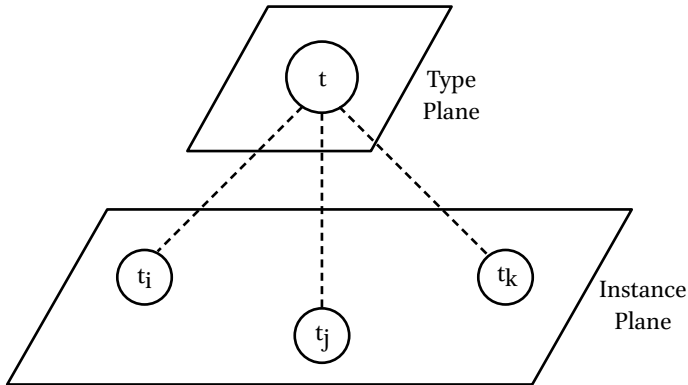


- (15) (a) *The rainy season starts in December and runs through March.*
 (b) *??The rainy season runs through March and starts in December.*
 (c) *They raised tuition from \$15,000 to \$20,000.*
 (d) *?They raised tuition to \$20,000 from \$15,000.*
- (16) We often invoke the conception of one entity as a **reference point** in order to establish mental contact with another (the **target**), i.e. to mentally access one entity via another.
- (17) (a) *Proust is on the top shelf.*
 (b) *Chernobyl was a great tragedy.*
 (c) *That car is evidently lost.*
- (18) In **metonymy**, an expression's usual referent (its **profile**) serves as a reference point providing mental access to its intended referent. It is understood as designating a target found somewhere in the reference point's dominion.

3 *Fictivity*

- (19) Language is commonly thought of as a vehicle for directly describing **actual** individuals and events occurring in the world around us. Yet the entities directly described linguistically are very often **fictive** (or **virtual**), even for the characterization of actual situations.
- (20) (a) By itself, a lexical noun (e.g. *cat*, *oxygen*) merely specifies a **type** of "thing", and a lexical verb (e.g. *chase*, *love*) a type of "process".
 (b) A full noun phrase (e.g. *this cat*, *some oxygen*) profiles a **grounded instance** of a thing type, and a finite clause (e.g. *I chased it*; *She may love him*) a grounded instance of a process type.
 (c) **Grounding** elements (determiners, tense, modals) single out an instance of a type and locate it with respect to the **ground** (the speech event and its participants).

(21)

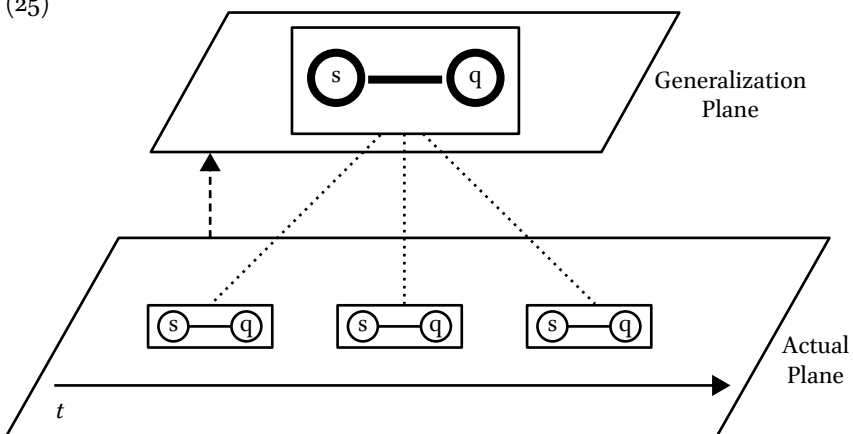
(22) (a) *Sarah loves **this** cat.*(b) *Sarah is a **cat-lover**.*

(23) A **virtual** instance of a type (also called a *fictive* or *arbitrary* instance) is a non-actual instance “conjured up” for a special purpose, with no status outside the mental space (or plane) constructed for that purpose.

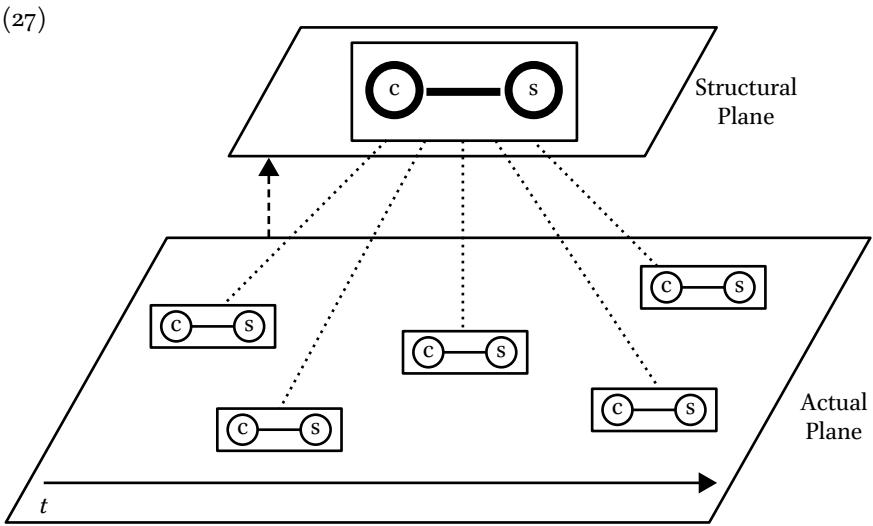
(24) (a) *Three times during the class, students asked intelligent questions.*

(b) *Three times during the class, a student asked an intelligent question.*
 [local generalization based on contingent occurrences; “phenomenal” statement]

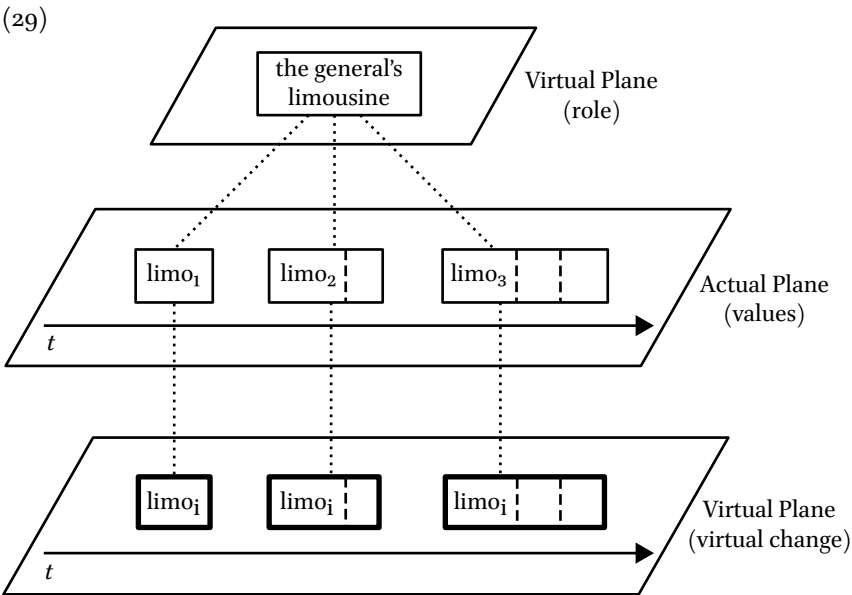
(25)



- (26) *A cat eats salmon.*
[global generalization reflecting the world’s inherent nature; “structural” statement]



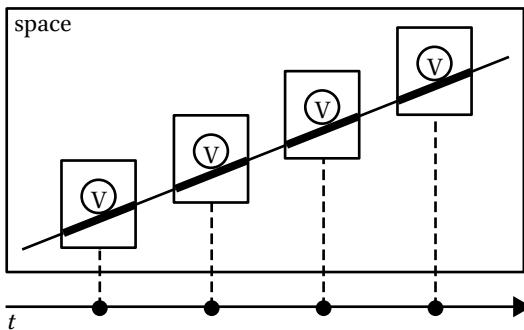
- (28) *The general’s limousine keeps getting longer.*



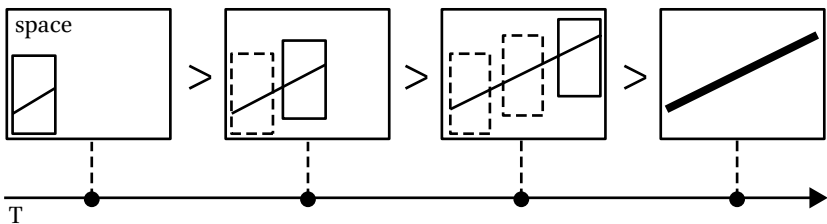
- (30) (a) *The balloon rose quickly.* [actual motion]
 (b) *The path rose quickly as we climbed.* [perfective virtual motion]
 (c) *The path rises quickly near the top.* [imperfective virtual motion]
- (31) (a) *The trail is rising quickly as we approach the summit.*
 (b) *The highway ran along the coast, then turned inland.*
 (c) *The bike path went from Santa Barbara to Goleta.*
- (32) (a) *The trail rises quickly near the summit.*
 (b) *The highway runs along the coast, then turns inland.*
 (c) *The bike path goes from Santa Barbara to Goleta.*
- (33) **His forehead is rising less steeply near the hairline.* [OK while climbing Mt. Rushmore]
- (34) (a) **Conceived time (t):** time as an *object* of conception.
 (b) **Processing time (T):** time as the *medium* of conception.

(35)

(a) Perfective Virtual Motion

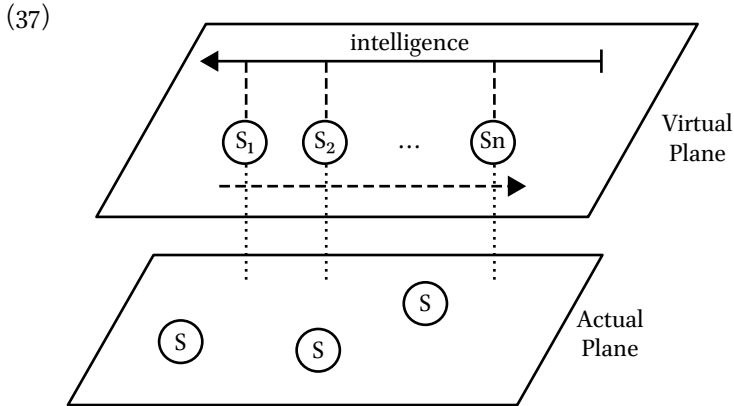


(b) Imperfective Virtual Motion

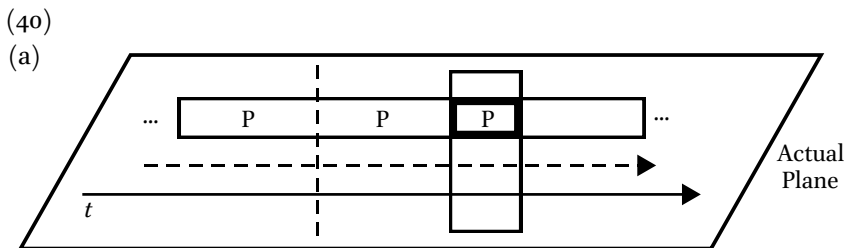


4 *Fictive Scanning*

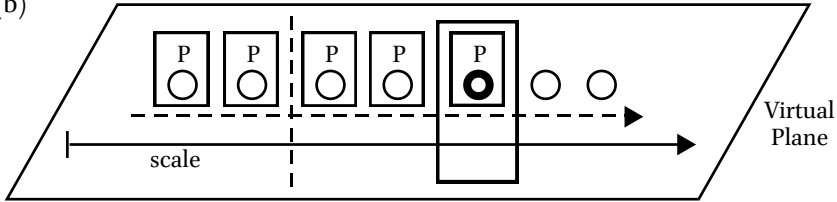
- (36) (a) *From one restaurant to the next, prices vary greatly.*
 (b) *As body size increases, the average gestation period gets longer.*
 (c) *From the brightest student in the class to the dumbest, they all work very hard.*



- (38) *Jack is **still** writing his dissertation, but Jill has **already** finished hers.*
- (39) (a) *You won't get very far with a contribution of \$10,000, or even \$25,000. And \$50,000 is **still** not enough for a private interview with the president.*
 (b) *Forget about calculus—elementary algebra is **already** too difficult for him.*

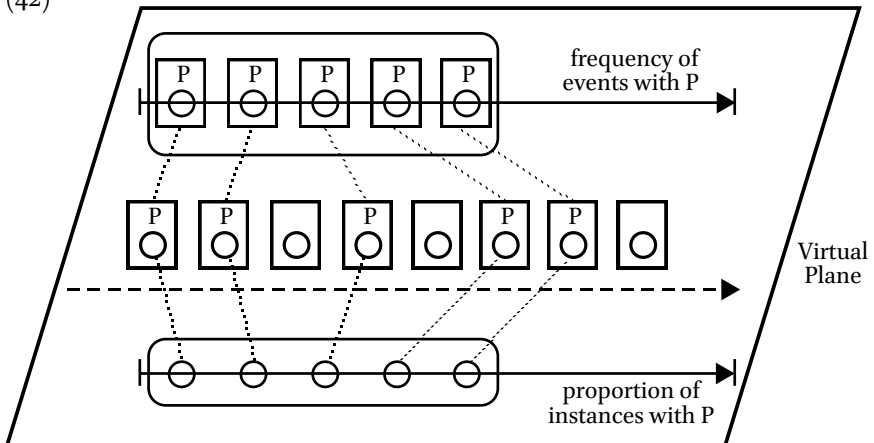


(b)



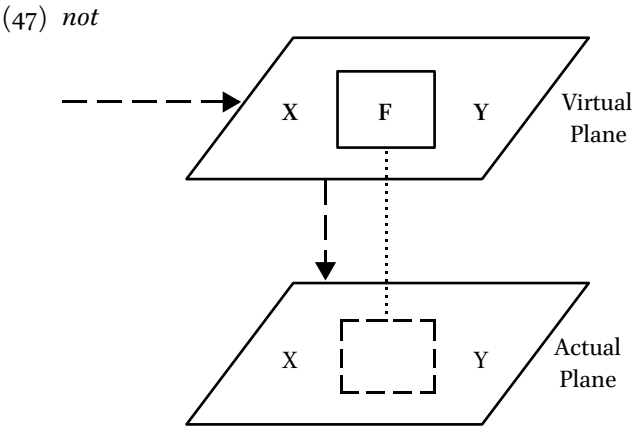
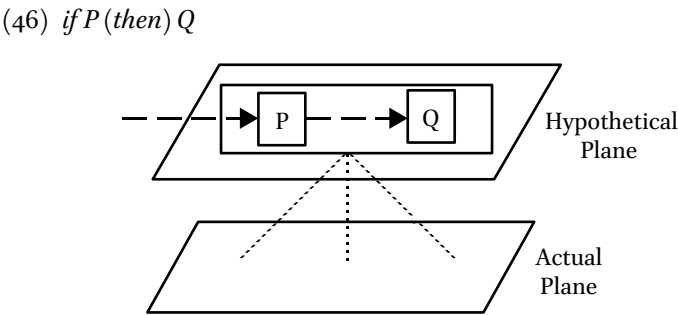
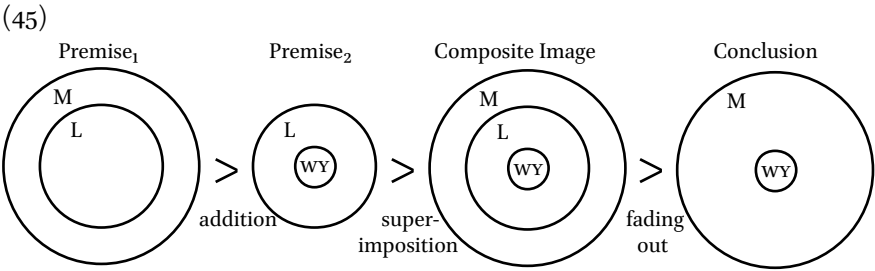
- (41) (a) *A professional basketball player is **usually** tall.*
 (b) *A professor is **always** arrogant.*
 (c) *Theoretical linguists are {**often/frequently/commonly**} obtuse.*
 (d) *Politicians are {**seldom/rarely/never**} honest.*

(42)



5 "Logical" Elements

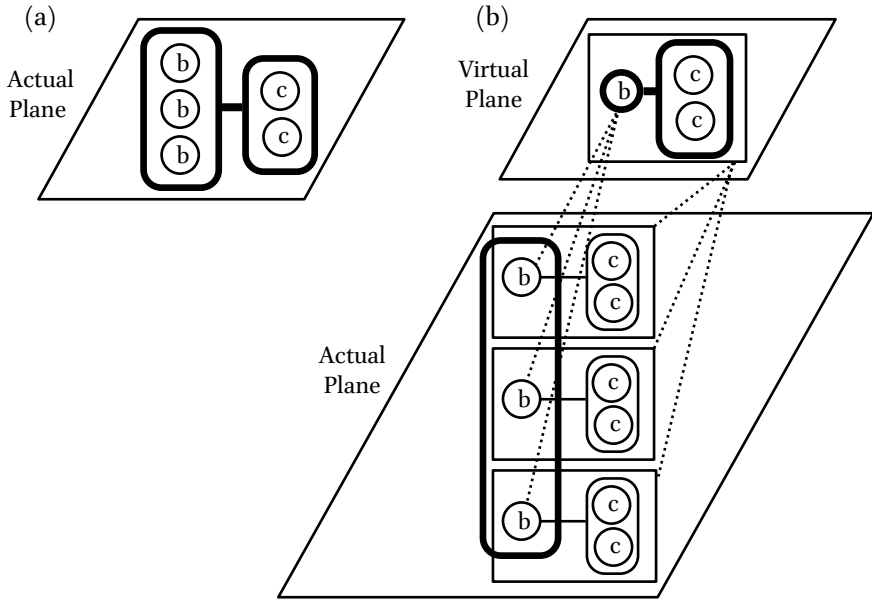
- (43) **Image schemas:** schematic and imagistic concepts which are abstracted from pre-conceptual bodily experience, function as constituents of more complex notions, and provide the structure projected metaphorically to more abstract domains. [*container/content; center/periphery; part/whole; source/path/goal; linkage; force; balance; etc.*]
- (44) **Modus ponens:**
All linguists are mammals. Wang Yin is a linguist. ∴ Wang is a mammal.



- (48) (a) *It didn't rain last night.*
(b) *I didn't eat the ZUCCHINI.*
(c) *She didn't PASSIONATELY embrace me.*

(49) *Three boys lifted two chairs.*

(50)

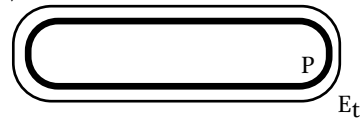
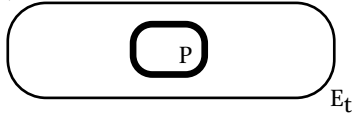


- (51) (a) *Three boys each lifted **two** chairs. *Both were metal.*
 (b) *Three boys each lifted **two** chairs. In each case, **both** were metal.*

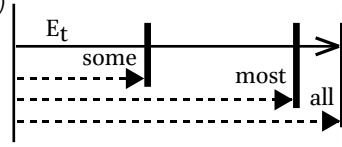
- (52) (a) *All cultures are worth preserving.*
 (b) *Every culture is worth preserving.*
 (c) *Each culture is worth preserving.*
 (d) *Any culture is worth preserving.*

- (53) (a) **Proportional quantifiers:** *all, most, some*
 (b) **Representative instance quantifiers:** *every, each, any*
 (c) E_t = the contextually relevant *extension* of a given type (t), i.e. the maximal set of instances invoked as a basis for generalization.

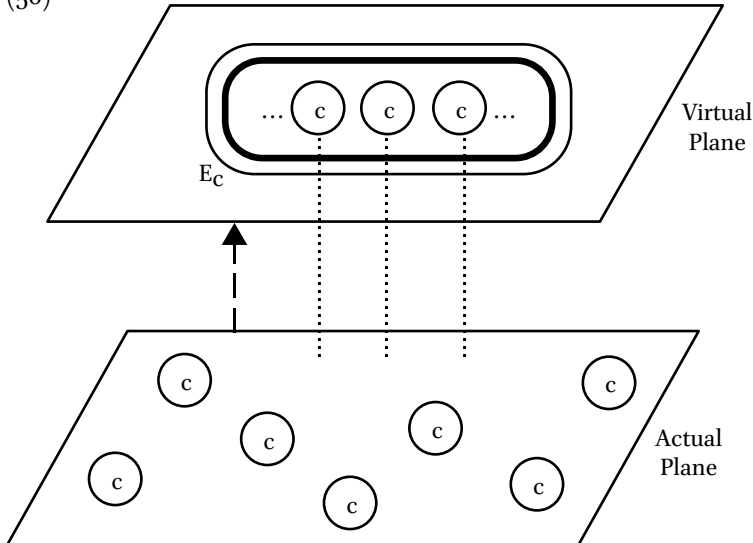
(54)

(a) *all*(b) *most*(c) *some*

(d)

(55) *Most cats are lazy.*

(56)

(57) $\{1, 2, 3, 5, 7, 11, \dots\}$

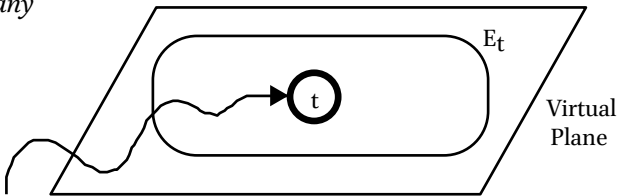
(58) Some pertinent aspects of embodied experience:

- moving through our surroundings looking for objects of a certain type
- putting a number of objects together to form a spatial group
- perceiving an object as having a bounded spatial expanse
- laying one object on top of another for purposes of comparison or measurement

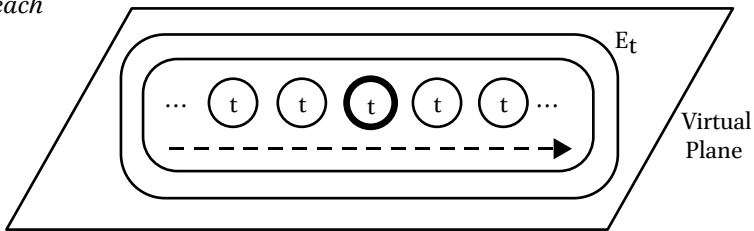
(59) A: {Every/each/any} cat is lazy. B: *Which one?

(60)

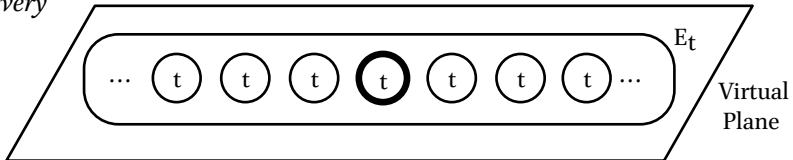
(a) any



(b) each



(c) every



(61) Tonight you can see {every/each/any} star in the Milky Way.

(62) (a) {every/each} {coin/*coins/*money}

(b) all {coins/money/*coin}

(c) any {coin/coins/money}

(63) (a) I examined {each/?every/?*all/*any} (one) in turn.

(b) {All/?every one/?*each (one)/*any (one)} of them looked alike.

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Symbolic Grammar and Constructions

Good morning. Are these microphones working OK? Can you hear back there? OK? So you're the brave ones, you returned. Either you're giving me a lot of presents or you're trying to record this.

Today I start talking about grammar in particular, because after all the framework is called cognitive grammar. So we've basically just been talking about meaning so far. And the crucial question in linguistics today, and in fact over the last forty years through my entire career, the crucial question in linguistics has been the relation between grammar and meaning, and is perhaps still a controversial issue. And it is very closely tied up to the issue of the nature of meaning, which is why I had to start with that yesterday. If you have an appropriate view of linguistic meaning, then it becomes possible to see the meaningfulness of grammar. If you have a more traditional view of meaning, as in the Western philosophical tradition, then you can not see the meaningfulness of grammar. But now we're in the position to talk about symbolic grammar.

So this first section is called architecture. I'll give an overview of things and then I'll get into details about grammatical constructions. Then starting this afternoon I will apply this to some particular problems. (Can you hear back there? No? Everything is working here. Can the volume be turned up if it's a problem back there? It's OK? We'll start in any case.) The central claims of cognitive grammar are in No. (1), and there are two essential claims about grammar. First of all, that grammar is symbolic in nature, and second, that constructions are the primary objects of description. By symbolic, I mean that grammar is the pairing between form and meaning. And by form, I mean sounds, phonological form. And constructions as the basis for grammar, that's an alternative to what's called the rule-based view of grammar. That was characteristic of generative grammar, that I was originally trained in. So the standard view, that is still standard at least in the United States and has been through my entire career starting with my graduate training, is that grammar is something separate and autonomous. That's the key word. It's distinct from meaning. It's a self-contained formal system or a mental module. And as it is described in (2)b on the handout, grammar is distinct in this view from both lexicon and semantics. It's a separate level of representation, and its description requires a special set of descriptive elements or descriptive primitives, which are irreducibly grammatical. That is, they are not reducible to anything more fundamental like meaning. That's the strong autonomy claim. It is the central claim of

generative theories of language. The strong autonomy claim is different from what I call in (2)a weak autonomy, which has to do with predictability. The way the question is usually asked in linguistics is the following. Linguists ask: Is it possible to predict grammar from meaning? Is it possible to predict grammar from meaning or from other factors like communicative constraints, discourse factors? And linguists who ask this usually conclude that no, grammar can not be predicted from meaning. Grammar is arbitrary in many ways. It does not follow automatically from the meanings expressed. Therefore it is concluded that grammar must be autonomous. That was the standard structure of the argument that you will see in the literature. Fritz Newmeyer has written about this on different occasions, for example. The trouble with this argument is that the argument almost always confuses weak autonomy and strong autonomy. And it asks the wrong question in the first place. I think everyone in linguistics and functional linguistics and cognitive linguistics would agree that grammar can not be predicted from meaning. There are things that are just aspects of grammatical form that simply have to be learned. They are arbitrary. And that establishes weak autonomy. I believe in weak autonomy. The difficulty is that the two kinds of autonomy are often confused. From the observations that support weak autonomy, generative theorists often draw the conclusion that grammar is autonomous in the strong sense that it is a separate level of representation which is based on irreducible grammatical primitives. And that does not follow at all. Cognitive grammar is an alternative to strong autonomy. It's a symbolic view. It accepts weak autonomy. So what is at issue is claim (2)b, whether grammar is distinct from both lexicon and semantics and a separate level requiring separate grammatical descriptive elements, basic primitives.

So what cognitive grammar does claim is given in (3): that lexicon, morphology and syntax form a continuum. You can only divide these arbitrarily into discrete components. Secondly, that both lexicon and grammar, which includes morphology and syntax, lexicon and grammar are fully describable as assemblies of symbolic structures. And that's what we'll be talking about this morning, assemblies of symbolic structures. A symbolic structure pairs a semantic structure and a phonological structure. This has the consequences that I list in (3)d. Grammar is not distinct from semantics, and it is not predictable from semantics either. Instead, grammar incorporates semantics. This is not predicting grammar from meaning. That makes no sense at all in the cognitive grammar framework. It's rather that grammar itself does some of the structuring of meaning and symbolizes the way it structures meaning. That's totally different from predicting grammar from meaning. So the elements in

the grammatical description on the symbolic view are not special irreducible primitives, but rather all the elements in grammar are pairings of form and meaning, that is, pairings of semantic and phonological structures. And there is another consequence: that every correct or valid grammatical construct is meaningful. I went through this abstract discussion because the points are very important for any theoretical notions and are always confused. People who talk about autonomy and formal versus functional approaches almost never get the issue correctly. They always pose it in terms of predictability and what follows is non-predictability. That is not the issue at all. The issue rather is what kinds of structures you have to postulate in order to describe grammar, even though the description is not automatic. It's something you have to learn and explicitly describe. This will get more specific as we go along.

Now there are three kinds of devices that you can use to try to describe grammar, given here in No. (4) on the handout. First of all, there are what you might call rules, in the narrower sense, that is, constructive rules of the sort that were discussed in the generative tradition, things like transformations and phrase structure rules which collectively serve to construct sentences and give the well-formed sentences of a language as output. On this view, there is no necessary resemblance between the rules and the expressions, the sentences that are described. Rules don't have to look like the sentences that they describe. All that is important is that if you apply enough rules, eventually the output is grammatical. Another device that has become quite common in linguistics is filters, negative statements, saying what kinds of configurations are not allowed in a language, constraints, in other words, but especially constraints that say what is not allowed. And there are views of grammar which some have entertained where the grammar essentially consists only of these filters or negative statements. The strategy is to give some principle which says: consider every possible chain of elements, and then you have these filters and these filters say this not permitted, this is not permitted, and this is not permitted. And everything that is not filtered out is permitted and it's grammatical. This always struck me as strange. It reminds me of a very old joke, which says: the question is, how do you make a sculpture of an elephant? and the answer is, you start with a very large block of marble and you knock away everything that does not look like an elephant. It also makes it hard to see how language could be learned, as it gives you a strange view of learning, especially since we learn from input. Well, that's an issue, generative theorists often conclude that we don't do much learning, most of language is innate. But that's not the view of cognitive linguistics. The third device is what I call the schemas. So with rules, the expressions don't have to look like the rules. With filters, the

expressions can not look like the filters, because filters say what can not occur in a language. With schemas, it is the opposite. Schemas have to resemble the expressions they describe. Schemas are simply abstracted forms of the expressions, abstracted forms of occurring expressions. They are templates or models for expressions, representing their abstract commonality at different levels of specificity. So they have to resemble the expressions and this gives you a reasonable approach to language learning. People are exposed to language, and what occurs gets reinforced psychologically and that emerges as grammar. So in cognitive grammar, grammatical patterns are represented by means of schemas. I use the term *construction* very broadly. A construction is an expression of any size—that could be a morpheme, a word, a phrase, a clause, a sentence. Those are all expressions. Or else a schema, which is abstracted from the occurring expressions, can also be called a construction, or a family of such elements. Expressions and schemas can both be psychologically learned and entrenched, that is well learned. They can be conventional in a speech community and when they are, I call them linguistic units. So these include both lexical items and the more schematic units of the sort that we call grammar.

Now going to the next page of the handout, No (6). One criticism of cognitive grammar that's often made is that it's unconstrained, that anything can be postulated. Exactly the opposite is true, however. Cognitive grammar is very highly restricted in what is allowed. The methodology is something I will talk about on another day, but one important source of restrictiveness is the content requirement. The only things that you are allowed to postulate as part of language are the three things in No. (6). First, semantic and phonological and symbolic structures that actually occur as expressions or as parts of expressions. So those are the things we are directly exposed to, they actually occur in speech, speech as understood, so it includes both semantics and phonology. Secondly, you are allowed to postulate schemas, schematized or abstracted versions of permitted structures. And third, you can postulate categorization, categorizing relationships between permitted structures. So those are the restrictions.

Now let me state positively what kinds of things are postulated. (I have this very fancy pointer here. If I can figure out how to work it, there it is. It's like I can evaporate someone with this, like a space age weapon.) First of all, you can postulate semantic structures, so I use S for semantic structures. That's a conceptualization of any sort, any size, so those are meanings, semantic structures. Secondly, you can postulate phonological structures, P, and they can be of any size, a sound or a string of sounds of any length. You can combine semantic and phonological structures to form symbolic structures. So here is the

semantic pole of it, the phonological pole of it, this little line indicates that there is a symbolizing relationship, the sound symbolizes the meaning. The Greek letter Σ I use here for a symbolic structure, so Σ abbreviates this. This is a simple symbolic relationship. The semantic structure might be very complicated, the phonological structure might be very complicated, but there is only one symbolic link between them, a morpheme would look like this. But it is also possible to have assemblies of symbolic structures. We can combine symbolic structures with one another to form a more elaborate symbolic structure. So here I will take symbolic structures abbreviated as Σ , and I'm talking about how we combine these to form higher level symbolic structures with a more elaborate meaning and a more elaborate phonological pole. And this combination can go on at different levels. We can make things as complicated as we want. E here stands for expression, that is, a word, a phrase, a clause, a sentence, something you can actually say or express. Expressions are the primary data of language, so expressions can be of any size. These kinds of diagrams would simply be the sorts of things that happen when you put the words together to form phrases, and phrases together to form clauses, and so on. All these are permitted by the content requirement, there's nothing there except symbolic assemblies. Also permitted are schematizations. So E here again stands for expressions. These might be different phrases or different sentences. And if a set of expressions have something in common, if they are alike in certain ways, we're able to abstract what is common to them and represent that schematically. So a schematic representation is less detailed than any of these expressions but shows what they have in common. So we can abstract schemas, and that can happen at different levels, too. If certain schemas have something in common, we're able to abstract a still more schematic representation, and that continues to different degrees. This all, I hope, is fairly obvious.

I am starting to describe the architecture in the abstract, then we get on to particular cases. The two kinds of categorization I talked about yesterday, elaboration which I use a solid arrow for, and extension that I use a dashed arrow for. So this X would be a schema, Y would be an instance of the schema. X here would be more like a prototype or a more central structure, and Y would be something derived from it, a more peripheral structure. We have the ability to categorize permitted structures. And when categorization occurs repeatedly, we can build up networks of categorizing relationships, like this one in the abstract. So here we have some schematic structures related to one another, a higher level schema of which these are instances, and then there are particular expressions which are instances of those. Another expression might be an extension from a schema. So when we learn a language, we build up

very elaborate hierarchies or networks involving relationships of this sort and specific expressions and then schematizations representing different kinds of patterns or regularities. Then look at the things in the opposite direction. When we learn a language we describe patterns with a bunch of schemas, so if we create a new expression E, that expression can be categorized by different schemas. That is, when we construct new expressions in a language, we do it in accordance with the patterns that exist in the language. And we draw upon many different patterns in forming any particular expression. So if I utter a new sentence, there will be schemas representing the clause structure I use, there will be schemas representing the nominal structures, there will be the phonological schemas, there will be the word order schemas, all sorts of patterns come into play in forming any actual expression. The schemas categorize different aspects of that expression, and the total set of schemas that are used for constructing or understanding an expression constitute the expression's description, its structural description to use Chomsky's term, how it's interpreted with respect to the language.

So that's laid out in No. (11) on the handout and No. (12). Grammar includes schemas which tell us how to put together complex expressions. I'll call those constructional schemas, and these are assemblies of symbolic structures which are schematic in nature. And the expressions they let us formulate are specific assemblies of symbolic structures or assemblies of specific symbolic structures. So constructional schemas, we will look at them in detail in just a moment, specify how you integrate component structures to form composite structures, and you do that semantically and phonologically. I think I'll skip this until we get to it. But one last point in (14). The schemas are going to tell us how to construct complex expressions, and they tell us how to combine elements semantically and how to combine elements phonologically to symbolize what you are doing semantically. And lexicon and grammar involve these assemblies of symbolic structures. But what about semantics? What about what's called the semantic component or semantic rules, rules of semantic composition? In this view, as you will see, rules of semantic composition are part of grammar. They are simply the semantic pole of constructional schemas. These constructional schemas are patterns for combining simpler symbolic elements to form more complex symbolic elements. They tell us how to do this phonologically and how to do this semantically, so the semantic half of that constitutes the analogue in cognitive grammar of semantic composition rules. This is part of grammar, not something that grammar is predictable from or vice versa, just part of grammar. However, as I tried to emphasize yesterday, linguistic semantics is only partially compositional. You can not, strictly speaking, always predict the entire meaning of a complex expression from the

meanings of its parts. And this is for all sorts of reasons, but think of all the phenomena I described yesterday and the many examples involving mental constructions and crucial elements of meaning that were not encoded overtly in the sentence. Think of examples like *there's a house every now then through the valley* or all the kinds of fictivity I talked about which involve very special and elaborate mental constructions. These are things that are not given compositionally from the meanings of parts. These are elaborate conceptual structures that we construct, prompted by the elements of the sentence but above and beyond their meanings.

All right, I hope that overview is of some utility. Most everything now is going to be much more detailed and specific as we go through actual examples. I'll start with a very quick review of some semantic notions which I covered yesterday, because I want this presentation to be self-contained if people were not here yesterday, but also to review. There will be a certain amount of repetition from lecture to lecture because I think it'll be helpful for many people to go over some basic ideas more than once.

So meaning is identified with conceptualization in a very broad sense of that term, and linguistic meaning includes not only conceptual content but how we construe that content, the different ways of viewing that content. And one kind of construal is specificity as illustrated in No. (16) on the handout. I won't talk about that any further, but when I talk about schemas, that is the same notion that's illustrated here in (16). I can describe something as a *thing* or as an *object* or as a *vehicle* or as a *truck* or as a *pick-up truck* or as a *battered old pick-up truck*. Each of those expressions is more specific than the preceding one. Or if you go from right to left, the expressions get more and more schematic. That's the same notion of schematicity that I have just been talking about. It is essential for grammar. Grammar is schematic, so the semantic elements of grammar are towards the left end of that scale. The examples in (17) are meant to illustrate perspective. *Come on up into the attic* presupposes a vantage point in the attic. If I say *Go on up into the attic*, that presupposes a vantage point below, outside the attic. Vantage point is one aspect of perspective. And I'm not going to say more about it, because I need to talk about profiling and trajectory/landmark organization as brief review.

These are kinds of prominence. So an expression's profile is what it designates or refers to within a larger conceptual assembly which I call the base. For example, the term *roof* refers to part of a building, and something is not a roof or thought of as a roof except in relation to a building, but what is profiled or designated or referred to by *roof* is this particular part. Or terms like *husband* and *wife* involve a male and a female for the conceptual content, and also the notion of marriage relationship, which I have shown here with these double

lines. *Husband* and *wife* both evoke this conceptual content of two people in a marriage. They differ in meaning because of what they profile or refer to within that. *Husband* refers to the male, and *wife* to the female. Or other kinds of examples of profiling. Relationships can be profiled. These are all cases of things being profiled, but relationships can be profiled. I have here several examples which I will be using again later. Take the adjective *smart* or the preposition *in*. *In* profiles a relationship between two things where one is spatially included in the other, at least prototypically. *Throw* profiles not just a situation, but a whole process, an event, where one participant exerts some kind of force on the other participant and causes it to move through the air. So this is force, this is motion resulting from that force. *Approach* also involves two participants. The one participant moves through space towards the other, which is a goal, and *approach* indicates that the motion takes the mover into the neighborhood of the other participant, but that it doesn't reach that goal, just gets close. *Smart* I analyze as a kind of relationship, except that there is only one participant. I talk about a *smart person*, a *smart student*. There is only one overt participant, but *smart* still involves a kind of relationship. There is a notion of comparison. This is a scale, scale of intelligence. That's represented here by the arrow. *n* stands for the normal degree of intelligence, for the norm, the normal, the typical degree of intelligence. And *smart* is a relational expression in the sense that it indicates that the participant falls in the region of the scale which is higher than the norm. So these are various kinds of relationships and they incorporate things as part of their characterization.

So profiling is one kind of prominence. Another kind of prominence, again reviewing what we did yesterday, is what's called trajector/landmark alignment, the relative prominence of participants in a profiled relationship. These labels *tr* and *lm* are for trajector and landmark, as described in No. (21) on the handout, in a profiled relationship. There is usually a primary focal participant or a primary figure, the most salient participant, the one the expression is construed as characterizing in some way. And then often but not always, there is a secondary focal participant. That's called a landmark, which is invoked in order to say something about the trajector and specify a relationship in which they participate. So here we have both a trajector and a landmark. Here we only have a trajector, because the nature of the relationship is given just by the meaning of the predicate. Now trajector and landmark organization is something that you need independently of conceptual content. Here is another kind of example, a well-known example in English, often cited in semantic discussions: *like* versus *please*, *like* and *please*. It seems that they describe the same situation, *X likes Y*, *Y pleases X*. So we can say that they do

have the same conceptual content. They require two participants, given by circles. One of them is some conscious individual, a person usually, capable of experience and emotions. So this would be the person, and this would be the thing that he liked. The landmark here is some kind of stimulus. The terms often used are stimulus versus experiencer. I'm using these terms for the kind of the semantic roles involved. This is the experiencer. This is something that stimulates the experiencer. The experiencer is capable of apprehending or seeing or somehow viewing the stimulus. That's this arrow. But the stimulus can also be thought of as impinging on the experiencer and inducing experience. So you might like a movie. You watch the movie, you like it, but the movie also comes to you, you experience the movie, it stimulates you in some way. So we can think of this relationship as going in both directions, and the result of this interaction is that the experiencer experiences something positive. That's why it's *like* instead of *dislike*. So this is the internal experience that results from apprehending or being stimulated by the stimulus. Now the difference between *like* and *please* is the choice of trajector. In the case of *like*, the trajector is the experiencer, and because this is the most prominent participant, the apprehension is the most prominent part of the relationship. *Please* does the opposite. It takes the stimulus as the most prominent participant, and because this is the trajector or the salient participant, the stimulation is in fact the most salient part of the profiled relationship. But all the content is part of the meanings of both expressions. The different choice of trajector and landmark differentiates the meaning and also has an effect on what is most salient within the profiled relationship. So that's a few brief examples of some essential semantic constructs. I continue in (23) and (24) just to round out the section.

Profiling is the critical factor for grammatical category, whether something is a noun or a verb or an adjective. An expression's profile is what determines its grammatical category, not its overall content, its profile. The nature of its profile is the basis for grammatical category. So a noun profiles a thing in a very abstract sense of that term. That's not something I can talk about here, but I define a thing as a product of conceptual reification. These are different sorts of things. Notice that husband and wife are relational notions. A husband is a husband by virtue of participating in a certain kind of relation, and similarly for a wife. But the fact that these are relationships doesn't prevent these from these being nouns. These are nouns because what they profile is only the participant. They profile things even though there's a relationship as part of the meaning. It's the profile that determines grammatical class. Because they profile things, they're nouns even though a relationship is important as part of their meaning. That's an essential point, so I hope it's clear.

Expressions that do profile relationships are these that I indicated. And there are different kinds of relationships. Some relationships extend through time. The profiled relation evolves through time. Those are what I call processes. A process is a relationship followed through time. And a verb profiles a process, so *approach* and *throw* are verbs. They profile a relationship that's construed as developing through time and emphasize that passage through time. Some relationships do not involve time in any salient way, not that time is absent, but it's backgrounded. They profile a configuration which can be instantiated at any one moment. Say an *in* relationship. If you just have a photograph so that you see a configuration as existing only for a moment, you can still determine that it shows an *in* relationship. You don't need the passage of time for that. And if someone is *smart*, that's also something that is instantiated at any one point of time. If a person is smart throughout their entire life, then if you take any moment of that, it's still proper to say that person is smart at that moment. Right? So these adjectives and prepositions profile relationships that are not processes. A verb profiles a relationship that is a process, that is, it is construed as evolving crucially through time. Also in (24), subjects are nominal expressions that specify trajectors, and objects are nominal expressions that profile landmarks. So if I say *the boy threw the rock*, *boy* would be the trajector, it's the subject, *rock* would be the mover, the landmark, and the object of the clause. Or for a prepositional object, *the rock in the water*, *the rock* would be the trajector, *the water* would be the landmark, and *the water* would be the object of the preposition. *The rock* would be, if we called it that, the subject of the preposition.

All right. Those are the first two sections, the overview, the architecture, and then some basic semantic notions. Now we get to grammatical constructions, get into the specific details of doing grammar from this perspective. How do you put together complex expressions? Let's take an example and go through this in detail. Good thing it's a large screen because this is a big diagram. This is the phrase *smart woman*. This is the kind of thing that I am calling an assembly of symbolic structures. There are three symbolic structures. This is one, this represents the adjective *smart*. Then there is the noun *woman*. This is a symbolic structure, the noun *woman*. These are component structures. These are the elements of composition: an adjective and a noun. Each of them is symbolic. I show the semantic pole, the meaning, at the top, the phonological pole, at the bottom, and there's a symbolic relationship between them. Here again a semantic structure, a phonological structure and the symbolic relation between them to make this symbolic structure. So these are component structures, and you integrate, you combine these component structures to form the composite structure. This is the composite structure corresponding to the

entire phrase *smart woman*. This, too, is symbolic. There is a semantic pole, the meaning or some sort of conceptualization, and the phonological pole, the phonological form.

So those are the elements, and now I have to explain everything that is here and how this works. The dotted lines are what I call correspondences. They show you what part of one structure is identified with some part of another structure. Let's start with meaning, the semantic pole. *Smart* is an adjective, so it profiles a relationship, and I've already described it. And this is the trajector, a participant which is located on the higher end of the scale of intelligence. So it's an adjective because it profiles a certain kind of relationship. *Woman* is a noun, it profiles a thing, and I show a thing as a circle. Obviously the meaning of *woman* isn't just the letter W. *Woman* has a very complex semantic description, and it would involve many cognitive domains and many specifications in those cognitive domains, somewhat like the example that I went through yesterday with the noun *glass*. Think of all the things that go into the semantic characterization. But for purposes of grammar, a lot of that is not directly relevant. So I just abbreviate everything as W. So I abbreviate all the complex meaning. But crucially, *woman* profiles a thing. It designates a type of thing. Now phonologically, the arrow labeled T here stands for speech time. This is time, speech time. w stands for a word. *Smart* is a word. I've didn't try to show it phonologically, and just showed it orthographically, but this is actually a sound sequence. *Woman* is also a word, and the sounds occur in a certain order.

So an adjective and a noun, and we integrate these. We're going to form a composite expression from this. That's possible because certain aspects of one structure are put in correspondence with certain aspects of the other structure. And if you think about it, in the case of *smart woman*, the entity that's profiled by *woman* corresponds to the trajector of the adjective. The person who is being assessed for intelligence is actually identified as the person profiled by the noun. That's a semantic correspondence. So we're going to integrate these structures by equating these two and merging, combining or unifying their specifications. Down at the phonological pole, we're going to symbolize that by phonological integration. What's this notation meant to indicate? This is a schematic word. This represents the word that follows *smart* in the speech stream. The notation isn't important, but what it says is that the word which follows *smart* is identified with *woman*. So the phonological pole of one element is integrated with the other because it follows it in the speech stream, it combines with it in that way. Now when you combine the elements that correspond, you get what's shown up here. At the phonological pole, you get the word sequence, *smart woman*. The words occur adjacent to each other and in

that order: *smart woman*. Semantically we still have the notion of intelligence and someone being intelligent, but that person is now identified as the *woman* in particular. And you notice that the profile of *woman* is retained up here. The entire expression *smart woman* profiles the woman, refers to the woman. So the entire expression is a noun. It's a complex noun, and *woman* is a simple noun. So to review, this is an assembly of symbolic structures. There are three. There are two component structures and the composite structure that results from integrating them. You integrate them at both poles, semantically and phonologically. And you wind up with a composite symbolic structure which represents the integrated form and meaning of the whole.

Now look at No. (28) on the handout. This is a typical construction. It's typical for one of the component structures to contain a salient schematic element which corresponds to the other's profile. In this case, the adjective contains a salient schematic structure, the trajector is salient, the trajector is the most prominent or salient participant, and the schematic *smart* doesn't tell you in detail what the trajector is, only that it's something capable of intelligence. So this is a schematic structure, and it corresponds to the profile of the other component structure. It's typical in a construction for one element to profile a relationship and for that to have a schematic participant which corresponds to the profile of the other, which is therefore a noun. This schematic element is what I call an elaboration site because the other component structure serves to elaborate it, to specify it in more detail. It's the same kind of elaboration that I talked about when I talked about categorization. But here is elaboration inside a construction. (Class is over. Right?) So I'm looking at the same example in a little more detail here. This is only the semantic pole. Mostly I'm going to talk about semantic integration. So this is the same construction we just looked at, *smart woman*, but the semantic side of it. So we have the adjective *smart*, we have the noun *woman*, and there is the correspondence between the trajector and the profile, and the composite structure *smart woman*, which profiles a woman. So you recognize all of that.

Now I'll add to these some other details. I've indicated that the trajector here is an elaboration site. The shading indicates that this is an elaboration site. This is a schematic element, which the other component elaborates and this solid arrow indicates that this is a categorizing relationship. This is a schema. This is an instance of the schema. *Woman* elaborates this schematic trajector. And typically in a construction, when there's a relationship, one of the participants is an elaboration site; the other component structure is a noun which elaborates that elaboration site. That's the normal configuration. It's the

sort of situation that predicate-argument relationships and the formalism for predicate-argument structure are designed to accommodate. We can also talk about the component structures categorizing the composite structure, so here I show *woman* as being schematic relative to *smart woman*. So this is again the categorizing relationship. *Woman* categorizes *smart woman*. This is a schema. This is an instance of the schema or a special case. If we consider the relationship between *smart* and *smart woman*, it's a relation of extension because there's a conflict between them. That is, this profiles a relationship. This profiles a thing. So if we talk about categorization, here it would be extension.

Why do I want to talk about categorization? First of all, this is an elaborative relationship, this is a kind of categorization, and this is, too. But the issue here is compositionality, and there are different metaphors that are involved. The standard metaphor in linguistics is the building block metaphor. You combine—and I use that, I talk about it, it's so helpful—you combine component structures to build the composite structure. And that suggests that the composite structure consists of the component structures. You just add them together in a certain way and you get the composite structure. It suggests that all of the content comes through the component structures. You just put these blocks together to form the larger structure. And that's, as I say, the standard metaphor. But I've already emphasized that that's not accurate. It's only a metaphor. And in many cases, the composite meaning is not derivable from or does not consist of just elements that come from the component structures. Again think of all the elaborate mental constructions that I went through yesterday, cases where crucial aspects of the composite meaning were not inherited from the components. In general, the component structures only serve to prompt or motivate aspects of the composite structure. It's not usually the case or it's not always the case that the content simply consists of things that come from the components. That's why, if I'm being careful and talking at greater length, I would talk about the component structures motivating or categorizing the composite structure, and I wouldn't talk about building the composite structure from the components. The building block metaphor works only for certain cases. The more general notion is that of an assembly. These are all aspects of the structure of the expression, and the components categorize or correspond to aspects of the composite meaning but typically don't fully constitute it. So I really want to emphasize that point. However, today and tomorrow, but especially today, I will be talking about grammar, and grammar specifies patterns of composition. So the emphasis today will be on those aspects of meaning which are compositional. So in the examples I use, it would typically be the case that it looks like all of the content comes from the components. The cases where

that's not true are just not our main topic today. So we're looking at grammar to the extent that it is compositional, and the semantic pole of the constructional schema is a rule of semantic composition. It's just that these rules don't tell us everything that we need to know about the composite meanings in general. So we have these categorizing relationships between the elements of a symbolic assembly.

Another notation you notice is this thick box, the heavy line box. It's usual, it's typically the case in a construction that one of the two component structures gives its profile to the composite structure. Here we have a profiled relationship. Here we have a profiled thing. If we combine these, what will be the profile of the whole? It could in principle be a relationship or it could be a thing or it could be something else. But it's usually the case that one component structure has the same profile as the composite structure, and in the case of *smart woman*, it's the noun whose profile corresponds to the composite structure profile. The element whose profile is inherited at the composite level is what I call the profile determinant, and that's what I show with the thick line box. I wouldn't even have to show that specially. I could just look at the profiles and see which profiles are the same—that identifies *woman* as the profile determinant. But I often use this heavy line box to make it clear that its profile is inherited. So this is then a specific expression, a specific symbolic assembly, and I hope you have some idea how it goes together and how the terms are used to talk about it.

This is a well-formed phrase of English, *smart woman*. This is some approximation to its grammar and meaning, but how do we know to put things together in this way? What tells us that we can combine these in this specific way, with this particular correspondence and this particular profiling inherited? There are other ways we can combine these. And we'll see one later on in fact. There are other ways we can combine these. But how do we know that we can do this at all? And the answer is, you know you can do this if you speak English. English has regular patterns of composition, for combining component structures to form composite structures. And this is an instance of one of those patterns. And you're just following that pattern in putting together a particular expression. So what are these patterns like? Well, if you recall from my introduction, patterns are described as schemas. They are schematized expressions. They are templates. Constructional schemas in the case of complex expressions like this one. What does a constructional schema look like? Well, it's also an assembly of symbolic structures. It's just more abstract. It looks like this except it's just more abstract. It's what's common to many different combinations of adjective and noun. And in the particular case of an adjective-noun combination, the semantic pole looks something like this. This is a generalized

representation of an adjective, and this is a generalized representation of a noun, or a schematic representation. A noun simply profiles a thing, so I show that as a circle. An adjective profiles a relationship, and its trajector is a thing, and it does not have a salient landmark. So *smart* will be a special case of this. *Woman* will be a special case of this. But you see that apart from this being more schematic, more abstract. (All right, now time for the next class, all right. You don't even get a break between classes.) Apart from this being more schematic, this diagram is the same as the preceding diagram, OK? Same correspondence. It shows the same profiling as being inherited. The organizational features are the same. And from many expressions like *smart woman*, *good book*, *happy child* and so forth, we eventually learn, in learning English, that this is a regular pattern and anything which instantiates this pattern should be OK as an expression of English. So you learn the grammatical rule in other words, using the term *rule* here in the broad sense.

I am going over to page 7 now, on the handout. Something like *smart woman* is just a minimal construction. It has just one level of organization where there are component structures and a composite structure. But obviously, most expressions are more complicated than that. There are multiple levels of organization where we put things together successively at different levels. (We know, this all fits, barely.) So here I take the more elaborate expression *smart woman with a PhD*, as opposed to all those *dumb women with PhDs*, if there are any. So this is what we've already gone through. This is *smart woman*, this is one minimal construction, with the adjective and noun integrated to form the composite expression *smart woman*, which is a complex noun, because it profiles a thing. So this is one construction at one level of organization, and over here on the right is another construction. This is a prepositional phrase, *with a PhD*, and then at the top we show how these two constructions are combined to form a still more elaborate composite structure.

Here is a preposition. A preposition will profile a relationship between two things. This is one sense of the preposition *with*, and the relationship says that the trajector is somehow a point of access to a domain of knowledge in which you find the landmark. This is like the possessive relationship that I will be talking about tomorrow. The trajector controls some dominion as I'll call it, within which you will find the landmark. It's a kind of accompaniment, where the trajector is the primary participant and the possessed element is the landmark. *PhD* is a kind of thing, an abstract thing, and that is the object of the preposition. Its profile corresponds to the landmark, so it elaborates the landmark. The preposition is the head, is the profile determinant because the entire phrase *with a PhD* also profiles the relationship. Recall the case of *smart woman*. There *woman* is the profile determinant because the entire expression

profiles the *woman*. The profile is inherited from the noun. Here the profile is inherited from the relation, so the preposition is the profile determinant. And we have the two composite structures, *smart woman* and *with a PhD*. You see the composite structures from the lower levels of organization, and then we take these as component structures for a higher level of composition. Now in this higher level of construction, this is a noun-modifying construction, the prepositional phrase modifies the noun. And the trajector is schematic here. This is a schematic elaboration site. We have a specific landmark. We've identified the landmark as *PhD*. The trajector is still schematic. It is put in correspondence with the profile of the noun. That's *woman*. So the noun elaborates this elaboration site. And in this construction, at this level, the noun is the profile determinant, shown by the thick box. So when you superimpose the corresponding elements, and keep the profiling of the noun, you arrive at that structure at the top. The entire expression *smart woman with a PhD* refers to the *woman*. *Woman* is the referent or profile. But all of the content is there. The *woman* is both smart and also has a PhD. So we have the overall content, and within that, we profile the *woman*. That's the conceptual referent. And that's how you do more complex compositions; you just go level by level.

Now all that is a more elaborate symbolic assembly. These are all symbolic structures. I'm basically just showing the semantic pole and giving the phonological pole orthographically. But this represents an assembly of symbolic structures, seven different symbolic structures. And this is what expressions are. A particular expression like *smart woman with a PhD* is an assembly of symbolic structures. The description of this with constructional schemas, those are also assemblies of symbolic structures which are schematic. There's nothing here which is not semantic, phonological or symbolic or made out of these elements through correspondences. There is no separate, autonomous grammar here with irreducible grammatical primitives. Everything is analyzed into conceptual structures, phonological structures and relationships among these. But we're still representing grammar. Here we have constituency, we have categorization, we've identified adjective versus noun in terms of what they profile, and specific grammatical notions like head, complement, modifier and subject and object. These can also be characterized in terms of these symbolic assemblies. They're not something separate, purely grammatical. They all have a conceptual characterization in terms of symbolic assemblies. So I'll be talking about that for just a moment.

First of all, subject and object. I briefly mentioned this yesterday. These are things we'll come back to later in this lecture series. But briefly speaking, an object is a nominal expression which elaborates a landmark. So *PhD* is the object

of the preposition *with*. I could similarly talk about *woman* as the subject of *smart*, at the level of the noun phrase here, *smart woman*. A subject is something that elaborates the trajector of a profiled relationship. Now in (36) I have another set of traditional grammatical terms. People talk about the head of a construction, and then in addition to a head, you might have a complement or a modifier. I don't know to what extent those are common kinds of terms in the local linguistic tradition, but these are thoroughly entrenched in the Western grammatical tradition. The notion *head* is defined in different ways, but by one common definition, the head is simply the profile determinant. The head is the profile determinant. The head is often defined as the element in a construction which determines the grammatical category of the whole expression. And in the case of *smart woman*, *woman* is the head because the entire expression is a noun. In the case of a prepositional phrase, the preposition is the head, because the entire expression is prepositional in nature, it's not a noun, it's a relationship. And since grammatical category is determined by profiling, the profile determinant will be the head. So the notion head doesn't require any new notions. It's simply an aspect of the symbolic assemblies. The notion head is simply a statement of the fact that typically the composite profile is inherited from one of the component structures, and that component structure is the head.

Now complement and modifier. In traditional terminology, *smart* would be said to modify *woman*, *smart* modifies *woman*. *Smart* is a modifier of the head, and the prepositional phrase *with a PhD* is also a modifier of *woman*. Those are modifying relationships. But the object of the preposition is not a modifier. It's the complement of the expression. This would be called a complement of the head. Now those notions also are not special to grammar, they don't require any special apparatus. Those notions are just aspects, again, aspects of symbolic assemblies. The things that are called modifiers have elaboration sites that the head elaborates. Modifiers have elaboration sites and the head elaborates them. So *woman* elaborates the trajector of *smart*, and up here, *smart woman* elaborates the trajector of *with a PhD*. So *smart* and *with a PhD* are modifiers. The arrow goes from the modifier to the head. Complements are the opposite. In the case of what are traditionally called complements, the head has an elaboration site which the complement elaborates. The arrow goes away from the head. Those are called complements. And this works across the board. There're many different kinds of modifiers and complements, but they all have that abstract characterization. This is just a facet of symbolic assemblies. It's not something separate and different, it's all based on meaning.

That's easy stuff. You will be glad to know that harder stuff is coming, but it doesn't get too hard this morning. What I've just gone through are typical constructions, and the typical constructions have the properties I listed in (37). There are two component structures, one profiles a thing, the other profiles a relationship. The nominal profile corresponds to a focal participant of the relationship, and it elaborates it, and the composite structure inherits its profile from one of the two components. I said this is the sort of thing that predicate-argument notation is designed to capture. But there are many departures from this prototype. Is it a prototype? I think it is actually. Constructions vary greatly in their details. And every specific point I indicated is variable. The only constant factor in constructions is that they are assemblies of symbolic structures, linked by correspondences in some fashion, and categorizing relationships. So let me go through some variations on this to give you an idea of the range of variation.

Let's see. Yes. I should put this one back up for a second, *smart woman with a PhD*. Notice that I give two levels of constituency. You combine *smart* and *woman*, you combine the prepositional phrase and you put those together, but in every level, there are just two component structures, leading to a composite structure. But there are indications that maybe things are more flexible. If you look at (39) on the handout, there are different ways of pronouncing this phrase. I could say, reflecting this organization, I could say *smart woman / with a PhD*, where there's a major break between these intonationally, suggesting that you have this as one constituent and this is another constituent, *smart woman / with a PhD*. But in careful speech, I could equally well say *smart / woman / with a PhD*, *smart / woman / with a PhD*. The intonation suggests a tripartite structure, three elements all on the same level, the way I've shown in (38). Should we adopt the previous structure with two component structures at two different levels, or might we consider this organization where we take *smart*, and *woman*, and *with a PhD* and put them together all at once to form a composite structure with just one level of constituency? And the answer is that it really doesn't matter. Probably both are possible. There are theories of grammar where constituency and a rigid constituency are important, some versions of generative grammar, for instance, where subject and object are defined in terms of particular constituency structure configurations and you have to have things in a certain constituency to make the system work. But that's not true in cognitive grammar. Things are subjects and objects because they correspond to a trajector or a landmark. These are semantic relationships. It's independent of constituency and the order in which you combine things to form larger structures. So suppose we take the intonation at face value and assume that

smart woman with a PhD has either of the two structures, *smart woman / with a PhD*, or *smart / woman / with a PhD* like this. It will still work. Here we have *smart*, and *woman*, and *with a PhD*, we have the same correspondences, the trajector of *smart* corresponds to the *woman*, the trajector of *with a PhD* also corresponds to the *woman*. *Woman* is the head or profile determinant. So at the composite structure level we have the exactly the same composite meaning with the same profile and it's also a noun. We'll still identify modifiers and complement, which will be down here. *PhD* is the complement of *with*. *Woman* is still the head. All the information you need is still there. Everything is shown. It's just that we combine things in a single step instead of in successive steps. I think there are many constructions where we want to allow more than two component structures that are combined essentially simultaneously, if we use that metaphor.

Here is another case which I think is probably to be analyzed that way. In some combinations of adjectives with a noun, this is a complex topic, which I haven't thoroughly analyzed, but I think at least sometimes when there are multiple adjectives, the adjectives are all parallel. This is especially the case when there is an intonational break I've shown with a slash. So in (41), *big / ugly / vicious / dog*, *big / ugly / vicious / dog*, four separate intonation groups. And I think that kind of intonation with series of adjectives indicates that the adjectives are all parallel. They all combine with the noun in one step. There is no intermediate constituent. For example, *vicious dog* is not a separate constituent. That intonation, I think, is showing that these are all parallel in their relation to *dog*. So if we analyze it that way, what, how do we describe it? Here is the noun *dog*. It profiles a thing with certain properties. These are three adjectives, each adjective profiles a relationship with a trajector and no focused landmark. *Smart* is another case of that, but the adjective specifies some property of the trajector. And I just label these properties, b for big, u for ugly, v for vicious. I don't care about the details, but they all specify properties that the trajector exhibits. And in this construction, you will notice if you trace the correspondence lines, all the trajectors correspond to the profile of the noun. Here is the trajector of *ugly*. It corresponds to the profile. The trajector of *big* also corresponds to the profile. So all three trajectors correspond to that. *Dog* is the head or profile determinant. These are modifiers, and the composite expression profiles the dog and ascribes to the dog all three properties. So those are some cases where there are maybe more than two component structures. There don't have to be just two.

All the constructions so far, however, still have the property that there is a head. One of the component structures gives its profile to the composite structure. But that's not necessary either. There are constructions where

the composite profile does not come from a single component structure and sometimes from no component structure. Constructions don't have to have profile determinants. I will give you just two kinds of cases. It's going onto the next page to (43) and (44). In one kind of case, the component structures have the same profile. The component structures' profiles correspond to each other, so they both correspond to the composite structure profile. That's this kind of configuration. One example is a compound like *pussy cat, pussy cat*. *Pussy* is a term for cat, *pussy* and *cat* are both referring to the same object, and *pussy cat* is just a cat which is also a pussy. Or in cases of full noun phrases being put together, like *the famous French novelist Marcel Proust, the famous French novelist* is a full noun phrase, the name *Marcel Proust* is another noun phrase. They refer to the same individual, and the whole expression refers to that same individual. So both of those kinds of examples have this configuration. Each component structure is a noun and profiles a thing. Those profiles correspond and they both correspond to the composite structure profile. So this appears as both the novelist and then also Marcel Proust, it's the same person. Or this is both a pussy and a cat. It's the same creature. What do we say is the profile determinant or the head in a case like this? Well, there are two options. Since both profiles correspond to the composite structure profile, we can say they are both heads. That would be reasonable. Or we can say that there is no head if we define the head as the single component structure whose profile is inherited. A head implies asymmetry, so that just one component structure gives its profile to the whole. Then there isn't any head here because the two component structures are equal in that regard. It doesn't matter which, it's a matter of terminology. I choose the latter option. I talk about there not being any head here. But I could say they are both heads. It doesn't matter. The important thing is that this is a possible configuration.

There are other examples where the composite structure profile doesn't correspond to either of the component structure profiles. A case like that would be *pickpocket*. Another example would be *scarecrow*. This is a compound in English. *Pick* is a verb, *pocket* is a noun. This is a complex diagram. Now we have the phrase *pick someone's pocket*. That's a kind of stealing. So quickly, this represents the noun *pocket, pocket*. This is the profiled thing. A pocket is something you keep things in, so this is the contents of the pocket. This is the pocket; this is a larger element that the pocket is part of, so it would be something like a coat or pants, a pair of pants. So a pocket is part of a larger piece of clothing and then it has contents. But what *pocket* profiles is of course this little opening. Now the word *pick* has many senses, but the sense it has in *pickpocket* indicates removal of something from its place. You pick a pocket. You remove something from the pocket. So this is the trajector. This is some

container. The square is a container. This is the content of the container. The trajector exerts some force on the content so that the content moves out of the container into the control of the trajector. Seems obvious when you see it explained. Now when you put these together, *pick* profiles this event. *Pocket* profiles this thing, the landmark of *pick* is identified with the pocket. *Pocket* is the object of *pick* in the phrase *pick someone's pocket*, and it's also understood in that way in the compound *pickpocket*, so the correspondence holds between the landmark and the pocket, and that implies that the contents of the container correspond to the contents of the pocket, and then when you combine these, you get what's shown at the top. But the important thing in this example is that the compound *pickpocket* profiles the agent. A *pickpocket* is a person, its profile is the agent. So the profile is not the same as that of *pocket*, and it's not the same as that of *pick*. It has its own, different profile. So this is another kind of example where neither component structure is the head or profile determinant. It's sometimes called exocentric. So that's a second way in which constructions can differ from the typical constructions.

As I said, in a typical construction one component structure is a noun, and it elaborates a schematic elaboration site in the other component structure which is a relationship. So I'm going to, now, go through some examples which depart from that aspect of the typical construction. (Actually we are doing pretty well for time here.) It's not the case, obviously, that every construction involves a noun and a relational element. For example, in things like (44) we have two nouns combining. In cases like (46) we have two relational expressions. There isn't any noun. This is the adverbial phrase *move fast*. *Move fast* is actually just like *smart woman*, except that it involves an adverb instead of an adjective, therefore what's modified is a verb instead of a noun. So *move* is a verb. It profiles motion through space by the trajector, a process that evolves through time. *Fast* is an adverb, which is quite analogous to *smart*. An adverb like *fast* implies there's some scale for comparison. In this case it's the scale of rate, rapidity. This is the norm on the scale. The trajector in the case of an adverb is some process, a relationship instead of a thing. So I give it as a box, representing some relationship. That relationship falls in the positive end of the scale, so that *fast* is analogous to *smart* except for the nature of the trajector. And when you combine these, it's like *smart woman*, the schematic trajector is elaborated by the head, but the head in this case is a verb. So this is the elaborative relationship, and this entire profiled process corresponds to the trajector. The verb is the head, so the entire expression profiles the act of moving. That's the profiled relationship of a complex verb. But now that verb is also characterized on the scale of rate. So that's a modifying construction because the head elaborates the elaboration site which is in the other component. But

we still have an elaboration site which is a focused participant. This is still a trajector that elaborates it.

One way in which constructions can depart from this normal case is that the elaboration site is not always a salient focused participant. It might be something more peripheral in a component structure. And that takes me to this next example, which is interesting in a couple of ways. It's (47). This is a compound, *woman smart, woman smart*. I may have heard this somewhere, but I think I made this up. It's a possible compound which has the kind of meaning that I give to it or it possibly has. So this is legitimate English, but it's probably a novel expression instead of a fixed expression. But it's certainly possible and you certainly hear things on the same pattern. What's this supposed to mean? By saying that a person is *woman smart*, I mean that that person is smart about women, smart on the topic of women, smart in regard to women. I suppose that's better than being *woman dumb* or *woman clueless*. You notice that this contains the same elements as *smart woman*: the adjective *smart*, and the noun *woman*, the same elements with the same meanings. It's just that they are combined differently in accordance with a different grammatical pattern. With *smart woman*, it was the noun-modifying pattern, where the noun elaborates the trajector of the adjective. That's a canonical, typical construction. This is a different construction. This is a pattern of compounding. So all the details are different except that the component structures happen to be the same. And what I've tried to show here is that one way we interpret *smart* sometimes is that the intelligence pertains to a particular subject, and it's not general. A person can be smart in regard to some topics, and dumb in regard to other topics. It's part of encyclopedic knowledge of intelligence. It's not always fully general, it might be selective. So this is meant to show that the smartness that is being predicated pertains to a particular subject, a particular topic. So this is the domain of knowledge associated with this topic. And the person is smart in regard to this topic. And it's that subject matter which constitutes the elaboration site in *woman smart*. *Woman* specifies that subject matter. It does not elaborate the trajector. The trajector is someone else. So this is a case where the elaboration site is peripheral to the component structure instead of being a focal participant. Also in the compound construction, the second element is the profile determinant. In the adjective-noun combination, in the modifying construction, it was the noun that was the head. Here it is the adjective. This is the compound construction, and in an English compound, it is the second element which is the head or profile determinant. So the entire expression designates the relationship of being smart, but *smart* specifically in regard to women. Here you see the semantic importance of grammar. Grammar

itself gives you patterns for combining meanings and symbolizing meanings. And the difference in the two expressions comes from the grammatical construction. It doesn't come from the lexical items. In fact one designates woman and the other designates smartness, the relation smart. That comes from the constructions. These are aspects of constructional meaning. And the role that *woman* has in regard to *smart*, whether the trajector or the topic, that is an aspect of constructional meaning, because the same elements can combine in either way.

So here is a case where the elaboration site that one component structure elaborates is peripheral to the other. It's not a central participant. And there are cases where you don't even want to talk about an elaboration site. Things are more peripheral still, and I illustrate that with *go away angry*. Here is a complex verb *go away*. It just indicates that the trajector moves through space, leaving some area, so the trajector moves away from some area. This is the relationship evolving through time, and this little bar along the time arrow is the span of time during which this relationship unfolds. So this is the relevant span of time during which the *going away* occurs. The notion of *going away* doesn't invoke any particular emotion. It doesn't say anything about the trajector except that it is a mover. It doesn't bring emotion into the picture in any salient way. However, this can be combined with an adjective like *angry*, which specifies an emotion. So *angry* is an adjective, there is the trajector. That trajector exhibits a property. I abbreviate it as *a*. This property is that of showing a certain feeling, a certain emotion, *anger*. The adjective doesn't specify anything about movement. It's just an emotional term. An event like moving or going away is not part of its semantics. Now here there is also a bar along the time arrow. *Angry* is an adjective and someone can be angry just at a single instant. But we also know as part of the encyclopedic meaning of *angry* that it's an emotion which tends to endure for some time, for some bounded span of time. And this bar indicates the span of time during which the anger holds, during which a person is angry. However, if the person is angry for some span of time, then at any one instant during that time span the person can also be said to be angry. In other words, time is not an essential component in the characterization of *angry*. The emotion is. But it's a secondary part of its meaning that it typically endures for a certain span of time. If it continues throughout a person's entire life, that person will have a very unpleasant life.

Now how do these get together? There isn't any elaboration site, at least none of any salience. *Going away* doesn't invoke any schematic emotion, and *angry* doesn't invoke any schematic motion. But that doesn't prevent us from putting these together in the construction. Neither elaborates anything salient

within the other, but they can still be combined. How? Well, their trajectors can be identified. The person who is going away is the person who is angry. There is a correspondence. Also the spans of time are the same. The anger endures during the time of going away. And the construction implies both of those. If you say *he went away angry*, he is the one who is angry, and he went away while he was angry. They coincide in time. So you don't need elaboration sites to do grammatical combination. The profile is inherited from *go away*, but the trajector is characterized as being angry for the same span of time. Now is *angry* a complement or a modifier? The answer is no. It's neither, because to be a complement or modifier in the traditional sense, one of these structures has to elaborate a substructure of the other. But that's not true here. There isn't any elaboration site. So sometimes these are called other terms like adjunct, for example, something that is neither a complement nor a modifier. That amounts to there not being any elaboration site.

Now I think I'll go for about 10 more minutes and then leave time for questions after that. And the question is what do I want to cover in the last 10 minutes? I think I will skip over to page 14 and look at the examples there. These pertain to the notions trajector and landmark or subject and object, and also profiling. Something that's very important and tends to be overlooked is that the notions trajector and landmark and profiling are always relative to a particular level of organization. If you take a complex expression like *throw a rock into the pond*, and ask, "Is *rock* a trajector or a landmark?", the question doesn't make any sense unless you'd be a bit more precise, saying trajector or landmark with respect to what. It's not that trajector and landmark and profiling are notions applied just once in a complex expression. They can apply multiple times at different levels.

So here is the phrase *throw a rock into the pond*. I am leaving out the articles because they are not important for right now. At one level, we have a verb, and then that combines with a noun phrase, *a rock*. And at another level we have a prepositional phrase *into the pond*, of course that itself is derived from a preposition plus an object. Then we combine the prepositional phrase with the verb plus object combination to give us an entire complex phrase. But a particular element like *a rock* has different roles within this. So when we're talking about the combination of *a rock* with *throw*, *rock* corresponds to the landmark. So it's the object of *throw*. And then at the composite structure level, *rock* is the landmark, the object of *throw*. Over here I left out the internal structure of the prepositional phrase, but *pond* elaborates the landmark of *into*, so this is *the pond*, *into* profiles a complex relation, it's a complex preposition where there is a path. The trajector enters the pond. Now when we talk about combining the prepositional phrase with the complex *throw a rock*, how do they correspond? *Throw* implies that the landmark moves along a path, but

it doesn't say what path. *Throw* is schematic about the nature of the path the landmark follows. So up here, I'll show the path again. It's still schematic. The rock follows some path, but it's not said what path that is. It's the function of the prepositional phrase to say more about the nature of the path. And it's the path of the rock. That is, the trajector of the preposition is identified with the rock. And the motion of the rock along the path is identified with the motion specified by the prepositional phrase. So we have this schematic path, corresponding to this specific one. And the rock is then identified with the mover. So if we consider the prepositional phrase with respect to it, *rock* is the trajector. *Rock* is the landmark with respect to *throw*, but it's the trajector with respect to *into the pond*. And when you get to the composite structure level, well, it has both roles. What's profiled at the composite structure level is the throwing, so I show *rock* as the landmark, because the profiled relationship is the throwing. But it's also true that the rock is still the trajector with respect to the path. So at the clause level where we're profiling this process, *rock* is the object. With respect to the prepositional phrase, however, is still what we can call the subject of the prepositional phrase, if you want to use that term. We don't usually call it that, but it could be called the subject of the prepositional phrase. And there is no contradiction in any of these. Something's status as a trajector or landmark depends on what structure we're looking at. And something can have different roles at different levels with respect to different relationships. And similarly, different things would be profiled, profile is relative to levels. So here a path is profiled. Here the process is profiled, and not the path.

Now one example that I'd like to go through, and have written about various times, is from an American Indian language called Luiseño that used to be spoken in the San Diego area. This is a real example. It came out one day in an elicitation session with a native speaker, whether you could say this, and indeed you could. I'll actually pronounce it for you, *ngee-vichu-ni-q*, *ngee-vichu-ni-q* meaning *I made him want to leave*. That's (58). So there's the subject pronoun *I*, and there's the object pronoun *poy*, *him*, and then the rest is a complex verb, *ngeevichuniq* which breaks down into four pieces, *leave*, *want*, *make* and then a tense marker. So grammatically, this sentence involves subject, object, complex verb. Subject, object, verb, it's a single clause. Just one clause, subject, object and a verb. But semantically, the subject and object have complex roles. The subject pronoun *I*, *noo*, is the subject for the entire clause, but semantically, *noo* is also the one who does the making, *I make*. Now grammatically the pronoun *poy*, *him*, is the object of the entire clause, but what does that mean, object of the complex verb? Well, semantically, *him* is the one who does the wanting. Semantically it's the subject of *want*, and he is also the one who leaves. Semantically *he* is the subject of *want*, and also of *leave*,

but it's the object grammatically in the entire clause. So you understand how that sentence works, I hope. The question is how you describe this in terms of an assembly of symbolic structures, and that'll be my last thing to do for this morning besides questions.

Let's see how the verb is put together. That's really pretty simple and self-explanatory. I don't have to go through it probably, but I will. I've left out the tense marker. The tense isn't relevant to us. But we have three component morphemes. There is the verb root, *leave*, *ngee*. So that's to show the trajector moving along a path out of some area of origin. So the trajector moves away from some origin. Then there is the morpheme, the derivational suffix, *-vichu*, which means *want*. So I show that as a desire here. The trajector has some mental attitude. This is the wanting relationship. The landmark is what is wanted. And this applies to an event. You want an event. You want to do something. So the landmark is a schematic event. It's also part of the meaning of *-vichu*, *want*, that the person who wants is the one who carries out the event. It's a same subject marker, if you like. The person who wants to do something is the one who does it. So there is a correspondence line here that indicates that the trajector of *want* is the same as the trajector of the event that's wanted. Then there is the suffix *-ni*, which is the causative suffix. The trajector exerts some force which causes the occurrence of some event. And I've shown the entire event as a kind of landmark, but I've also shown the major participant in that event as another kind of landmark. You exert force on some person to get that person to carry out some action.

So those are the three pieces, *ngee*, *-vichu*, *-ni*. How do they go together? Well, first of all, *ngee* has a trajector, that's the one who leaves. *-vichu* has a trajector, that's the one who wants. But part of the meaning of *-vichu* is that that person is also the one who does what is wanted. Then there is the causative: the trajector is the agent who causes things, the landmark of the causative relationship is the person who carries out the caused event. Well, they're combined just the way I've shown here, with correspondences as I've shown and the successive suffixes as the profile determinants. Basically speaking, the thing that is wanted is identified with leaving, so there's this correspondence that implies that this person, the one who carries out this action is also the one who carries out the leaving. So when you combine those, you have an active wanting, with respect to the event of leaving, where the one who leaves is the one who wants. Now all of this is taken as what is caused. So all of this corresponds to what is caused, by this correspondence line, so its trajector corresponds to the one that the force is exerted upon. And when you combine all of that, you get that.

Ngeevichuni is an active causing on the part of the subject, and what is caused is this complex event where the landmark who receives the force wants to do something and that something is leaving, and the one who leaves is the one who wants. So I've just put these together by showing what corresponds at each level. This is now a verb, this is a single verb, which profiles this process of causing this event. And notice that the subject of the verb is the agent, the object of this complex verb, the landmark, is the one the force is exerted on, who also happens to be the one who wants and the one who leaves. So you simply have to put these together with a subject and an object in the usual way. You spell out the trajector with the subject pronoun *noo*, you spell out the landmark with the object pronoun *poy*, this is the verb, and this is just a simple sentence. And everything is accounted for: *I made him want to leave*. I am the one who does it. He's subject to the force, and he is the one who wants, he is the one who leaves. All of that follows from the correspondences and how all of this is put together. So there is no conflict between the form of the sentence and the meaning of the sentence. It all fits into the symbolic assembly. And the overall subject and object are *I* and *him*. But all of these semantic relationships are accounted for. And I hope you see why. This gives you a fairly complex construction, but it follows from the same principles I've been following all the way through about how constructions work. And you'll see more of them this afternoon with more subtleties. So I hope the basics are reasonably clear, but if not, you have a few minutes to ask questions.

Symbolic Grammar and Constructions

1 *Architecture*

- (1) **Cognitive Grammar** (CG) claims that grammatical structure is *symbolic* in nature, and that *constructions* are the primary objects of description.
- (2) (a) **Weak autonomy**: Grammar cannot be fully predicted from meaning and other independent factors (e.g. communicative constraints).
- (b) **Strong autonomy**: Grammar is distinct from both lexicon and semantics, constituting a separate level of representation whose description requires a special set of irreducible grammatical primitives.

- (3) While accepting weak autonomy, CG provides a radical alternative to strong autonomy:
 - (a) Lexicon, morphology, and syntax form a continuum, divided only arbitrarily into discrete “components”.
 - (b) Lexicon and grammar are fully describable as **assemblies of symbolic structures**.
 - (c) A **symbolic structure** is the pairing between a *semantic structure* and a *phonological structure* (its semantic and phonological **poles**).
 - (d) Consequences: (i) Grammar is not distinct from semantics but *incorporates* it as one pole. (ii) The elements of grammatical description are not special, irreducible primitives, but reduce to form-meaning pairings. (iii) Every valid grammatical construct is meaningful.
- (4) Kinds of devices employed in grammatical description:
 - (a) **Rules**: “Constructive” rules (e.g. transformations), which collectively serve to construct (or enumerate) expressions. [They *need not* resemble expressions.]
 - (b) **Filters**: Negative statements indicating that a particular configuration of elements is **not** permitted. [They *cannot* resemble expressions.]
 - (c) **Schemas**: Templates for sets of expressions, representing their abstracted commonality observable at a certain level of specificity. [They *must* resemble expressions.]
- (5)
 - (a) CG represents grammatical patterns by means of **schemas**.
 - (b) A **construction** is either an *expression* (of any size) or else a *schema* abstracted from expressions to capture their commonality (at any level of specificity).
 - (c) Both expressions and schemas can be **entrenched** psychologically and **conventionalized** in a speech community, thus constituting established **linguistic units**.
 - (d) Unit expressions are **lexical items**. More schematic units correspond to **grammar**.
 - (e) Whether specific (“lexical”) or schematic (“grammatical”), every construction comprises an assembly of symbolic structures.
- (6) By the **content requirement**, the elements permitted in a linguistic description are limited to: (i) semantic, phonological, and symbolic structures that actually occur as (*parts of*) *expressions*; (ii) *schematizations*

of permitted structures; and (iii) *categorizing relationships* between permitted structures.

(7)

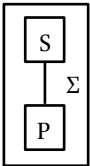
(a) Semantic
Structure



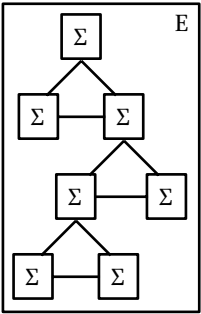
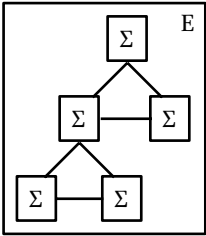
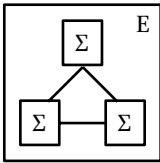
(b) Phonological
Structure



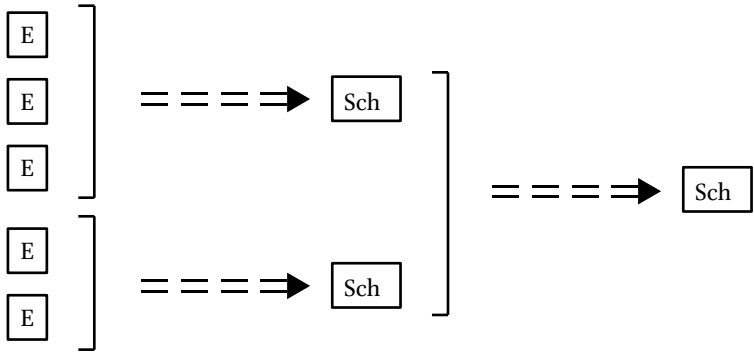
(c) Symbolic
Structure



(d) Symbolic Assemblies (= Expressions)

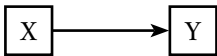


(8) Schematization

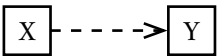


(9) Categorizing Relationships

(a) Elaboration

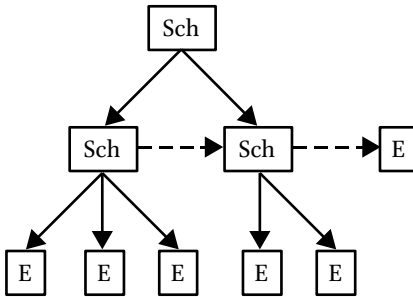


(b) Extension

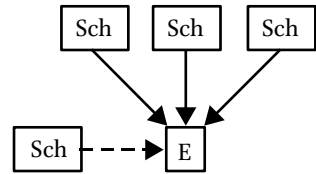


(10)

(a) Categorization Network



(b) Structural Description



- (11) An expression is categorized simultaneously by many schemas, each corresponding to a particular facet of its structure. Collectively, the set of schemas which categorize it constitutes its **structural description** (i.e. its interpretation with respect to the linguistic system). The expression is *well-formed* (“grammatical”) to the extent that these categorizations involve *elaboration* (rather than extension).
- (12) Grammatical patterns are captured by **constructional schemas** (schematic symbolic assemblies), which describe in schematic terms how simpler expressions combine to form more complex expressions. Constructional schemas function as templates guiding the formation of new expressions and serve to categorize relevant facets of them.
- (13) (a) By means of constructional schemas, grammar allows the formation of **symbolically complex** expressions capable of evoking novel conceptions of any degree of complexity.
- (b) A constructional schema specifies how component elements are **semantically integrated**, and how they are **phonologically integrated** to symbolize their semantic integration.
- (c) The semantic pole of a constructional schema is a **pattern of semantic composition**.
- (14) (a) Linguistic semantics exhibits only **partial** (rather than **full**) **compositionality**.
- (b) Linguistic meanings are crucially dependent on an elaborate **conceptual substrate** going far beyond what is explicitly encoded, and from which they cannot be dissociated.

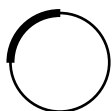
- (c) This substrate incorporates complex **mental constructions**, largely based on such **imaginative phenomena** as *metaphor*, *metonymy*, *blending*, *fictivity*, and *mental space configurations*.

2 Basic Semantic Notions

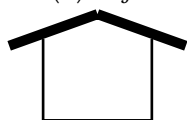
- (15) (a) Meaning is identified with **conceptualization**, which derives from *embodied human experience* and incorporates *imaginative phenomena*.
 (b) Linguistic meaning reflects our ability to **construe** the same situation in alternate ways.
 (c) Dimensions of construal include level of **specificity** (conversely, **schematicity**), **perspective**, and **prominence**.
- (16) *thing* → *object* → *vehicle* → *truck* → *pick-up truck* → *battered old pick-up truck*
- (17) (a) *Come on up into the attic!* (b) *Go on up into the attic!*
- (18) (a) An expression's meaning is a function of both the conceptual content evoked—its conceptual **base**—and how that content is construed.
 (b) As one kind of prominence, an expression focuses attention on a particular substructure within its base, called the **profile**.
 (c) An expression's profile is the entity it **designates** (its **conceptual referent**).

(19)

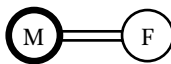
(a) *arc*



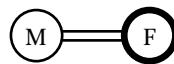
(b) *roof*



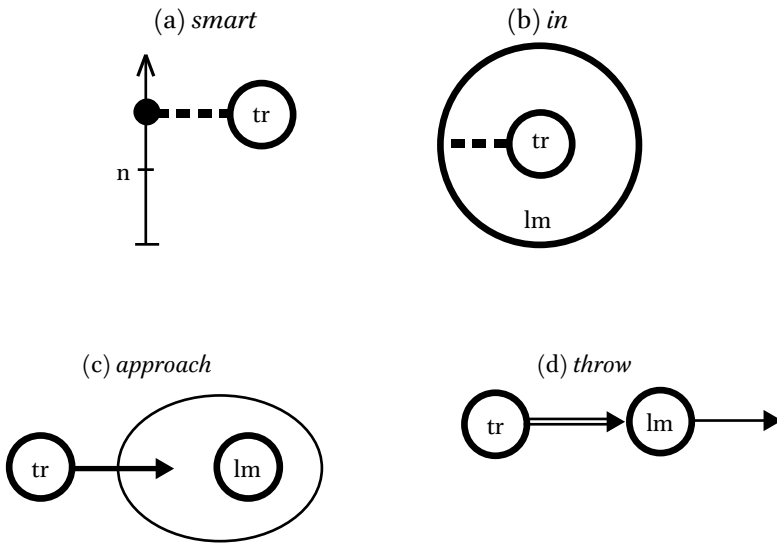
(c) *husband*



(d) *wife*

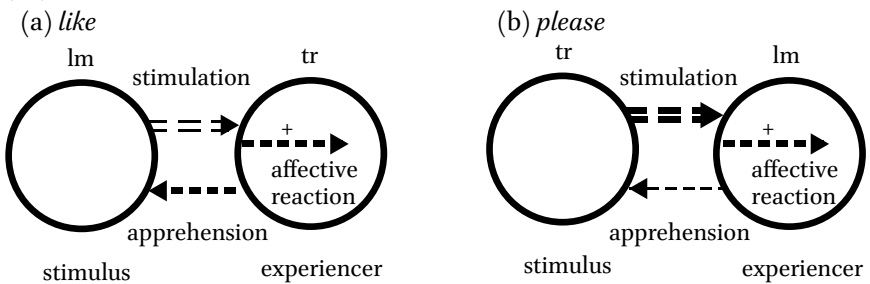


(20)



- (21) (a) When a *relationship* is profiled, degrees of prominence are conferred on its **participants**.
- (b) A *primary focal participant*, called the **trajector** (tr), is the participant an expression is concerned with locating or characterizing.
- (c) A *secondary focal participant*, called a **landmark** (lm), is often invoked for this purpose.

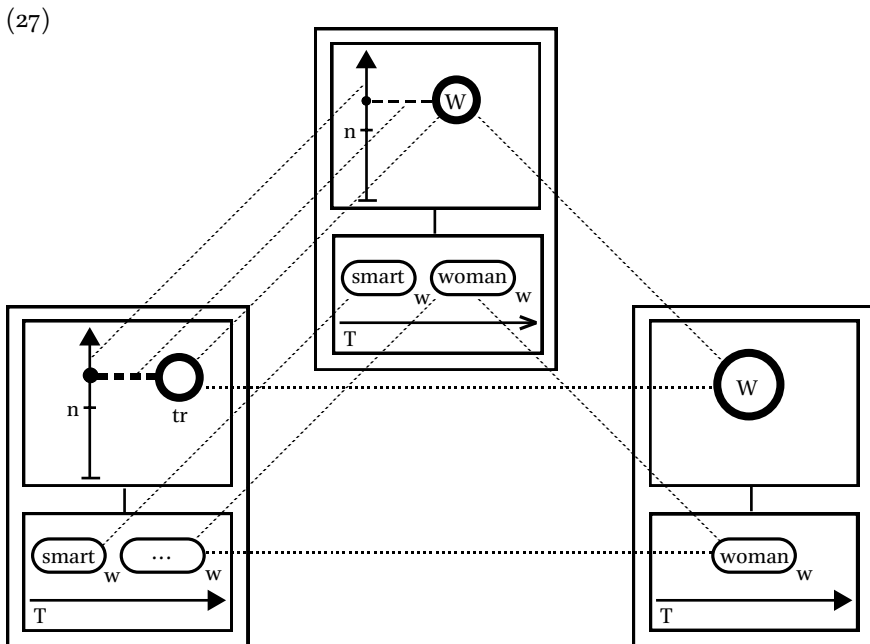
(22)



- (23) An expression's grammatical category is determined by the nature of its profile (not its overall conceptual content): A noun profiles a thing. A verb profiles a process (a relationship followed in its evolution through time). Adjectives, adverbs, and prepositions profile various sorts of relationships that are non-processual (or atemporal).
- (24) A subject is a nominal expression that specifies the **trajector** of a profiled relationship. An object specifies its **landmark**.

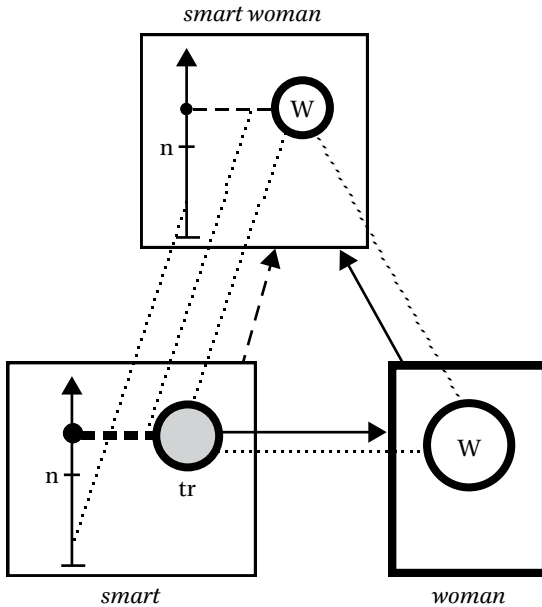
3 *Prototypical Constructions*

- (25) A **construction** is an *assembly of symbolic structures linked by correspondences and categorizing relationships*.
- (26) Typically, two **component** symbolic structures are *integrated*—at both poles—to form a **composite** symbolic structure. Integration is effected by **correspondences** equating elements of the two component structures. The composite structure is formed by superimposing corresponding elements and merging their specifications.



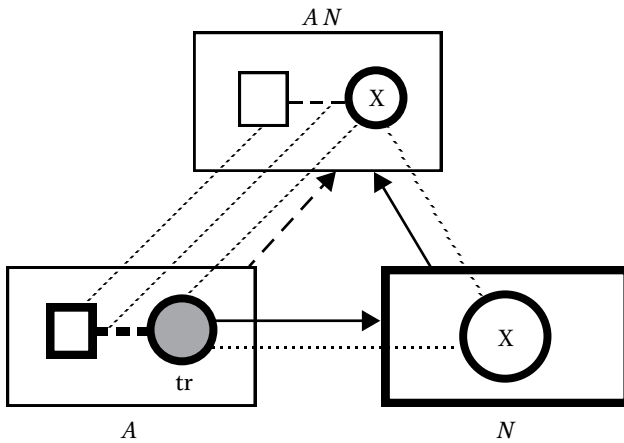
- (28) It is typical for one component structure to contain a *salient schematic element* which the other component structure elaborates. This element, called an **elaboration site** (or **e-site**), corresponds to the profile of the elaborating structure.

(29)



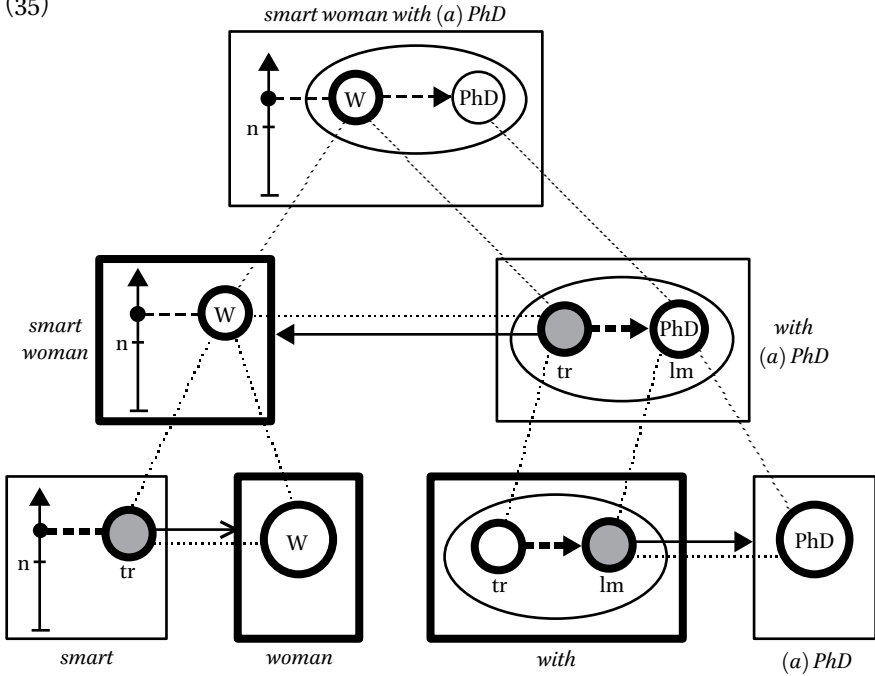
- (30) (a) The composite structure stands in the foreground as the structure primarily employed for higher level purposes; the component structures serve as stepping stones for arriving at it. This is the asymmetry between a categorizing structure and the target of categorization.
- (b) In accordance with partial compositionality, the component structures serve to evoke and motivate facets of the composite conception, not as building blocks for constructing it.
- (31) In a construction, it is usual for the profile of one component structure to correspond to the composite structure profile. The component structure whose profile is thus inherited at the composite structure level is called the **profile determinant**.

(32)



- (33) A constructional schema's semantic pole constitutes a **constructional meaning** (its contribution to the overall meaning of composite expressions). *Organizational properties* like correspondences and profile determinance are a function of the entire construction.
- (34) Complex assemblies usually exhibit multiple **levels of organization**, where a composite structure at one level functions in turn as component structure at a "higher" level. Unlike the syntactic "tree structures" of generative grammar (conceived as purely formal objects), the resulting hierarchies consist solely of *symbolic structures*, each with both a form and a meaning. Grammatical **constituency** is simply the order in which simpler symbolic structures are progressively integrated to form more complex ones.

(35)



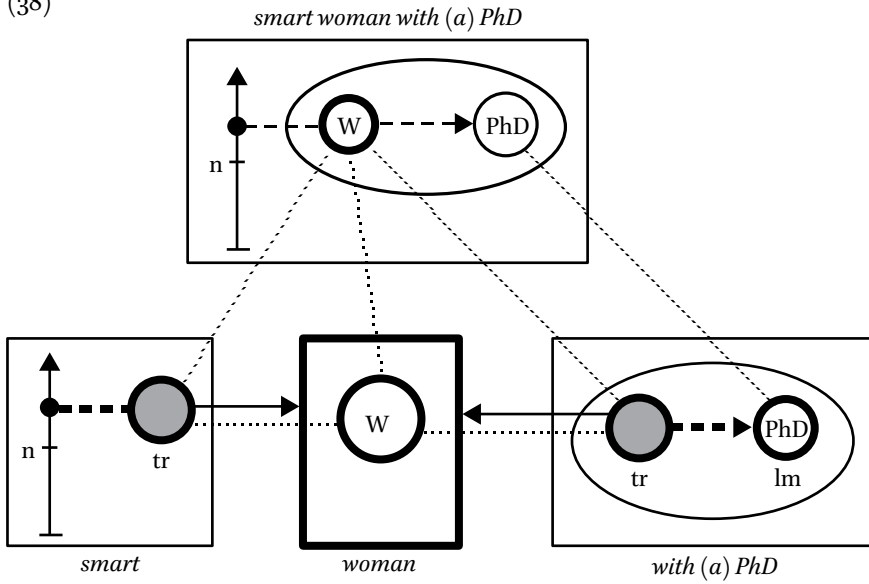
- (36) (a) **Head:** the *profile determinant* at a given level of organization.
 (b) **Complement:** a component structure which *elaborates* a salient substructure of the head.
 (c) **Modifier:** a component structure with a salient substructure *elaborated* by the head.

4 *Non-Prototypical Constructions*

(37) Properties of canonical constructions:

- (a) There are two component structures.
- (b) One component profiles a thing, the other a relationship.
- (c) The nominal profile corresponds to a focal participant of the relationship.
- (d) That participant is schematic, being elaborated by the nominal component.
- (e) The composite structure inherits its profile from one of the two component structures.

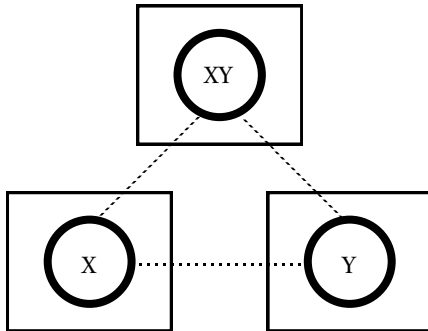
(38)



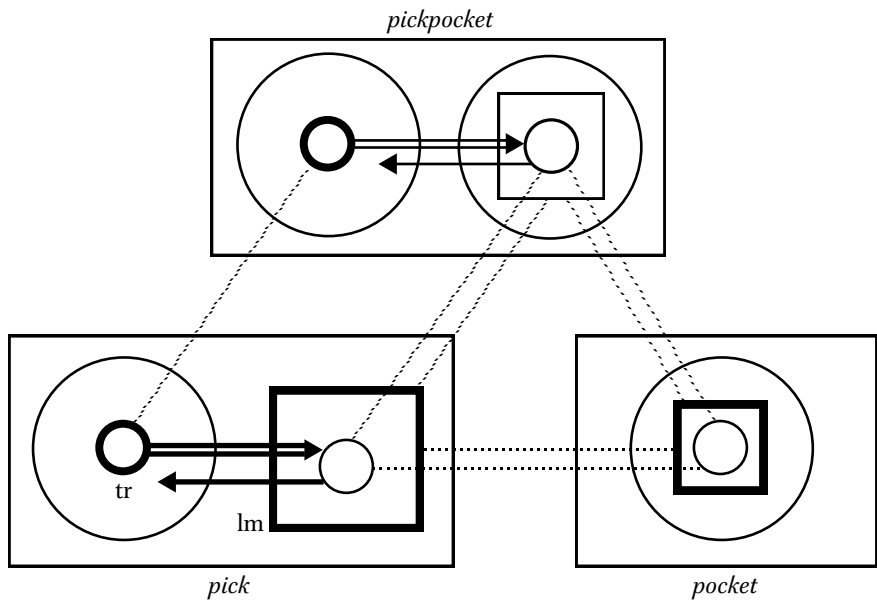
- (42) A construction may lack a (unique) profile determinant for various reasons, e.g. because the component structure profiles correspond to one another, or because the composite structure profile is distinct from that of any component.

- (43) *pussy cat; the famous French novelist Marcel Proust*

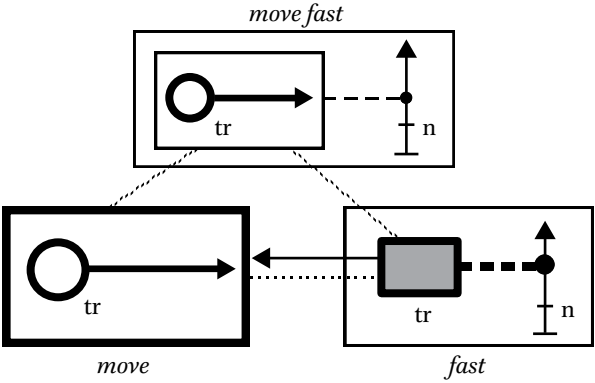
(44)



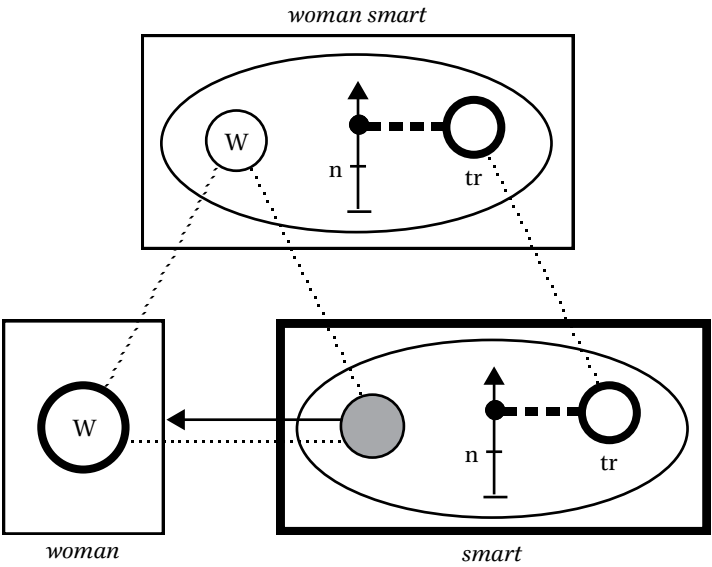
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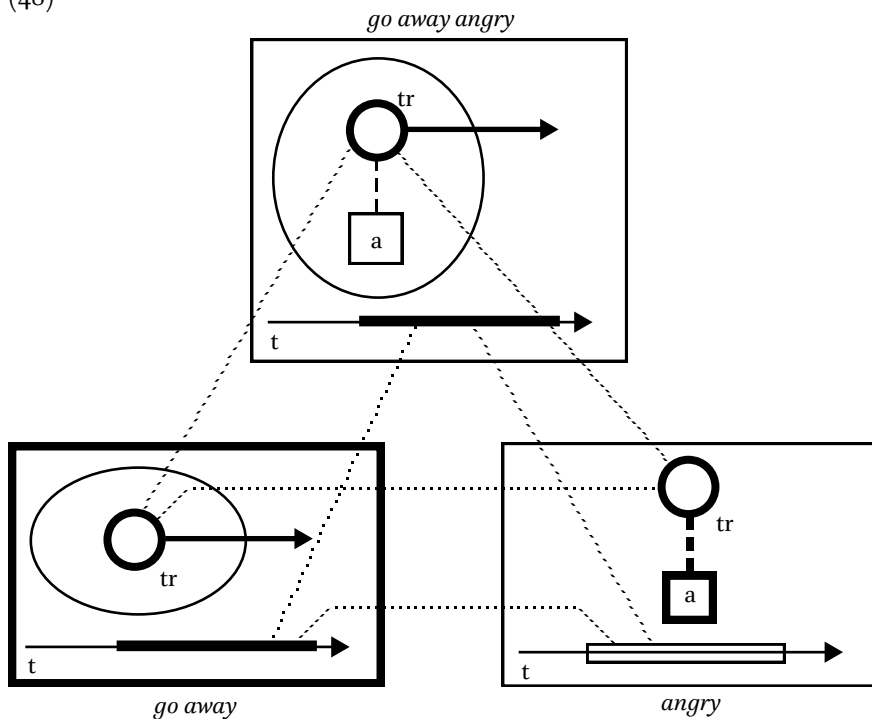
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(47)



(48)

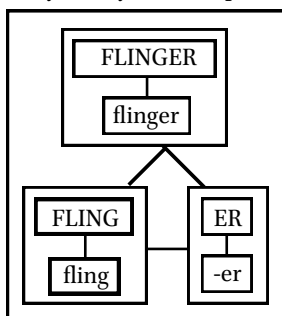


(49) (a) Fixed expressions vary in their degree of **analyzability**, i.e. the extent to which speakers are cognizant of the semantic contributions of component elements.

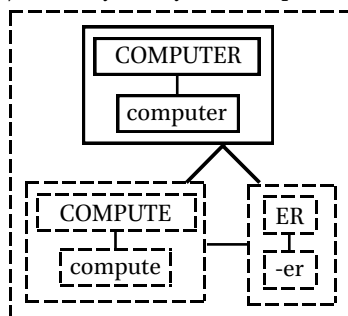
(b) *flinger* > *complainer* > *computer* > *propeller* > *drawer*

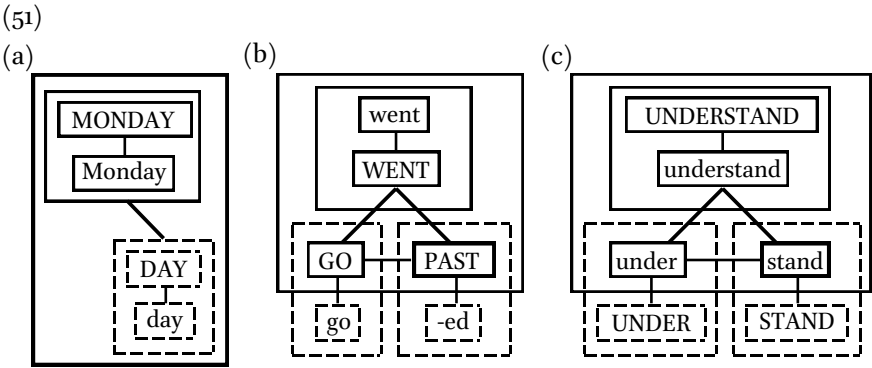
(50)

(a) Fully Analyzable Expression



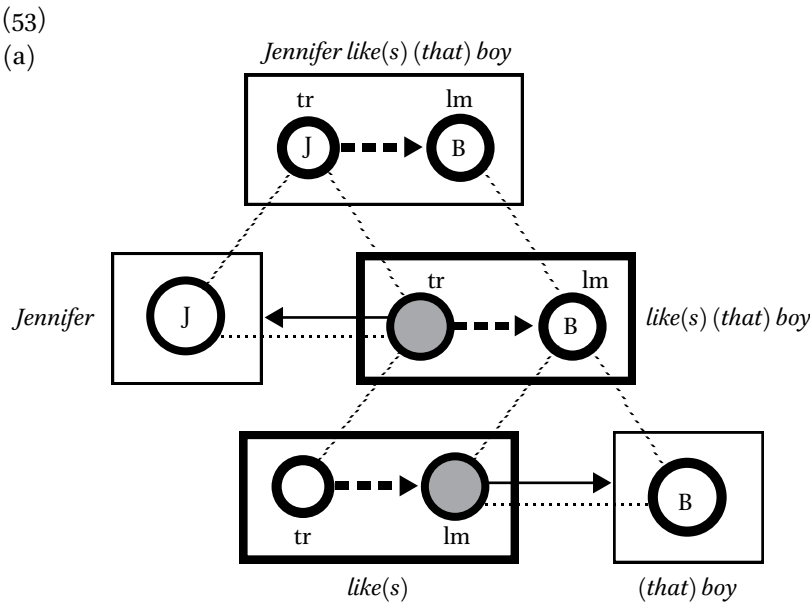
(b) Partially Analyzable Expression



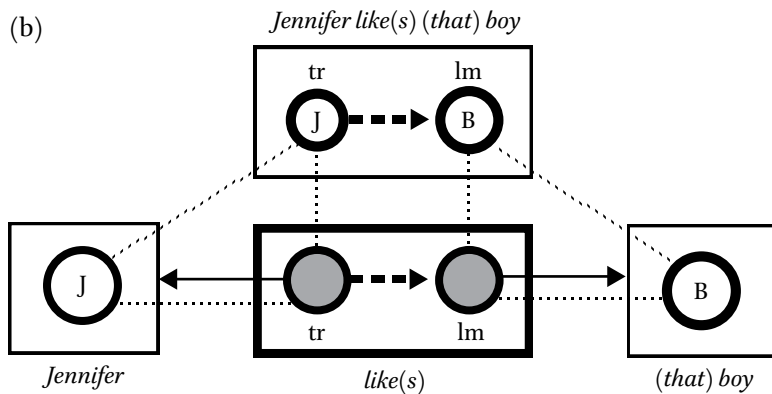


5 *Grammatical Dependencies*

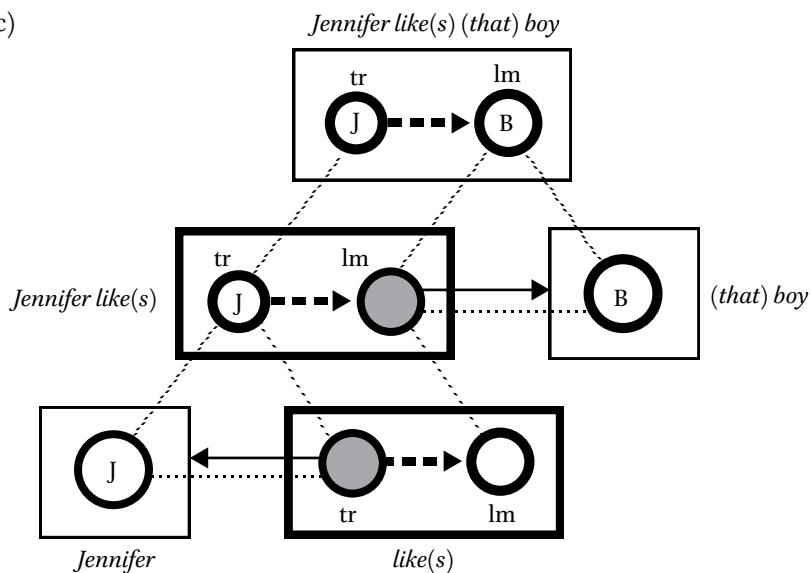
- (52) (a) The CG account of **grammatical dependencies** is *non-configurational*. They reside in *correspondences* between conceptual elements.
- (b) A **subject** is a nominal expression whose profile corresponds to the *trajector* of a profiled relationship.
- (c) An **object** is a nominal expression whose profile corresponds to the *landmark* of a profiled relationship.



(b)



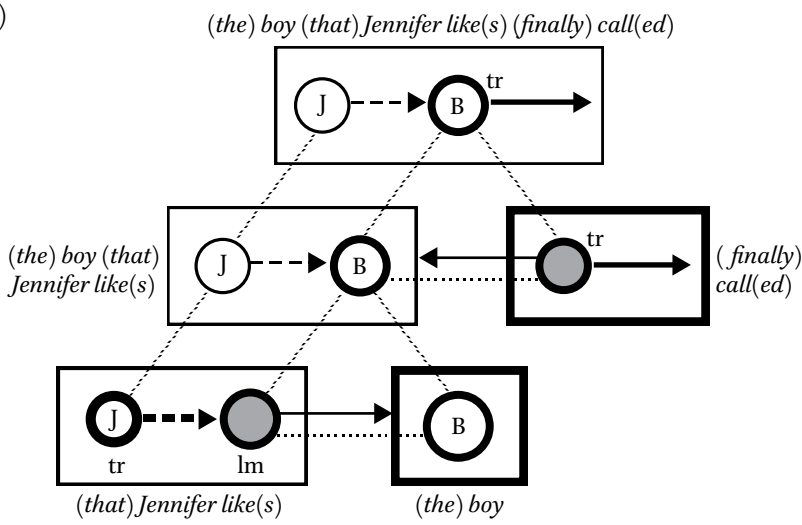
(c)



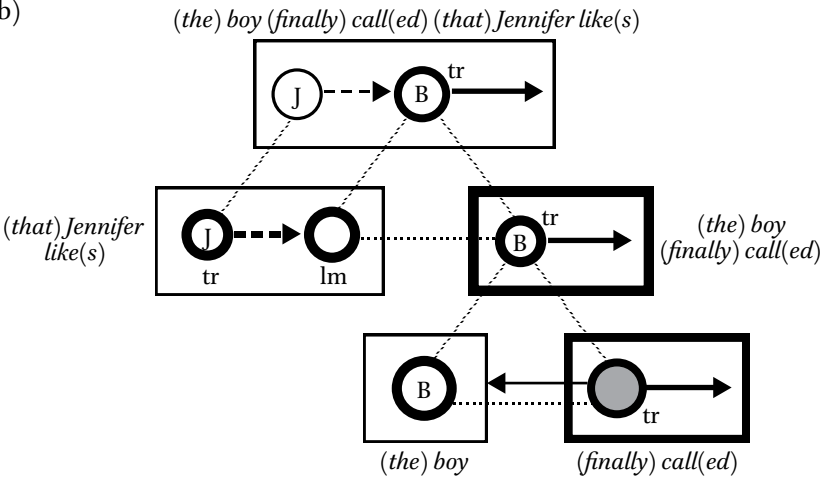
- (54) (a) *That boy Jennifer likes (this one she doesn't).*
 (b) *Jennifer likes, and Sharon really admires, the boy who lives next door.*
 (c) *The boy that Jennifer likes finally called.*
 (d) *The boy finally called that Jennifer likes.*

(55)

(a)

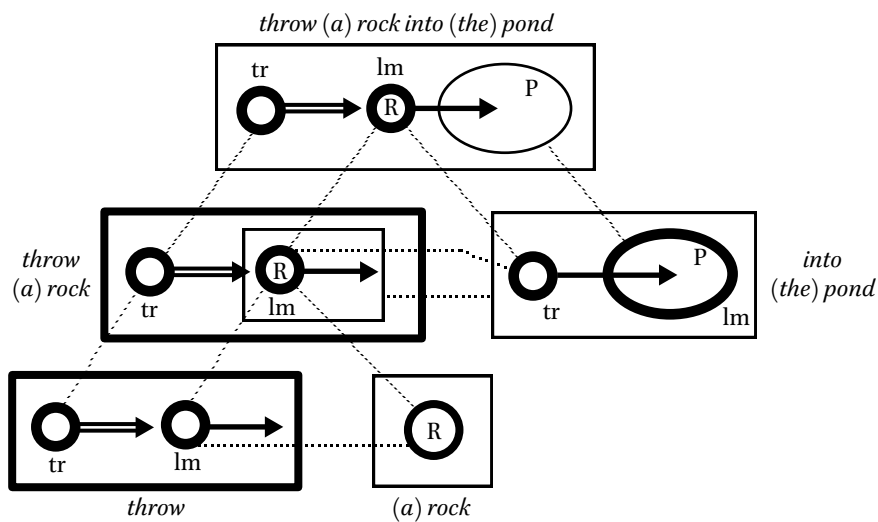


(b)



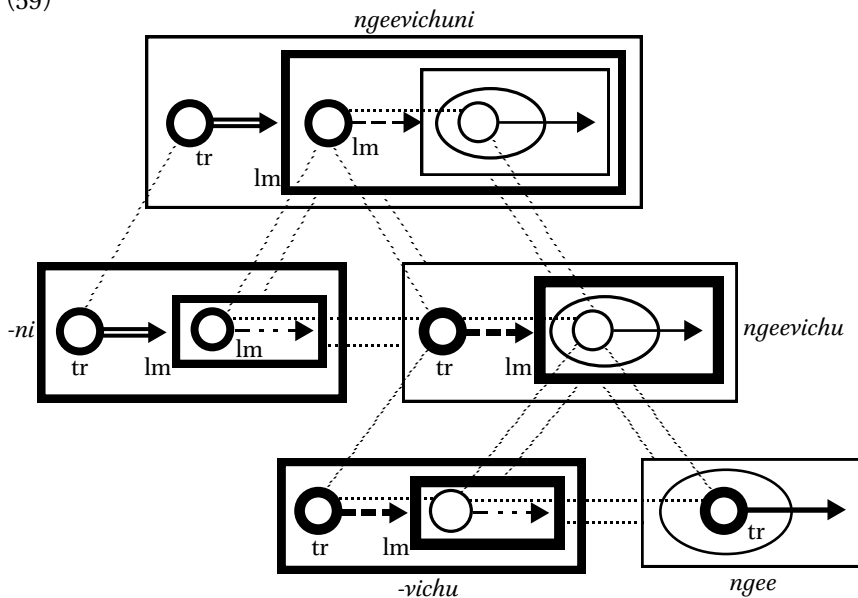
(56) *She threw a rock into the pond.*

(57)



(58) *Noo poy ngee-vichu-ni-q.* 'I made him want to leave.' [Luiseño]
 I him leave-want-make-TNS

(59)



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All original audio-recordings and other supplementary material, such as any hand-outs and powerpoint presentations for the lecture series, have been made available online and are referenced via unique DOI numbers on the website www.figshare.com. They may be accessed via this QR code and the following dynamic link: <https://doi.org/10.6084/m9.figshare.4775470>.

Constructional Integration and Grammaticization

(Are there any more offerings here? I see. OK. Are you ready? The question is whether I am ready.) I hope you all understood the presentation this morning and have some idea how to read these diagrams with all the dotted lines and arrows and things, because you will see a lot more of them. The title is *Constructional Integration and Grammaticization*. As you know grammaticization is the evolution of lexical items into grammatical markers, and I'll be giving a couple of examples of ways in which that can happen. But an important part of it is constructional integration, and what do I mean by that? Well, component structures are integrated to form a composite structure. So that's what we talked about this morning. But they can be related more or less closely, that is, the composite structure can be related by one correspondence or there can be a much tighter integration. They can overlap a lot more in their content. And the greater the integration, the tighter, the greater the overlap. Or let me reverse that. The more things become grammatical as opposed to lexical, the more, the tighter the overlap tends to be. So we'll be looking at that.

First, a little bit of review. I'll skip through most of this quite fast since we've been through it, but there'll be a couple of more examples maybe. The basics. Lexicon and grammar form a continuum consisting solely of assemblies of symbolic structures, and those are pairings between semantic and phonological structures. We talked yesterday about semantic structures involving both conceptual content and how that's construed in terms of prominence, perspective, specificity, scope and so on. One kind of prominence being profiling. And this is one of our examples, *husband* versus *wife*, the same conceptual content—male, female, marriage relationship—but different profiles responsible for the different meanings. Here is another class of examples. The verb *choose*. To start with, this is a verb, there're two participants. This is the person who does the choosing. This is the thing that's chosen, trajector and landmark. Choosing involves some mental operation, There is some range of alternatives. And you have to choose one alternative, so you have to direct your attention somehow and make a decision which picks out one element from this range of alternatives, and that one is the landmark. Now from that verb, we can form derived forms like nouns. A person who chooses could be called the *chooser*. That profiles the actor. Or the thing chosen can be called the *choice*. That profiles the landmark. Or we have another sense of *choice*. (Let's ... Is that, is that fuzzy on the screen? I don't know if I can make it better. Autofocusing, I don't know if that helps very

much.) A *choice* can also be one act of choosing. In other words we can take the process *choose* and interpret it, view it as an abstract kind of thing. So one event of choosing constitutes an abstract thing that we can call a *choice*. And to show that this is being viewed as a thing, I enclose it in a circle and it's that thing which is profiled in the noun *choice*, as in *His choice only took a few seconds*. That's an example of that usage.

I'm moving to the second page on the handout now. An expression's profile determines its grammatical class. So up here, we have all these examples involving the same content, but there're different profiles. We have a verb, we have three nouns. And the nouns profile things, the verb profiles a process. So I'm reviewing some things for you very quickly and we'll be using some of these notations and things, so it's important to review them, I believe. And finally there is trajector and landmark organization, primary and secondary focal participants, I want to go through them again below. Let's go through another example. These diagrams correspond to the examples in (9). And the part of (9) that's represented is the part that's in dark type, boldface. So (10a) represents the verb *melt*. In (10b) is the passive form *be melted*. In (10c) is another sense of *melt*, I'll talk about this in more detail. And another one in (d) as in *It may melt in the heat*. Then there is the past participle *melted* as in *It is finally melted*. And then there is the adjective *liquid*. So let's just think about these briefly. (Thanks.) It's again to get you used to reading some of these diagrams, what they mean. They show the effect of putting different profiles on the same content. It also shows the effect of scope, that is, how much is included in the conception, what's profiled within it, and the choice of trajector and landmark. We have basically the same content that we start with, the verb *melt*, and then we're going to change things, we're going to change the profile, we're going to change the choice of trajector, we're going to change how much is included in the scope. And we get very different meanings then.

So first of all, the verb *melt*, the transitive verb as in *The fire will melt it*. So here is the trajector. The trajector causes something to happen to the landmark. So this is force. In this case the force comes from heat. This arrow here indicates a change in the state of the landmark. Something changes in the landmark. And it changes until it is in the state of being liquid. That's what *melt* means. So the arrow indicates change and the capital L indicates the state of being liquid as opposed to solid. (That's the adjective.) The trajector is the subject, and this is the object, the landmark. The passive in English is a matter of moving the trajector to the other participant. So *be melted* would have the same profile as *melt*, but the trajector is the thing which undergoes the change. But everything else is the same.

Then we have these other constructions, as in (c) *It should melt easily*. There the verb *melt* is intransitive. There is only one participant. However, more than one participant is involved. There is only one that is profiled, but more than one is involved. The adverb *easily* tells you that someone is trying to melt it. So what is profiled is only what happens to the patient. There is one focused participant. It changes to the state of being liquid. But a possible interpretation which the adverb *easily* forces on you is that there is still an agent who causes this. But the causation is not part of what is profiled in the intransitive *melt*. We restrict the profile to this change. So it's an intransitive verb. There is only one participant and this is its subject. But we can also take the intransitive verb *melt* as something that happens without an agent. It happens more or less spontaneously, as in *It may melt*. Here it says *in the heat*, there the causation is coming from heat, but we are not portraying this as the result of agentivity at least. It's just something that happens under certain circumstances. So you can eliminate the agent and causation from the picture and just focus on the change of state: *It melted*. So in terms of profiling, that's the same as (c), it's just a matter of whether or not you invoke the notion of agency and carry that over to the intransitive.

Those are all verbs. They profile changes. Then we get to (e) *It is finally melted*. The past participle *melted*, that no longer profiles a change. It simply describes a state, a property. However, if you can see it in the diagram, this arrow is no longer in bold, previously the change, the arrow was part of the profile. Here the only profile is the state. So *melted* simply describes the trajector having the property of being liquid, and because this is based on the verb *melt*, it tells you that the state results from a previous change, but that change is not profiled by the participle. In other words, when you put the ending *-ed* on *melt* to make it *melted* as a participle, you're changing the profile. The content is the same, There is still the notion of change, and that change is responsible for the state of it being liquid. And *melted* is only appropriate when the trajector has that property because it has undergone the change of melting. But the change is not part of the profiled relationship. It's exhibiting this property which constitutes the profiled relationship. So *melted* is a kind of adjective. It doesn't profile a change through time. It just profiles something having a property. But there is a process in its base. We can contrast *melted* with another adjective, *liquid*, as in *It is liquid*. That also just profiles the same relationship of the trajector being in the state of having this property, of being liquid rather than solid. The difference between *liquid* as an adjective and *melted* as an adjective is that *liquid* does not invoke the change from solid to liquid. It simply describes this state. The absence of an arrow indicates the change of state is not part of the adjective *liquid*. (Can you hear? OK?) So you see the difference

between *melted* and *liquid*. Something can only be *melted* if it has previously undergone the process of melting. But something can be *liquid* if it has never been solid, if it has never melted. Something can be liquid, for example, if it has solidified from a gas. So this is just to further illustrate the effects of profiling, trajector choice and so on. You get very different elements belonging to different grammatical classes even with very similar content, depending on how you vary these factors.

The next few things on the handout are just reviewing constructions, and I'll go through that extremely fast because we did it this morning. Then we start the new stuff. Here is another example of a prepositional phrase. We looked at something like this this morning. *Near the door*, *near* is a preposition. It profiles a relationship in space between two things such that the trajector is in the neighborhood of the landmark. So it's a stable situation. The landmark is here. This is the neighborhood of the landmark and the trajector is somewhere in that neighborhood. *The door* profiles a thing, and obviously the meaning of *the door* is not this picture. This picture simply abbreviates the complex semantic specifications which constitute the meaning of *the door*. I'm leaving out the article again. The landmark of *near* is the elaboration site. This is elaborated by *door*. The profile of *door* corresponds to the landmark. This is then an object relationship—a nominal expression elaborates the landmark of a profiled relation. The preposition is the profile determinant or head. It's the element whose profile is carried up to the composite structure level. So *near the door* also profiles a relationship, the same relationship except that the landmark is specified instead of being schematic. So that's all stuff you now know about. Constructional schemas are the patterns for doing this. So this is the schema for the prepositional phrase construction in English. This is a preposition, a generalized representation of preposition. It's a relationship, not followed through time, between two things. This is a nominal or noun phrase. Its profile corresponds to the landmark and elaborates it. The preposition is the head. Phonologically they occur adjacent to one another and the preposition comes first. That's how you integrate them phonologically. And that gives you a prepositional phrase like *near the door*. So there was a specific expression and then the constructional schema.

And then I talked about constituency. If you have a composite structure at one level, and it functions as a component structure at a higher level, you start getting something that looks like traditional constituent structure. So here we have *Alice admires Bill*. This is the verb *admires*, *Bill* elaborates the landmark to give us the phrase *admires Bill*, that's a composite structure. *Alice* then elaborates the trajector of that composite structure to give us *Alice admires Bill*. The process *admires* is profiled at every level. *Bill* is the object, because it elaborates

the landmark. *Alice* is the subject, because it elaborates the trajector. And these are two levels of composition. This is one level. Then this is the second level. And we have something that looks like constituent structure, tree structure. But of course, these are different from the tree structures of generative grammar in crucial ways. In generative grammar, the tree structures are purely syntactic. They don't have intrinsic meaning. They don't have any intrinsic phonological form. Meaning and phonology come from the lexical items you put into tree structures. They're purely syntactic. But in cognitive grammar, these trees are symbolic in nature; these are assemblies of symbolic structures. Every node in these trees is a symbolic structure with both a form and a meaning. It's simply a matter of hierarchy, of combining things step by step. All human endeavors involve hierarchical organization, even doing things physically, like putting on your clothes. You learn to do that in a certain way, you do each piece individually and then you learn to do it fast. Or typing, you type a few letters and you learn to do that automatically and you build up more and more elaborate habits. Constituent structure is the same. It's simply the principle of hierarchy applied to symbolic structures. So there is nothing purely syntactic or purely linguistic about that.

OK. That was some review and some additional examples and discussion. Now we come to the main topic here, degrees of conceptual overlap, tightness of integration. And that will lead us into a particular case that I will conclude with, the case of benefactive constructions derived historically from a verb meaning *give*. And that should be familiar to you since it happens in Mandarin. The correspondences you see in these diagrams indicate conceptual overlap. That is, *admires* makes reference to two participants and one of those participants is the same as what is profiled by the nominal. Conceptually this entity and this entity are the same. And they collapse to the same entity when you start forming the composite structure. That is, you're referring to the same entity twice. You're referring to it as part of the meaning of the verb and you're referring to it, in a narrower sense, by the nominal expression *Bill*. So there're two places where this element is invoked semantically, as part of the verb and as the profile of the noun phrase. That's conceptual overlap. These two share some conceptual elements. And the question is how much overlap is there between two component structures. In a case like this, it's limited, for the nominal *Bill* only overlaps with one portion of the other component structure. There is a lot of other stuff in that component structure. But in some cases, there is essentially complete overlap. One example like that, showing you tighter conceptual integration or closer integration, more extensive overlap, is in nominal expressions like the *-er* expressions. I've given you some

examples of those already. So this is what you have in cases like (21). Nouns like *hiker*, *complainer*, *cheater*, *flinger*, *blender*, *printer*, *teacher*, *driver*, nouns derived from verbs with the ending *-er*. So let's consider how you describe these expressions.

First of all, there is a verb stem. This is a slightly more elaborate notation than I've used for verbs before. This is time, a verb profiles a relationship that evolves through time and it saliently follows it through time. That's what this bar means, that you're tracking the relationship as it progresses through time. This is the profiled relationship, and that relationship should be thought of as changing through time or continuing through time. It reflects what a verb involves. I only show it in one position, but it continues or changes through time. And in the case of a particular expression like *hiker* or *complainer* or *cheater*, this is a particular process like *complain* or *cheat* or *hike*. Now here is how we analyze the ending *-er*. It invokes as its conceptual base a schematic process. This represents a specific process, so I've shown it with a solid line here, to mean that this is a particular process like *complain*, for instance. Here I've used a dashed line to indicate that the process is schematic. This is the notion, the idea of a process but not a particular process, the schematized representation of a process, a relationship that extends through time. So *-er* has very little or no specific conceptual content. Its content is schematic, the notion of a process or processes of a certain general type. Its semantic importance comes from its profile. *-er* profiles the major participant in that process. Actually, *-er* is used a lot ways in English. There is polysemy. There's a lot of different senses and types of nouns. I'm looking at the prototype here. The prototype is that *-er* profiles the trajector of a process. It would typically be some kind of agent or instrument.

Now the way these get together is that the schematic process that *-er* invokes as its base is identified with the specific process that is profiled by the verb. This is a correspondence line. This is a schematic process. The base is a schematic process that is elaborated by the specific process profiled by the verb. But conceptually, there is complete overlap. There is no content to *-er* other than this notion of a process, and this is that process. The processes are the same, viewed in specific terms and viewed in schematic terms. So when you collapse them, they collapse into a single process. They're the same process. So up here, what you see is just a single process, the one that comes from the verb. However, what *-er* does is put the profile on the actor. So that the *V-er* form has the content of the verb, but the profiling that comes from the ending, which is on the active participant. So that's how you get *hiker*, someone who hikes, or *complainer*, someone who complains. The diagonal lines here mark the elaboration site. The heavy line box indicates that this is the profile

determinant, so it imposes its profile on the content of the verb, and you get a noun because the profile is a thing and the noun is defined in relation to the verb. So there is complete conceptual overlap between the two components, not just partial, but complete conceptual overlap. The noun, however, still makes a contribution because it imposes its profile and therefore its grammatical category on the composite structure. So it contributes something. It contributes the profiling.

But there can be even more overlap. In some cases, there isn't even the contribution of special profiling. A case like that is the auxiliary verb *do* in English. In expressions like (22a), we use it in questions: *Did he finish?* We use it for emphasis: *He DOES like her.* We use it with negatives: *I do not see it.* And sometimes it occurs by itself in elliptical expressions like *They do.* This verb *do* is highly schematic. It can be perfective or imperfective. *They do* can mean, for example *they like it.* It could be imperfective. Or it could be perfective: *They did* means *they did something.* It could refer to some bounded perfective event. So it can be any process. Now, I'm not showing all of the expressions in (22), because they're complex, they involve negation and questions and things like that. But they do involve a structure in which you have both the verb *do* and the so-called main verb. They get together as part of larger configurations. So this is simplified because I'm only showing *do* and the verb, and not the other elements like the negative. The important point is that they totally overlap conceptually. *Do* is a schematic process, it profiles a schematic process. The verb profiles a particular process. And these are the same process. Whether you say *He likes her* or *He DOES like her*, it's the liking that is profiled in either case. So the verb elaborates the process that *do* specifies schematically. But they are both verbs, there is no change in profiling, the way there was with the *-er* example. So the composite expression, in terms of its content and profiling, is the same as the verb. *Do* doesn't add anything to the meaning of the verb. It sort of reinforces its meaning. That's why it's used for emphasis and it's actually tied up with modality. Whether the process actually occurred is an issue in these constructions. Those are not what I'm talking about here. All I am concerned with is the degree of conceptual overlap between these two and they are the same. So when you repeat the process as you do in this construction, that tends to give you emphasis. So that's one use of these constructions, for emphasis. *He DOES like her.* But there is no additional content and no different profiling. So you can have complete overlap between component structures in terms of content and even profiling. But there might still be reasons to use the complex form.

Now the next example will show you different kinds of conceptual overlap and some peculiar kinds of constructions which are rather different from

some we've seen before. These are all preparatory to talk about benefactive constructions and how they grammaticize. So I'm gradually going to introduce some funny looking things that once you get used to them, they will be easy to understand, the examples at the end. But these are interesting in their own right, too.

In (24), I have some examples from French. You'll find the same phenomenon in any of the Romance languages. For an English speaker, they are a little bit strange. Literally, if I take (24a), the sentence reads *She raises the hand*. In English, I would have to say *She raises her hand*. It's understood as meaning that she raises her own hand. Doing this, OK. But the object *hand* is only there with a definite article, there is no possessive. So literally *she raises the hand*. In English, I have to say *she raises her hand*. And the question is, how do we know whose hand it is if you don't say? I actually was thinking of checking how you would say this in Chinese. Do you have to put in something like that, with the possessive, or do you just say *hand* or what? I can't hear, so many people at once. Nothing. Just *hand*, right? Most languages are like that. English is the peculiar one. English is peculiar.

Well, let's see what's involved in that construction. This is interesting for me because right at the beginning of my career, I had an occasion to work on this construction in French. I was working in the model of transformational grammar at that time. And the way you would handle this construction in the transformational framework was obvious, given the assumptions of that framework. Here is what do you, let me talk about that first. This is the way the problem looked. And this was the right solution in that framework, the one the framework imposes as the right solution. The meaning of the sentence is *She raises her hand*, where *her* is the same as *she*. And it's important that you understand whose hand it is. But on the surface, you only have *hand*, *she raises the hand*. So how do you handle this? Well, you set up a deep structure, an underlying structure where all the information is there, *she raises her hand*, with some kind of possessive on the object. And then, because the possessor is the same as the subject, you can have a transformation which deletes the repeated pronoun, the co-referential pronoun, and you come out with the surface form *she raises the hand*. So I proposed something like that in print for French. It's certainly one of the cases where I've been mistaken in my life about the proper analysis of something and I published it, but it was not my fault, it was the fault of generative grammar. That's the way you would do it. But it's sort of crazy, most languages are like Chinese, they don't have a possessive there overtly. And why should they, you never really misunderstand things. It's English that is peculiar and sort of redundant, but how do you describe this construction in languages like French or Chinese?

So here is how you do this. First of all, this represents the verb *raise*, *lever* in French. There is the trajector, this is the force being exerted, this is the landmark, and because of the force that's exerted, the landmark goes up. And this represents a body part term like *hand*, so this is the profiled body part. This larger circle represents the person as a whole. But what's profiled is a part of the body. The construction also has a definite article in French. And in the normal object construction, the landmark corresponds to the profile of the object, so that's correspondence (a). Correspondence (a) just represents the normal object construction. And you could say that in French: *Elle lève la main* could just be *She raises the hand*. It could be any hand. It could be the hand of a statue or it could be someone else's hand, just any hand. It doesn't have to be hers. It could be the normal object construction with no identity of the possessor and the subject. However, overwhelmingly in French, this would be interpreted as she raises her own hand, that's this. Because in French, there is a special subconstruction, that is, in addition to the general schema for forming a clause with an object, there is a special case, a subschema, a constructional subschema which is more specific. It specifies that the object is a body part term and has the definite article with it. And crucially, it has an additional correspondence. It's a special case of the object construction where the trajector corresponds to the body of which the profiled body part is a part. All you have to do to describe this construction is adopt a special subpattern, a special case of the object construction where there is a second correspondence. That's much better, I think, than setting up underlying structures and transformations and derivations. Because all constructions involve correspondence and conceptual overlap, it's just a matter of how much they overlap. And this is a very simple and natural way to get the result.

So depending on whether you have only correspondence (a) or whether you also have correspondence (b), you wind up with either of these two composite structures. If you raise the hand of some object like a statue, the composite structure would look like this. This is the result of correspondence (a) alone. But if you raise your own hand, someone raises his own hand, then it looks like this. The trajector is the body of which the body part is a part. The energy is transmitted internally and the body part goes up. A different composite notion depending on how many correspondences you have that tells how closely integrated it is. This is obviously a more tightly integrated conceptual structure than that is. There is only one body involved, and the energy transmission is internal. Actually, these cases are a little bit more complicated, but you don't care about the further details, so I'm going to go on to (28).

This is another example from the American Indian language Luiseño, and it illustrates agreement. Now agreement is a big topic. I happen not to work

on that very much. There're many different kinds of agreement. This is not the most common kind, but it will illustrate something about agreement. What is agreement, like verb agreement or gender agreement, or in this case, a postposition agreement? Very often, it's just thought of as a mechanical syntactic device. There is a subject, say, it's singular or plural, and then you automatically mark the verb to be singular or plural to agree with the subject in languages which are crazy enough to do that kind of thing. So the agreement marking, for example, the marking on the verb to agree with the subject, is often considered to be meaningless, and to be just introduced syntactically and not to have any independent conceptual value, an example of pure syntax and grammatical elements that do not have meaning. Well, that's not really permitted in cognitive grammar. Any element should be meaningful, including agreement markings, and I think they are. But part of the reason that they seem not to be meaningful is that they overlap with one another, you mark the same notion more than once. So there is a kind of redundancy, but the fact that you mark something more than once doesn't mean that the element is meaningless. The second time you mark it, it has the same meaning as the first time you mark it. So there is a different way of looking at agreement whereby agreement elements are themselves meaningful. This is now to illustrate that.

I have two examples in (28) of cases where a postposition—that's like a preposition except it's a suffix on the noun—where a postposition modifies a noun or occurs with a noun. And there is also an adjective. The noun has an adjective with it, and what you notice is that the postpositional ending occurs on both the noun and on the adjective. So (28a) *ki-nga yawaywi-nga* literally, *house-in pretty-in*, for *in the pretty house*. And in (b), *palyun-ik konokni-yk*, *valley-to green-to*, for *to the green valley*. So the postposition occurs twice when the object is a noun with an adjective. It occurs on the noun and also on the adjective, and you could describe this as simply agreement. The postposition gets copied from the noun onto the adjective or something like that. So if you talk about agreement as that kind of phenomenon, that's what you would say.

Here is the way it would look in the cognitive grammar. In these phrases, there are four elements. There is a noun, then there is a postpositional ending which is analogous to a preposition in English, then there is an adjective, and then there is another copy of the same preposition. So there are four elements. Actually there is some question whether these are really adjectives or whether they are nouns which are based on the property. But let's assume they are adjectives for the sake of discussion. The postpositions have to be the same. I haven't shown that, I've shown that at a higher level, but not down here. How

do we put it together? Well, you just put it together. There're four elements down here, but they're going to be tightly integrated at the composite structure level. So here we have a noun; something like *house* simply has certain conceptual content which I label X. Here is the postposition. It might mean something like *in* or *to* or *with* or whatever, so a relationship between two things. Here is an adjective. There is the schematic trajector and it exhibits some property like being pretty or being green. And here is another instance of the same postposition. Alright, we start assembling these, to use the building block metaphor, we put them together level by level. The postposition combines with the noun, where the landmark of the postposition corresponds to the profile of the noun. This is just the regular object construction. The postposition is the head or profile determinant because this entire expression is relational like *in the pretty house*. So the composite structure profiles a relationship, the landmark is now identified as having the property X. It's a house, for example. How do you put a postposition on an adjective? Since a postposition requires a thing for its landmark, you can simply identify that landmark with the trajector of the adjective. That's a possible correspondence. You put these in correspondence. This is still the profile determinant, so the result of an adjective plus postposition is a profiled relationship where the landmark is still schematic, but has the property Y that's contributed by the adjective. So far we have something like *in house* and *in pretty thing*. Then we combine these two. And how do we do that? Well, we simply make everything correspond. These are two relational expressions, and their relationships are the same relationship, the *in* relationship. The trajectors are the same, the landmarks are the same, the relations are the same. It's simply that one of them specifies the landmark and the other specifies a property of the landmark. But they are the same relationship with the same participants, and when you superimpose all the corresponding elements, you come out with this on the top, something like *in the pretty house*. *House* is the landmark and the house also has the property of being pretty. So there is redundancy. You are specifying the same relationship twice, but at the composite structure level it all merges into one instance in the composite conception. So how many times you spell it out symbolically is different from how many times it figures in the composite conception. So I hope all of this is clear so far, because now it starts getting difficult, but I hope not too difficult.

This next example gets us into grammaticization. This is also an example from Luiseño. And the typical element here is this little marker *kunu*. You see it in (30a), it is a quotative marker. *Chaam=kunu=sh 'aachich-um*, *They say we are crazy*. So look at the data in (30) first, *Chaam=kunu=sh 'aachich-um*, *They*

say *we are crazy*. Literally in (30a), *we*, and then the pronoun *we* has a couple of clitics after it. There is the quotative clitic *kunu*, which is what we are interested in, and that's what translates as *they say, people say*. It's called quotative because it marks the clause as indicating what people say as if you're quoting someone else. And then there is the ending *sh* which is like an agreement marker telling you that the subject is *we*. Then there is the adjective *crazy*, and its marking for plural. So the clause is actually *we are crazy* and you add to it this little marker *kunu*, to indicate that this is reported, you are quoting someone else. They say or people say that we are crazy. (Now I have about four bottles of water here, three more down there, I can drink water for a week. Thank you, though.) Probably quotative markers come historically from verbs meaning *say* or at least that is one likely source of them. But at this stage of the language, it is fully grammaticized. This is not relating any more to the verb meaning *say*, it's just a quotative marker.

Now this marker is used in several ways, as illustrated in (30). It can just be used as a quotative marker. It adds the meaning *they say* to a clause. Then there is the use in (30b). *She is tired* and you have this quotative marker *kun* and the translation is *she says she is tired*. This makes it look like a complex sentence. *She says she is tired*. Not people say, she says. However grammatically it is still just one clause. I'll come back to that. And then finally in (c), we have a complex sentence where the *kun* occurs in the subordinate clause. Word for word now in (30c), *Wunal=up sungaal ya-qaa wunal=kun ngee-lowut*. You recognize the stem *ngee* for leave, that woman says that some other person is going to leave. And the *kun* goes in the subordinate clause, and it looks like a complementizer to mark the subordinate clause with a verb of saying in the main clause.

The following is not a serious case of historical analysis. What I'm trying to do is give you some idea of how a verb meaning *say* might evolve historically into a quotative marker. So this is sort of hypothetical, but it's, I think, realistic. You can see how it might develop in English. So start with (31a). *She said that this bridge is unstable*. It starts with a complex sentence, with the verb *say* in the main clause and then the subordinate clause *this bridge is unstable*. It's also possible to do this with a kind of indefinite subject. *They can be some indefinite range of people; it doesn't have to be a particular person or a group of people, they say that this bridge is unstable*. That is semantically something like a quotative construction, but it's still a complex sentence with the main verb *say*. However, we have a variation of that in English. We have the possibility of what's called a parenthetical insertion as in (31c), *this bridge, they*

say, is unstable. Or I can even do that by just destressing *they say*: *they say this bridge is unstable*, where all the emphasis is on the bridge being unstable and the *they say* part of it is backgrounded, is unstressed. It's no longer the main clause, necessarily. And there is no particular source of information, it's just people in general who say this. So it could be that this phrase *they say* is on the course towards becoming a quotative marker. And you can see a further historical evolution where it just becomes a grammatical marker with this generalized kind of meaning, and the sentences would wind up being single clause sentences. Presumably that is one common course of development for quotative markers. Presumably the Luiseño marker underwent something like that. And this involves closer conceptual integration, and that's what's of interest here. Let's look at that a little bit more carefully.

We start with a case like (31a), where there is a complex sentence, with a main verb like *they say, people say, she said*. The trajector produces some proposition and then there is a clause like *the bridge is unstable* and that clause expresses a proposition which corresponds to the landmark of the verb *say*. So when *say* is combined with the clause, the composite structure still profiles an act of saying, but [for *say* itself] the content of the clause is not specific because the content of what is said is not specific [the subordinate clause makes it specific]. So this is a complex sentence construction: main verb, subordinate clause which fills the role of landmark. That's the starting point.

Then we go to a case like (31c), or (31b) if I destress the *say*. *This bridge, they say, is unstable*. You have the same elements, you have *they say* and *the bridge is unstable*. You still have two clausal elements. But I think it's pretty clear that in (31c) the main clause is now *the bridge is unstable*. There is an inversion of the main and the subordinate clauses. So that's in the next diagram. You can see that they are very similar if you compare the two on your sheet. We still have the verb of saying, we still have a clause, that clause elaborates the landmark, so in the composite structure we have an act of saying with respect to that proposition. However, the difference is that now this clause is the grammatical head, the profile determinant, so the entire expression profiles the content of what is said. *The bridge, they say, is unstable*. But there is still an act of saying on the part of unspecified people, *they*. Now if this construction continues to evolve, so that the descendant of the phrase *they say* is only used as a quotative marker and no longer resembles the main verb of saying, then we'll have a grammatical marker that always occurs in this configuration. You never profile the act of saying, it's always used to qualify a proposition. Then presumably, *say* changes its profile internally so that it looks like the next diagram. The *say* part

itself is unprofiled. What's profiled is a schematic proposition that's elaborated by the specific proposition; you get the same kind of result, looking at just, so far, correspondence (a). So that kind of evolution may be involved in this kind of grammaticization.

Now that's interesting in its own right, but I'm most interested in this because there is the possibility of further conceptual overlap. So I want you to turn the page back to page 6 and look at example (30b). It's only one clause. *That one (or she) is tired* and there is the quotative marker on it, *kun*. However, the translation that is given, this is taken from some text, is that *she says she is tired* where the two *she*'s are the same person, *she says she is tired*. That's really just the quotative construction with an extra correspondence. That is the quotative construction where you simply have a grammaticized quotative involving correspondence (a). That's how I've analyzed *kunu*. There is the notion of a proposition being reported from some unspecified people, but what is profiled is that proposition in schematic form. That combines with the clause. Their combination is indicated with correspondence (a). But nothing prevents the possibility of identifying the source of the information with the trajector of the clause. That would be a special case. The general case just involves correspondence (a). The special case would involve this extra correspondence, with the result that the actor here is also the source of the information. It's similar to the French case *raise the hand* in a certain way. Tighter conceptual overlap gives you a specialized interpretation. And the way we translate it into English, it sounds like a complex sentence, but it's not. It's just a more tightly integrated structure where the subject plays two roles: the subject is both the person who is tired and the source of the information. I'm going through all of this stuff for a reason, to show how closely things can be integrated, then how additional correspondences can give you subtle differences in meaning, which suggest very different grammatical structures when they're not really that different.

Now look at (30c). *That woman says*. The main verb is *say*. (That reminds me of something that happens in San Diego. You'll never guess what it is. There is a big park in the middle of the city called Balboa Park, and in this park is a theatre. They give performances at night in the summer, plays, musicals. And the park is very close to our airport, which is downtown. And of course all the time there're planes landing, so you can imagine someone is giving a musical performance when there is singing and the orchestra are playing and then a big plane comes in right over the theatre. It's so loud you can't possibly hear. So what do they do? Well, this is amazing to watch. I've only really seen it once but it happened several times. They've got it well worked out. When the plane gets close enough, the conductor of the orchestra gives some kind of signal.

I'm not even sure what it is. And everybody freezes, they stop playing, they stop singing, everybody just freezes. They stop, they don't move, they're like statues until the plane has gone. And then they just start again. Very clever and very impressive to watch how they get it just right.) In any case, that woman says that some other person is going to leave, and the quotative marker is in the subordinate clause. Now what that sentence should mean, given what I've said so far, is the following. Because the *kun* is in the subordinate clause, on the leaving, the sentence should mean *that woman says that they say this other person is going to leave. That woman says that people say this other person is going to leave*. That's what the form suggests. But that's not the meaning. The meaning is simply *that woman says he's going to leave* not that *she says people say he is going to leave. She says he is going to leave*. So how does the meaning of the quotative marker disappear from the content of the subordinate clause? Maybe you know by now. You should be able to guess at least.

So we have the main clause, the subordinate clause plus the quotative marker, then we have to integrate these. Well, the clausal proposition corresponds to the proposition that's expressed by *say*. The key is how you integrate these two. Why doesn't it mean *that woman says that people say he is going to leave*? It doesn't mean that because it is integrated with all these correspondences. The landmark is identified only with this part, not with *they say*, but just with the profiled part. The quotation and the act of providing it are identified with the main verb of saying. So the person who says that is identified as the source of information. The act of saying is identified with providing information. They integrate in this particular way so that when you get to the composite structure level, it collapses with it, and thus disappears. You just have *she says he's going to leave*. And there is nothing problematic or mysterious about it. It's just a particular way constructions can work. So think how much you're learning now. I couldn't present this first thing this morning, you wouldn't have understood I think, but I think you understand it now. If you do, you are in good shape, 'cause we're getting near the end. There are only a couple more subtleties, and then we're ready for our conclusion here and our main example.

Another funny construction is called the cognate object construction and involves things like (36). Take the intransitive verb *die*. It is intransitive. *He dies, he died*. Normally that doesn't allow an object. You can't say *he died the tree* or you can't say *he died a death* even. But in some circumstances you can put an object on it and say something like *he died a brave death* where the *death* is the same as the *dying*. You do this in cases when you want to, say, use an adjective like *brave* to qualify the nature of *dying*. But how do you describe that construction if you have the intransitive verb *die*? How can it take an object? And

what does the cognate object construction look like? So *he died a brave death* is not like *he observed a brave death*. Grammatically they are the same in a certain way. They both involve a subject and a verb and an object, and the object is really a kind of object, but I want to compare the two. So let's start with the easy one. *Observe*. So *observe* is a perceptual relationship, some sort of mental relationship between the trajector and the landmark. And here is a nominalized verb *a death*, so I've shown *death* as being based on the notion of dying. So this is the person becoming dead. And if you conceptually reify this and make this event into an abstract thing, that's what's profiled by *a death*. It's an instance of dying. And in *he observed a death* or *he observed a brave death*, the landmark of the verb corresponds to that abstract thing, so it's a straightforward matter: *he observed a death*.

Now what you do in the case of *die*? Well, the verb *die* is intransitive. It just indicates a change of state into the state of being dead. Here is *a death* or *a brave death* again, ignoring the adjective, but it would usually be there. It's the reification of the process of dying giving you an abstract thing. And this is now not the regular English object construction because there is no landmark for this to elaborate. But you can establish correspondences and you can create a composite structure where there is a landmark. So how do you do this? Well, the person whose death it is is identified with the person who dies, this is the same event. The dying and the death are the same event. The dying that's profiled by the verb is identified with the dying which is reified to form the noun *death*. So the trajectors are the same and the processes of dying are the same. You simply encode this event twice, once as a verb, once as a noun. But it's the same event due to these correspondences. And you keep the processual nature of the verb and you add to it this noun so that the composite structure profiles a process, the process of dying, but added to it is a landmark, a secondary focal element which consists of the conceptual reification of the very event that's profiled. It's just a diagrammatic representation of what's obvious from the form of the sentence and the meaning of the sentence. The death is not distinct from the dying, but linguistically we put it in focus as something that's expressed separately as an object, that's the landmark. Trajector and landmark are simply primary focused element and secondary focused element, so we've added the secondary focused element which consists of the whole event conceived as an abstract thing. So this looks very different from the previous construction in some ways, but in some ways it is also parallel to the other one. You wind up with a trajector/landmark relationship and superficially it's a kind of object.

The last preliminary case is the main verb *do*. Previously I talked about the auxiliary verb *do* that occurs with questions and negation and so forth. And

that's very general in meaning. It can occur with any kind of verb. The main verb *do* which that historically is related to, of course, is rather different. It's more limited. The main verb *do* is different in two respects. Semantically it tends to imply an agent, you do something. The person who does something is an agent. Of course it is generalized; it's not always an agent in the strict sense. It can be, say, an inanimate object which causes something. You say, what does the dripping water *do*? Well, the dripping water eroded the dirt. But still there is some notion of causation, and the subject is responsible for some event in some way. Let's just call that agency even though it's very general. But it's still more than the auxiliary verb does, the auxiliary verb doesn't require any notion of agency. *Does he like her?*

Secondly, the main verb *do* takes a noun or noun phrase for something that looks like an object. As I illustrate in (38), you say *he did something, he did it, he did that, he did a study, he did a dance*. Grammatically it takes an object, whereas the auxiliary verb is very different as you saw. It combines, in a complex verbal expression, with another verb. So what is the meaning? How do you describe the meaning of the main verb *do*? And how does it combine with things? I'm really just concerned with this meaning here. In the prototypical use, doing something involves some kind of agency. So I'll just talk about that prototypical case, but how does the main verb *do* compare with something like *cause*, which is a standard verb for agency? It behaves differently, as I've shown in (39). I can say, for example (39a), *Bill quit, and Joe caused it*, where the *it* is Bill's quitting. So the quitting and causing are different events. Joe causes the quitting, but the causing is different from the quitting, although the quitting plays a role; it's the object of *cause*, but still the causing is distinct from the quitting. But with *do*, things are not quite the same. I say *Bill quit. He really did it*. Well in this case, the doing is not distinct from the quitting. And the subject has to be the same. With *Bill quit, Joe caused it*, the subject is different. Bill quit, Joe is the one who caused it. But I can't say *Bill quit, Joe really did it*. This is the same person, and the quitting is the doing or the doing is the quitting. It's not that there is causation, then the quitting—the quitting is the doing. There is a tighter conceptual integration, in other words. That shows up also in (40). I can say *Joe caused something, namely, he caused Bill's quitting*. But I cannot say (40b), *Bill did something, namely, he did his quitting*. Instead I have to say *Bill did something, namely, he quit*. You see the non-parallelism. Here it suggests that doing and the quitting are the same or somewhat the same.

So to capture this difference, let's compare them explicitly and start with *cause*. In the case of *cause*, we have two events, one of which is a participant of the other. So here is the agent, exerting some kind of force. There is causation, and what's caused might be reified as a thing, as I've shown it here, it's reified

as a thing. He caused Bill's quitting, for example. That thing itself consists of an event, which may be a causative event where the actor brings about some result. This box stands for whatever it is that is caused. So it might be that Joe causes and then Bill does something, so Bill is an agent, he brings about some result. And all of that event is reified as the landmark of *cause*. So a particular case might be *Joe caused Bill's quitting* or *Joe caused Bill's breaking of the lamp* or something of the sort. The main verb *do* can start with the same content. There is an agent who does something. We have a reified event as the landmark and that in turn involves some actor bringing about some result. The difference however is that the causation is not distinct from the caused event. I just tried to show you a case of that. Rather, the agent here is the same as the actor in that event and the causation that *do* expresses and profiles is identified with the causal part of that event. *Bill did something, namely, he quit*. This would be the quitting. Bill quit, acts to bring some result. And Bill's doing is the same as Bill's quitting. The doing is the causal part of the quitting, and the object of *do* grammatically is the entire event that is carried out.

You can see why I went through the examples I did. It's a natural thing to understand once you have it explained. There is nothing peculiar about this, just the configuration things can take, a tighter degree of conceptual integration within the predicate. Diagram (b) is the same as diagram (c). In diagram (c), it's just the same except that I've collapsed the identical elements. These are notational variants. So in (c), I've simply shown the two elements in the same place. I've shown the two cases of causation in the same place. So they are equivalent diagrams. This is more compact. The actor does something to bring about a result. And the object of *do* is the entire event which consists of the actor doing something or acting to bring about the result. So Bill did something and that something includes his doing. Now if that is still reasonably clear, you are in good shape for what remains, and we're getting near the end.

All the rest deals with the verb *give*, and its evolution into a benefactive marker. In (44), you see some examples from what I hope is Chinese. Obviously the glosses there and translation here are for my sake, not for your sake. If these are good examples, you should know what they mean. I won't try to pronounce them. I won't insult you like that. You can tell me if you think they're wrong, but I hope they're right. Let me start with that data just to show you what's at stake. First of all, you have the verb *give*, *gěi*, and that can function as a main verb: *I give him one present*. So there we have the verb, V stands for verb, *gěi* is used as the main verb in the clause. But also *gěi* can be used to introduce a recipient, someone who receives something, as in (b): *I present one present give him*. In English, we translate that as *to him*. And with a different order, we have what is called the benefactive construction which in English we translate

as *for me*. R for recipient, B for benefactive. So that's (c), *he give me build one house* and I've translated that as *he built a house for me*, for my benefit. He did this for my benefit. So *give* as the verb, as the main verb, *give* to introduce the recipient and *give* to introduce the beneficiary, someone who benefits from an act. No one is complaining too much. Maybe they're good examples, or at least recognizable.

There are other uses of *gěi* also. These are only some. The question is going to be, how does this happen, how do you start with a verb which means *give* and have it develop into these other uses? And what's going on semantically and grammatically when it does develop these more grammaticized uses? So let me start with the verb *give*. This would be true for English *give*, and I assume it's pretty much true for the Mandarin *give*. Here is a representation of it. Slightly different from what I gave yesterday, but it's equivalent for all present purposes. We have these abbreviations: Agent, Recipient, Theme. That's the thing that moves, that's the thing that changes position. D is the dominion: that's the range of control. I'll talk about this tomorrow. So the agent does something, causes something; this box represents what the agent causes. This is the recipient, and in English *give* the recipient is the landmark. And also *gěi* in Chinese, the recipient is the landmark. Then what is caused is that something moves. That's the theme that moves into the range of control or interaction of the recipient. So the recipient interacts with it and comes to control the theme, which moves into its range of control because of what the agent does.

Yesterday I showed the theme starting out under the control of the agent and moving into its dominion. And that's true of many uses of *give* and probably the prototypical ones. If I say (43a) *give me that hammer*, there is a transfer of control. You have the hammer first, you give it to me, then I have it. But there are many uses of *give* where it's not the case that the agent first has it. All the agent does is cause the recipient to have it. So the other cases in (43) are like that. *Ali gave his opponent a black eye*. I'm referring to a boxing match. The black eye doesn't start on one boxer and get transferred to the other. It's just materialized on the other boxer. Or *The students give me a lot of trouble*. They don't start out with the trouble. I'm merely the one to get trouble. Or *I gave the door a new coat of paint*. You don't transfer a coat of paint from the subject to the door. You just create it on the door. So this is a more general version of *give*. It covers more cases and of course those cases can be more concrete or more abstract.

In (45) and (46), I give some data from other languages to show you that what's happening in Chinese is not unique. It's a common thing in languages for the verb meaning *give* to be extended, or to change and take on use as

marking a recipient and or a beneficiary. A lot of this is from work by a former student of mine, John Newman. I think I have a reference to him in the reading list there. The examples in (45) are from Thai. In (45a), we have *hâi*, the verb *give* as the main verb. *I give book to child*. But that same marker *hâi* can also be used as a grammatical marker, not as a main verb, for either a recipient or a beneficiary interpretation. So (45b), *I sent book give child* literally, could be translated as either *I sent the book to the child*, where the child is a recipient who receives the book, or *I sent the book for the child*, where the child is the beneficiary, benefits from the sending of the book. Same word order in this case, as opposed to the Chinese case where there is a different word order.

(46), the language is Sranan. That's an English based Creole. I think it's from South America, Sranan. So it's a Creole language based on English. And *gi* is the *give*. And here *give* is used as a beneficiary marker, but historically it comes from *give*. *Kofi go to Paramaribo*, that's a town, *give me*. And that's translated as *Kofi went to Paramaribo for me*, for my benefit. Or in (b), *I work give him*. That's *I work for him*. And of course the notion of beneficiary can be extended in various ways, so instead of benefitting someone, it can also be to someone's detriment: *Kofi hide one something give God*, translated as *Kofi hides something from God*, but God is still the affected person, if God is a person.

So that's the phenomenon we're going to talk about. And the question is, how do you get from a main verb *give* to a marker of recipient or a marker of beneficiary, more grammaticized uses? What happens to the meaning of *give* when this happens, and what happens to the grammatical constructions? We'll start with the recipient. So this would correspond to cases like (44b), *I present one present give him*, where *give him* is translated in English as *to him*. This would be a representation of the essential elements in that kind of construction. So first we have a verb like *present*, and then we have *give* as a recipient marker. So *present* is like the verb *give* that I talked about before. I don't know about the details in Chinese, but presumably the agent does something so that the recipient receives something. The important point is that the mover, the theme, is the landmark, the thing that is encoded as the object. So *I give a present*, *I present a present*. And if you use a verb which encodes the theme as the landmark and you want to express the recipient, you need something that introduces the recipient. And so the way you do it is to take this phrase *give him* or *give me*, where effectively the giving marks the recipient. But what is its meaning in this use? Well, the meaning that I show here for the marker *gěi* in this recipient-marking use looks the same as what I showed before for the main verb use. There is no difference. It's the same diagram I gave before for *give* as a verb. I don't think it's exactly the same. Probably, I think when you use it as a verb, you're profiling the change,

the process of change, and viewing it, tracking it through time. That's what I call sequential scanning. I think when you use it in this other way, you're probably viewing it in a more holistic fashion. You're no longer tracing it through time in the same salient way. But the overall content is the same. And the crucial thing is that the recipient is the landmark of this verb. So once you take this element and specify the landmark in the object construction, you have an explicit recipient. And then when you combine that with the verb, you have a way of getting the recipient into the sentence, as the object of *give*.

This is the profiled relationship, but then the secondary relationship introduces the recipient. But in terms of their content, there is a total overlap. The presenting that's profiled by the main verb is the same event as the giving. And all the participants presumably correspond. It's just that this is not the profiled relationship. The point is that in using a verb as a preposition-like non-verb, for a particular grammatical purpose, that doesn't necessarily involve any change in content or any change in profiling. It may all be the same. I think there is a difference in sequentiality, but that's not something that I'll talk about here, it's basically the same. It's no longer a verb, but it's a holistically viewed relationship with the same content. So it has all the same content, but it overlaps totally or largely with that of the verb, so that effectively it becomes a grammatical marker. You can tell me later if you think this is drastically wrong, but this is the way I can make sense of this type of development. So there is a general point here, that the changing of a verb to grammaticized use as a non-verb element might not affect its content very much. It might have all the same content. That content just relates in a different way to the rest of the content. But this could be one step towards developing a more schematized meaning because of this overlap.

But what about the beneficiary case now? If you give something to someone, the recipient receives a thing. Give a present to someone, the recipient is a thing, receives a thing. But with the beneficiary sense, what the recipient receives is not a thing. It's the benefit of some action. You do something for someone; you're receiving the benefit of an action; you're not receiving a thing, that's the basic difference between the recipient construction and the beneficiary construction. So the point is to show that the beneficiary sense of *give* might be still quite analogous to the basic sense of *give* except that the thing which enters into the recipient's sphere of control or sphere of interaction is no longer a thing. This is the theme which moves into the range of interaction. It's no longer a thing but it's an event. The recipient benefits from an action. So the theme which comes into the recipient's dominion or zone of interaction is an event. But what event is it? And how does it relate to the agent? Well, the person who does the giving still has the sense of *give* here. This is the agent who

causes something, causes something to come into the recipient's dominion. But how does this event relate to the agent? As you can see by the correspondence lines, they're the same. In other words, one way in which the beneficiary sense of *give* differs from the main verb sense is not that the overall content is different, but that there is a tighter conceptual integration. The act of giving is the same as the act which the recipient benefits from. If you build the house for someone, your building of the house is the act which benefits the recipient. And you give that event by doing that event. You give the event by carrying out that event. That's what this means. So the agent is the same as the person who does this, the causation is the same as the causal part of doing it. This should remind you of the English verb *do* a little bit. So this is a special development from the verb *give* which involves, first of all, making this an action instead of a thing, and secondly identifying that action with the act of *giving* itself. So when we collapse these, this is the same. It's just in a collapsed representation. I've now just shown the agent carrying out this action and that action is the giving. So this is just a notational variant of this where I've superimposed the corresponding things and just shown them once. So this is still the profiled act of giving, but what's given consists in doing something.

Now, this is still just the marker *give*, the *gěi*. How does this combine with the verb of the clause? As in example (c), *he give me build one house*. So this is the *give* or the *give me* part, and now we have to combine this with the part which means *build the house*. So this structure will now show up as one of the two component structures in the last diagram. This is the *give me* thing, and this is the rest of the clause, *build a house*. Someone's doing something. And this action, in this case the action of building a house, bringing about some result, is the action that's going to benefit the recipient. So this is now the verb, the main verb of the clause. That's the profile determinant. This is the building of the house. But that action is identified with the one which is given, so everything collapses. This act collapses with this one, which itself is collapsed from the theme and the agency. So at the composite structure level, what's profiled is the building of the house, but that is further construed as an act of giving, and what's given is the act of building the house, and it benefits the recipient.

So that's my reconstruction of how this works in broad outline. Some points emerge from this: the importance of conceptual overlap, and how things collapse into more compact forms and composite conceptual structures because of this conceptual overlap. This is characteristic of grammar, and grammaticized elements in particular tend to involve tighter integration than they do

in their more lexical uses in their origin. So the historical evolution of lexical items into grammaticized markers, and constructions into more grammaticized constructions, tends to involve tighter and tighter overlap of this sort, and that eventually contributes to the schematization and abstraction of meaning of grammaticized elements.

So I hope you've been able to follow all of this or most of this. I guess I'm done for the day and I have this time saved a substantial amount of time for questions and discussion if you have it. And I hope you don't tell me the Chinese is all wrong. I hope you tell me it's OK. But it would be relevant to know if you find the analysis seems plausible for your language. Thank you.

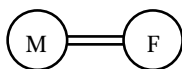
Constructional Integration and Grammaticization

1 Basics

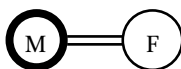
- (1) Lexicon and grammar form a continuum consisting solely of *assemblies of symbolic structures*. A **symbolic structure** pairs a **semantic structure** with a **phonological structure** (its two **poles**).
- (2) A semantic structure consists of both conceptual **content** and the **construal** imposed on that content (e.g. *prominence, perspective, level of specificity*).
- (3) One facet of prominence is the imposition of a **profile** on a conceptual **base** (the extent of the content evoked). An expression's profile is the entity it is construed as *designating* (its conceptual *referent*). Expressions with the same base can differ in meaning by virtue of their different profiles.

(4)

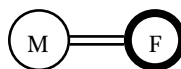
(a) Base



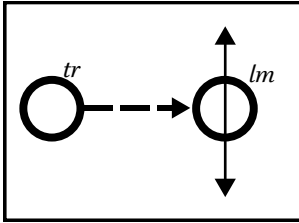
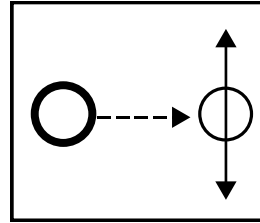
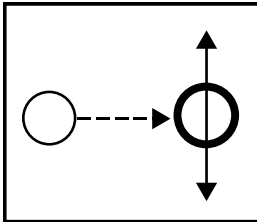
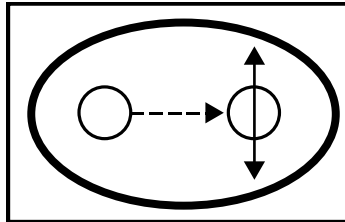
(b) *husband*



(c) *wife*

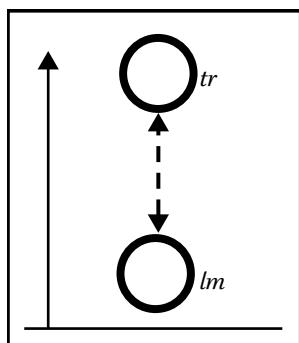
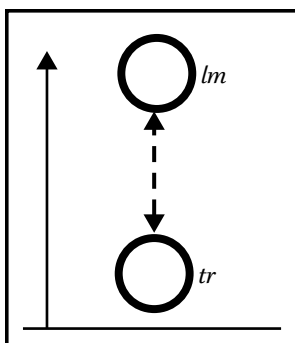


(5)

(a) *choose* (V)(b) *chooser* (N)(c) *choice*₁ (N)(d) *choice*₂ (N)

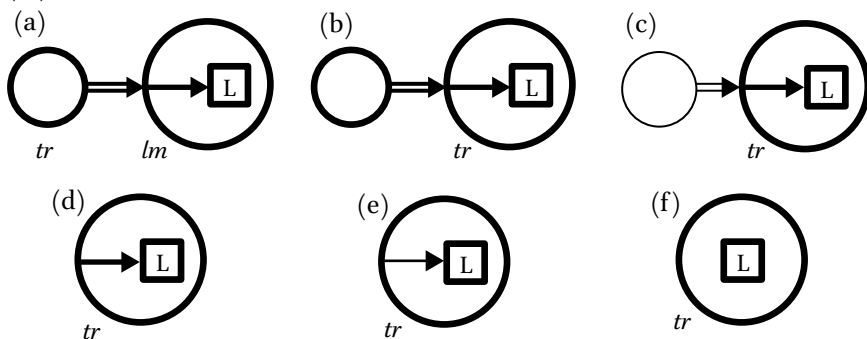
- (6) An expression's grammatical class is determined by its profile. A *noun* profiles a **thing** (abstractly defined). A *verb* profiles a **process**, defined as a relationship scanned sequentially in its evolution through time. Such classes as *adjectives*, *adverbs*, and *prepositions* profile relationships that are **non-processual** ("atemporal" in the sense that evolution through time is not in focus).
- (7) When a relationship is profiled, its participants are made prominent to varying degrees. The most prominent participant, called the **trajector** (*tr*), is construed as the entity being located, evaluated, or described. It is the *primary focus* ("figure") within the profiled relationship. Often another participant is made prominent as a *secondary focus*. This is called a **landmark** (*lm*). Expressions with the same content and profile can differ in meaning because they make different choices of trajector and landmark.

(8)

(a) *above*(b) *below*

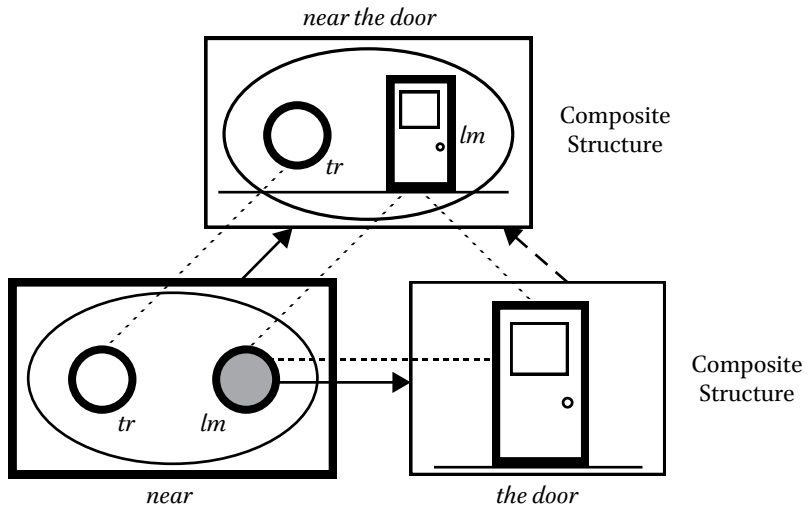
- (9) (a) *The fire will **melt** it.* (b) *It will **be melted** by the fire.*
 (c) *It should **melt** easily.* (d) *It may **melt** in the heat.*
 (e) *It is finally **melted**.* (f) *It is now **liquid**.*

(10)



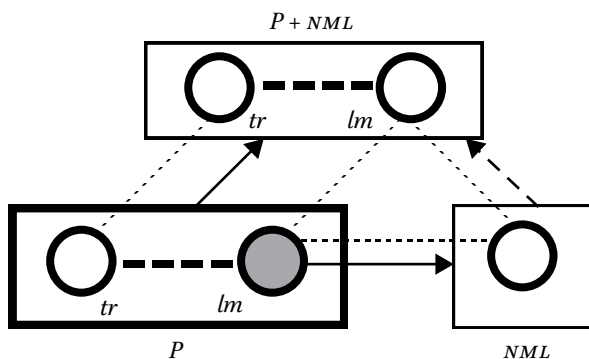
- (11) A **construction** is any symbolically complex expression (fixed or novel, regular or irregular), or any schematic pattern for assembling complex expressions.
- (12) Canonically, a minimal construction consists of two **component structures** which are **integrated** to form a **composite structure**. These structures are linked by **correspondences** (dotted lines) and relationships of **categorization** (arrows).

(13)



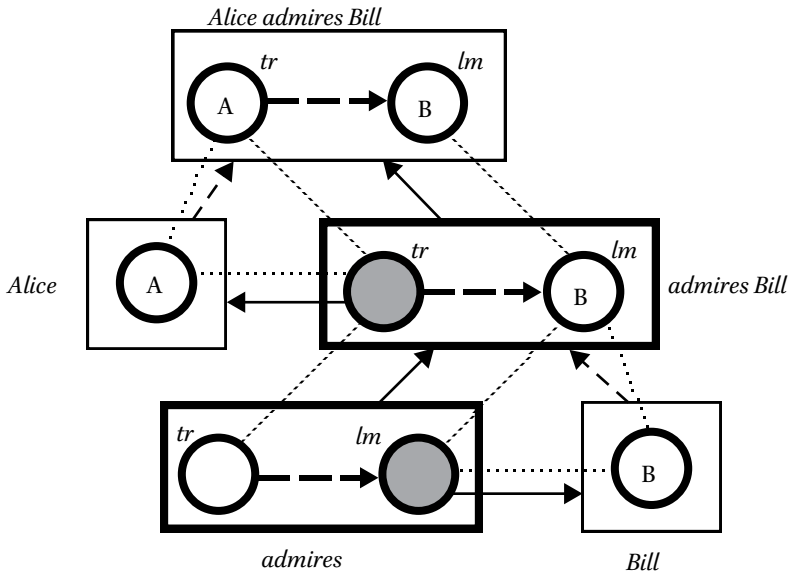
- (14) (a) It is usual for the composite structure to inherit its profile from one of the components, which is thus the **head** or **profile determinant** (heavy-line box).
 (b) Usually one component structure has a schematic **elaboration site** (hatched) that corresponds to the profile of the other component, which specifies it in finer detail.
- (15) Patterns of composition are described by **constructional schemas**, i.e. schematic symbolic assemblies representing whatever commonality is observable across a set of symbolically complex expressions. Constructional schemas serve as templates for the construction and evaluation of novel expressions.

(16)



- (17) A symbolic assembly exhibits a kind of **constituency** when the composite structure at one level of organization (in one construction) functions in turn as component structure at a higher level of organization (in a higher-order construction).

(18)

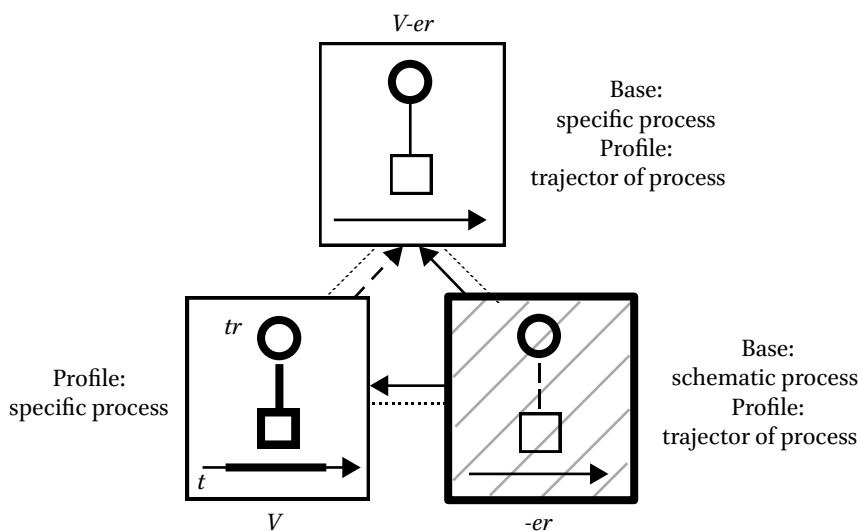


- (19) (a) **Grammatical dependencies** are represented by correspondences.
 (b) A *subject* is a nominal whose profile corresponds to a relational **trajector**.
 (c) An *object* is a nominal whose profile corresponds to a relational **landmark**.

2 *Degrees of Conceptual Overlap*

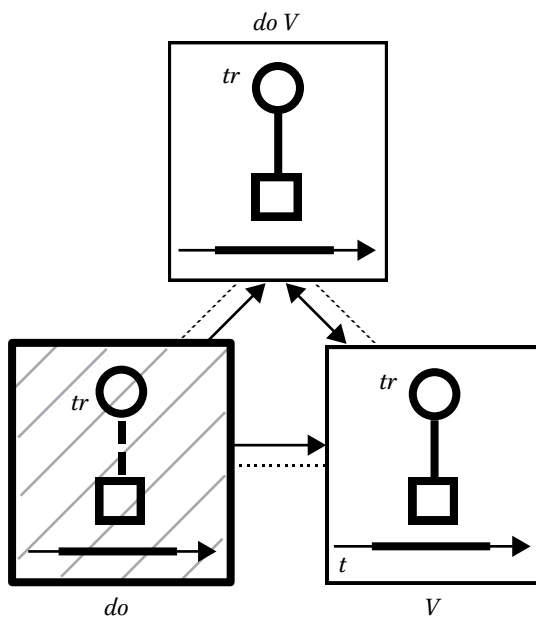
- (20) Correspondences represent **conceptual overlap** between component structures. Higher degrees of conceptual overlap are reflected in multiple correspondences or a more inclusive elaboration site. Tighter conceptual integration is characteristic of grammatical elements and a significant factor in grammaticization.

(21) *hiker, complainer, cheater, flinger, blender, printer, teacher, driver ...*

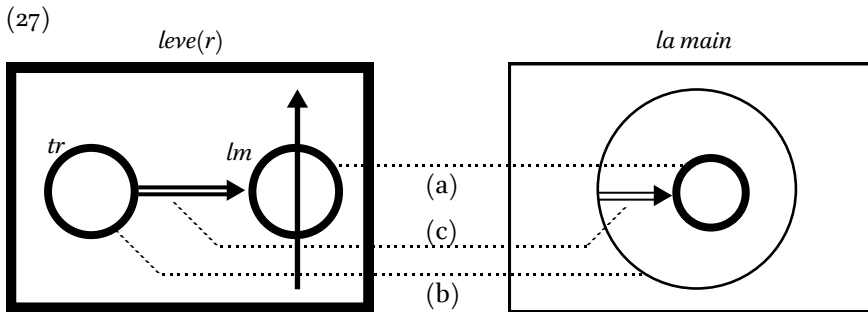
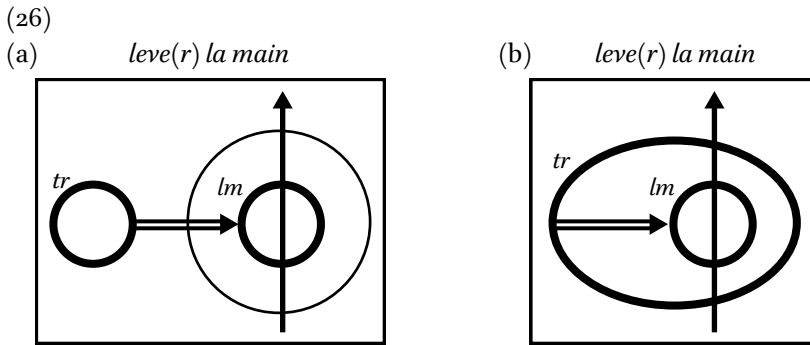
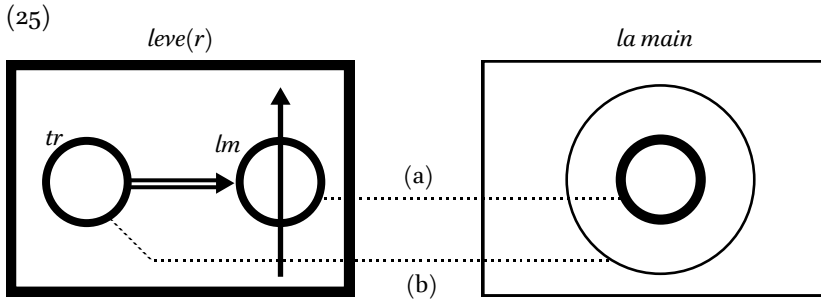


(22) (a) *Did he finish?* (b) *He DOES like her.* (c) *I do not see it.* (d) *They do.*

(23)

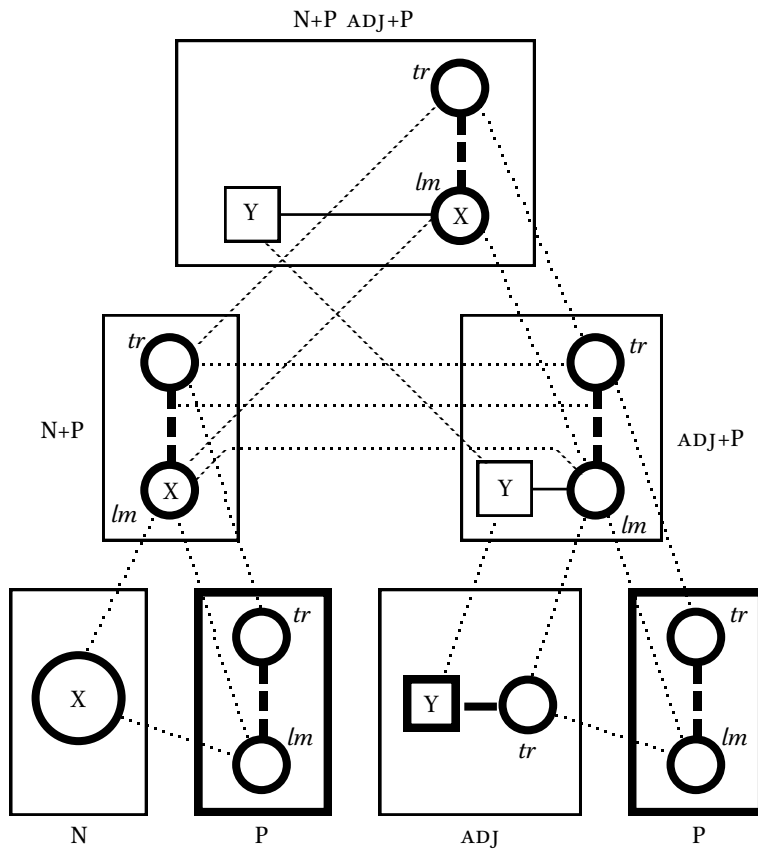


- (24) (a) *Elle lève la main.* 'She raises the [= her] hand.'
 (b) *J'ouvre les yeux.* 'I open the [= my] eyes.'



- (28) (a) *ki-nga yawaywi-nga* (house-in pretty-in) [Luisño]
 'in the pretty house'
 (b) *palvun-ik konokni-yk* (valley-to green-to)
 'to the green valley'

(29)



(30) (a) *Chaam=kunu=sh 'aachich-um.* 'They say we are crazy.' [Luiseño]
 we=QUOT=1p crazy-PL

(b) *Wunal=kun moya-q.* 'She says she is tired.'
 that:one=QUOT be:tired-TNS

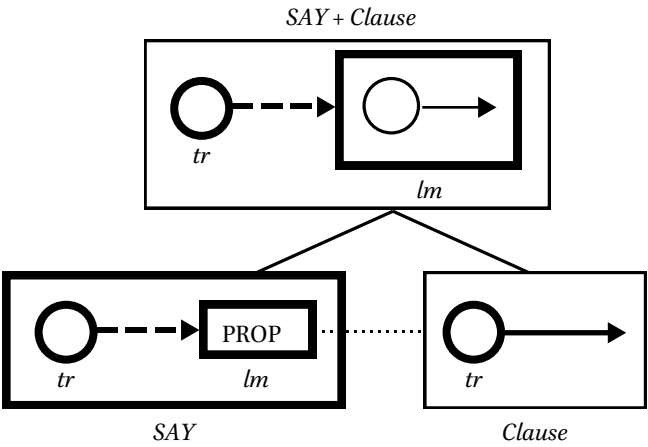
(c) *Wunal=up şungaal ya-qaa wunal=kun ngee-lowut.*
 that:one=3s woman say-TNS that:one=QUOT leave-gonna
 'That woman says he's gonna leave.'

(31) (a) *She said that this bridge is unstable.*

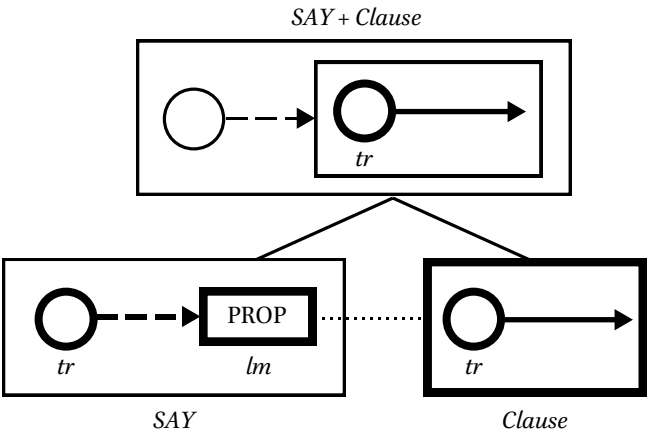
(b) *They say that this bridge is unstable.*

(c) *This bridge, they say, is unstable.*

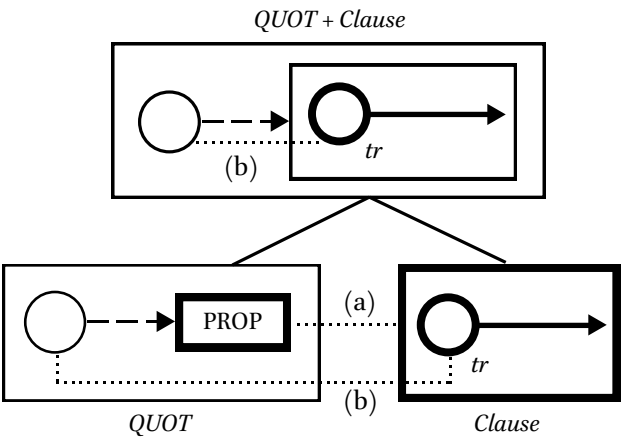
(32)



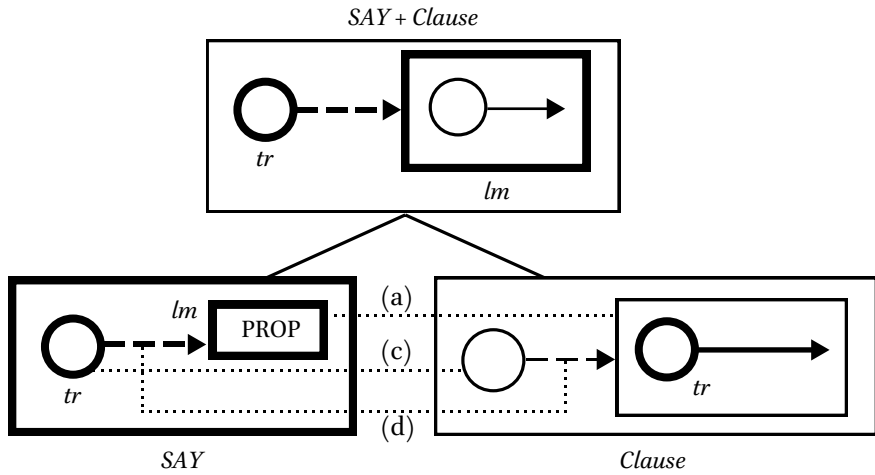
(33)



(34)

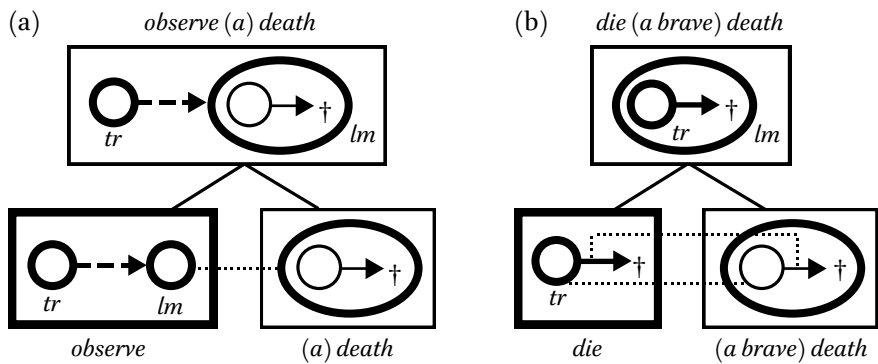


(35)



- (36) (a) *He died.*
 (b) **He died a death.*
 (c) *He died a brave death.*
 (d) *He observed a brave death.*

(37)



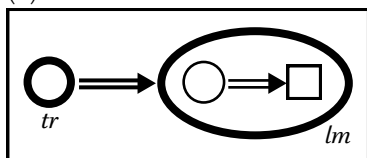
(38) *He did {a study/a dance/something/it}.*

- (39) (a) *Bill quit. Joe caused it.*
 (b) *Bill quit. He really did it.*

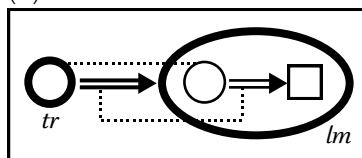
- (40) (a) *Joe caused something, namely (he caused) Bill's quitting.*
 (b) **Bill did something, namely (he did) his quitting.*
 (c) *Bill did something, namely he quit.*

(41)

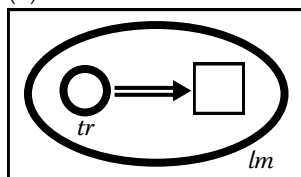
(a) *cause*



(b) *do*

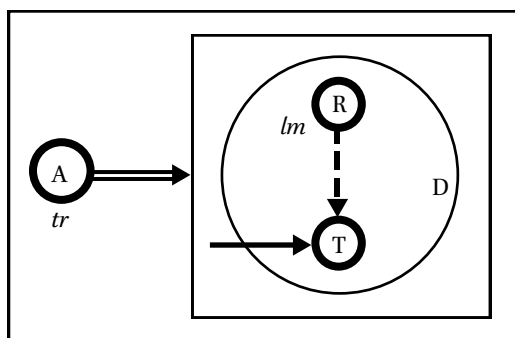


(c) *do*



(42)

GIVE



A = agent

R = recipient

T = theme

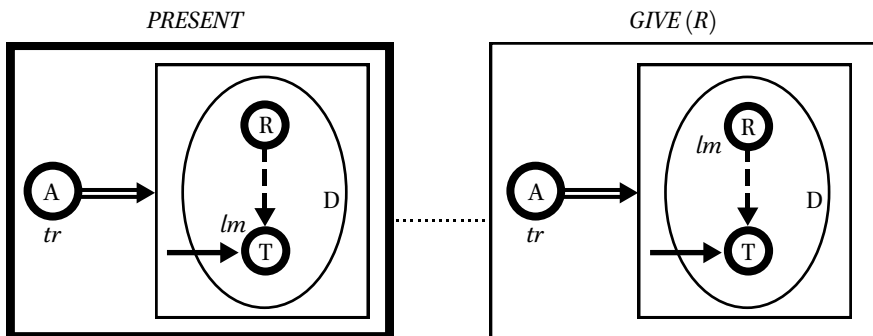
D = dominion

3 *GIVE* Constructions

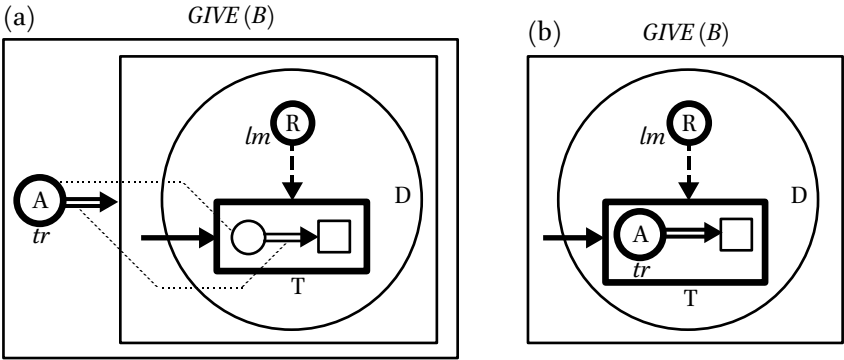
- (43) (a) *Give me that hammer.*
 (b) *Ali gave his opponent a black eye.*
 (c) *The students give me a lot of trouble.*
 (d) *I gave the door a new coat of paint.*

- (44) (a) *Wǒ gěi tā yì fēn lìwù.* [Mandarin]
 I give him one CL present
 'I gave him a present.' (V)
 (b) *Wǒ sòng-le yì fēn lìwù gěi tā.*
 I present-ASP one CL present give him
 'I gave a present to him.' (R)
 (c) *Tā gěi wǒ zào-le yì dōng fángzi.*
 he give me build-ASP one CL house
 'He built a house for me.' (B)
- (45) (a) *Chán hâi nănsĕ: kè: dèk.* [Thai]
 I gave book to child
 'I gave a book to a child.' (V)
 (b) *Chán sòng nănsĕ: hâi dèk.*
 I sent book give child
 'I sent a book {to a child/for the child}.' (R/B)
- (46) (a) *Kofi og na Paramaribo gi mi.* [Sranan]
 Kofi go to Paramaribo give me
 'K. went to P. for me.' (B)
 (b) *Mi wroko gi en.*
 I work give him
 'I worked for him.' (B)
 (c) *Kofi kibri wan sani gi Gado.*
 Kofi hide one something give God
 'Kofi is hiding something from God.' (B)

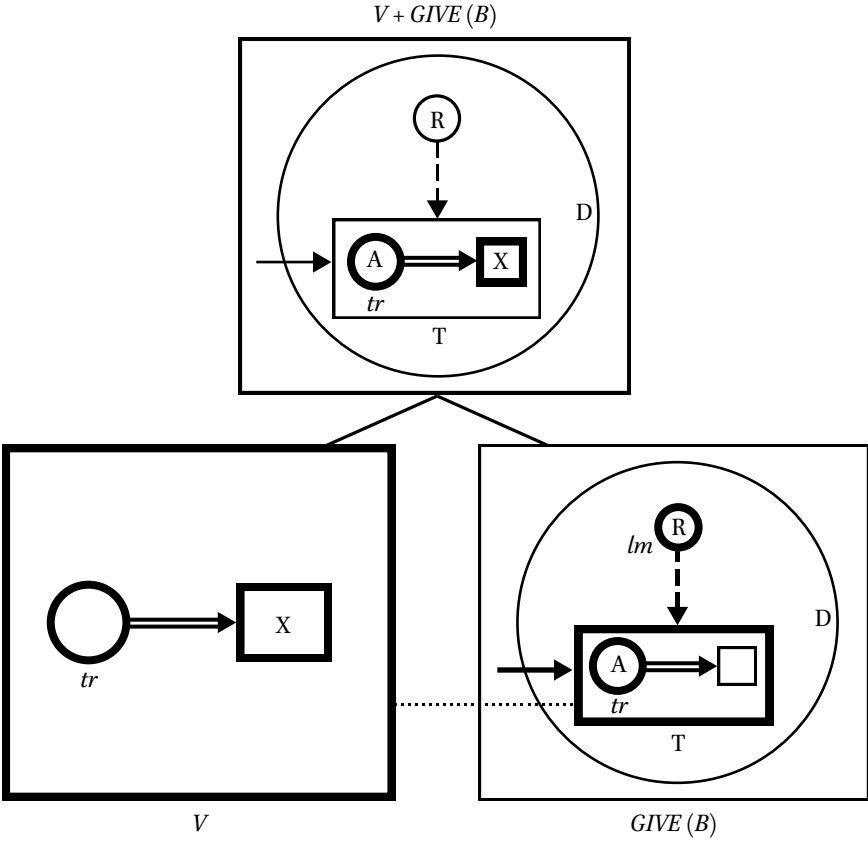
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All original audio-recordings and other supplementary material, such as any hand-outs and powerpoint presentations for the lecture series, have been made available online and are referenced via unique DOI numbers on the website www.figshare.com. They may be accessed via this QR code and the following dynamic link: <https://doi.org/10.6084/m9.figshare.4775491>.

Topic, Subject, and Possessor

I'm glad that some of you are brave enough to come. As you see, the topic or the subject for this morning is topic, subject, and possessor. These are three basic grammatical notions that are very closely related to one another. If you just look at linguistic phenomena, and I will give you some examples, the notions topic and subject and possessor are always tied up with one other. They are involved in the same phenomena, in all combinations, in so many ways that there has to be some deep similarity among them. And it's the nature of that similarity that I'm trying to explain. So this first section just discusses some of that data, the affinity or relationship apparent among the notions topic, subject, and possessor. By topic we'll understand primarily the kinds of constructions in 3 from English: *Your nephew, he will never amount to anything* or *Bill, his friend just died*, where the first nominal, which is set off from the rest of the sentence, is the topic with respect to the rest of the sentence. Obviously I don't have to tell this audience what topic is, but one thing I will be trying to do is discuss different levels and kinds of topic, and do that this afternoon also. It's not a simple notion because there are many ways in which it's instantiated in language.

I think there are probably better experts here than I am. But two well-known linguists who know Mandarin much better than I do and topic languages much better than I do are Charles Li and Sandra Thompson, who in 1976 wrote an influential article on topic and subject. I have a quote from them in No. 1. And they say essentially that subjects are grammaticized, grammaticalized topics. In the process of being integrated into the case frame of the verb, at which point we call them subjects, topics become somewhat impure—certain of their topic properties are weakened but their topicness is still recognizable. That's why many topic properties are shared by subjects in languages. For example, in some subject prominent languages, subjects can not be indefinite. They claim here that that's a property of topics and is inherited when topics evolve historically into subjects. They point out many similarities between topics and subjects and the fact that they sometimes are hard to distinguish in a language, whether you are dealing with a topic or subject. And of course in subject languages like English, people sometimes try to characterize subjects as topics in some way as part of the characterization of subject. That's a difficult thing because many subjects do not function as discourse topics in any way, but there is still something right about this characterization.

For some years I have been trying to get all of this sorted out and get it straight in my mind what the relationships are, and I will try to make an attempt this morning. The term pivot defined in No. 2 is just the element in a proposition that's identified with the topic for that proposition. So in 3, *your nephew* is the topic nominal or topic noun phrase, and then in the following clause, which is called the target clause, the pronoun *he* is the pivot. It's the element within the target clause which is co-referential to the topic. One way in which topic, subject, and possessor are closely related is that the pivot, when it shows up overtly, is often the subject of the clause. So the pivot for a topic tends to be a subject. As in 3(a) *your nephew, he will never amount to anything*. Of course it can also be an object, as in 3b *your nephew, I really admire him*, where *him* is the pivot. Actually I will talk about a subject as a kind of topic. I will try to say later what kind of topic it is, and an object is a secondary kind of topic.

So whatever I say about subjects carries over to some degree to objects in a secondary way, but I'll mostly talk about subjects. Also, the pivot can be a possessor very naturally. *Bill, his friend just died* or *Bill, I really liked his friend*. These are not the only possibilities but they are very frequent possibilities. Further evidence of the relationship among topic, subject, and possessor. For subject and possessor, we have the phenomenon that is sometimes called possessive periphrasis. In 4, *Booth's assassination of Lincoln*. *Assassination* is a nominalized verb from the verb *assassinate*, to kill for political purposes. And the agent of that verb or the subject of that verb is *Booth*. He is the person who assassinated our president Lincoln a hundred and fifty years ago. So we can talk about *Booth's assassination*. To specify the subject of that nominalized verb, we can use a possessive *Booth's*. But not only that, we can specify the object or the landmark of the nominalized verb with a possessive: *Lincoln's assassination by Booth*. These again show the some close relation between the notion of subject, and secondarily object, with the notion of possessive. The data from French I went through yesterday is another simple example: *Il lève la main*. *He raises the hand*. Understood as *He raises his hand*. Well, in that type of sentence, as we saw yesterday, the subject is understood as the possessor of the object, without any additional marking.

So there's an affinity, some close relation between subject and possessive. There's a wide variety of phenomena which point to these notions being very closely associated. In 6 I have some data from Knud Lambrecht, from spoken French, and it shows a relation between topic and possessor. First of all, in 6(a), it's possible in spoken French to have two topics, one after the other. As in *Nicole, Pierre, elle ne l'aime pas*. *Nicole, Peter, she doesn't like him*. So Nicole is one topic, Peter is the other. And so in 6(a) there are two topics, *Nicole* and *Pierre*. Then there is sentence 6(b), which looks very similar. It looks like there

are two topics. (More microphones than I'm used to wearing at one time.) And 6(b) looks exactly the same: *Pierre, sa soeur, je la déteste. Peter, his sister, I hate her.* It looks like there are two topics. However, if you look at that sentence carefully, it's not the same as 6(a), because the only topic with respect to the clause *I hate her* is the sister. The only reason *Pierre* is there, the first nominal is there, is to identify the sister. The clause is not about Pierre. It's about the sister. In other words, the relation between *Pierre* and *sa soeur* is a possessive relationship. And that's used to introduce the actual topic of the following clause, but in form it looks just like a double topic construction, showing a very close relationship among the notions of topic and possessor here. Or moving to some cases where topic, subject, and possessor are all involved in the same phenomenon, in number 7 are some sentences from Indonesian. I think these were taken from Li and Thompson's article. It involves what can be the pivot in a topic construction. Sentence 7 doesn't have a topic. It is simply a simple clause. *That child's mother bought shoes. Mother child, that's the subject, buy shoes.* The other three sentences have topics. And the pivot can be the subject, as in 8 *That child's mother, she buy shoe.* So there the pivot is the subject. The pivot can also be the possessor of the subject, as in 9 *That child, his mother buy shoe.* So the pivot which represents the topic inside the clause, the pivot is the subject of the clause or the possessor, and those are the only possibilities. It can not be the object. You can not say 10 *Those shoes, that child's mother bought them.* So topic, subject and possessor all go together there.

In Korean, there are various phenomena which relate only to subjects, as in 11. And one of those phenomena is that the reflexive pronoun refers back to the subject. As in 11, *Chelswu Swuni self's office in meets. Casin* is the reflexive pronoun there and refers back to the subject *Chelswu*. So it means *Chelswu met Swuni in self's office*, where the self has to be Chelswu, the subject. So the reflexive pronoun refers back to the subject. However, there's an exception to this. The antecedent of the reflexive pronoun can also be a possessor if it's in a topic, and that's in 12. So, *Inho* is the possessor there and it's co-referential to *self, casin*. In *Inho's life in Seoul, money was the greatest difficulty in self's situation* where *self's* is *Inho*, and it's not the subject. The subject is money. And *Inho* is in the topic, it's the possessor within the topic. So those same three notions come together: possessor, subject, and topic.

Finally, one last example. I've left out various examples and I never have even tried to find examples systematically, because I think there're so many. The last example is what is sometimes called the double subject construction, something that's also familiar in Chinese, and I will talk about it this afternoon. The case where I first came across it is in the American Indian language Luiseño that I've worked on. It's not an uncommon phenomenon across

languages, especially in this part of the world, it's very common. But it's not limited to there, Luiseño is spoken in California. The sentences in 13 through 15 exemplify this construction. You will see these again later today. Literally, *I my eyes green* or *Juan his basket sits*, or *I my stomach hurts*. These look like topic constructions, but they are different from the topic constructions, the normal topic constructions like the ones I showed you in 3 from English. They are different because the entire sentence is one clause grammatically. It's not a clause with a topic outside the clause and an intonation break between them, as in *Bill, I like him*. It's not like that. These are single clauses with a single intonation contour, no pause in between. But they are funny as clauses too because they have two apparent subjects: *T*, 'my eye' or *Juan*, 'his basket' or *T*, 'my stomach'. Those two noun phrases both function in some way as a subject. How they function as a subject differs from language to language depending on the properties of the language. In Japanese, for instance, both of the nominals can take the subject marker *ga*.

In the case of Luiseño, both of those elements appear in subject form. For example, the pronoun *noo* is subject form of the first person singular. But also either of those two noun phrases can function in what you might call subject agreement. The first word in the clause in this language has an ending, a clitic which indicates something about tense and modals and also indicates the person and number of the subject. So in No.13, the first word is *Noo=n*. The pronoun *noo* refers to the speaker, and its clitic *=n* indicates present tense and that the subject is first person singular. But if you look down in No. 15, *I have a stomach ache*, *I my-stomach hurts*, the subject pronoun is still *I noo*, but the clitic is *=up*, which indicates present tense and that the subject is third person singular. In other words, for agreement with the subject, it's the first nominal whose agreement is registered in 13, but in 15 it is the second nominal whose agreement is shown.

Those details don't matter. I just want to indicate that there is grammatical evidence that both of those first two nominals are subjects. So the structure of this type of sentence is something like I have shown in 16 there. What follows the first word is itself a potential clause. I call that the inner clause. And it has a subject and an inner predicate, *no-te' tiivvu-q*, *my stomach hurts*. So the stomach there is the subject at that level, but the entire structure is also a single clause that has its own subject, what I call the outer subject. That's the pronoun *noo*. OK. So this is not the same as a topic-plus-target or a topic-plus-comment structure and it's not the same as a single clause. It's something in between. And exactly what that's like we will look at this afternoon. Here the relevant point is that the notions topic, subject, and possessor all come together, because the first nominal, the outer subject, is a subject grammatically,

but it is also semantically a topic with respect to the inner clause. It's both a subject of a clause and a topic with respect to the inner clause. Also, in this language it's the possessor with respect to some nominal in the inner clause. Note there is a possessive relation *I my eyes* or *Juan his basket*. There's a possessive pronoun which refers back to the outer subject. So the notions subject, topic, and possessor all come together again. The first nominal is a topic, it's a subject, and it is also a possessor.

I hope that's sufficient to show you that there's something interesting to investigate. There's some relationship among topic, subject, and possessor. That's not just accidental. There's something systematically close about them. And what is the nature of their affinity or their similarity? I will suggest that they are similar and related notions because topic, subject, and possessor are all reference point phenomena. They all function as reference points, as the crucial part of their semantic characterization. And also they are nominal reference points, that is, they profile things. They are noun phrases. They are nominals. So the next thing we have to do is to talk about reference point phenomena in general, and then we come back to topic and subject.

So I'm starting Section B, Reference Point Phenomena. One basic point I made the other day is that conceptualization is intrinsically dynamic. It consists of processing activity in the brain, so necessarily it develops through time in some way. And how it develops through time is important, it's essential to the value of certain notions. What I mean by reference point is defined in 19 abstractly. A conceptualizer has the ability to invoke one conceived entity as a reference point for purposes of establishing mental contact with another, which I will call the target. So the notion of a reference point relationship involves sequence of mental access. You access or mentally make contact with one entity by going through another entity to reach it, or conceiving of one entity makes it possible to conceive of another. So it has this temporality, this dynamicity built into it, you access one thing through another. This is a very obvious and basic aspect of cognition.

I will start with a perceptual example. It's shown in 18(a) in the form of language, but it's actually describing a perceptual phenomenon. If you are trying to find something visually, to locate something in the visual scene or to locate it for someone else, sometimes what you are trying to locate is hard to see, it might be small. And a strategy for finding it visually is to first direct your attention to something that you can see easily, and then say where the target is relative to that. So that's expressed in 18(a). You can imagine someone saying this: *Do you see that boat out there in the lake? There's a bird in the water right next to it.* You are trying to direct the attention to the bird, and your listener might not be able to see the bird. If you just said *Look at that bird!*, they might not be able

to find it. But it is easy to see the boat, because the boat is much bigger. You say, *You see that boat? Well, there's a bird right next to it.* You are using the boat as a visual reference point to locate the bird. Once you locate the boat, then given that situation, you are in the position to easily locate the bird. So the boat is the reference point. The bird is the target. So that's a typical kind of example.

But this is not just a matter of perception or vision. It's a matter of general cognition, and so it can be totally abstract and non-perceptual. Consider 18(b): *Do you remember the surgeon we met at your sister's party? His wife just had twins.* Here the speaker is trying to direct the listener's attention to a certain person, the woman who had twins. And how does he direct attention to that person? The listener might not know that person's name, so the speaker can't use the name. So the speaker figures out what path of mental access will direct the listener's attention to the proper referent, and the speaker knows that this person is the wife of someone that the listener met at a party. So you go through this thing *Do you remember the surgeon we met at your sister's party? His wife just had twins.* The surgeon is the reference point conceptually and the wife is the target, the person that the speaker wants the listener to attend to. No perception involved there, but it's all at the cognitive, mental level. Notice that the reference point is encoded as a possessive pronoun, *the surgeon, his wife*. And that's not an accident, because possession is a reference point phenomenon.

So that's the phenomenon I'm talking about, and I use certain notations and certain terms and abbreviations. So in generalized fashion, here C is the conceptualizer, and the dashed arrows stand for a path of mental access, how the conceptualizer mentally reaches the target. The conceptualizer has to wind up focused on the target. And in order to do that, the conceptualizer goes through a reference point. You first attend to a reference point, and that creates a situation in which it is easy to find the appropriate target. Then there's this notion that I call the dominion, shown here as an ellipse. That's labeled D. The dominion is the set of targets that you can reach through a given reference point. So a reference point anchors a dominion: from the reference point, there are any number of possible targets you can reach, and the target that you are trying to reach is one of them. So if I give a full representation of the reference point relationship, I show all of these elements: the set of potential targets, the actual target, the reference point, the conceptualizer, and the path of mental access. Here in this handout, I'll abbreviate the reference point relation like this [20(b)]. This is to be the reference point. This is to be the target. But all of this is understood. So this is a more compact notation. So when you see this little dashed arrow in this handout, it stands for this relationship between reference point and target.

So let's go through some reference point phenomena. One of them is in English, the use of the definite article. The reference point ability plays a role in determining when you can use the definite article *the*. The way people usually describe the definite article, which is pretty accurate, is that *the* indicates that the nominal grounded by *the*, or the referent of this nominal, is the unique instance of this type in the current discourse. In other words, if I say *the car*, I expect that in our current awareness there is only one instance of *car*, so that you know which one I'm talking about. So I can't stand here and say *the chair*, because there are a lot of chairs in this room. Very often you use a definite article when you previously introduce the discourse referent: *He picked up a pencil. The pencil was broken.* So there is one instance of pencil that has been introduced in the discourse, so it's the only instance that's really within the scope of attention, then you can use the definite article and say *the pencil*.

But there are also cases where we use the definite article when the referent has not previously been mentioned. As in *21 My car is no longer dependable. The motor is just about shot. Or I would never buy this house. The roof leaks badly.* So we haven't previously mentioned the motor or the roof, but we still use the definite article. And why do we do that? Well, it's because we previously mentioned a particular car or a particular house. That has been introduced in this discourse. Let's say the house, *this house*. That has been mentioned in the discourse, one particular house has been introduced in the discourse, and we have a conceptual model of what houses are like. We know a house has a roof, and we know that a typical house only has one roof. So, given our cognitive model of houses and the fact that we have introduced a house into the discourse, there's just one instance of roof which is saliently and easily accessible. So we can say *the roof*. Which roof? Well, the one that is mentally accessible through the house. OK? So, in this example, the house is the reference point. The things associated with the house, given our standard cognitive model, are the dominion, and then *the roof* must be the roof which is in that dominion, that's the target. We can mentally access a particular instance of *roof*, because we are going through a particular instance of *house* which has already been established in this discourse. Of course, other parts of the house, like the chimney, the front door, those are also the elements of the dominion of the house, but the one we are referring to is the roof.

Alright. That's one place reference point relationships show up in language, and another one is in metonymy. That's where we mention one element in order to refer to another element which is associated or mentally accessed through it. For example, *Chicago* is the name of a city. You may have heard of it. It's a city on the bank of Lake Michigan, in the state of Illinois in the United

States. It's where I come from originally. So, basically, it's the name of the city but a noun like that can be used to refer to many other things that are merely associated with that city, and not the city itself. So I can say *Chicago is all excited about the Bulls*. So what are the Bulls? They are the Chicago Bulls, that was Michael Jordan's basketball team, the Chicago basketball team which won championships a number of years ago. The city of Chicago can't be excited about the Bulls any more because they are a bad team these days. Anyway, *Chicago is all excited about the Bulls*. A city can not be excited. The people in the city can be excited. Here *Chicago* is referring to the population. Or *Chicago has just won another championship*. Here, *Chicago* is referring to the team. Or *Chicago was late in sending in its application*. Imagine the situation where different cities are applying for federal grants. They are applying to the government for money. So, the cities have to submit applications. And *Chicago was late in sending in its application*. Well, a city doesn't send in applications. It's the people in this city's government who send in applications, and they are acting with respect to the city. The application itself might be referred to as *Chicago*. The application is printed in the form of a book. You can say *Chicago is right here in the stack between Dallas and Memphis*. *Chicago* there is the name of some document. So, all of these things are associated, mentally accessible through the notion of *Chicago*, which primarily refers to the city, and that's what's called metonymy. And obviously, what I'm saying here is that the usual referent, the basic referent, in this case the city, is a reference point, and by mentioning that reference point, in the proper context, we can mentally access the thing which is really intended as the referent of the noun: the population, the city, the government, whatever.

A third reference point phenomenon, which I won't talk about very much at all, is pronoun-antecedent relationships, the relation between a pronoun and a nominal antecedent of that pronoun. As in topic constructions, with *Your nephew, he will never amount to anything*. The relation between *your nephew* and *he*. Pronoun-antecedent relationships are something I worked on decades ago, as I was still a graduate student actually. I did that in the generative perspective. Many years later, a student of mine named Karen van Hoek worked on the same problem from the standpoint of cognitive grammar, and worked out how you describe pronoun-antecedent relationships, where the pronoun and the antecedent can appear in a sentence relative to one another, all in the framework of cognitive grammar. That's extremely nice and important work. It was published in a *Language* article in 1995 and also as a book in 1997. And so there are several references on your handout to Karen van Hoek's work. It's the last four references on the reading list. So, if you want to know about how pronouns and antecedents work from the cognitive grammar perspective, that's

where you look. It is spelled out in very great detail. It's the most workable analysis of this problem that I know in any framework.

Here I will simply say for the moment that the antecedent of a pronoun functions as a reference point for the pronoun. So the antecedent is a reference point. The pronoun is a target. We mentally access the pronoun through the reference point in the sense that we use the reference point in order to determine what the pronoun is referring to. And for this purpose, the dominion of the reference point is the stretch of discourse in which this can happen. The portion of a sentence, or the portion of a discourse, within which a certain noun phrase can be used to interpret a pronoun. OK? So, that's how these notions apply. I won't try to justify that. I will come back to it very briefly later.

More directly relevant here are possessive constructions. Possessive constructions are the place where I personally first became aware of the need to talk about reference point and target. So let's start by looking at some examples. In 25 are some typical possessives in English. 25(a) *the boy's shoe*. The boy is the possessor or the owner of the shoe. *Jeff's uncle*, *the cat's paw*, *their lice*. And those are all good examples of English possessives. The question is what is the meaning of the possessive construction, or what is the meaning of the possessive marker in English: the 's in *the boy's shoe*. Sometimes people take the word possession too seriously and say that possessives mark ownership. Well, that works for *the boy's shoe*, but it doesn't work for other examples. The baby doesn't own its diaper. *My train*, I don't own the train or *your candidate*, you don't own the candidate. Well, actually, rich people very often do own candidates, I guess. *Their lice*, people don't own the lice in their hair, things like that. In fact, if you look at all these examples, the relationship between the possessor and the possessed is so variable in terms of its nature that it is hard to say that there is any way you can characterize it in general terms, what that relationship is. It's not ownership because that's too narrow. We can go on. *Jeff's uncle*, well, that's a kinship relationship. Then *the cat's paw*, that's a body-part relationship between the whole and the part. But that's already three different relations, and those are all kind of prototypical. Those are very common uses of possessives across languages. Those are, I think, prototypes. But all the other examples don't fall into any of those categories. *My train* would be the train I'm going to take and ride on. *Sally's job*. Well, she doesn't own the job, she is not part of the job, and so on. This is a different kind of relationship. *Our problem*, or *her enthusiasm*, *its location* mean none of these. Every one seems different and they don't fall into any single category.

They are not even metaphorically instances of the basic categories. So take ownership. Do we want to say that, for something like *our problem*, that metaphorically we are the owners of our problem? I don't intuitively feel that's

what's involved, I don't feel that it's metaphor, I don't think that captures it. And if you get to something like *the city's destruction* with possessive periphrasis, *the city's destruction*, I don't think it makes any sense to say that metaphorically the city owns its destruction. It has none of the properties of ownership. So, there's a classic problem, people have thought about this for many decades. And one proposal that's sometimes made is that two nouns can go together in a possessive relationship if there's any kind of association between them. This is highly schematic, any kind of association between them. Because that's such a schematic relationship it will cover all the cases. All those cases in 25 involve association between the possessor and the possessed.

The trouble is that this is too schematic. It covers too many cases. Not every case of association can be expressed through possession. Now I haven't explored this as thoroughly as I should ideally. But one way you can see this is that usually you can not reverse a possessive relationship. Association by itself is reversible. If A is associated with B, B is associated with A. There's no direction to this. This is a symmetrical relationship. But possession is not. So all the examples in 25(a) are fine, but if you reverse possessor and possessed, they are bad. So you can not really say *the shoe's boy* or *the paw's cat* or *the diaper's baby* or *the destruction's city*. So it's not merely association. Maybe it's quite abstract like association, but there's also an asymmetry, there's a direction to it. In some cases you can construct, you can go in both directions, but good examples are hard to find. You can either say *the doctor's lawyer* or *the lawyer's doctor*, but typically you can not reverse them. What we need then to characterize possession is a highly schematic relationship involving association where there's a directionality to it. Well, that's just what a reference point relationship is. That's it, right there. There are the reference point and the target, they are associated with one another, because it's through that association that you are able to mentally access one through the other. There's no specific type of relationship involved. There can be any kind of relationship, in terms of content—the important thing is the mental ability to access one through the other. That's the characterization. That's a cognitive ability. It's not any particular content, and it's directional. There's a direction to a reference point relationship. That's just what we need, a highly schematic relationship that you can apply to any kind of content and involves this kind of directionality. So what I propose is that, as a schematic characterization, a general characterization of basic possessive constructions like the ones in 25, that the possessor is a reference point, the possessed is a target.

Of course, that's not a full description of possession. Possession also has a prototype or several prototypes like ownership, part-whole, and kinship relations, at least those are prototypes. And possession in a particular language

would be described by an elaborate network of constructions. The schematic characterization is only the most general one, the most abstract one, but there's a lot more detail to work out for the possessives in a particular language, and all that's part of a standard description in cognitive grammar terms. That's what's called the usage-based model. So, this illustrates the general point I made the other day, that basic and universal grammatical categories, like noun, verb, subject, object, and possessive, have both a schematic characterization based on cognitive abilities and a prototype characterization based on conceptual archetypes. Possession is one such case. The schematic characterization is based on the reference point ability. It has no particular content. The prototype characterization is based on things like ownership, kinship, part-whole. Those are conceptual archetypes. And they are both part of the meanings and characterization of possessive elements and constructions. That much is probably more or less universal. Many specific details are going to be particular to individual languages, about just how far you can extend possessive constructions and where you tend to use them.

So, the general reference point ability I just show in the abstract here, but for a possessive construction. In a possessive construction like *the boy's shoe*, the overall referent is the shoe. So *the boy's shoe* involves a noun phrase *the boy*, which is the possessor, and then that combines with a noun, which indicates the possessed. The entire thing is a noun phrase, whose profile is the same as that of the possessed noun. So, the target is the profile of the entire expression, like *the boy's shoe* refers to the shoe. *The city's destruction* refers to the destruction. The possessor at the level of the entire expression is unprofiled. So the profiled target is characteristic of the possessive construction, and I abbreviate that as follows [26(b)]. This is what a possessive construction is going to look like today for this handout.

Now, the last reference point phenomenon I will talk about in this section is topic constructions. I analyze topics as reference points. The relation between the topic and the clause that it is the topic for, is a reference point relationship. That's my analysis, basically, as a schematic characterization. And this too is a problem. How do you characterize the notion topic semantically, conceptually? To the extent that linguists even try to do this, almost always the linguist winds up saying *the topic for a sentence is what the sentence is about*. You've heard this, right? And I don't disagree with that. It's just vague. What the sentence is about. It's just vague. It's not any kind of analysis or characterization. It relies on our understanding the meaning of the word *about*. But it still leaves it quite vague. I'm not sure that my analysis is much less vague, but it's a little less vague. At least I relate this notion of *aboutness* to something that's more basic, more fundamental, and is obviously important conceptually, and that

we can obviously do conceptually. It's the reference point ability. I've given all sorts of examples, linguistic and non-linguistic, the topic construction is just one manifestation of this. So, it is the special case where the target is not a thing, but the target is, let's say, a proposition or a clause. I've just shown it here as a box, and a little arrow indicates maybe the profiled relationship, what's profiled by a clause, but let's say it's a proposition of some sort expressed by a sentence or by a clause. So it's different from a possessive construction, which involves a thing as a target. Here you have a process or a grounded process, a proposition as a target. It's the same basic ability, but applied at different levels of organization for different purposes. In the case of possession, what you are trying to do is identify a nominal referent. So, by saying *the boy's shoe*, you are singling out a particular instance of *shoe* as the one you are referring to. You identify a nominal referent. Here, you are trying to situate a proposition with respect to the right domain of knowledge. So the reference point anchors some domain of knowledge. The dominion is all the associated knowledge that we have of the reference point. And the target is *about* this topic: the target has to be integrated into this domain of knowledge. This is the domain within which we interpret the proposition and where we apply it. I don't pretend that's a full description, that it is not vague in its own way, but it's related to a much more general phenomenon which we have to talk about. It may be as precise as you can ever get. I don't know. In any case, we can abbreviate a topic relationship like this [28(b)]: the reference point is usually a thing, and then some kind of proposition is the target.

Now something that's a reference point for one purpose tends to be used as a reference point for other purposes too. As a very natural thing, we are going to invoke something as a reference point for one phenomenon. Well, it's there, it's been invoked as a reference point. It's likely to be used as a reference point for something else as well. So look at 29(a), the previous example: *My car, the motor is just about shot*. Here, we have a topic construction. (So I don't need my watch. I can keep track of where we are in the time by these little signals, that's very handy.) That's a topic construction, so *my car* is a topic, *the motor is just about shot* is the target clause. So *the car* is the topic for that purpose, but *the car* is also the topic for the purpose I indicated previously. That is, it lets us interpret the definite article in *the motor*. It sets up a dominion within which we find just a single instance of *motor*; we are talking about a certain car, there's one motor associated with it, so that must be the one we are talking about. So *the car* is a reference point both with respect to the target clause and with respect to the subject nominal and the definite article, *the motor*. Or in 29(b) *My car, its motor is just about shot*. *Car* is again the topic for the target clause, but it's also a reference point with respect to the pronoun *it* in (b), or in (c) *My car,*

it's just about shot, which is the equivalent. In (c), *my car* is still the antecedent of the pronoun as well as the topic for the entire clause.

Those are preliminaries in a certain sense. Now we come to topic and subject and object. For a couple of days I've been describing subjects as nominals which specify the trajector of a profiled relationship. And an object is a nominal which specifies the landmark of a profiled relationship. Trajector and landmark are the primary and secondary focal participants in a relationship. And I argued that you need this construct for semantic purposes. Once you have it, you can see that this is the basis for subject and object, and that's the cognitive grammar analysis of what a subject and an object consist of. That's spelled out in 30 and 31 on the handout. But now I want look at it more deeply. I didn't really say much about the nature of this focal prominence which makes something a trajector or a landmark. There are various ways I've used, in one place or another, to describe the nature of this focal prominence. It's not enough to say primary focal participant and secondary focal participant. I mean, that's fine so far it goes, and the semantic evidence I gave you the first day shows that you need some notions like this. And it's intuitively right—many linguists talk about a primary and secondary focus in the sentence and they use language like this with respect to subjects and objects. But you'd like to go further in terms of explicating exactly what that prominence consists in as opposed to other kinds of prominence that things have, as there are lots of kinds of prominence. So this is an attempt to do that. 32(a) just states what I've said. The trajector and landmark of a profiled relationship are distinguished from other relational elements by the focal prominence conferred on them. Then in (b), this prominence is asymmetrical. The trajector is the primary focal participant. The landmark is the secondary focal participant. Right? This also repeats things I've said. There's a primary and there's a secondary focal element. Metaphorically, I think in terms of spotlights. There's a large spotlight which you direct at some element on the stage, and you can direct it at different elements, and you can choose what you want to put in the spotlight. And then the landmark is like a secondary spotlight. A smaller one you can direct at another element on the stage. You can move these around and that's how you get voice phenomena which I will talk about next week. Those things I've said before, more or less.

Now let's go down to something a little bit more detailed, perhaps. This prominence asymmetry, I'm suggesting, has a temporal dimension to it. The trajector is the primary focal participant, at least in part, because it's the initial participant, the one we first access mentally, initial point of access. And the landmark is a secondary point of access. So I'm suggesting that time is involved here. This is in accordance with the general view that conceptualization

is dynamic. It develops through time in a certain way. And more specifically, in (d) the trajector and landmark are properly described as reference point and target. In other words, these are themselves reference point phenomena. Or to put it in other words, to take a different view of it, which is equivalent, trajector and landmark are both reference points. There's an initial reference point, and then a secondary reference point, and those are both accessed to reach a certain target. And they are accessed in that order. So the landmark is a kind of target with respect to the trajector, but itself is the secondary reference point for something else. OK? So reference points change.

I'm trying to reduce the notions trajector and landmark to a special case of reference point phenomena, and explain the notion focal prominence in terms of this. So what I will do is go through aspects of this in a certain sequence. I will first talk about focal prominence and then the asymmetry, and then get into the temporal aspect of it, the reference point aspect of it. I will try to justify different parts of 32 in the next few minutes.

Linguists are pretty much in agreement that subject and object are in some sense the core arguments or the central arguments of a verb or of a clause. And that shows up in various ways: they are usually the only obligatory complements of a verb, they are active grammatically, all sorts of grammatical phenomena are tied to subject and object status, agreement for example, and less commonly to other elements. So there are all sorts of indications that subject and object have special kinds of salience or prominence within a clause. So that's not really too controversial in some sense. What might be controversial is to say that this prominence is the very definition of subject and object, the conceptual basis for the notion. So a question arises at this point. One way I've described trajector and landmark is that of primary figure in the scene and secondary figure in the scene, taking figure and ground terminology from Gestalt psychology. But there are two focal participants, the primary and secondary one, trajector and landmark. And when people talk about figure/ground organization they usually talk about just one figure. Is it reasonable to talk about two figures, plus a ground? That's what I would be committed to here, if I talk about this as figure/ground organization.

And I think it is OK. I'm going to consider non-linguistic conceptualization and the cognitive plausibility of saying that we are able to conceptualize a scene with two figures, a primary figure and a secondary figure, both perceived against a ground. And the example I will use, I suppose I can find any number of examples, the example I will use is that of watching a boxing match. OK? Imagine you are watching a boxing match. There are two boxers. They are fighting. You are watching two people, boxer A, boxer B, they are hitting each other. And there are lots of other things that are in your field of view, which all

fade into the background. Like the referee and the ring itself and the people in the corner and the audience. Those are all ground. The boxers are two figures, and one of those can be the primary figure and the other is the secondary figure. You can look at boxer A, you can watch boxer A, and see whether he favors the left hand or the right hand. You can watch his footwork, you can see how well he receives a punch. And you are doing all of this in relation to boxer B, and they are both figures for this purpose, as opposed to everything else, which fades into the background, as ground. And we can reverse it and look at boxer B, and make the same observations of how B interacts with A. That's all that's involved here. I'm just claiming that trajector and landmark are analogous, and they both are figures with respect to the remainder in some comparable way. There's nothing outlandish about this. This is a conceptual phenomenon.

Alright, asymmetry. Well, subject and object are not equal in their grammatical activity. Subjects are usually more active grammatically than objects. Also if you have just one participant in a clause, that participant is the subject. It's not an object. You need a subject or at least the possibility of a subject before you have something that we consider to be an object. This is illustrated in 33. There are two participants. One is subject. One is object. *Alexander broke the vase*. If there's only one participant, as in (b) *The vase broke*, it shows up as a subject. We don't say *Broke the vase* to mean the same thing as (b). This follows from the subject being the primary focal participant and the object the secondary focal participant. You can't have a secondary focal participant unless there's also a primary focal participant. Now, there's a lot I have to say to make that a good argument. For example, we are not talking about, necessarily, there being an overt noun phrase. We are really talking about trajector and landmark, and they are not always explicitly encoded. And then there are all sorts of other phenomena. Impersonal sentences. I have to say something about unaccusatives. There's a lot I have to say, to make that a full discussion, but that's not relevant here. The paradigm in 33 is the typical paradigm. That's enough for our purposes. Usually, subject is first and you only have an object if you also have a subject. OK?

There is some very nice experimental work which indicates the asymmetry between subject and object, and also shows that the subject is, in some sense, a focus of attention. I'm referring to work by Russell Tomlin at the University of Oregon and some students of his. There are some references that are given on the handout. Yes, in No. 34, Tomlin and Forrest. Russ wasn't concerned with the notion of trajector, but he might have been, he might just as well have been. He did these experiments to determine the effect of focus of attention on grammar. And here is an example of the experiments he does. The experimental subjects view a scene, and one case was the case of two fish swimming across

a computer screen towards each other. Maybe one fish is red and the other is blue. OK? And, at a certain time point, which is precisely determined so that attention will not wander, at a certain time point attention is focused on one of these fish. This is done by flashing an arrow that points to that fish on the screen. So you know that attention is focused on, say, the blue fish. And there's not enough time for attention to change once it is focused. Then one of the fish swallows the other, and the person viewing this is supposed to describe what happens. The person will either say *the blue fish swallowed the red fish* or *the red fish was swallowed by the blue fish*. Will that person use an active or a passive? And the prediction that Tomlin made with respect to the focusing of attention is given in 34. At the time of utterance formulation, that is, when the speaker goes about encoding this linguistically, the referent currently in focal attention will be encoded as the syntactic subject of the sentence. So if the red fish does the swallowing and you focus attention on the red fish, you will use an active. If you focus attention on the blue fish, you will use a passive because the blue fish gets swallowed. So, that's his hypothesis, but I could rephrase that in my own terms, since the subject is said to be the primary focal participant, the primary focus of attention. I will say that whatever is (this is here an actual rigorous experiment, or a whole series of experiments) whatever is a focus of attention is going to be the subject in the sentence. Or to put it in reverse terms, trajector is primary focus of attention.

So, what are the experimental findings? How often does the focused element get encoded as a syntactic subject? There are certain levels of confidence you have in experimental work, you are usually very happy if you get a strong effect like maybe sixty or seventy percent of the time. What they found is that this happens one hundred percent of the time. Under their conditions, where there was no time for attention to change in between the focusing of attention and the formulation of the sentence. That may or may not be a definitive experiment, but it's a good example of the kind of experiment that you can in principle give to justify particular theoretical notions of cognitive grammar or other notions of cognitive linguistics. It's not easy to find out how to do these things, but it's in principle sometimes possible to move in that direction and find evidence. That's, I think, a nice initial case. It shows something about focal attention, the asymmetry between subject and object.

Something about the temporal aspect of this now. Does it have a time dimension? With a first and a second? For this, look at equative sentences like 35: *My wife is the mayor. The mayor is my wife*. These sentences profile a relationship of identity between trajector and landmark. So they are the same individual. The sentences are not quite the same semantically. If you were talking about the wife, then you go on to say *My wife is the mayor*. If you were talking

about the mayor, then you will say something like *The mayor is my wife*. So they are not exactly equivalent, and I could argue that the difference shows the temporality: the subject is the initial point of access, and the landmark is the secondary focus, the initial one being determined by what's already established in the discourse as what you've been talking about, a kind of topic.

But there's even a clearer case of this. You don't have to go to discourse for this. It's clear under the right analysis of equatives. And this is a case that's more interesting and a little bit more striking. It involves a second kind of equative sentence. The case of coreference, that's in 35. Other cases of equative sentences are sometimes described as indicating class membership. As in 36(a) *A tiger is a feline*. Linguists have noticed that the sentences in 36 are different from the ones in 35. They are not describing identity of reference, but rather class membership. *Feline* is a general class. *Tiger* is a smaller class, inside the class of felines. That's the standard way of describing this, identity of reference versus class membership. But observe however that the sentences are quite parallel grammatically, except for the definite article. Both involve just subject, and then the verb *be*, and then some predicate nominative. Grammatically, it doesn't look like class membership. Grammatically it looks like an equative sentence: *A tiger is a feline*. You are not saying a tiger is inside the class of felines or anything like that. It looks like you're just equating *tiger* and *feline*. And I think that's what's happening. The way I would analyze the sentences from the standpoint of cognitive grammar is that they too are identifying two referents. The difference is that in the case of 36, the referents are fictive. They are virtual in nature. Instead of describing actual individuals, they are describing virtual instances, imaginary instances of a type.

We've already come across many cases of virtual referents. If I use a negative sentence like *I don't have a tiger*, I've mentioned a tiger. I've invoked an instance of *tiger* just in order to say what I don't have. So it doesn't really exist, but I still talk about it. And it's a discourse referent: *I don't have a tiger; so I don't have to feed it*. I referred back to the tiger by saying *it*. So, for linguistic purposes, very often we have instances of a type, which are discourse referents, they have reference, they're participants in coreference relationships, but they are virtual or imaginary in nature. And I take the sentences in 36 as being one application of this notion. That is, the tiger that you are referring to is not any actual one, it's a virtual one. The feline you are referring to is not any actual one but a virtual one. What we are doing is invoking instances of these two types in order to make a general statement. This is, in some way, similar to that example I gave you the other day: *Three times during the class, a student asked a question*, where the student and the question are in the singular, they are virtual instances, this is a generalization of three events. Well, you're doing something

comparable here, except it's a totally general statement. So let me paraphrase 36(a): If you consider an instance of the type *tiger*, it will be identical to an instance of the type *feline*. OK? In other words, I'm saying that this sentence has temporality in that if you take an instance of *tiger*, and then try to match it, you will find that it is identical to an instance of *feline*. This is asymmetry. You start with a tiger and you map it onto a feline. And given our view of category structure, a taxonomy, that will always work—every tiger you can imagine will also be a feline. But if you reverse it, as in 36(b), starting with an instance of the type *feline*, can you always map it onto an instance of *tiger*? The answer is no, because there are felines that are not tigers, like lions.

In other words, identity of reference is a symmetrical notion, but the sentences in 35 and 36 are not symmetrical. The reason they are not symmetrical is that there's a temporal asymmetry, one referent is a kind of starting point for purposes of assessment and determining the identity relationship. And given our notion of taxonomy, involving tigers and felines, it only works if you go in one direction. But where does the asymmetry come from? Identity is a symmetrical relationship. And why is the subject the one that goes first, and not the other way around? Well, I take this as some evidence that trajector versus landmark has asymmetry built into it, so that the trajector is accessed initially. That's my hypothesis, trajector, landmark, first and secondary reference points. It's a case of dynamicity. If that seems like a reasonable analysis everything makes perfect sense. I take this as evidence that trajector and landmark have a temporal basis, first reference point, second reference point. You invoke one of these starting points and assess it in relation to the other. Even though identity is a symmetrical relationship, we can access it in a certain sequence.

I'm trying to justify different aspects of this characterization of trajector as an initial reference point and landmark as a secondary reference point. I hope I've done that to some degree already. Let's push a little bit further the connection between subject and object on the one hand and reference point relationships on the other hand, and consider other reference point relationships. First of all, I'm saying there's a first reference point, and then a secondary reference point, and the ultimate target. This implies that you can have a chain of reference points. You can use one reference point to access another, and use that as a reference point to access another, and so on. So, the first target is the reference point for the next reference point relationship. And that is something that happens with reference point relationships. They can sometimes form chains. A clearer example is possession, as in 37(a) *my mother's cousin's friend's sister's lawyer*. The speaker is initial reference point and the mother is the first target, and then the mother is the reference point for the cousin and,

and so on. Or in the next example with locatives, I can describe that in the same way, in 37(b). Back in 6, the example from French in 6(b) was a case of a reference point chain with a topic-like structure: *Pierre, sa soeur, je la déteste*. ‘Peter, his sister, I hate her.’ That’s a kind of reference point chain. So, you can have chains of reference points. That’s my point here, and subject and object, or trajector and landmark, are one instance of that.

Secondly, trajector and landmark, or subject and object, function as first and second reference points for purposes of pronoun-antecedent relationships. So I will try to give you independent evidence, evidence for their functioning as reference points. This is again following Karen van Hoek’s analysis, and a lot goes into this, so I’m just drastically simplifying everything, but the basic generalization is that the subject of a clause can function as a reference point for anything else in the clause for purposes of pronoun-antecedent relationships. So, in 38(a) *My sister lost her keys*, the sister is the reference point, *her* is the target. And you can not reverse it. The subject has to be a reference point with respect to pronominal anaphora, relative to other things in the same clause. So we could not say *She lost my sister’s keys*, if *she* and the sister are the same person. It has to go in a particular direction. It is well known that for purposes of pronoun-antecedent relationships, the subject has priority over everything else in the clause. Well, the object also has priority over everything else in the clause except for the subject. The object is the secondary reference point for this purpose. So you say things like in 38(c) *I observed the baboons in their natural habitat*. But we can not say *I observed them in the baboons’ natural habitat* if *them* refers to *baboons*. OK?

So the different analyses are reinforcing one another. There’s a very nice reference point analysis of pronominal anaphora, and that points to subject and object being first and second reference points, which is exactly what I’m claiming. The trajector and landmark are first and secondary reference points. With respect to what, I haven’t quite said yet, I will get to that soon. But I think the strongest argument is based on possession. If you accept that possessive relationships are primarily and schematically reference point relationships—a possessor is the reference point, the possessed is the target—then you have a very nice argument for the reference point character of subject and object from possessive periphrasis for nominalization. These are cases like in 39, which we talked about before: *the army’s destruction* [of the city] or *the city’s destruction* [by the army], *Booth’s assassination* [of Lincoln]; *Lincoln’s assassination* [by Booth]. In other words, a possessive construction can specify either the trajector or the landmark of a verb when that verb is made into a noun, like *destroy* being made into *destruction*, or *assassinate* being made into *assassination*. When you take a closer look, here’s the situation. We have a verb like

destroy. That verb has participants which are things, the trajector and the landmark. So we have a verb which is a relationship. We have nouns. We have things as participants. When you take that verb and make it into an abstract thing, transform *destroy* into *destruction* or *assassinate* into *assassination*, you then profile a thing. *Destruction* or *assassination*, it's an abstract thing. So the relation between a participant and the profiled structure is a relation between two things. Once you've done nominalization, the participants of the verb are related to the nominalization in a thing-thing relationship. And if trajector and landmark are reference points with respect to a process, then when you make that process into a thing, the relation between the participants and that thing is a reference point relation between things. And that's what a possessive relation is, a reference point relation between things. OK? Now, that may be hard to follow in the abstract in a foreign language. I will go through this concretely, but the point is that the reference point characterization of subject and object gives you an explanation, a direct explanation or even a direct prediction, that the subject and object of a nominalized verb or clause should very often be expressed by possessives. Because by nominalization you create a possessive relationship between participants and the reified process.

Now I'm going to work my way back to that example, which we will go through, and that will conclude my discussion of subject and object. And I will do this comparison to topics. So I'm going down to 40 on the next page. Relationships are conceptually dependent on their participants. That is, you can not conceptualize a relationship like, say, *destroy* except by conceptualizing the participants in that relationship. Destroying doesn't happen in the abstract without participants. Even conceptualizing it, you have to, somehow, invoke participants. So, in that sense, conceptualizing the participants gives you a kind of mental access to the conceptual relationship. To conceptualize a relationship, we have to go through the participants in order to conceive of the relationship at all. In this sense, we can say that the participants in a relationship are reference points with respect to it, they are things we access a relationship through, and we have to access the relationship through the participants in conceptualizing it in the first place. So that's the sense in which trajector and landmark are reference points with respect to a profiled relationship. The trajector will then be the starting point for this purpose. It's the initial reference point. It sort of anchors the entire process. Once you invoke a trajector, you can go on to conceive of some relationship anchored on that trajector, and that can invoke another participant, who further anchors the development of things. That's a kind of dynamicity I'm attributing to the internal structure of a verb, in the semantics of a verb or other relational notions. This resembles what I said about topics. A topic is a reference point relation. Topic constructions

involve a reference point relation between a thing and some kind of target process. That's a topic relationship. And I'm saying the trajector is something like a topic. The trajector is also a thing, and it's a reference point with respect to a profiled process.

By what I've said so far, trajector and topic are analogous. They are the same so far. But there's a difference. What is the difference between the trajector of a verb and a topic? Well, basically, it's level of organization. A topic is a discourse level notion. Trajector is a notion that's internal to the semantics of a particular verb, and then carries over to the clause level and so forth, but it starts with a verb, independently of discourse. If I just take a verb like *destroy*, it has a trajector/landmark alignment outside of any discourse context, just by understanding the meaning of *destroy*. Another way to say this is that a trajector is a reference point that is intrinsic to the meaning of the verb. It's not dependent on discourse. It's just a part of the meaning of the verb intrinsically, inherently. And the way I want to think about that or represent it diagrammatically is like this [42(b)]. Here I have a participant and a profiled relationship. Just think of a one-participant relationship like *run* or *jump*. A participant undergoes or carries out some process. The trajector is the only focal participant here. I'm saying the trajector is a reference point. So the conceptualizer mentally accesses this trajector in order to conceptualize the process. So what is the target? The target is simply the full conception of the process. That is the target, not something distinct from the verb. The target is the profiled process itself. And how do you reach that target through the reference point? Well, you reach that target simply by conceptualizing the process. So, this arrow, this dashed arrow doesn't lead to a separate target. The target is the very conception of the process.

Once you fully conceive the process, then you conceptualize an instance of *jump*. You have reached the target. So just compare that to the diagram I have up there [(28)] for a topic construction. The reference point relationship is intrinsic to the target. Well, in the topic construction, the target is something separate. The reference point relationship is extrinsic to the target. It's something that happens in discourse. So this [42(b)] is how I can abbreviate a trajector relationship, the relation between the trajector and the entire process which is mentally accessed through it. Now what about landmark? Very often to conceptualize a process anchored on the trajector, we have to invoke another participant, which is a kind of secondary reference point, the target with respect to the first one. For instance, take a verb like *throw*. The agent, the trajector, carries out some activity, maybe something like this. And to completely conceptualize throwing, you have to invoke another participant that will be the landmark. And that participant undergoes some process like moving rapidly through space. The landmark is the reference point for purposes of

conceptualizing what happens to it, moving through space, in the same way that the trajector anchors the relationship overall.

So to conceptualize the total relationship, you have a sequence of reference points, which you might represent like this [43(a)]. Here is the trajector, the initial reference point, the trajector participates in a certain way in the process. That's T₁, this aspect of the overall process is kind of a local target. This is the trajector's involvement in things. To complete that conceptualization, we have to invoke a secondary reference point, the landmark, and this T₂ is the landmark's involvement in the process, what happens through a landmark. The overall process is all of this. T is T₁ plus T₂. So this is the initial reference point. This is the secondary reference point. These are local targets. The overall target T is also anchored by reference point No. 1. All these things are going on, each of these reference points has its dominion. I abbreviate all of that in this way [43(b)]. This is now the abbreviation of trajector and landmark of a profiled relationship. We access this entire conception sequentially in this fashion, at some level of processing. That's the analysis of what I mean by trajector and landmark as reference points and as first and second reference points. It's just a more elaborate case of what are reference point chains. And a special case of nominal reference points with respect to a process, the case where the target simply is the process. The reference point relation will be intrinsic to the very conceptualization of the process. So, in that sense, a subject is a topic. It's a topic with respect to the process itself. Not in the discourse, but with respect to the profiled process itself. Whether or not it's a discourse topic.

Now, if that's more or less understandable—it's hard to understand actually, I have a lot of trouble with it myself—we can go back to possessive periphrasis, things like *the city's destruction* or *Booth's assassination*, *Lincoln's assassination*. And let's see how that works in detail. First of all, a possessive construction. This is something like *the boy's shoe* or *the cat's tail*. X is the possessor. This is a reference point relation. This is the possessive relationship. This represents the possessive phrase like *the cat's*, *the boy's* or *mine*. The possessor is X. This is a reference point relationship. This is the target. This is the possessed noun, something like *tail* or *shoe*. So X's Y. Here we have the phrase X's, here we have Y, and the target is identified with the profile of the noun. And then, when you superimpose this, you get X's Y, *the cat's tail*. This is the cat. This is the tail, and the tail is the referent of the entire expression. So this is what a possessive configuration looks like, and what a possessive construction, a basic possessive construction looks like, using these notations.

Now, we also have to talk about nominalization: how you create a noun from a verb. This is now my representation of a two-participant verb, trajector and landmark, and this sequence of reference point relationships constitutes

trajector and landmark status. This would be a nominalizing morpheme, like the *-tion* of English as in *assassination*, *destruction*. So this is the element which creates a noun from a verb. It profiles a thing, and that thing is defined in terms of a schematic process. This just says this nominalizing ending imposes the profiling of a thing on some process. And in the nominalizing construction, what you get is words like *construction* from *construct*. The verb is a specific process that corresponds to this schematic process that's invoked by the suffix. And the result is then a reified process. The entire expression is a noun which profiles an abstract thing, defined in relation to a particular process like *destroy*. Right? So that's possession. This is nominalization.

Now let's put this together with subject and object. Take subject periphrasis. Like *Booth's assassination*. Booth is the one who did the assassinating. Or *the army's destruction of the city*, the army is the one who does the destroying. So let's take *the army's destruction*. So this is a nominalized verb like *destruction*, based on the verb *destroy*. So *destroy* profiles this relationship. *Destruction* profiles an abstract thing consisting of one instance of the process *destroy*. This is the trajector of *destroy*. This is the landmark. These are the two participants. But once you create a noun, you can not use the regular subject and object construction any more. Because you've got a noun. The regular subject and object constructions depend on there being a verb. So we get around that by specifying either the subject or the object with a possessive expression. So this is something like *the army's*, possessor, and this is the target of possession. This is *the army's destruction*. Now how do these connect to one another? Well, it is a possessive construction. The possessed, the target, is identified with the profile of the noun just as in the regular possessive construction. But it is a particular kind of possessive construction. The trajector of this process is a reference point with respect to this entire process which is reified as a thing. So this is a reference point, and the possessor is a reference point, and those are identified.

In other words, the reference point relationship that the possessive expresses is identified with the reference point relationship which is intrinsic to the verb, which is nominalized. So this reference point is identical with this one, and I might show a correspondence also between this arrow and this arrow. These reference point relationships are the same. So this is both a possessive relationship and a kind of subject relationship, because X corresponds to the trajector of a verb, except that this verb has turned into a noun, so we can't use the regular subject construction any more. But when you superimpose the identical entities, you get this, X's noun, like *the army's destruction*. But the landmark is also a reference point with respect to the overall process, the secondary reference point, so you can also do this with respect to

the object: Y's [V], so something like *the city's destruction by the army*. So this should be *city's*, and here's *destruction*. The city is identified with the landmark. The city's reference point relationship is identified with that which is the landmark's reference point relation relative to the event. And this is both a possessive relationship and an object relationship. And the result is that at the composite structure level you have identified the object. So if you can follow all that, you can see how you can use this possessive construction to specify either the subject or the object of a nominalized verb. The ability to do so is predicted by the reference point account of subject and object on the one hand, and possessives on the other hand.

OK. The last thing to talk about is topic and how topic relates to subject. And I hope to have a few minutes left at the end for questions. If not, there will still be this afternoon. I'm at a disadvantage here because I speak a subject prominent language and you speak a topic prominent language. But topic and subject are both analyzed as being nominal reference points with respect to a clause or a process, which functions as a target. And that's the basis for their affinity, for their similarity. I've already tried to explain their difference. In the case of a topic, the reference point relationship is extrinsic. It's something in addition to conceptualizing the profiled process. In the case of subject, the reference point relation should be intrinsic. It's part of conceptualizing the profiled process. And you can have both. So something both can be a subject and a topic.

But topics occur at different levels of organization. It can occur at, say, what you might call the paragraph level of organization in the text. I made up an example in 46. *It's really hard to write a dissertation*. OK. So that first sentence has established the dissertation as the topic of discussion. And all of the other sentences invoke that same topic. All of the following sentences are targets with respect to that reference point. *You have to find a subject. Then you have to come up with some ideas and do lots of preliminary analyses. When you do the background reading, you find that most of those ideas have already been proposed and rejected. So you have to work for a number of years before anything viable starts to take shape. You have to worry about continued financial support. Then you have to satisfy five committee members with mutually incompatible notions about what you should be doing. You have to go through about seven drafts. Then ...* (This is why you should not be graduate students.) What you might notice is that once the dissertation has been established as a topic, it is not mentioned again. It doesn't have to be mentioned again. As long as you haven't changed the topic, it's still the topic, but you interpret each of the successive sentences in relation to it. OK. So the background reading. Well, it's background reading for doing the dissertation, not for something else.

This is structurally and conceptually a loose connection between topic and target. First of all, because there can be so many targets, and the target can be far away from the topic in the discourse. Secondly, because you don't have to mention the topic any more. It just remains implicit, so it's structurally not part of the target clause. Also, semantically the topic might be very peripheral within a particular target clause. For example, you have to worry about continued financial support. The dissertation is rather remotely connected to the notion of financial support. It's financial support so that you can live during the period of doing the dissertation. So it's not a very direct connection, but it's still a connection, you are still interpreting that clause in relation to the dissertation.

OK, so that's one level of organization. Of course, there can be many levels. A smaller level of organization is the sentence level, as in 47 *Jack, when I go to see him, he's never home, and he's always complaining that his friends ignore him*. That's a complex sentence. Or it could be just a single clause as a target: *Jack, he's always complaining*. So we have smaller domains of structure over which something is a topic. They can be just a sentence or even just a clause. At these lower levels, there is a greater tendency, I think, for the topic to be explicitly mentioned again as a pivot, so *Jack, he's always complaining*. And there's a greater tendency for the pivot to be central to the clause. In 47, it's the subject or the object or a possessor. But the topic nominal is still external to any of the target clauses, it's not structurally a part of those clauses. It combines with the clause to form the entire sentence. Sometimes the topic is implicit. You don't always have to mention it. *The lottery, I'm always unlucky*. Probably, you mean unlucky with respect to the lottery. You can do the same thing in French, more easily in French. English tends to require an explicit pivot. Other languages leave it implicit more easily.

So what does a topic construction like 47(b) look like? How do you put that together? Well, this is the way I would, today at least, analyze it. You have a clause. This is a target clause. Of course, internally that clause has a reference point relationship, and the trajector is a reference point, the intrinsic reference point for conceptualizing that process. So you see the subject reference point configuration. But we combine that clause with a nominal which is external to the clause. This is a full clause. This is a noun phrase or a nominal. And that profiles a thing. And as part of the constructional meaning, not something that is necessarily marked with a separate marker, but as part of the constructional meaning, we construe that thing as a reference point with respect to that clause. For some languages, it explicitly marks this nominal as a topic, like the *wa* in Japanese. In English and French, and I think Chinese, you do not do that, you just suppose this. And the result then looks like this—I'm currently

analyzing this, but I think I will stick to this analysis. And I'm analyzing this type of expression as having two successive profiles. Not one overall profile. There are two windows of attention, in each of which there's a profile. You first profile this thing, and that's construed as a reference point with respect to this proposition which has its own profile. So a succession of profiles. So I'm building a kind of dynamicity into the topic construction, which I think is sort of obvious in a way.

But this is only one kind of topic construction. Another kind is equally much a discourse topic construction, but the topic is structurally part of the clause. Here the nominal is outside the clause, but it can also be inside the clause. And examples of that are found in 51: *Bill Alice admires*. I could say *Bill, Alice admires him*. That's the first construction, but this one is all one clause: *Bill Alice admires*. And you can tell that Bill is a topic, because it's out of its normal object position and it precedes the subject. But it's all one clause. It can all have a single intonation contour. You can also do that for the subject, except there's no difference in word order so it's not so obvious that you are doing it. You can say *Alice admires Bill*, considering Alice to be a clause internal topic. Normally you can't tell because there's no change in word order. But in a contrastive situation, it's clear, as in 52: *BILL Alice admires, JACK she doesn't*. If I do the same thing with subjects, I have emphasis on the two subjects, and it's clear that the subject is being established as a topic also: *ALICE admires Bill, JANET doesn't*.

So, a clause internal topic construction, what does that look like? And that's essentially where I'm going to wind up this morning. First of all, let's look at the subject and object constructions. The object case first. This is an object construction. This is the verb, trajector, landmark. This is the object noun phrase. Y is the content here. The object profiles a thing which corresponds to the landmark of the verb. You've seen this before with different notations. But anyway, the composite structure is something like a verb phrase where you have a specified landmark. And you can go on and specify the trajector to give you a full clause. So this is what an object construction will look like with this notation. Now, let's combine that. Let's look at the object-topic construction. These are sentences like *Bill Alice likes*. So this would be *Bill* and this would be *Alice likes*. OK. In this construction, the two major constituents are the object nominal and the subject plus verb combination, which you previously put together. So this is *Alice likes*. And this is the object-topic construction. You combine that with *Bill*. And there are two things happening simultaneously in this construction. First of all, the nominal is construed as a topic for this process. This is the topic relation. This looks just like the topic construction that you see up here. That's a topic relationship. But also, the nominal referent is identified with the landmark of the process. That's the same as the object construction.

In other words, this construction overall is a blend of the topic construction and the object construction. It does both in one construction. And when you do that, you have the configuration shown at the top. The landmark is now identified as Y. And in addition to the internal trajector/landmark alignment, you have the topic relation where Y is the starting point. It's the topic with respect to the entire process for discourse purposes. So the initial point of access is Y for discourse purposes, and then, what you access through that is the process itself that contains Y in the first place.

OK. The subject construction is analogous. This is the regular subject construction where the nominal specifies the trajector of a verb. And then in the subject-topic construction, you do two things simultaneously. That nominal both specifies the trajector but it is also construed as a topic. So the result is that shown up here. So in this construction, the subject is a topic in the sense of being the trajector for the process, but it's also a topic in a discourse sense. So the subject is already the starting point for the clause, so it doesn't look any different from the way looks up here. But it's a subject. It's a topic with respect to the overall process in two respects, intrinsically for conceiving the process and then extrinsically as a discourse topic. But since the subject is already intrinsically a topic, that's not a very big difference. It's a matter of whether there's an additional motivation for making it a reference point, which maybe correlates with it being invisible phonologically.

So I'm essentially done. I'm going to skip some last things in this handout, but I want to call attention, again, to levels of organization. You have topics at any level of organization down to the level of a clause. Starting from maybe a whole paragraph or the sentence level, with a topic still external to a sentence, the clause level with a topic external to a clause. And then the topic is becoming more and more closely associated with the clause. When you get to this clause-internal topic construction, the topic is inside the clause structurally. The tight relationship between topic and target clause, a very tight relation, is internal to a single clause. The trajector I'm also analyzing as a topic. The trajector is like the last step in this progression. As you go from a loose connection between topic and clause to progressively tighter connections, and from extrinsic relationships to progressively less extrinsic relationships, trajector is the last step. It's not even a clause. A trajector's internal to just the verb. At the verb level, you have a trajector and the topic relationship. The reference point relationship the trajector has to the verb is intrinsic to the very conception of that verb. OK. So think of trajector as the last step in these successive levels of topic-comment organization. The trajector is the final step and totally intrinsic to the very conception of the profiled relationship.

OK. Maybe we have five minutes for discussion. Thank you for listening.

Topic, Subject, and Possessor

1 *Affinity*

- (1) “... it seems clear that subject and topic are not unrelated notions. Subjects are essentially grammaticalized topics; in the process of being integrated into the case frame of the verb (at which point we call them subjects), topics become somewhat impure, and certain of their topic properties are weakened, but their topic-ness is still recognizable ... That is why many of the topic properties are shared by subjects in a number of languages. For example, some [subject-prominent] languages do not allow indefinite subjects” (Li and Thompson 1976: 484).
- (2) **Pivot:** the entity associated with a proposition that is identified with a topic and thus enables the proposition to function as a comment with respect to it.
- (3)
 - (a) *Your nephew, he will never amount to anything.*
 - (b) *Your nephew, I really like him.*
 - (c) *Bill, his friend just died.*
 - (d) *Bill, I really liked his friend.*
- (4) *Booth's assassination [of Lincoln]; Lincoln's assassination [by Booth]*
- (5)
 - (a) *Il lève la main.* ‘He raises his hand.’ [French]
 - (b) *J'ouvre la bouche.* ‘I open my mouth.’
 - (c) *Nous fermons les yeux.* ‘We close our eyes.’
- (6)
 - (a) *Nicole, Pierre, elle ne l'aime pas.* [French]
‘Nicole, Peter, she doesn't like him.’
 - (b) *Pierre, sa soeur, je la déteste.* ‘Peter, his sister, I hate her.’
- (7) *Ibu anak itu membeli sepatu.* [Indonesian]
mother child that buy shoe
‘That child's mother bought shoes.’
- (8) *Ibu anak itu, dia membeli sepatu.*
mother child that she buy shoe
‘That child's mother, she bought shoes.’

- (9) *Anak itu, ibu-nja membeli sepatu.*
 child that mother-his buy shoe
 'That child, his mother bought shoes.'
- (10) **Sepatu itu, ibu anak itu membeli.*
 shoe that mother child that buy
 'Those shoes, that child's mother bought them.'
- (11) *Chelswu-ka Swuni-lul casin-uy chayk-ul* [Korean]
 Chelswu-SUBJ Swuni-OBJ self-POSS office-LOC
cwu-ess-ta.
 meet-PAST-ASSR
 'Chelswu met Suni in self's [Chelswu's] office.'
- (12) *Inho-uy Seoul saynghwal-un ton-i casin-uy*
 Inho-POSS Seoul living-TOP money-SUBJ self-POSS
chechi-eyse kacang kun eleywem-i-ess-ta.
 situation-LOC most big difficulty-be-PAST-ASSR
 'In Inho's life in Seoul, money was the greatest difficulty in self's [Inho's] situation.'
- (13) *Noo=n no-puush konoknish.* 'I have green eyes.' [Luiseno]
 I=1S:PRES my-eye green
- (14) *Xwaan=up po-toonav qala.* 'Juan has a basket.'
 Juan=3S:PRES his-basket sits
- (15) *Noo=up no-te' tiiwu-q.* 'I have a stomach ache.'
 I=3S:PRES my-stomach hurt-PRES
- (16) [*noo=up* [*no-te'* *tiiwu-q*]]
 outer inner
 subject subject
-
- inner clause
-
- full clause

2 *Reference Point Phenomena*

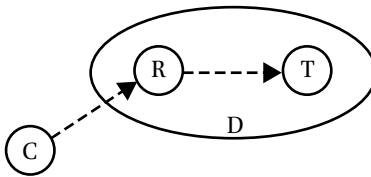
- (17) Conceptualization is inherently **dynamic**: it occurs through **processing time**, the specific nature of its temporal development being essential to its value.

- (18) (a) *Do you see that boat out there in the lake? There's a bird in the water right next to it.*
 (b) *Do you remember the surgeon we met at your sister's party? His wife just had twins.*

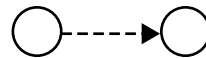
- (19) A **conceptualizer** (C) has the ability to invoke one conceived entity as a **reference point** (R) for purposes of establishing “mental contact” with another, the **target** (T). The set of entities accessible via a given reference point constitute its **dominion** (D).

(20)

(a) Reference Point Relationship



(b) Abbreviation



- (21) (a) *My car is no longer dependable. The motor is just about shot.*
 (b) *I would never buy this house. The roof leaks badly.*

- (22) (a) *Chicago is all excited about the Bulls.*
 (b) *Chicago has just won another championship.*
 (c) *Chicago was late in sending in its application.*
 (d) *Chicago is right here in the stack between Dallas and Memphis.*

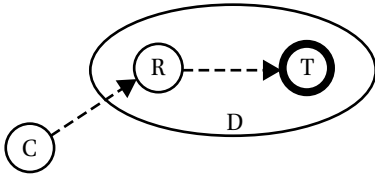
- (23) In pronominal anaphora, the antecedent nominal functions as a reference point for purposes of interpreting a pronoun. A nominal's dominion is the stretch of discourse for which it functions as a reference point.

- (24) A **possessive** construction can be characterized schematically as a **reference point** construction: the possessor is a reference point, and the possessed, a target found in its dominion.

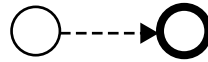
- (25) (a) *the boy's shoe; Jeff's uncle; the cat's paw; their lice; the baby's diaper; my train; Sally's job; our problem; her enthusiasm; its location; your candidate; the city's destruction*
 (b) **the shoe's boy; *the paw's cat; *the diaper's baby; *the destruction's city*

(26)

(a) Possessive Construction



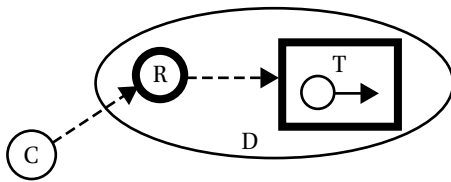
(b) Abbreviation



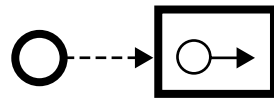
- (27) *The lottery, I never have any luck.*

(28)

(a) Topic Construction



(b) Abbreviation



- (29) (a) *My car, the motor is just about shot.*
 (b) *My car, its motor is just about shot.*
 (c) *My car, it's just about shot.*

3 Subject and Object

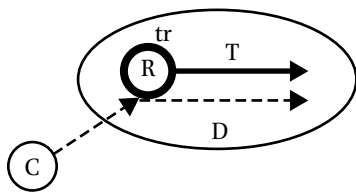
- (30) In a profiled relationship, some entity—termed the **trajector** (*tr*)—stands out as the one the expression is concerned with locating, characterizing, or assessing in relation to others. A salient entity with respect to which the trajector is located or evaluated is called a **landmark** (*lm*). The trajector and landmark of a profiled relation can be characterized as its **primary and secondary focal participants**.

- (31) At a given level of organization, a **subject** is a nominal whose profile corresponds to the **trajector** of a profiled relationship, and an **object**, one whose profile corresponds to the **landmark**.
- (32) (a) The trajector and landmark of a profiled relationship are distinguished from other relational elements by the **focal prominence** conferred on them.
 (b) Their prominence is **asymmetrical**, trajector and landmark being describable as **primary** and **secondary** focal elements.
 (c) This prominence asymmetry has a **temporal** dimension; the trajector's **primary** focal prominence resides at least partially in its role as **initial** point of access.
 (d) As successive foci, trajector and landmark are properly described as **reference point** and **target**, or equivalently, as **first** and **second** elements in a reference point **chain**.
- (33) (a) *Alexander broke the vase.* [subject and object]
 (b) *The vase broke.* [subject only]
 (c) **Broke the vase.* [object only]
- (34) At the time of utterance formulation, the speaker codes the referent currently in **focal attention** as the **syntactic subject** of the utterance. (Tomlin 1995; 1997; Forrest 1996)
- (35) (a) *My wife is the mayor.*
 (b) *The mayor is my wife.*
- (36) (a) *A tiger is a feline.*
 (b) **A feline is a tiger.*
- (37) (a) *my mother's cousin's friend's sister's lawyer*
 (b) *In the kitchen, on the counter, next to the toaster sat the missing kitten.*
- (38) (a) *My sister lost her keys.*
 (b) **She lost my sister's keys.*
 (c) *I observed the baboons in their natural habitat.*
 (d) **I observed them in the baboons' natural habitat.*

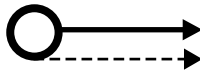
- (39) *the army's destruction [of the city]; the city's destruction [by the army]*
- (40) A relationship is **conceptually dependent**, in the sense that its own conception presupposes and incorporates the conception of its participants. By virtue of providing mental access to a relational conception, participants are reference points with respect to it.
- (41) A trajector is the initial reference point for the conception of a profiled relationship. Its dominion is the set of relationships it potentially “anchors”, and the relationship actually conceived and profiled is the target.

(42)

(a) Relational Trajector

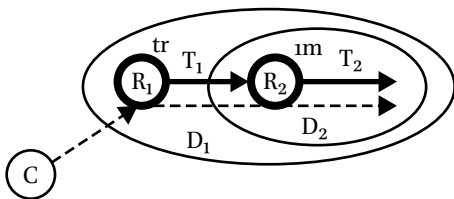


(b) Abbreviation



(43)

(a) Trajector and Landmark

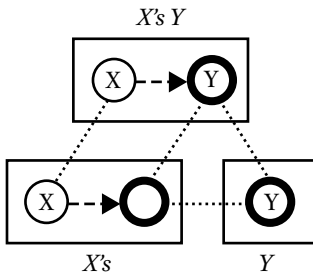


(b) Abbreviation

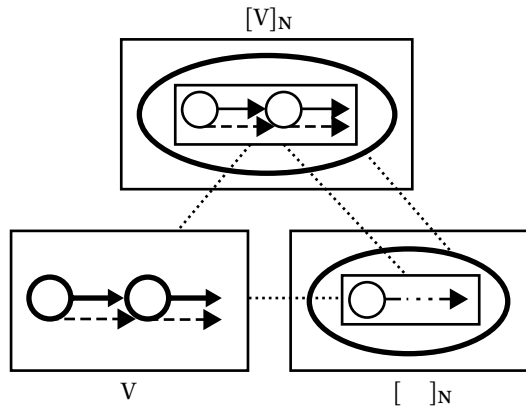


(44)

(a) Possessive Construction

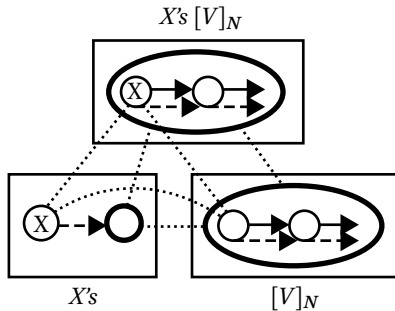


(b) Nominalization

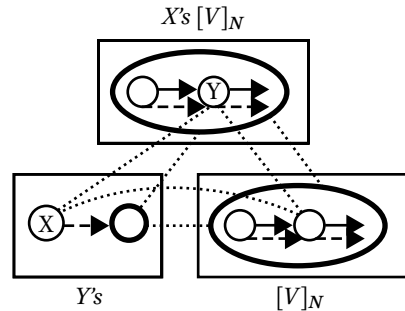


(45)

(a) Subject Periphrasis



(b) Object Periphrasis



4 *Topic and Subject*

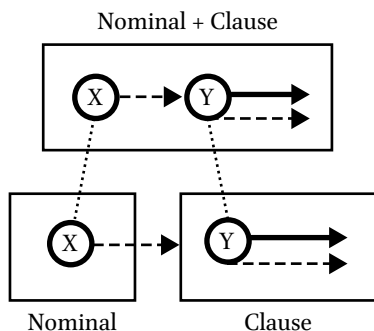
- (46) *It's really hard to write a dissertation. You have to find a subject. Then you have to come up with some ideas and do lots of preliminary analyses. When you do the background reading, you find that most of those ideas have already been proposed and rejected. So you have to work for a number of years before anything viable starts to take shape. You have to worry about continued financial support. Then you have to satisfy five committee members with mutually incompatible notions about what you should be doing. You have to go through about seven drafts. Then ...*

- (47) (a) *Jack, when I go to see him, he's never home, and he's always complaining that his friends ignore him.*
 (b) *Jack, he's always complaining.*

(48) *The lottery, I'm always unlucky.*

(49) *La mer, tu vois de l'eau.* 'The ocean, you see water.' [French]

(50)

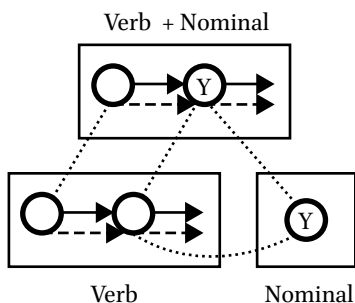


- (51) (a) *Bill Alice admires.*
 (b) *Alice admires Bill.*

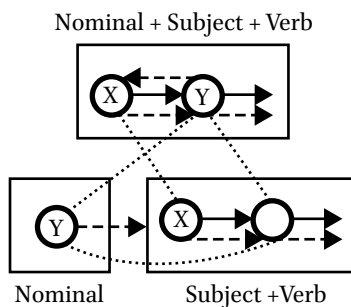
- (52) (a) *BILL Alice admires, JACK she doesn't.*
 (b) *ALICE admires Bill, JANET doesn't.*

(53)

(a) Object Construction

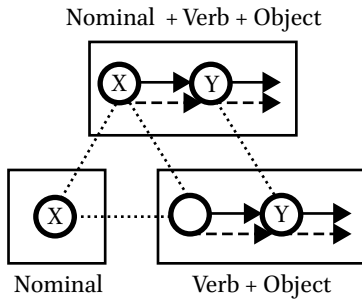


(b) Object-Topic Construction

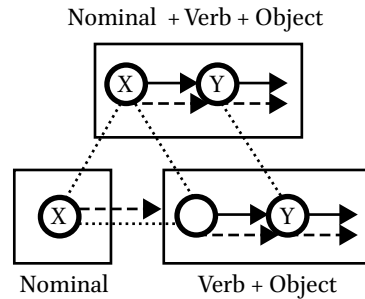


(54)

(a) Subject Construction



(b) Subject-Topic Construction



- (55) (a) *What's wrong? My neck hurts.* [thetic; sentence focus]
 (b) *What's wrong with **your neck**?* [categorical; predicate focus]
My neck hurts.
- (56) (a) A **discourse topic** is commonly extrinsic and structurally external to a comment clause, whose integration in its dominion depends on contingencies of the current discourse.
 (b) A **subject** or **object** is an inherent part of a clause's internal structure, serving as reference point with respect to the very act of conceptualizing the profiled relationship.
 (c) Subject and object specify the trajector and landmark of a profiled process, which may or may not be the one profiled by the lexical verb. The **trajector** and **landmark** of a verb are its own, internal reference points, hence intrinsic to the verb itself.
- (57) (a) *Jack came home late in the afternoon. There was **Jill**, working at her computer. He walked over and hugged her.*
 (b) ***Henri, ma cousine**, il ne l'aime pas.* 'Henry, my cousin, he doesn't like her.' [French]
 (c) *Jack admires **Jill**.*
 (d) *admire*
- (58) Trajector/landmark alignment is inherent in the meanings of relational expressions at any level of organization. At the lexical level, it is a facet of how we categorize the world in terms of conventionally recognized relation types. The default alignment imposed by lexical categorization can be overridden at higher levels of grammatical organization, primarily for discourse considerations.

- (59) Discourse continuity is generally enhanced when the participant chosen as clausal subject is also the pivot corresponding to a salient topic. A pivot is the point of connection between a topic and a comment clause in its dominion, and a clause's subject is the point of access for conceptualizing the process it profiles.
- (60) *You really should think about buying my car. It was just repainted, and it drives very smoothly.*
- (61) The clause level is where the discourse and categorization functions meet. A clause is the smallest unit of discourse over which a topic holds dominion as the active reference point. It is also the largest unit for which we can posit a single overall trajectory, either inherited by default from the lexical verb or imposed by a special construction.

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All original audio-recordings and other supplementary material, such as any hand-outs and powerpoint presentations for the lecture series, have been made available online and are referenced via unique DOI numbers on the website www.figshare.com. They may be accessed via this QR code and the following dynamic link: <https://doi.org/10.6084/m9.figshare.4788769>.

Double Subject Constructions

One minute yet, but any time you are ready I'm ready. I'm glad that some of you are still here. I see some people were sleeping when I came in. It's a good thing to do on a Sunday afternoon, it's very unnatural to be here thinking about grammar. Once again, I have a disadvantage in talking about this subject or about this topic, double subject constructions, because English doesn't have this, but Chinese does. Japanese certainly does, that's where many examples will come from. A student of mine, Toshiyuki Kumashiro, worked on this for his dissertation. So this is really a joint work between us. It's based on his dissertation and also a joint article we published in *Cognitive Linguistics* in 2003. The data and judgments are all his, so if you think the Japanese is wrong, it's not my fault. But at least one native speaker makes these judgments.

I briefly introduced the double subject phenomenon this morning, with examples from Luiseño, some of which are repeated in 9 and 10. But let's start with the Japanese. We will talk about sentences like 1 and 2, and you will see lots more examples later on. And I won't try to pronounce the Japanese, although I might have better luck than if I would try to pronounce Chinese. In any case 1 is literally *Taro nose flat* for what we would say in English as *Taro has a flat nose*. Or *Japanese rice be staple food* for *The Japanese have rice as their staple food*. What you might notice about these sentences is that they start with two noun phrases, *Taroo* and *hana*, and then *Japanese* and *rice*. And both of these noun phrases in one way or another function or look like subjects. In this case, they are both marked by the subject marker *ga*. So it looks like a double subject construction. And that will be the analysis. These are double subject constructions. But what does it mean for a clause to have two subjects? What is the grammar and the semantics, and how do you describe all of this?

Now actually, you have to make a finer distinction. The class of constructions that look like this, that I'm calling double subject constructions in a broad sense, really divide into two types. There's one type which is a double subject construction in a narrow sense. That would be an example like number 2. OK. But the other subclass, when you look at it carefully, you find grammatical reasons to distinguish it. Even though it is in one way a kind of double subject construction, in another way, it is really just a single clause construction with a single subject and a complex predicate. Example 1 is like that. So eventually I will be distinguishing these two types. But they have a lot in common and

the complex predicate type will turn out to be just a special case of the double subject construction when something additional happens.

So for now, I'm just talking about double subject constructions. And you see of course some Mandarin examples in 5–6, which are taken from a published article. I'm sure you can supply many more examples. You will have to decide which ones behave as double subject constructions and which ones as complex predicate constructions, or how the language works. I don't have anything specific to say about Chinese. But it has at least an analogous phenomenon.

This is a phenomenon found in many languages, especially in this part of the world. Some Korean examples in 3–4. I'll just read this literally in translation. *I stomach ache* for *My stomach aches*. Or *I the man likeable* for *I like the man*. And then there are the Mandarin examples. *He head painful* for *He has a headache*. Newari, a language of Nepal: *The dog fly exist*, and *the dog* is marked with a case marker, comitative case, which you translate as *with*. So like *The dog-with fly exist* for *The dog has flies*. And then, *I-Dative she beautiful*. Dative case is semantically centered on the notion of mental experience. So this might be translated as *I experientially she beautiful*. And then the Luiseño examples which I described this morning. In American Indian languages you might not expect to find this construction but you do. It's different, for in all the other examples I've given, there isn't anything like a possessive marker, but there is one in Luiseño. So *I my-eye green* or *I my-stomach hurt* for 10. So the details are a little bit different, but the same generalizations are going to apply. In No. 11 on the handout, I repeat them with a slightly different notation.

The general structure of these expressions includes what you might call an inner clause consisting of a second noun phrase and some kind of predicate. That itself is a clause and could stand alone as a clause. So in Luiseño I could say *no-te' tiiwu-q*, *my stomach hurts*. That would be OK as a clause. But in the larger construction, there's an outer noun phrase, noun phrase No. 1, which combines with that to form a higher level structure which is also a clause. So *Noo=up no-te' tiiwu-q*. And it is all a single clause, because this clitic, this *=up* that occurs in Luiseño, is a marker that occurs after the first word of a clause, and agrees with its subject, among other things. And here it agrees or could agree with the *noo*. In this particular sentence, it agrees with *stomach ache*. In 9 and 10, it differs in that respect. In one case, the clitic agrees with the outer subject NP1. In the other case, it agrees with the inner subject NP2. Expressions of this sort have some recurring, seemingly fairly consistent properties, which I state in 12. As I said, both noun phrase 1 and noun phrase 2 have some claim to being subjects. The basis for that is different from language to language. You have to see what is evidence for something being a subject in a given language. I mentioned the *ga* marking in Japanese and the clitic agreement in Luiseño as

two such pieces of evidence in those languages. 12(b), NP2 and the predicate can themselves constitute a clause. That's the inner clause. The entire sentence also has clausal status. That's the full clause.

Now, we get into some other properties. NP1 semantically seems to be a topic with respect to the inner clause. So this is now a different kind of topic construction than the one I talked about this morning. This is sort of intermediate between the clause-external topic construction and the clause-internal topic construction that I talked about this morning. The topic is in a sense internal to a clause, but it's internal with respect to the full clause. It's external with respect to the inner clause. It's intermediate. It's a different possibility still for having a topic. 12(e), NP1 is typically a possessor with respect to NP2. So if you go through a lot of these examples, there's a possessive relationship in the Luiseño, there's always a marked possessive element.

And, typically, this possessive relationship is a body-part relationship. The kinds of examples that I gave are the kinds of examples which are usually cited as normal examples of this construction, *I my stomach hurt*. Same example in 3 from Korean. Similar example in 6 from Chinese. That's seems to be somehow the conceptual core of this construction. Also, more generally, NP1 is usually an experiencer with respect to the inner clause. That shows up in part in the Newari example, where it is marked with dative case. Also, the sentences are always stative. They don't describe events, but states. And, interestingly, they often translate into English with *have* even though there isn't any verb *have* in these sentences. Just think about that for a second. All of these examples in 1 through 10, I could translate naturally into English with *have*. *Taro has a flat nose*. But there's no verb *have* there. It's just *Taro nose flat*. Or *The Japanese have rice as their staple food*. *I have a stomach ache*, *The dog has flies*. Even things like 8, *I think she's beautiful*. I could say that in English: *I have her as beautiful*. That's not the most natural thing, but you would be understood. I could say that. So there's some connection to the verb *have*. But there's not literally any connection to the verb *have* itself because there isn't any verb like that. So how does all this work?

Now this next section is a review of what we did this morning. I won't spend any amount of time on it, but I will go through it because there were a lot of difficult things we went through this morning, and I think it will be helpful to go through it again to rehearse some of the ideas and the notations. And then we will be in a position to talk about the double subject construction itself and how it's analyzed.

I start in 13 by talking again about the reference point ability. A conceptualizer has the ability to invoke an entity as a reference point in order to establish mental contact with another entity that I call a target. The dominion is the set

of possible targets that you can reach through a particular reference point, and this [14(b)] was the abbreviation I adopted for that as a general abbreviation. That's easy enough. Then different types of reference point relations. Once again, I think this is maybe superfluous if you were here this morning, but very quickly. A possessive relationship is a particular kind of reference point relationship. It involves two things. In a simple possessive like *Bill's dog*, the possessed element is the target and it's profiled by the entire expression. So there are two things, one of which is shown as the profile. And that's abbreviated in this fashion [16(b)]. I describe a topic as a reference point with respect to a process or a proposition, the content of a clause. So it's another kind of reference point relation, which is distinguished by the kind of target it has and by its function as a kind of discourse relationship. So this is a process, the content of a clause, of a grounded clause, what I call a proposition. And that's abbreviated in this fashion [19(b)]. OK, so that will be a topic relationship, which we saw can occur at different levels of organization. Now, a particular kind of topic construction, the clause-external construction like 18 *Your brother, he's always complaining. The lottery, I never have any luck*. That's a case where you take a full clause like *I never have any luck*. That's a clause by itself. This stands for the trajector, a reference point relationship. Then we take a full noun phrase like *the lottery*, which is the topic. And independently these don't have anything to do with discourse level reference point relationships. It's just a clause and a noun phrase. But the construction permits this. We have this construction whereby we put these together in a certain order. We simply juxtapose them phonologically with this particular intonation break. *The lottery, I never have any luck*. And that indicates that the nominal profile functions as a reference point with respect to the clausal proposition, so that's an instance of this configuration up here. And what that means is that the clause is to be interpreted in the domain of knowledge that's centered on that reference point. So if I say *the lottery, I never have any luck*, you take that as meaning I never have any luck with respect to the lottery. *The lottery, I never have any luck* could not mean *I never have any luck with respect to getting married*, for instance. It's with respect to the lottery.

As for profiling, I take this clause-external topic construction to involve successive windows of attention. You first evoke the nominal element and then you evoke the clausal element, and each is profiled in its own window of attention, so there are two successive profiles. That's the way I think I want to analyze that construction. Then at the other extreme, I analyze trajector and landmark as reference point phenomena. In this case, the topic is internal to the profiled relationship of a single verb. OK. That's how I analyze trajector and landmark. This is a verbal process. These are the two focused participants. And I treat the trajector as the first reference point evoked in building up to

the full conception of a profiled relationship, and then a landmark as the second reference point invoked for that purpose. So I gave some evidence that some sequence of access is involved and that constitutes what it means to be a trajector and a landmark. This is part of what I mean as a trajector and landmark. And the reference point relationship in this case is intrinsic to the conception of the process itself. The target is simply the full conception of the profiled relationship. And you have to evoke the participants in order to do that, so in that sense they are reference points giving you access to the full conception.

And finally, as a last point of review, the intermediate case that we talked about between trajector/landmark and clause-external topics, this was a clause-internal topic construction. Of course, double subject constructions are intermediate between that and something else, so they are different. The subject and object constructions look like this. Again, by now they should be familiar to you. Here's a verb with two participants, trajector and landmark, an object is a nominal which corresponds to the landmark, and it elaborates it, so the composite expression of a verb plus noun phrase object looks like that. In a subject construction, let's assume that you add the subject last in terms of constituency. That's not important, but if you first take a verb plus object combination like this, then you still have a schematic trajector, and a nominal which corresponds to that trajector will be a subject, and so you wind up with the composite structure like that. So those are the subject and object constructions I have been talking about for several days now, the basic constructions. And the other possibility for topics is the case where you have an object-topic construction or a subject-topic construction. The topic is internal to the clause, but simultaneously, in addition to being a topic, it is the subject or an object. And these I described as blends between the subject construction and the regular topic construction. So, here's a subject plus a verb. These were cases like *Bill Alice likes*. So, here we have the subject and verb combination *Alice likes*, we combine that with a nominal. In this case, it will be *Bill*. *Bill* is the object, because it corresponds to the landmark, but simultaneously, *Bill* is taken as a topic with respect to the proposition of which it is the landmark. So it's a blend of the topic construction and the object construction, and this is the composite result. *Bill*, this is the first word, first in terms of word order. *Bill Alice likes*, and *Bill* is the point of access to the entire process because it's a topic. But that entire process involves access in this direction, because this is the trajector and landmark. So there's complex processing involved where at one level we start with Y, and at another level we start with X. Cognitive processing, I think, always takes place on different levels and can be complex like that.

A subject-topic construction is a blend of a topic construction and a regular subject construction, so in something like *Alice likes Bill*, *Alice* is both a topic

and a subject. You can't distinguish that in terms of this notation from the regular subject construction, since the trajector is the overall reference point in any case. And that correlates with your not always being able to distinguish whether it's a topic or not phonologically.

OK, that was review. I hope you weren't too bored by going through it again, but it might help to get things in place for what's going to follow. I'm going to take my time through this, because there're some subtleties. I don't think it's harder than some of the things we've already gone through, so I hope it won't be too bad. And I think we will get through with enough time to have a lot of questions, including questions, if you like, for the whole series of talks that you've had so far. But I often say things like that and then I talk too long, and there's no time left. There's really such a chance anyway. Alright. That was a review of things we've done already this morning. But now let's think about the double subject constructions. Think again about the data in 1 through 10, and the special properties in 12. And you may have to flip back and forth in your handout, unfortunately, for some of these things.

The double subject constructions are different from both clause-external topic constructions and clause-internal topic constructions. And how are they different? I've given that in 25 and 26 on the handout. First compare double subject constructions to clause-external topic constructions. So that's things like *Bill, Alice likes him*. A double subject construction is different from that, because, first of all, they constitute a single clause, with a single intonation contour. With *Bill, Alice likes him*, there's a break, *Bill* is the topic, then you have a full clause. The topic is not part of the clause structurally or intonationally. In double subject constructions, there is a single clause consisting of both of those elements, with a single intonation contour. That's one difference. Another is that I will analyze a double subject construction as having a single overall profile. In the case of the external topic construction, I talked about a sequence of profiles: you first profile a thing, then you profile a process. There's a series of profiles. It's a complex structure in dynamic terms. But I will take a double subject construction as having a single overall profile, and that goes along with it being a single window of attention, as signaled by a single intonation contour. And third, double subject constructions differ from clause-external topic constructions because of all the properties that I've listed in 12. Double subject constructions have a whole series of distinctive properties. For example, they are always stative. And have a body-part relationship which is prototypical, and so on. They translate naturally with *have*. These are not characteristics of a clause-external construction in general. For instance, a clause-external object construction can describe an event. *Bill, he just went to the store*. That's an event.

So, we have to distinguish this from clause-external topic constructions, but we also have to distinguish double subject constructions from clause-internal topic constructions like *Bill Alice admires*. Why are they different from clause-internal topic constructions? First of all, the first nominal NP₁, the external subject, is not part of the predicate's argument structure. NP₁ is an extra complement, it's not something you expect as a normal complement of the verb. So if I say, for example, in sentence 1, *Taro nose flat, flat* is one-place predicate, *Taro* is an extra argument. Secondly, the initial nominal NP₁ does have the status of a subject—even though it's not an argument of the predicate, it does have subject status. And that's not true of a clause-internal topic. In *Bill Alice admires*, *Bill* is not a subject. It's only an object and a topic. So this suggests, this is (iii) in 26, that the construction has some kind of clausal organization, distinct from the clausal organization that you expect with the predicate. Take something like *I stomach hurt*. *Hurt* takes just *stomach* as its subject. But there is evidence that *I* is also the subject there. So subject is a notion that goes along with clauses, and there seems to be some clausal organization with respect to which *I* is the subject, which is different from that of the inner clause.

So, I will give you the analysis. This is the way I will describe these double subject constructions. The properties I just went through are all reflected in the structure. The structure is based on those properties and captures those properties. So we have the predicate. We have the inner subject, that's a noun phrase. We have the outer subject, which is another noun phrase. The predicate has a trajector at least. That's an internal reference point. The inner clause just consists of the subject and predicate. It's a normal subject relationship. NP₂ elaborates the trajector to give us what is possibly a clause. And what's profiled is the process, at that level. The double subject construction just involves another level of organization. We take another noun phrase, that's NP₁, and construe it as a topic or reference point with respect to the inner clause. And this is the crucial thing. At the composite structure level, we want a single clause with a single profile. It's always a single clause with a single intonation contour, a single profile I'm assuming. I take this, the full clause, as profiling the reference point relationship itself. So that at the level of the full clause what's profiled is that reference point relationship, not the relation that's profiled by the predicate. This is what the grammar points to, actually. So we capture the phenomena pretty well in initial terms. These are both subjects, and with this picture, we are ready to go through this.

First of all, this reflects the properties that I give in 25 and 26. The elements all do constitute a single clause with a single intonation contour. Then presumably it has just a single overall profile. That's all reflected here. The first nominal is a subject. Well, I've talked about that. The first nominal is not part of

the predicate-argument structure. That's reflected. You get the right form here. And there is a clausal organization that's different from the one established by the predicate. It's a higher level of clausal organization, which accesses the subject or the trajector. Now, I'm going to give various further considerations which give you some further support for this kind of structure, which seems to capture the form of the expression very nicely, and the properties very nicely.

First of all, what is the definition of trajector? I told you that this morning. So I should ask you, you could all answer together. The trajector is a reference point. It is a process-internal reference point, the first reference point invoked in order to build up to the conception of a profiled relationship. So if the trajector is the initial reference point in accessing a profiled relationship, what happens when you take a topic relationship and make that into the profiled relationship? I'm taking *X* as a topic with respect to this inner clause. And I'm saying that this is a construction within which the reference point relationship itself is profiled at the level of the full expression. Well, if the trajector of a process is the first reference point accessed for conceiving that relationship, then when you profile a reference point relationship, the reference point has to be the trajector. In other words, it's automatic that *X* is going to be a subject. Subject itself is defined in terms of a reference point relationship with respect to a profiled process. This is the profiled relationship, and itself is a reference point relationship, so this has to be a trajector, by the definition of trajector. So the subject status of *X* is automatic, given that this is a topic and given that the topic relationship becomes profiled. That's this higher clausal level. At least you see, I hope, that things fit together neatly here.

Let's discuss further considerations. This may look like an unfamiliar kind of structure. This is a possible symbolic assembly. It involves some things that are not typical of constructions. But as I pointed out the other day, there are many constructions that are not typical constructions. Symbolic assemblies have many different forms besides the more common ones. And there's nothing unusual in this. There's nothing that isn't attested in many other kinds of phenomena, and I will show a little bit of that. They further motivate this as a plausible grammatical description. Some of these are listed in 29. These are things that are independent of the double subject construction, and I will give you examples. They just also apply in this case. So double subject constructions incorporate nothing that isn't independently known to be possible. First of all, reference point relationships are often signaled phonologically simply by putting two elements together without any special marking of the reference point relationship. Secondly, a verb or clause can profile a reference point relationship, and third, an expression's composite structure can profile something not profiled by either component structure.

OK, so all those are part of this structure. (a) Reference point relationships are often signaled by simply juxtaposing elements, that is putting them together without a morphological marker. And that's what's happening here. Something like *Taro nose flat*, there's no special marker of topic-hood here. It's just juxtaposing, putting these together. Secondly, a verb or a clause can profile a reference point relationship. Well, that's what's claimed up here. The reference point relationship itself is the clausal process. It's the profiled relationship. And then third, an expression's composite structure can have a profile that is not inherited from either component structure, and that's the case here. The outer subject profiles a thing. The inner clause profiles this process, but the composite expression profiles this relationship. So, that's how the properties in 29 are reflected here.

The next step is to show that these are things that happen. These are not anything to worry about as problems because these are things that regularly happen in language. So, in 30. First of all, it's very common with reference point relationships, for the reference point relationship to be expressed simply by putting two things together. Look at 31. 31 is from Guarani, a native language of South America. (Paraguay in particular.) It's simply *crocodile tail*, and we will translate that in English as *the crocodile's tail*. But there's no marker like the English 's or like the Chinese *de*. They're just juxtaposed. OK? And that's a very common way to express possession across languages. You put the possessor noun phrase next to the possessed noun. The Indonesian example we had this morning in 32 is just like this except the order is opposite, *mother that child* for *that child's mother*. Simple juxtaposition. Identity is a special kind of reference point relationship, two things being identical. Think of identity as the case where the reference point and target are the same. There's no distinction between them. It's a special kind of reference point relationship. And that's often expressed by simple juxtaposition, as in 30. It's simply, *Juan man*. There's no predicate *be* or *equals* or anything like that, it simply puts together two noun phrases and that specifies their identity. Or a simple topic construction as in English *The lottery, I never have any luck*. Those are merely juxtaposed. There's no topic marker. You simply put the topic and target clause together.

30 shows that a reference point relationship can be marked by juxtaposition even when it's the profiled relation in a clause. *Juan is a man*. What is the profiled relationship? Well, you are actually profiling the identity relationship even though it's not morphologically signaled by a verb. To be a profiled relationship you don't have to be always explicitly signaled by a morphological element. In cases where the content of the profiled relationship is so minimal, as with reference point relationships, it can be implicit, but still be the profiled relationship. Even in cases of possession that sometimes happens. The

example in 33 is from a language of Mexico, called Yaqui. It's distantly related to Luiseño. There are many ways of expressing possession in this language at the clause level, but one way is simply by juxtaposing subject and possessed object. So literally *I house* for *I have a house*. And then there's a tense marker which goes on *house* because that's the only place to put it. These kinds of constructions are not problematic in this framework. They are just special cases of symbolic assemblies.

This is how I might describe English *have* versus that Yaqui expression. English *have* is a very general verb. It's a basic verb for possession of course, but it's used for many things besides what we traditionally call possession. At the schematic level, the most abstract level, I will say that *have* profiles a reference point relationship. Right? This is the Yaqui example, *I house*, and that's all there is in the sentence besides the tense marker, *I house*. You are simply juxtaposing the pronoun *I* and the noun *house*, and you construe them as participating in a reference point relationship. In this case, there's a reference point relationship between two things, so we call it a possessive relationship. And that reference point relationship is the one that's profiled at the composite structure level. This is a full clause, so it profiles a process. It does this without a verb like *have*. It just does this by invoking juxtaposition as a way of symbolizing a reference point relationship.

What about *have*? English *have*, of course, can be used for the prototypical cases of possession: *I have a cat*. *I have two feet*. *I have an aunt*. OK, body-part, kinship, ownership. But *have* is used very broadly in English. I'm speaking of just the cases where the subject and the object are both things. In many cases there's no specific content like ownership or whole and part. In many cases the relationship is so general that, effectively, you can say that the subject is merely a point of reference for locating the object. There's no sense in which the subject controls or owns the object. The subject is simply a reference point for locating the object. The cases in 35 come close to that. *February has only 28 days*. You could say that's a whole-part relation if you want. Or *The movie has a sad ending*. Again, you might say that's a whole-part relationship. But not (c): *The US has a high ratio of prisoners to total population*. A ratio is not part of the US. It simply says if you look at the US you will see this ratio. Or here's a nice example: *We have a lot of skunks around here*. The sentence would not normally be taken as meaning that we have skunks as pets, and there are skunks around the house, and these are our pets. I guess that would be possible, but the normal interpretation would be that where we live, in this area where we live, there are skunks. We simply invoke a location, and there are skunks in that location. That is getting close to simply invoking the subject as a reference point for locating the object, and that's the only relation between them. Or

I have the spaghetti. Alright. If you are in a restaurant and the waiter is bringing the dishes and the waiter is holding the spaghetti and wondering who to give the spaghetti to, you could say *I have the spaghetti*. You don't have the spaghetti yet in the sense of physically controlling it. The waiter has it. You are just the thing associated with it. And that's what you have to convey to the waiter.

I have spent time illustrating various points. The reference point relationship is often marked by simple juxtaposition. Reference point relationships can be profiled at the clause level, even when they are implicit and not marked by separate morphological markers. I've given you multiple examples of these things by now. The third point in 29, 29(c), is that an expression's composite structure profile is often different from the component structure profiles. Often there isn't any profile determinant in this sense. I gave you an example previously in detail, the example of *pickpocket*, to show this. That's here. Here's a simpler notation for it, and it's the same analysis, but I've simplified the diagram. *Pick* profiles an event. *Pocket* is the object with respect to that event, but in the compound *pickpocket*, the profile is the agent. So the profile of the entire compound is not the same as either the verb's profile or the noun's profile. And there are many other such cases where the composite structure profile is different from that of any component.

So going back to the description, the basic description of a double subject construction, there isn't anything there that should bother you about this being a plausible grammatical description. It's just a symbolic assembly, and all the things there that are not typical, are things that are at least common, as I've just shown you. A double subject construction comes about when, first of all, you signal a reference point relationship by juxtaposition. That's what you are doing. The outer subject is the reference point with respect to the inner clause, and you signal that just by putting them together one after the other. So that's in 37(a). Secondly, the target in this reference point relationship is a clause instead of a noun phrase. This is not a possessive relationship, it's more like a topic relationship because the target is a clause. And then, third, the reference point relationship, which is not profiled by either component structure, is profiled at the composite structure level.

Now, you can ask, why does the double subject construction exist? It's fairly common in languages, but why does it exist in the first place? Well, it's probably part of a more general phenomenon. There are many ways we have in language of making a conceptually more salient entity appear in a grammatically salient position. The cases in 38 would all be examples of this. In other words, the double subject construction serves a kind of function which is like the function, say, that the passive serves. There are cases where you use a passive because you want something that is highly prominent in the discourse to

appear in a grammatically prominent position. So consider 38(a), *She admired my house. A famous architect designed it.* That's perfectly OK, but it's a little bit awkward because you are really talking about the house, *she admired my house.* And then in the second clause, *the house*, which is really a focus of interest, is in object position, which is a less prominent position than subject position. So it's more natural in that kind of context to use a passive construction and say *She admired my house, it was designed by a famous architect*, making *it*—the more prominent element from the standpoint of discourse—the grammatical subject. So everything is brought into harmony.

Or metonymy is like that. (Always need to know where I am in terms of time, from here. That's good.) I could say *The team from Chicago won the championship*, but I could also say *Chicago won the championship*. And why would I say that? Well, *Chicago* is really the key word here, if you understand that you are talking about sports teams and so forth. *Chicago* is the key word here. It's the salient element. We identify the team relative to the city rather than identify the city relative to the team. And by using metonymy, it's simply *Chicago won the championship*. The more salient element becomes syntactically the most prominent element. It's the one that shows up in subject position. Or another well known kind of example, the so-called raising constructions. It's very awkward to say something like [*For the prime minister to resign*] *is unlikely*. You instead say *The prime minister is unlikely to resign*. Transformationalists talk about raising in this case. You take the subject of the subordinate clause and raise it to the main clause. I have my own analysis, which was published some years ago. But the important thing is that the raising construction gives you an alternative to using a subordinate clause as subject. Subordinated clauses are not very good subjects. Because propositions are not intrinsically salient the way people are. For example, people are the best subjects, and raising lets you do that. So double subject constructions serve a similar function. I can say *My stomach hurts*, the more prominent participant is then *stomach*. But people usually like to talk about themselves, and they think more highly of themselves than their stomachs. So the double subject construction gives you the alternative of saying something like *I, my stomach hurts*, where the most prominent conceptual element—that is, yourself, the speaker—is grammatically the most prominent element. It's the subject in the double subject construction. If you didn't have that, it would be buried in the possessive.

So maybe something like that would be part of a functional account of why the construction might exist. That's not essential. However, we still have to describe what it looks like. I've given you a description, but as final corroboration that this is maybe reasonable, we can go back to the properties in 12, properties of double subject constructions, and see how these properties are all natural

consequences of this functional and structural analysis. That is, given the characterization that I propose, the properties in 12 either follow naturally or at least are very consistent. So, I'll go through these properties one by one.

Noun phrase 1 and noun phrase 2 both function as subjects in some respect. And that's reflected here. They are both subjects, but at different levels of organization. The inner subject is the subject of the predicate, at this level. The outer subject is the subject at the higher level. It corresponds to the trajector of the profiled relationship. So there's a clause-level subject and a predicate-level subject, but they both are trajectors with respect to a profiled relationship. Secondly, NP2 and the predicate can themselves constitute a clause. OK, that's just the inner clause, and that is a clause. OK, no problem there. Next, the entire structure also has the status of a clause. That's the full clause. This comes about because the function of this construction is to build a higher level clause on top of the inner clause. NP1 is a topic with respect to the inner clause. Well, that's the nature of the relationship that's proposed here. It is the topic and that becomes the profiled relationship.

NP1 is typically a possessor with respect to NP2. That's NP1 and NP2. Well, that's very natural. Possession is itself a reference point relationship. And if NP1 is a possessor with respect to NP2, and NP2 is the subject with respect to the inner clause, there's a natural reference point flow, from NP1 to that clause. In other words, NP1 is a reference point with respect to NP2, and NP2 is a reference point with respect to the predicate. And NP1 is then a reference point for the entire inner clause. The possessive relationship itself being a reference point relationship, it serves as a natural thing which mediates how X relates to the clause. Body-part relationships between NP1 and NP2 are prototypical. Well, that's in part because body-part relationships are prototypical for possessive relationships. NP1 is commonly an experiencer with respect to the inner clause. That goes along with body-part relationships being prototypical, because you experience your body. It also goes along with this construction being stative, because having a mental experience is more typically stative than active or agentive. That is another property.

Double subject sentences are always stative. Well, active sentences where there's an agent and an event have inherently salient subjects. The agent is encoded as a subject. So there's usually no need for the function that a double subject construction fulfills with an active type of sentence. You already have a salient subject. It's in more static kinds of situations that you have to do something special to get usually a person into this status of clause-level subject. I don't think that's a full explanation. That's only part of what's going on, but I'm not prepared to say anything more. And finally, double subject sentences translate naturally with the verb *have* even though they don't contain a possessive

verb. Well, you know why now, because what a double subject sentence profiles is a reference point relationship, and *have* profiles a reference point relationship, so English *have* is a natural translation.

OK. That's the basic analysis. Now you are going to see a lot of Japanese. There's at least one native speaker of Japanese here, and I hope you won't give me too much trouble about the data. This does come from a native speaker. And so this is Section D, Evidence for the Distinction. I said the classic double subject construction in a broad sense really has to be broken down into two subtypes. There's a subtype that really will be double subject constructions, even in a narrow sense. And there's another class, which I call complex predicate constructions, which only have one subject. They are different. But that can be seen as a special development from double subject constructions. So there's a justification for treating them together, even though you ultimately have to make a distinction. And from what I've seen written about Chinese, Chinese does have this distinction, but I'm not prepared to talk about that. You have to consider that for yourselves. But let's see how it works in Japanese.

First, I'll give you some typical examples of the double subject construction. I'll now make a terminological distinction. I'll talk about double subject constructions, that's in the narrow sense, and complex predicate constructions. So I will first talk about double subject constructions, then the complex predicate constructions, and then see how they are related. So we start with some typical examples, typical examples of double subject constructions. (Someone should be recording how I deal with that bother. It would be nice studying grammatical repair. That is when you start a sentence and get interrupted and you go back, and resume what you are saying. Do you pick up where you left off or do you repeat part of what you said before or, you know, what is, how do you structurally deal with repair? I've used both strategies so far, continuing and then going back and repeating a little bit and continuing. But I, further analysis I leave to you.)

Alright, double subject constructions. *Taro-S clothes-S always gaudy-be*, for *Taro always has gaudy clothes*. Or *June-S rain-S often fall*, for *June has a lot of rain*. Or *Taro-S sashimi-S edible-POT-IMPRF*, for *Taro can eat sashimi*. Or *this freeway-S many truck-S pass*. Or going on to 43 *This adhesive-S leather-S well gets glued* for *This adhesive glues leather well*. Or *here-S Mount Fuji-S well is seen*. *This is a good place to see mount Fuji*. Those are some typical examples. The next cases, 45 through 49, are examples meant to show some grammatical properties of the double subject construction which contrast with the grammatical properties of the complex predicate construction.

The first property is honorific marking on the verb. As you no doubt know, Japanese allows you to indicate the honorific status of some clausal participant.

That's indicated by a marker on the verb, HON. That is not the classifier *hon*. HON means honorific. And the question is, what participant in the clause is being honored by using this honorific marker? This has to conform to cultural expectations. So 45 *Professor Yamada has a small child. Yamada-teacher child honorably small*. Now, that sentence has question marks because this is not a very good sentence. The reason it's not very good is that if you have a professor and you have a child, the professor has to be the honored person. But with a double subject construction, it's NP2 which is the honorific element, the honored element. That's what this shows. Contrast it with 46 *Professor Yamada has a young wife*. That's OK because in the case of a professor and the professor's wife, the wife is the honored individual, and then the sentence is all right. In other words, the grammar tells you that NP2, the inner subject, should be the honored person. NP2 controls honorific marking on the verb. And if that conforms with your cultural expectations, it's fine, that's 46, but if doesn't conform, you have a conflict. That's a case like 45. The wrong person is honored. So that's given in table 50. It's a summary of these properties. Examples 45 and 46 are among the examples that you would cite to show that. Control of subject honorific marking is only by NP2.

The second phenomenon. If you are talking about Japanese, you always have to talk about *zibun*, the reflexive marker, it seems. What controls the reflexive marker *zibun*, which I translate here as *self*? And if you look at the table down below in 50, you see that NP1 and NP2 are both able to be antecedents of the reflexive pronoun *zibun*. The data is in 47 and 48. *Professor Yamada self's son in traffic accident died*. In other words, *Professor Yamada* can be the *self* there. Thus NP1 controls reflexive. But it can also be NP2. *Professor Yamada son self with disgusted. Professor Yamada's son is disgusted with himself*. There it's NP2 that is the same as *self*. This must be difficult for you. Trying to translate, trying to process Japanese structure with my English translations. Neither one is your native language, right? But that's what I have to do, and you have to do it, so I hope it works. But the point is that the data shows that subject honorification is sensitive to NP2. *Zibun*, the reflexive marking, can be controlled by either NP1 or NP2. And also, it's difficult to embed these double subject constructions. It's hard to make them into a subordinate clause. So that's done in 49 *Professor Yamada Taro nephew-if. If* is the subordinate marker, making this a subordinate clause, and that's not very good. So embedding or subordination of these types of clauses is not freely permitted. So those are the properties.

Now, we go to the other set of data, the cases that look the same. The form is the same and these are double subject constructions in a broad sense. But in a narrower sense, they are going to be analyzed differently. First, some typical examples, starting with 51 *Professor Yamada eyes very inflamed for Professor*

Yamada has very red eyes. Or *Taro ice cream likeable* for *Taro likes ice cream.* Or *Taro snake seems scary* for *Taro seems to be afraid of snakes.* Or *Hanako calculation quick* for *Hanako is quick at calculating.* The other examples 55 through 59 are meant to show their grammatical properties, which are summarized in 60. And you see that the same grammatical phenomena work out differently in this case.

Subject honorification is only controlled by NP₁, not by NP₂. So 55 *Professor Yamada eyes very inflamed* honorific. That's alright because NP₁ is the honored individual as opposed to the eyes. No reason to honor someone's eyes, I guess. In 56, *I teacher likeable*, honorific. With respect to me and the teacher, the teacher would be the honored person, so NP₂ would control honorific marking. I'm sure NP₂ should on the basis of cultural expectations, but that doesn't work. So that shows you that grammatically it's NP₁ which controls honorific. With reflexives, NP₁ only. *Taro self group-in most eyes inflamed.* *Taro has the reddest eyes in his group.* *Taro* is the controller. *Taro* is the self. But it doesn't work for NP₂. *I like Taro the best in his group.* That does not work. However, embedding does work. You can freely embed these clauses. *Professor Yamada eyes very inflamed if*, if he has inflamed eyes, that's OK. If you are able to process all that to some degree, you see that there is grammatical evidence that there are two different kinds of constructions here, even though in terms of form, they look just alike. And because the form is so transparently represented in this structure, there would seem to be a reason to consider these double subject constructions, but something has to be different. 61 is just meant to show that this distribution of properties is natural.

This is from Kumashiro, my student. Subject honorification is basically a predicate-level phenomenon. The marking of honorific is on the predicate. That's where the marking occurs. So it's natural that the controller would be the inner subject, the thing which is directly combined with that predicate, and it's an argument of that predicate. This is just by way of explaining that the grammatical properties of the double subject constructions are natural properties, given this configuration. So subject honorification pertains to the inner subject because it is something that's marked on the predicate. It's all at the predicate level. But reflexive marking, which is controlled by NP₁, reflexive marking is a clause-level phenomenon. It's not a predicate-level phenomenon. It's something that happens at the level of a clause and interacts with discourse. It's a kind of pronominalization. So it's natural that NP₁ would control that. That's the distribution you saw in 50. Also, this is more than one clause. This is like a clause and a half. It's a clause, the whole thing is a clause, but it's a special complex type of clause. So it makes sense that, that with a double subject construction, there might be difficulty in embedding it and making it

subordinate, because the more complex a structure is, the harder it is to make it subordinate. Those are all natural properties. So the distribution of properties for double subject constructions is reasonable, at least given this structure. But we observe that the complex predicate construction has different properties. The ones in 60, they are all different. Only NP₁ controls honorific. Only NP₁ controls reflexive. And the structures can be easily embedded. All the properties are different, or at least two of them are different.

So, that suggests the following structure. This [62] is the structure proposed for a complex predicate construction. It suggests that there is only one clause. There is only one clause, and only NP₁ is the subject. That's what accounts for the properties in 60. NP₁ is the controller for these phenomena and embedding is allowed. So how does this work? The idea is that everything after NP₁ is a complex predicate, like *have red eyes*, *have inflamed eyes*. This is all a single predicate. That's made up of a verb and a subject nominal. But it's all a single predicate. This is a participant which is schematic internal to the predicate, but can be specified by a nominal, Y. In other words, Y corresponds to the second participant in the complex predicate. It's not a subject. The only subject relationship holds between NP₁ and this complex predicate. That would explain the grammatical properties. Y is a noun phrase, a nominal. And it occurs at this position but corresponds to something that is not the subject of any predicate. Because this is a complex predicate in schematic form, and the more specific form you have when you specify the second participant.

So, what I've just indicated is that the grammar of the second type suggests a structure like this. Now I have to explain this structure a little bit, and how it relates to double subject constructions, which are different. You know they look like that [27], which is not the same as this [62]. So the first question is this: what types of sentences are double subject sentences, and what types of sentences are complex predicate sentences? When do you have the first cluster of properties and when do you have the second cluster of properties? This is not an absolute thing, you can't make an absolute prediction of when something is going to be one or the other. And in fact there are some examples which can work either way. But there's something you can say, there's something going on semantically, and it's indicated roughly in 63. I will just read it first. In a double subject construction, the inner clause has a certain conceptual autonomy; it is readily conceptualized without invoking NP₁ in any salient way. It's more independent conceptually. In a complex predicate construction, NP₁ is a salient reference point with respect to either NP₂ or the process encoded by the predicate. It's harder to conceptualize the inner clause independently. You almost have to invoke a reference point. That's suggested as a basic conceptual difference. And let's look at that by going back to some of the examples.

First, the examples of double subject constructions are in 39 to 42. *Taro clothes gaudy*. *June rain often falls*. *Taro sashimi edible*. *This freeway many trucks pass*. Imagine trying to leave out the NP₁, and just say the clothes are always gaudy. That seems perfectly reasonable. You can talk about gaudy clothes independently of thinking of any particular person. The clothes are either gaudy or not. OK. Or *rain falls often*. You can think about the frequency of rain falling without tying that to any particular month. You can just think about the frequency of rain falling. Or *sashimi being something that's edible*. That's independent of particular people. Or *many trucks pass*. That's perfectly conceivable even if you don't focus in any salient way on the freeway. These are matters of degree. You can not see an absolute difference, but there really is a kind of difference if you contrast those with cases like 51 through 54 for the complex predicate construction. *Professor Yamada eyes red*. How can you think about eyes being inflamed independently of a person? That seems much harder to do. Right? Inflamed eyes, I mean that's something that's experiential, something that's part of a person, almost of necessity. Or *ice cream is liked*. There's a liking of ice cream. I mean a particular person has to like ice cream. Right? It's a subtle difference. It's just a difference in degree. There's a difference in degree. This one and *the sashimi being edible*, you know. You could say that sashimi is something that can be eaten as a general property of sashimi. But to say that *ice cream is liked*, that really invokes an experiencer, a particular experiencer, a particular judgment, it's more subjective. It's tied more closely to a particular experiencer. Or *Taro snake seems scary*. It means snakes are not intrinsically scary, they are just snakes. It's people who have that reaction. It's again much more closely tied intrinsically to a particular conceptualizer. Or *Hanako calculation quick*. Calculation, that implies a process. Hanako is the actor with respect to that process and the participants in a process are intrinsic to it. You have to conceptualize them. So you can't really avoid invoking, in some way, someone who does the calculation.

So I know this is a little bit vague and it is a matter of degree, but I hope you see some difference between these classes. There's a real sense in which the inner clause is little bit conceptually more autonomous, and less closely tied to a particular reference point, with the double subject construction. We are just about done now, you will be glad to know. The suggestion is as follows. The double subject configuration that I started with is the basic configuration. And the difference is a matter of the nature of the predicate and the inner clause. In some cases, the inner clause is something that's more or less independently conceptualizable. There's a good word for you, conceptualizable. Something that's conceptually autonomous. You don't really have to relate it

to any particular reference point, although you certainly can. So there's more independence to it. But there are other cases where, because of the very meaning of the predicate, a reference point is saliently invoked. It's harder to divorce it from such a case. I think *the inflamed eyes* example is a canonical sort of example. These kinds of sentences are the core of this construction.

So in some cases, the predicate here is going to itself invoke a salient reference point relationship. When that happens, something else is going to happen. The entire structure is going to collapse into a single clause. And that gives a complex predicate construction. So let's see how that works. What I'm going to do now is the following. Starting from 27, the basic double subject structure, I'm going to add to the predicate a reference point relation that it invokes, as shown in 64. If this is like *being inflamed* with respect to a body part, the reference point will be the possessor of that body part. So when I specify the trajector, I get an inner clause like this, which is the same as before except that we have this additional reference point relationship that's intrinsic to the clause. When we add the outer subject, which is the reference point with respect to the inner clause, we get the full clause which looks like this, profiling the reference point relationship that the outer subject has to the inner clause, but internal to that clause, we have this other reference point relationship.

Now, if this is the configuration, you expect something to happen. Right? You are invoking X as a reference point with respect to this entire clause, but this clause itself has a reference point relationship that's hard not to conceptualize. So what's going to happen is that the reference point relationship that you are invoking is going to tend to be identified with the one that the clause has anyway. This relationship is going to be identified with this relationship. In other words, you are going to tend to establish these correspondences. The internal reference point is identified as X, the reference point relationship that you are adding to make the double subject construction is going to be equated with the one that's already there, so that the whole thing collapses into a single clause structure like the one on the right in 65. If X is identified with this participant, and this is the profiled relationship, then X becomes a trajector with respect to a profiled relation with respect to Y, and you wind up with a structure that looks like this. This is a single complex predicate. Instead of a clause and an external element, you have a single clause with a complex predicate. Relating that back to the previous representation as in 62, this is X, and this is the complex predicate, which is built up out of Y and the remainder.

Now there are some fuzzy things here still—how much of this is diachronic, how much is synchronic, and how you analyze particular cases. There are things that are a little bit unclear here still, so this is not a finished analysis.

But let me summarize it and then I'm really done. The basic point is that we do have one overall clause type, the double subject construction. I think I've given you good arguments for its having the general structure that I assigned to it. But within the confines of that construction, it's often the case that the inner clause itself has reference point properties which tend to be conflated with the ones of the double subject construction. And to the extent that the inner clause has those properties, which make it a special case of the double subject construction, those reference point properties get conflated with those of the construction. And everything then collapses into a more compact construction grammatically, which constitutes a single clause with just a single subject. That was this construction.

This is another kind of conceptual overlap, which I talked about yesterday, just a special case of that phenomenon where things get more tightly integrated. And you should see some similarities between what just happened in these diagrams and the kinds of cases we went through yesterday. So I hope this has illustrated a variety of things, this last point about the exact structure of complex predicate constructions and how they are put together. And I think that's a point that needs more investigation. I think the overall picture of there being two basic types which are special cases of this general construction, and the reference point characterization of that construction, I think those things are fairly clear.

OK. So I've left a whole half hour for any final discussion. So, that will be it for today, for my part. Thank you for listening, and I will entertain your questions.

Double Subject Constructions

1 *The Phenomenon*

- (1) *Taroo-ga hana-ga hikui.* 'Taro has a flat nose.' [Japanese]
Taro-s nose-s flat
- (2) *Nihonjin-ga kome-ga syusyoku-da.*
Japanese-s rice-s staple:food-be
'The Japanese have rice as their staple food.'
- (3) *Na pay aphu-ta.* 'My stomach aches.' [Korean]
I stomach ache-ASSR

- (4) *Na ku salam coh-ta.* 'I like the man.'
 I the man likeable-ASSR
- (5) *Tā dùzi è.* 'He is hungry.' [Mandarin]
 he stomach hungry
- (6) *Tā tóu téng.* 'He has a headache.'
 he head painful
- (7) *Wa khicaa-yaake bhugin du.* 'The dog has flies.' [Newari]
 the dog-COM fly exist
- (8) *Ji-ta wa baanlaa.* 'I think she's beautiful.'
 I-DAT she beautiful
- (9) *Noo=n no-puush konoknish.* 'I have green eyes.' [Luiseño]
 I=1S:PRES my-eye green
- (10) *Noo=up no-te' tiwu-q.* 'I have a stomach ache.'
 I=3S:PRES my-stomach hurt-PRES
- (11) [NP₁ [NP₂ PREDICATE]]

 inner clause

 full clause

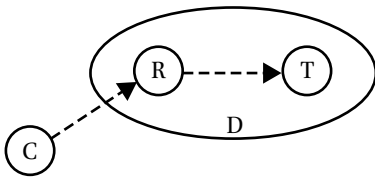
- (12) (a) NP₁ and NP₂ both have some claim to subjecthood.
 (b) NP₂ and the predicate can themselves constitute a clause.
 (c) The entire structure also has clausal status.
 (d) NP₁ is a topic with respect to the inner clause.
 (e) NP₁ is typically a possessor with respect to NP₂
 (f) Body-part relationships between NP₁ and NP₂ are prototypical.
 (g) NP₁ is commonly an experiencer with respect to the inner clause.
 (h) These sentences are always stative.
 (i) They often translate naturally with *have*, despite the absence of a possessive verb.

2 *Reference Point Constructions*

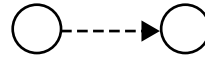
- (13) A **conceptualizer** (C) has the ability to invoke one conceived entity as a **reference point** (R) for purposes of establishing “mental contact” with another, the **target** (T). The set of entities accessible via a given reference point constitute its **dominion** (D).

(14)

(a) Reference Point Relationship



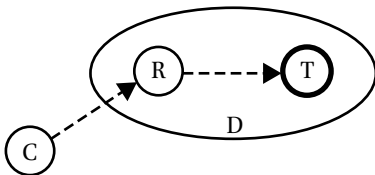
(b) Abbreviation



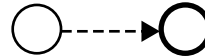
- (15) A **possessive** construction (e.g. *Bill's knife*) can be characterized schematically as a **reference point** relationship between two things: the possessor is a reference point, and the possessed, a target found in its dominion.

(16)

(a) Possessive Relationship



(b) Abbreviation

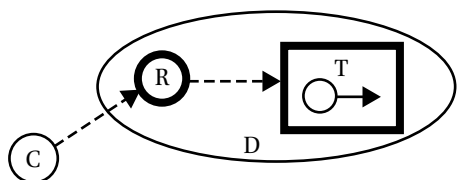


- (17) A **topic** is a *reference point* which evokes a certain domain of knowledge (its *dominion*) into which the associated proposition (the *target*) is integrated.

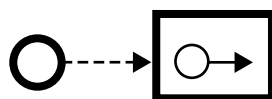
- (18) (a) *Your brother, he's always complaining.*
 (b) *The lottery, I never have any luck.*

(19)

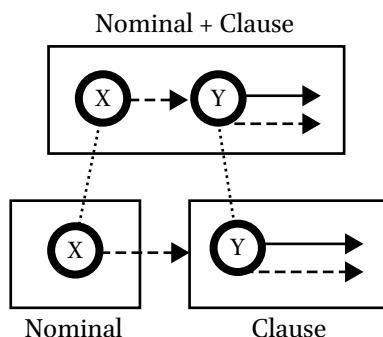
(a) Topic Relationship



(b) Abbreviation



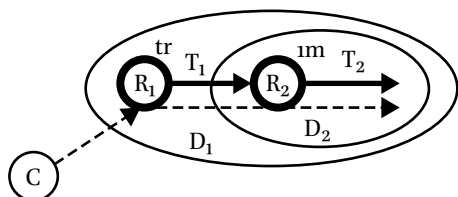
(c) Topic Construction



- (20) (a) The trajector and landmark of a profiled relationship are distinguished from other relational elements by the **focal prominence** conferred on them.
- (b) This prominence consists in their being the **first and second reference points** evoked in the conception of a profiled relationship.

(21)

(a) Trajector and Landmark



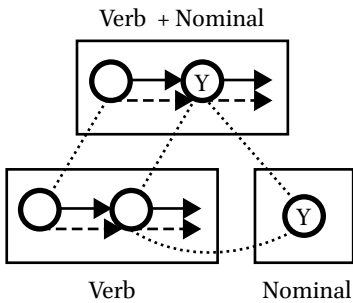
(b) Abbreviation



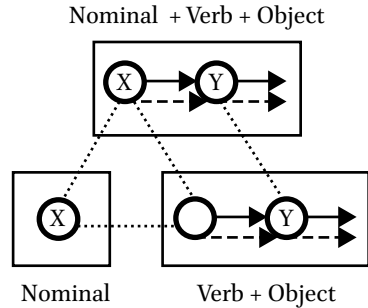
- (22) A **subject** is a nominal whose profile corresponds to the **trajector** of a profiled relationship, and an **object**, one whose profile corresponds to the **landmark**.

(23)

(a) Object Construction

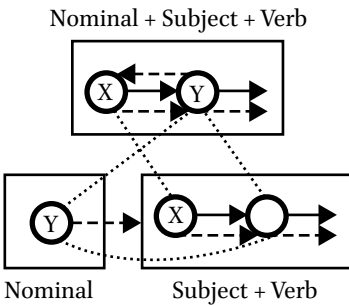


(b) Subject Construction

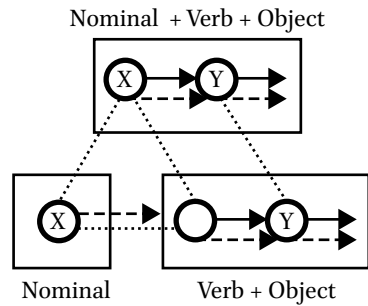


(24)

(a) Object-Topic Construction



(b) Subject-Topic Construction

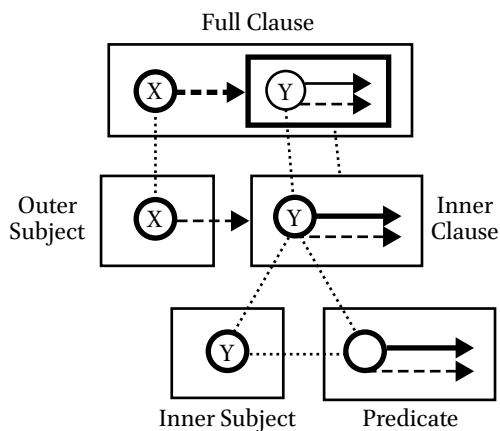


3 *Double Subject Constructions*

(25) Double subject constructions differ from clause-external topic constructions [(19)(c)] in that: (i) they constitute a single clause, with a single intonation contour; (ii) as such, they have a single overall profile; and (iii) they have special semantic and grammatical properties [listed in (12)].

(26) Double subject constructions differ from clause-internal topic constructions [(24)] in that: (i) the first nominal is not part of the predicate's argument structure; (ii) this nominal has subject status, even though it is not the subject of the predicate; and so (iii) this construction imposes a clausal organization which supersedes the organization of the inner clause.

(27)



(28) A trajector is a reference point intrinsic to the conception of a profiled relationship, the first reference point evoked in building up to its full conception. Thus, when a reference point relation is itself put in profile, the reference point which anchors it is the trajector, by definition.

- (29) (a) Reference point relationships are often signalled by simple juxtaposition (rather than by a separate morphological element).
 (b) A verb or a clause can profile a reference point relationship.
 (c) An expression's composite structure can profile an entity not profiled by either component structure.

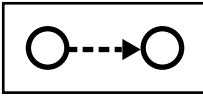
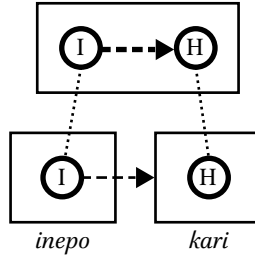
(30) *Xwaan=up ya'ash.* 'Juan is a man.' [Luiseño]
 Juan=3S:PRES man

(31) *jakare ruguai* 'the crocodile's tail' [Guarani]
 crocodile tail

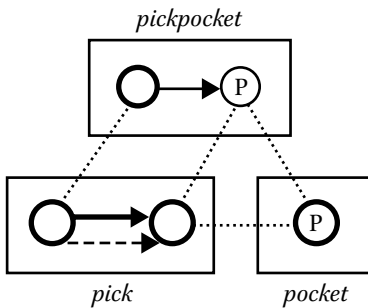
(32) *ibu anak itu* 'that child's mother' [Indonesian]
 mother child that

(33) *inepo kari-ne* 'I will have a house.' [Yaqui]
 I house-FUT

(34)

(a) *have*(b) *inepo kari*(35) (a) *February has only 28 days.*(b) *The movie has a sad ending.*(c) *The US has a high ratio of prisoners to total population.*(d) *We have a lot of skunks around here.*(e) *I have the spaghetti.* [said by a customer to a waiter who is still holding the spaghetti]

(36)



(37) A double subject construction [as in (27)] results when:

(a) a reference point relationship is signalled by mere juxtaposition;

(b) the target is a clause (rather than a nominal); and

(c) the reference point relationship—not profiled by either component structure—is nonetheless profiled at the composite structure level.

- (38) (a) *She admired **my house**. A famous architect designed **it**.*
 (a') *She admired **my house**. **It** was designed by a famous architect.*
 (b) *The team from **Chicago** won the championship.*
 (b') ***Chicago** won the championship.*
 (c) *[For **the prime minister** to resign] is unlikely.*
 (c') ***The prime minister** is unlikely [to resign].*

4 *Evidence for the Distinction*

- (39) *Taroo-ga fuku-ga itumo hade-da.*
 Taro-s clothes-s always gaudy-be
 'Taro always has gaudy clothes.'
- (40) *Rokugatu-ga ame-ga yoku furu.*
 June-s rain-s often fall
 'June always has a lot of rain.'
- (41) *Taroo-ga sasimi-ga tabe-rare-ru.* 'Taro can eat sashimi.'
 Taro-s sashimi-s eat-POT-IMPRF
- (42) *Kono koosokudooro-ga ookuno torakku-ga tooru.*
 this freeway-s many truck-s pass
 'This freeway has many trucks pass on it.'
- (43) *Kono settyakuzai-ga kawa-ga yoku tuku.*
 this adhesive-s leather-s well get:glued
 'This adhesive glues leather well.'
- (44) *Koko-ga Fuzisan-ga yoku mieru.*
 here-s Fuji-s well be:seen
 'This place has a good view of Mt. Fuji.'
- (45) *??Yamada-sensei-ga okosan-ga o-tiisai.*
 Yamada-teacher-s child-s HON-small
 'Professor Yamada has a small child.'
- (46) *Yamada-sensei-ga okusan-ga o-wakai.*
 Yamada-teacher-s wife-s HON-young
 'Professor Yamada has a young wife.'

- (47) *Yamada-sensei-ga zibun-no musuko-ga kootu-ziko-de sinda.*
 Yamada-teacher-s self-GEN son-s traffic-accident-in died
 'Professor Yamada had his son killed in a traffic accident.'
- (48) *Yamada-sensei-ga musuko-ga zibun-ni unzarisi-teiru.*
 Yamada-teacher-s son-s self-DAT disgust-STAT
 'Professor Yamada's son is disgusted with himself.'
- (49) ??*Yamada-sensei-ga Taroo-ga oigosan-nara ...*
 Yamada-teacher-s Taro-s nephew-if
 'If Professor Yamada has Taro as his nephew ... '

(50)

Double Subject Construction

Control of subject honorification	only NP ₂ (45)/(46)
Control of reflexive <i>zibun</i>	NP ₁ and NP ₂ (47)/(48)
Embedding	not freely permitted (49)

- (51) *Yamada-sensei-ga me-ga zuibun zyuuketu-si-teiru (koto)*
 Yamada-teacher-s eye-s very inflammation-do-STAT (that)
 '(that) Professor Yamada has very red eyes'
- (52) *Taroo-ga aisukuriimu-ga suki-na (koto)*
 Taro-s ice:cream-s likeable-be (that)
 '(that) Taro likes ice cream'
- (53) *Taroo-ga hebi-ga kowai rasii (koto)*
 Taro-s snake-s scary seem (that)
 '(that) Taro seems to be afraid of snakes'
- (54) *Hanako-ga keisan-ga hayai (koto)*
 Hanako-s calculation-s quick (that)
 '(that) Hanako is quick at calculating'
- (55) *Yamada-sensei-ga me-ga zuibun zyuuketu-nasat-teiru*
 Yamada-teacher-s eye-s very inflammation-do:HON-STAT
 (koto)
 (that)
 '(that) Professor Yamada has very red eyes'

- (56) **watasi-ga sensei-ga o-suki-na* (koto)
 I-S teacher-S HON-likeable-be (that)
 '(that) I like the teacher'
- (57) *Taroo-ga zibun-no guruupu-de itiban me-ga*
 Taro-S self-GEN group-in most eye-S
zyuuketu-si-teiru (koto)
 inflammation-do-STAT (that)
 '(that) Taro has the reddest eyes in his group'
- (58) **watasi-ga Taroo-ga zibun-no guruupu-de itiban suki-na*
 I-S Taro-S self-GEN group-in most likeable-be
 (koto)
 (that)
 '(that) I like Taro best in his group'
- (59) *Yamada-sensei-ga me-ga zuibun zyuuketu-si-teiru-nara ...*
 Yamada-teacher-S eye-S very inflammation-do-STAT-if
 'If Professor Yamada has very red eyes ...'

(60)

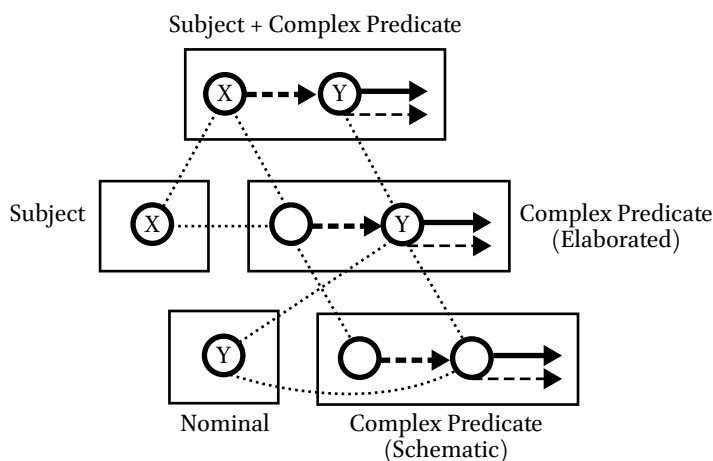
Complex Predicate Construction

Control of subject honorification	only NP ₁ (55)/(56)
Control of reflexive <i>zibun</i>	only NP ₁ (57)/(58)
Embedding	permitted (59)

5 Complex Predicate Constructions

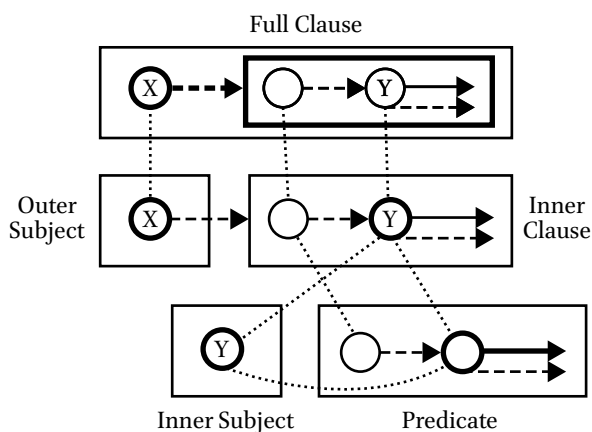
- (61) (a) **Subject honorification** is controlled by a *predicate-level subject*.
 (b) **Reflexivization** with *zibun* is controlled by a *clause-level subject*.

(62)

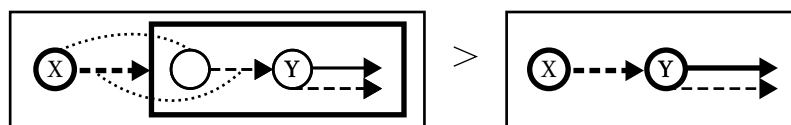


- (63) (a) In a *double subject construction*, the inner clause has a certain *conceptual autonomy*; it is readily conceptualized without invoking NP_1 in any salient way.
- (b) In a *complex predicate construction*, NP_1 is a *salient reference point* with respect to NP_2 and/or the process coded by the predicate.

(64)



(65)



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All original audio-recordings and other supplementary material, such as any hand-outs and powerpoint presentations for the lecture series, have been made available online and are referenced via unique DOI numbers on the website www.figshare.com. They may be accessed via this QR code and the following dynamic link: <https://doi.org/10.6084/m9.figshare.4788772>.

Locatives

Good morning. I am very glad to be here a second time and to see many of you again from the last few days. And I suppose there are some new people here as well.

OK. There are many things that are important in cognitive linguistics and cognitive grammar, not just locatives, but of course a lot of very early work in cognitive linguistics was done on locational expressions, which seem simple and straightforward. It seems that you could draw little pictures of spatial relationships and capture the meanings of locative elements in that way. So many students, when they begin working in cognitive linguistics, look at locatives as their first topic. Actually they are rather subtle and complex, and we don't understand them all that well yet, so there is much to do still. This particular presentation actually has two aspects to it. First, it is a discussion of methodology in cognitive grammar, the principles of doing cognitive grammar, which is sometimes criticized for being unprincipled and unconstrained and just a matter of personal preference, when actually just about the opposite is true. It is the most constrained framework that I'm aware of. So I will talk about the methodology first and I will use that as a way of introducing some basic theoretical notions, which are some of the same ones that I've discussed the last few days, but also a couple of additional ones. Then I will talk about locative phenomena in general terms quite briefly. Then I will go on to compare two locative systems which appear to be extremely different, the system of English and the system of a Mexican language called Mixtec.

So this first section is on methodology. A question that is often raised is, why are cognitive linguistics and cognitive grammar called that, what is cognitive about them? Even generative grammar claims to be explaining human cognition. So that's a very good question and it's a matter of degree. But basically, cognitive linguistics and cognitive grammar are cognitive in the sense that they try to describe language insofar as possible as developing from more general and more basic cognitive phenomena, things like perception and attention and categorization, and language structure can not be separated from more general cognitive phenomena. It is something that is emergent in that context. This is in contrast to the generative view of language as a separate mental module.

Two basic aspects of cognition, two things we are able to do mentally, is deal with conceptualizations and deal with sounds, that is, we conceptualize and

we hear and make sounds. And those are obviously crucial for language. And cognitive grammar reflects that in its basic architecture. It emphasizes symbolic structures, and symbolic structures are the pairings, the combinations of the phonological structures (or phonological forms) and meanings, which are identified as conceptualizations in a broad sense of that term. The central claim of cognitive grammar is that lexicon, morphology, and syntax are continuous. They make up a continuum consisting exclusively of assemblies of symbolic structures. So one consequence of this is that all elements that you postulate in describing grammar should be meaningful, even if the meaning is often schematic or abstract.

A little bit, since I'm talking about methodology here, about the restrictiveness of the framework and the conceptual unification it achieves. Language has what I call a semiological function. Language allows conceptual structures to be symbolized by sound sequences, by phonological structures. So the minimum that a language must consist of are meanings and sounds and symbolic relationships between them. That's the minimum that you can have. And cognitive grammar claims that that is all that you have. All aspects of language are reduced to assemblies of symbolic structures and those consist of semantic structures and phonological structures and symbolic links between them. (Thank you very much.) So only the necessary elements are adopted. That achieves a great unification. Grammar is unified with lexicon.

Grammar and lexicon are themselves explicated in terms of the minimum of semantics and phonology and links between them. And it's highly restrictive also. There is further restrictiveness from what I call the content requirement. The only elements that you can postulate as part of language are, first, semantic, phonological, and symbolic structures that are part of overtly occurring expressions. That is, they occur in the primary data as part of what is said and how we understand what is said. Secondly, you are allowed to postulate abstractions from this, or schematizations, where you simply abstract away from some of this specific content and represent things more schematically. Third, you can posit categorizing relationships, like the relationship between a schema and a particular structure that instantiates it. This is a quite powerful restriction. It rules out many things that are commonly assumed in, for example, generative syntax. It rules out derivations from underlying structures, for example. It rules out the use of filters, which are negative statements about what cannot occur in a language. It says everything that occurs as part of the structure of a language is some kind of abstraction from, a schematic representation of what occurs in the language. So filters are not allowed.

A primary working strategy of cognitive grammar which is important methodologically although I haven't talked about it too much, is to seek converging

evidence from different sources. And from three sources in particular. I will be illustrating this strategy with four different basic theoretical notions, as part of this preliminary discussion.

First, you need to show that the construct, this theoretical notion, is necessary for semantic purposes. You need it to describe meanings in an adequate way. Secondly, you show that this notion is related to some independently observable cognitive ability that is psychologically realistic. It is either identified with or at least similar to something we know can happen psychologically. And then third, the same construct is shown to be critical for describing grammatical phenomena, hopefully various grammatical phenomena in different languages. There is no particular order to these, and we can look at these sources of evidence in different sequences, but all of them should come together. I'll illustrate this very shortly.

An expression's meaning involves both conceptual content and how that content is construed. That's our ability to conceive and portray the same situation in different ways. I will talk about this extremely briefly. Construal includes at least perspective, prominence, and level of specificity. A couple of those we'll just illustrate with a single example.

Level of schematicity or specificity is illustrated in (7), with hierarchies of lexical items like *thing*, *creature*, *animal*, *poodle*, and *dog*, each of which is more specific than the preceding one. *Thing* is the most schematic, *creature* is less schematic, *poodle* is the most specific. So we obviously can move up and down that scale of specificity.

The examples in (8) are meant to illustrate perspective. I won't go into any detail, there are a lot of interesting details here, but basically speaking, sentence (8a) implies a global perspective on a scene. That is, it's the sort of thing you would say when you are looking at the entire scene and can see all of it at once. *This road winds through the mountains*. That would be the sort of thing you'd say when you are looking at a map, and you can see the entire configuration of the road all at once, or looking at it from an airplane high above. (8b) is progressive. *This road is winding through the mountains*. You would not say it when you're looking at a map. You would say that when you're driving along the road and you can only see a little bit at a time. That is a local perspective on the scene. It is not that the meaning of the progressive is to do that specifically, rather it follows from various things which I won't talk about, but it will illustrate one kind of perspective. Of course there are many aspects to perspective.

Alright. One thing that, if you know anything about cognitive grammar you've heard about many times, is profiling. That's the first construct I'll use to illustrate the methodology of converging evidence. The definition is in (9). (I'll take my jacket off. This gets a little bit warm after a little while.) Within

the array of conceptual content that an expression invokes as the basis for its meaning, an expression selects some portion for what I call its profile. The profile is that portion of the overall conceptual content which an expression designates or refers to. In diagrams it is indicated by thick, heavy lines. One example is the word *hypotenuse*, which designates a particular side of a right triangle, the side that is opposite the right angle. Clearly, you can not conceptualize this without conceptualizing a right triangle. The notion of a right triangle constitutes the conceptual base. Within that conceptual base, the expression profiles this particular part. And it's only the two together, the base plus the profiling, that lets you understand the meaning of *hypotenuse*. OK. You have to construe the content, which is this notion of a triangle, in a certain way by making this prominent as your focus of attention, and that together gives you the meaning of the term. Or a kinship term like *aunt*. Here is the referent, the reference individual, the kinship relationship. This indicates female. An *aunt* is the sister of a parent with respect to the reference individual, and what's profiled is the female relative, but all of this constitutes the conceptual base, the content with respect to which a female is an *aunt*.

More examples. What I'm illustrating now is the need to use this notion of profiling for purposes of semantic description. This is the semantic evidence for adopting a notion like this. I don't see how you could possibly describe the meanings of the terms I am talking about without some notion like profiling. Another case which I talked about the other day, *husband* versus *wife*, both invoke the same content, the notion of a male and female and a certain kind of social relationship between them, a marriage relationship. They both invoke that content. So the conceptual base itself doesn't distinguish them, but clearly *husband* and *wife* differ in meaning. *Husband* refers to or designates or profiles the male individual, and *wife* the female individual, relative to this conceptual base. Again, without some notion like profiling, you could not describe the meanings. Another example that I have been using the last few days, the verb *admire* indicates a mental relationship. So I have a dashed arrow for a mental relationship. Some individual has an attitude towards some other thing and it's a positive attitude, and that relationship is profiled by the verb *admire*. But the noun *admirer*, with this ending *-er* on it, profiles just the person who has the attitude. All the content is the same. All the content is the same, and *admirer* invokes the entire meaning of *admire* and conversely, actually, but they differ semantically because of the profile.

Another semantic use of the notion profiling is that profiling is what you use to describe cases of metonymy. That's where a word has related meanings. In this case it's the word *door*. And often one meaning derives from another by this process we call metonymy. What metonymy is, at least many cases of

metonymy, is a shift in profile. *Door* can indicate this physical object which is on hinges and swings out. It has maybe a window and a knob and so forth, so this physical object. But *door* can also indicate this opening in the wall. Two closely related senses, they are associated with one another. And regardless of which direction it goes in, this is a metonymic relationship, as it's called, but that is explicated as a difference in profiling. So that's semantic justification for having the notion of profile and base.

Now psychological evidence. We want to show that this construct is psychologically plausible. All I'll say about that is that profiling is at least a kind of focusing of attention. Clearly you direct your attention to one aspect of the base for purposes of symbolization. There may be different kinds of focusing of attention, or the same kind might be used for different purposes. I am not altogether sure how to describe it in full psychological detail. But it's certainly a kind of focusing of attention, and certainly we're capable of doing that, and we could not function if we did not do that psychologically. So it's psychologically plausible.

Then the third source of evidence is grammar. I established the need to talk about profiling, the profile-base distinction just on semantic grounds. I haven't even mentioned grammar yet in this context. But it turns out that this is a critical notion for grammar. Once you've described it semantically and done that appropriately, you can see that all sorts of things in grammar hinge on profiling. I've listed some in (14). This is not necessarily a complete list, and I cannot go into detail or justify these. I'm simply trying to illustrate them for purposes of talking about methodology. So this is too brief. First of all, an expression's profile determines its grammatical category, its basic grammatical class like noun or verb or preposition. It's not the overall content of the expression that determines what class it belongs to, but rather what it profiles, the nature of its profile. That's described in (15) on the next page of the handout.

Again, there is something very complicated here that would take a long time to even begin to justify or explain in detail. So just a quick summary. Expressions, can profile either things or relationships. A noun profiles a thing. A verb profiles a type of relationship that I call a process, which is a relationship which is followed sequentially in its evolution through time. Then other classes like adjectives or prepositions profile other kinds of relationships that are not processes. There is much detail I cannot go into. For purposes here I can simply look at *admire* versus *admirer*. That's enough. *Admire* profiles the entire relationship between these two participants, and I would further describe it as a stable situation that continues through time. That is the basic sense of the term *admire*. There is also a bounded sense: you can go up to a painting and *admire* it for a few moments. Either way it profiles a relationship that has

a certain temporal duration. And *admirer* simply profiles a person. A person is a type of thing. It's one participant in this relationship. It doesn't profile the relationship itself. Now that difference in what is profiled is responsible for the difference in grammatical category. *Admirer* is a noun because it profiles a thing. *Admire* is a verb because it profiles a temporally extended relationship. So the analysis might be right or wrong, but, it's meant to illustrate that profiling is important for grammatical purposes under this account.

I am going back to (14). Imposing a particular profile is sometimes all of the important semantic value of a grammatical marker. This is another way profiling is important in grammar. Certain grammatical elements have an effect on profiling, and that is their only significant meaning. One case like that is the ending *-er*, which converts a verb into a noun. *-er* doesn't have any detailed meaning of its own. It just has a highly schematic meaning. The important semantic contribution of *-er* is that it imposes a profile on the content of the verb and restricts that profile to a major participant of the verb. That's its meaning.

Another thing grammatically important about profiling is the notion head. Head versus modifier or head versus complement. One way the notion head is defined very often traditionally and in modern linguistics is that the head is the element in a construction which determines the category of the entire expression. So in a clause, a verb is the head. In a noun phrase the noun is the head. In the case of a morphological construction it's usually the morphological element, the ending, which is the head. *-er* imposes its profile on the content of the verb, so in the combination of verb plus *-er*, *-er* determines the category of the entire expression, since the grammatical category depends on what is profiled. So profiling figures in the characterization of the notion head and also figures in the characterization of main versus subordinate clause. Please go back to (16) on the handout, on the next page. Take a sentence like *She tried to lift the box*. If you look at that sentence as a whole, the entire sentence profiles an act of trying. It does not profile an act of lifting. Maybe no lifting occurred at all, but trying occurred. A subordinate clause is one whose profile is overridden by another clause, and the main clause is one whose profile survives. So *try* is the main clause there and *lift* is the verb that's in the subordinate clause.

That's the first of the four constructs I'm going to go through, profiling. And I gave you three sources of evidence that all come together to justify this notion as a construct, that is, a descriptive notion that I can use to describe linguistic expressions.

The second of these constructs is another kind of prominence, which of course you've probably heard about already, trajector and landmark organization. Again I'm repeating some things because they may be new for some

people, but mostly because I want to examine them from the standpoint of methodology. So here is a pair of examples you may have seen, *before* versus *after*. This arrow stands for time, *t* for time. *Before* profiles a relationship between two events, event 1 and event 2, and indicates that there is a temporal sequencing or a relationship of temporal priority between these two events. So there is conceptual content, like the notion of time, the notion of events. There is this relationship that is profiled. But exactly the same is true of the preposition *after*. It also profiles a relationship of temporal sequencing between two events in time. So the content is the same and the profiling is the same. However, the meanings are not. If someone asks you what *before* means, you don't say it means *after*, OK? What is the difference? Well, to describe the difference, you need some other construct, you need some other notion for semantic description that could distinguish these. And my proposal is, of course, the one that's spelled out in (19) on the handout. Participants in a profiled relationship are given different degrees of prominence. There is usually a primary focal participant. That I call the *trajector*. That's the entity that you construe the expression as trying to locate or evaluate or describe. I also describe it as the primary figure within the profiled relationship, using the terminology of figure/ground organization. That's the *trajector*, the *tr* here. There is often a secondary focal participant that I call a *landmark*, which is invoked in order to characterize the *trajector*. So in the case of *before*, you're trying to locate one event and you're locating it in time relative to another event, the *landmark*, which is later in time. You see I invoke this and work backwards, and this is what the *trajector* is. And *after* does it in the opposite order, in the opposite direction. So expressions can have the same content and profile the same relationship but still be different in meaning because they make different choices of *trajector* and *landmark*.

(Music probably makes things better. But in case you get bored with the topic, you can listen to the music.) There are many cases like that, and I've listed a bunch of cases in (17): *before* and *after*, *above* and *below*, *over* and *under*, *in front of* and *in back of*, *like* and *please*, or active and passive, *admire* versus *be admired*. Here is *above* versus *below*. This is the *trajector* for *above*. This is the *trajector* for *below*. Same content, same relationship. And last week I gave the examples in (21) as additional evidence for the correctness of this kind of semantic characterization. The *trajector* is the element you are trying to characterize, so far as the relational expression itself is concerned. So if you ask the question *Where is the lamp?* In that discourse context, it's clearly that you are trying to locate the lamp, so an appropriate answer is (i): *The lamp is above the table*, where the lamp functions as a *trajector*. It would not be appropriate to say *The table is below the lamp*, making the table the *trajector*. So

that's additional evidence on the semantic characterization of trajector and landmark, or their need for semantic purposes, and their having that general kind of value.

That's one source of evidence, meaning. Now we have to look at the other two, psychological justification, or plausibility anyway, and then grammar. The psychological evidence, well, let me put it this way. Trajector and landmark data are also kinds of focusing of attention: a primary focus of attention and a secondary focus of attention. But I also suggest, a little bit more specifically perhaps, that it's reasonable to relate these to the psychological notions of figure and ground. Figure and ground. Of course, Leonard Talmy proposed this many years ago, especially for locative expressions, but also for main and subordinate clause. He said the trajector is a figure and the landmark is ground. And I don't disagree with that, if you just look at the trajector and the landmark relative to one another. However, what I'm saying is a little bit different from his analysis. I'm saying that there are two figures sometimes, a primary figure and a secondary figure. The trajector and landmark are both focal participants, are both figures with respect to the ground of everything else. So in one way this is relating trajector and landmark organization to something known independently in psychology, that is figure and ground organization. It's at least similar to that. On the other hand there is a potential problem because, so far as I've ever heard, psychology people talk about one figure and ground. They don't talk about two figures, a primary and a secondary figure. I haven't thoroughly studied that literature, maybe it has been investigated, but the normal story you hear is just figure/ground, not figure 1, figure 2, plus ground.

So I have to face the question: is it plausible to say that there are two degrees of figure status? Or that sometimes at least we can handle two degrees of figure? The example I gave last week to make it plausible was the boxing example. Just to call your attention to it briefly, then, if you are watching a boxing match, you're watching two boxers interacting with one another, and everything else is ground with respect to that. The referee, the ring, the people working in the corner, the audience, the spotlights, all that stuff is ground if you focus your attention on the boxers, which is figure. But you can focus your attention on just one of the boxers and observe how he interacts with the other one. Which boxer is more aggressive, which hand boxer A prefers, how good the boxer is at absorbing a punch and so forth. Or you can shift the focus to boxer B and make the same observations. It seems totally obvious that we have two figures, a primary and a secondary figure, in that kind of observation, and the rest is ground. Or I can visualize the moon and a spacecraft circling the moon. Actually I should have given this example at Beihang, since they are so tied up with astronautics. So the spacecraft would be figure and the moon would be

ground. I can also however, I think, visualize the spacecraft circling the moon, viewing all of this against the background of the earth in the distance. That's very easy to do. Spacecraft going around the moon, one is fixed, the other is moving, and the earth is in the background. No problem there, that's two figures and a ground. What I can not do ... This is a thought experiment. I don't have any experimental evidence. Accept it as a thought experiment. What I cannot easily do is visualize a spacecraft circling the moon as the moon is circling the earth, all that against the background of the sun. There's too much going on to focus my attention that way. I can certainly shift back and forth to see the spacecraft going around the moon and the moon going around the earth, but I can't bring all of that into one image, all against the background of the sun, very easily.

You may or may not agree. Maybe you are more clever about that kind of thing than I am. But that's worth investigating. It may be that there is a limit. There can be a primary figure and a secondary figure but we can't really do three very easily, which would be very interesting for grammatical purposes, since for grammatical purposes you need one and two. And when you have three major participants, you have to resort to special constructions. That's a little speculative, but it leads into the grammatical evidence for trajector and landmark, and that's of course, the basis for characterizing the grammatical notions subject and object, as in (22) on page 4 of the handout. The notions trajector and landmark are established for semantic purposes. You need these to describe and distinguish meanings appropriately. But given that relational participants have these degrees of focal prominence, then you can explicate the notions subject and object in terms of that semantic property. So the subject is a nominal element that specifies the trajector of a profiled relationship, and an object is a nominal element that specifies a landmark at a given level. But, you know, cases of more than two primary participants are kind of marginal. There is a subject and object, then we talk about the indirect object. That is usually characterized in more semantic terms. It's not a unified grammatical notion. So, you need one and two, but what you need are three in relational grammar terms. You need to talk about indirect objects, but that's a different kind of notion.

To make that clearer, as a final example in this section, I have to say a little bit about grammatical constructions, because I will be talking about some grammatical constructions later on. Again for most of you, that's just a review. This is an assembly of symbolic structures that corresponds to the simple clause *Alice admires Bill*. Each of these boxes represents a symbolic structure. I've given the phonological form just orthographically. I'm not looking at this seriously today. So what is shown, more basically, is just some representation

of the semantic structure of each symbolic element. *Admires* profiles a process, a mental relationship that we already described with *trajector* and *landmark*. The *trajector* is the one who has the attitude. The *landmark* is the target of that attitude. A proper noun like *Bill* or *Alice* profiles a thing. A and B abbreviate all of their additional semantic properties. So *Bill* is the name of a human male in English, as English usually works. *Alice* is the name of a human female, although *Alice* is also the name of a cat I used to have. We can extend these things sometimes.

How do we put an expression together? Well, the elements of a symbolic assembly, the symbolic structures, are linked by correspondences and also by categorizations. In the case of *admires* and *Bill*, you establish a correspondence between the *landmark* of *admires* and the profile of *Bill*. And the *landmark* is schematic. It is elaborated by this object nominal which specifies in more detail what the participant is like. This is the area for elaboration. This is an elaboration site. That gives you the composite expression *admires Bill* with a specific *landmark* and schematic *trajector*. And that is elaborated by *Alice* through a correspondence between the profile and the *trajector*. So the composite expression tells you in detail who the participants are. The expression profiles relationships at every level. So that's, very quickly, a typical kind of construction, actually two constructions, a construction at this level and a construction at this level. The notion *subject*, I have been defining it in terms something like this. A *subject*, in this case *Alice*, is a nominal expression, a noun phrase, which elaborates the *trajector* of a profiled relationship. And the *object* is a nominal which elaborates the *landmark* of a profiled relationship. So once you have a semantic description based on the notions *trajector* and *landmark*, which are semantically needed, that can be shown to play a role in grammar, with core nominals which correspond to those elements, *subject* and *object*. As opposed to these being unexplicated grammatical primitives.

So now we're ready to get into perhaps some newer things. I will go through two more descriptive constructs in terms of the methodology, and these are going to be important for describing *locatives*. First of all, just as terminology, certain classes of concepts are what I called *conceptual archetypes*. These are very basic concepts which are essential parts of our everyday experience. These are schematic concepts if you look at them with no more detail, but they are not as schematic as *thing* or *process* as I characterize those. Notions like *physical object*, or *object moving through space*, or the *human face*, or the *human body*, the notion of a *physical container and its contents*, or a *whole and its parts*, or *handing something to someone*, *exerting force to effect a change*, a *face-to-face social encounter*. These are what I called *conceptual archetypes*. It's actually hard to describe them in detail. How do you describe

what a physical object is? It's not easy to give a definition of a physical object. But psychologically this is a very basic notion. And similarly for the others. They may have some innate basis, but whether they do or not, certainly these are shaped in large measure by our experience.

The importance of conceptual archetypes is that they tend to be adopted, make themselves available, to function as prototypes of linguistic categories. So physical objects would be the prototype for the category noun. Or an event in which force is exerted to make a change, that is the prototype for verb, perhaps. The schematic definition for all category members is much more abstract and doesn't have any particular content. For verbs, for example, it will be the ability to track a relationship through time. That's just an ability, it doesn't have any particular content to it, like force.

One of the conceptual archetypes is what I call the distinction between setting and participants. Those are the terms, setting versus participants. This is a descriptive construct I will be using. And I'll first describe the psychological basis for it. We will come then to semantics and grammar. The psychological basis is that it's a conceptual archetype, just a fundamental aspect of our experience. Every time you wake up in the morning and open your eyes, what do you see? Well, for one thing, you're probably in a room, a big container. There is a global expanse bounded by the walls and the ceiling and the floor. And in that room, there are lots of more limited objects like the bed, your pillow, or you yourself, or a window, or an ashtray, whatever you have in your room. Or if you go outside, there is all of outdoors, a bigger expanse, bounded by the ground on one side but it might extend indefinitely. That's a global setting, and within that setting you see things like people and trees and buildings and so forth. Those would be like participants within that global setting. This is just a basic feature of the organization of our world. So that's the psychological basis for it. That's the kind of thing I am talking about in terms of setting versus participant.

So here in this diagram, this represents the global setting. It doesn't always have to be space. We could also talk about a global setting in time, and maybe in other domains too, but at least in time and space. P stands for a participant, shown here by little circles. And L is another term, location. A location is a portion of the setting, some fragment of the overall setting. A location can be of any size. It depends on your purpose. But one way to define a location is that it's the local area which contains participants. So every participant is at a certain location. Now this little dashed line here is just meant to show that the participant occupies a location. Each participant occupies a different location. And participants also bear relationships to one another, and they interact with one another, generally. I'm going to suggest that we conceptualize

the relation between participants differently from how we conceptualize the relation between a participant and a location, as I try to indicate with these terms. We interact with one another. Participants interact, but a given participant simply occupies a location. You're simply there. That's a sort of baseline. That doesn't constitute an interaction all by itself, just being somewhere. The kinds of things we feel are interactions involve something above and beyond simply being somewhere. Now these are all relative terms—there is nothing absolute about whether something is going to be a participant or a location. For example, a room might be a global setting or might be the location within a larger setting or might participate in a relationship. People are typical participants, but a person can also be, say, a setting for some purpose. So there are typical ways of organizing things into setting, location, and participant, but this is quite variable.

So now we're getting into semantics, to start showing the different roles in semantic structure that something can have. So in the next example, (27), the noun *kitchen*. You want to think in terms of something like Fillmore's case roles or theta roles, or whatever. The kitchen plays different roles semantically in (27). *In the kitchen, Jack told Jill about his problems.* In that sentence, the kitchen is a global setting. It's a setting where an event occurs. Jack and Jill are both in that setting and they participate in this relationship, one telling the other about the troubles. So K stands for the kitchen. It is the setting here and the profiled event occurs in that setting and both participants are in that setting. Another possibility is (27) (b), *I saw Jack in the kitchen.* That could be like this, but I'm thinking of a context where Jack is in the kitchen, I'm somewhere else, but I can see into the kitchen and Jack is there. In that case, the kitchen is not the global setting for the entire event; it's the location where Jack is found and I'm observing Jack from outside that location. So the global setting would be something like the house. But you also have cases like (c) *Jill is painting the kitchen*, where the kitchen is construed as a participant, as a patient if you like. It undergoes a change of state. So here some force or influence has been applied to the kitchen and it undergoes a change.

So this notion, besides being part of our everyday experience in psychological terms, helps us explicate semantic differences and helps us characterize the semantics of the sentences. And some more striking differences than the one we just went through. Consider *my cat* in (29). (Oh, you've got bells here, too. Longer bells here.) *My cat is crawling through the grass*, versus *My cat is crawling with fleas*. I don't know if (29) (b) is clear to you. In (29)(b), the cat is not moving, the cat is not crawling, the cat is just there, the cat is the setting. It's the fleas that are crawling. The sentence means that there are fleas all over my cat. My cat is covered with fleas, who are crawling. In other words, the sentences

look quite similar, *my cat is crawling* and then there is a prepositional phrase. But semantically the sentences are very different. You need to describe that difference. And notions of setting versus participant will be part of that semantic description. The cat is a participant in (29)(a). It's the trajector of *crawl*. In (29)(b), it's the setting. It's the trajector at the level of clause. It's not a trajector with respect to the verb itself because there's this special construction. I can't get into details here, but the important thing is that semantically *cat* is a participant in one and the setting in the next.

Or another kind of example, (30) *That director has seen many exciting performances*. There, the director is a participant. The subject is a participant. But we can also say things like (b) *This theater has seen many exciting performances*. The theater didn't really see anything. The theater was just the global setting within which the observation of performances occurred. Or a temporal setting, a setting in time, *The past year has seen many exciting performances*. What you are saying is something like this: within the global setting, the year or the theater, many exciting performances have occurred such that anyone in that setting would have seen them.

So to distinguish meanings of this kind, I think you need something like the notions of setting versus participant. At least these are very helpful for purposes of semantic description. And this has consequences for grammar. Let's focus on (31), the notion of transitivity, as in transitive clause versus intransitive clause, clause with both a subject and a semantic object versus an intransitive which only has a subject. That's considered to be a grammatical notion. Certainly there are grammatical phenomena that are tied to it. And the difference between setting and participant turns out to be critical for transitivity and the phenomena that depend on transitivity. This is ultimately based on work by a student of mine many years ago, Sally Rice, who is now teaching at the University of Alberta in Canada. She showed that transitivity is not a simple grammatical notion, it's not a matter of there being a subject noun phrase and an object noun phrase in a certain position, it's not a matter of form. It's a matter of the global semantics of the sentence and it's a conceptual factor. And critically transitivity involves interacting participants, the interaction of participants. Merely occupying a location does not count as a transitive relationship. That's not an interaction but a kind of existence. And this shows up in many phenomena.

There's an example from Nahuatl, in (32), Classical Nahuatl, that's the language of the Aztecs in Mexico City. (32)(a), *I will see the town, Ne'huaatl in aaltepeetl ni-k-i'ta-s*. There is a subject noun phrase and there is a second noun phrase, the town, and then there is the verb which is marked as a transitive verb. There is a subject prefix *ne-*, an object prefix *k-*, and there is a verb. OK.

Sentence (b) looks parallel. There is, first, *ne'huaatl*, then the town *in aaltepeetl*, and then the verb. However that sentence is intransitive, *I went to the town*. Literally *I went the town*, there is no preposition there. It's literally just *I went the town*. This is not a transitive sentence even though there are two noun phrases in what could be subject and object position. There is a subject and there is something else. *The town* is not a direct object because it specifies a location, the resulting location. So there is only a subject prefix on the verb, not an object prefix. So in (32)(a), there are two participants, the speaker and the town. There is interaction between them, a seeing interaction. In (32)(b), there is only one participant who occupies a series of locations, and that's intransitive. Of course, that's reflected in the grammar here in the verb morphology.

Let's come back to English. The sentences in (30), I've said they are semantically different, depending on whether the subject is a participant or a setting. And it's well known that these sentences are also different grammatically. In the case of (30)(a), with a participant subject, you can form a passive, so you have (33)(a) *Many exciting performances have been seen by that director*. But you cannot say *Many exciting performances have been seen by this theater* or *Many exciting performances have been seen by the past year*. Those are not good. So when you have two participants as subject and object in English, you have transitivity and you can passivize. But when one of the nominal elements is a setting or location, you do not have transitivity. Transitivity is the interaction of participants. So in those cases, you do not form passives because passive depends on transitivity.

Another set of examples is (34). *The soldiers carefully inspected the village*. In this case, *the village* is a participant in the inspection. *The soldiers finally reached the village*. There *the village* is simply the final location. The soldiers wind up occupying the village but they are not interacting with it necessarily. So you're always wondering when soldiers reach your village, you probably get nervous that they might do something to it. The first one passivizes. *The village was carefully inspected by the soldiers*. But the second doesn't. *The village was finally reached by the soldiers*. These are matters of degree, and that's not as bad as some examples would be. But that's the basic judgment. Or one more example. The verb *feature* with respect to directors and films. *Kostner features Li Fuyin in his new film*. Kostner is a director and therefore a participant. But I could also take the film as subject. *Kostner's new film features Li Fuyin*. The film is not a participant. The film is a kind of setting in which you observe the actors. So that shows up in passivizability. You can passivize the first one: *Li Fuyin is featured by Kostner in his new film*. But you can not passivize (b) by saying **Li Fuyin is featured by Kostner's new film*.

So those are the three sources of evidence for the notion of setting versus participant. One more, then we turn to locatives. The last notion is search domain. I define that abstractly in (36): the search domain of a locative expression is the set of locations to which it confines its trajector. Or to put it another way, the search domain for a locative is all the positions relative to the landmark where the trajector might be in accordance with the meaning of the locative element. What do I mean by all this? Let's just take some examples of locative expressions, like *above*, *beside*, and *in*. I have so far described them as involving a relationship between two participants, a trajector and landmark. So this should be an *above* relationship, this should be a *beside* relationship, and an *in* relationship in a certain prototypical form. However, that is not a full description. If I say that *X is above Y* and only refer to X and Y, there is still something else we have to talk about. When I show a diagram and put circles in that diagram, because of the nature of a diagram, you have to show the circle in some particular place. But actually there is a whole region where the trajector could be, the trajector could be anywhere within a substantial region and still be above the landmark. The trajector could be here where I show it, it could be here or could be here or could be there. There is no single place where the trajector has to be. There is an area in space within which it has to be. And that area is what I call the search domain. It's the one that's shown by shading here. Of course this would continue upwards if you had a longer diagram. For *beside*, the search domain is something like this. For *in*, the search domain is the interior of the landmark. So the trajector could be anywhere within the interior. If you know about the work by Claude Vandeloise, you know that the trajector could also be somewhere else, like there, but that's getting into more complicated circumstances. We'll come back to that later actually. The search domain, which I have shown here with the gray ... (I see it doesn't show up on the handout. It doesn't always, but I redid it to make it darker.) The search domain is the third thing in the characterization of locatives. It's not the trajector. It's not the landmark. It's something else. It's a region in space, it's a region in space that is characterized relative to the landmark. You define this region in space in terms of the landmark and the trajector is somewhere in that region. So there are three things you have to talk about, trajector, landmark and search domain.

If you want to describe a preposition in more extensive semantic detail, in a full semantic description, you have to characterize the search domain. So it's part of the semantic description. Psychologically, or in terms of our everyday experience, the search domain corresponds to something we're very familiar with. We often have to locate things in space, and very often we simply know that they are in some general area, then we have to go find them. If you tell me

that I left my keys in the study, I can go to the study and look. I know that the keys are in the study, but within that I still have to search, to find the keys in particular, in their particular location. So this is a general semantic analogue of a very basic feature of everyday experience. We are always trying to find things in general areas and having to find them, locate them more specifically within that domain of search. So that's two sources of evidence: semantic construct, experientially quite basic and natural.

And grammar. There is a lot of evidence from diverse languages that this notion of search domain is important. It figures in grammar. It's important in grammar. I defined it abstractly as all the positions where the trajector could be, given the preposition. Even though that seems abstract, in another sense it's just a region in space, it's fully concrete. But it is important in grammar. I'll just give a couple of examples. One place it's important, is in expressions like (38). For instance, *Under the bed is all dusty*. Or *Near the fire is quite a bit warmer*. These are peculiar in a certain way, because in subject position, functioning as the subject, is a prepositional phrase. *Under the bed* is the subject of the sentence; *Under the bed is all dusty* is like saying *The closet is all dusty*. But instead of a noun *closet* we have a prepositional phrase *under the bed*. Subjects are supposed to be noun phrases, not prepositional phrases. Noun phrases profile things, prepositional phrases profile relationships. So how can a prepositional phrase function as a subject? That's the puzzle that you see here.

By the way, in English some speakers are perfectly happy with these sentences. Some speakers are not. In America, it's about fifty-fifty, half and half. In Australia, almost everyone likes these sentences; in New Zealand they won't commit themselves. I tried this in different places, but you will find this phenomenon for every speaker of English in one place or another, in one construction or another.

Semantically, my claim will be that in this construction, the prepositional phrase is in fact a noun. It is functioning as a noun. It does not profile a relationship; it profiles a thing. That seems a necessary claim for semantic purposes. It makes no sense semantically to say that a relationship is *dusty*. Relationships are not the kinds of things that can be dusty. An object or a place can be filled with dust, but not a relationship. What I want to say is that in this type of sentence, *under the bed* is describing a location, and it's that location which is profiled. And therefore, the expression, even though it has the form of a prepositional phrase, is a noun in terms of cognitive grammar because it profiles a thing. A location is a type of thing. Or to say it another way, in this construction, a prepositional phrase which basically profiles a relationship is understood as having a shifted semantic value. It's extended. So that it's interpreted as profiling a place, a region in space. And the question is: what is that

region? What does it profile? What region in space does it profile? And my answer is that it profiles the search domain of the preposition.

That's sketched in (39). In other words, there are certain constructions in which we interpret a prepositional phrase—this is not the only case—where we interpret a prepositional phrase with a shifted meaning, a different profile from the one it normally has. So here we have a prepositional phrase with its normal value, it profiles a relationship between trajector and landmark. This is the search domain. It's not profiled. This is the basic prepositional meaning. In this construction, the same content is present, but there is a shift in profile, which moves the profile, so that the profile is the search domain, a region in space. In the case of *under the bed*, it would be the region underneath the landmark. Since a location is a type of thing, when you make this profile shift, the resulting expression is a noun. It can function as a subject, and semantically this makes sense because locations can be filled with dust. So this is a kind of metonymy. Metonymy is a shift in profile, I illustrated this with the two senses of *door*. It's an extremely common linguistic phenomenon, and there is nothing at all peculiar about this, except that it happens productively in a certain kind of grammatical context here.

Once you profile a location and direct your attention to the location, the possibility arises of something being in that location. This little dashed circle indicates something in that location. The very notion of location suggests there might be something occupying that location. I am not saying that's important in this example, but it's important later on. I think to save time, I won't go through the other examples except very quickly.

This is from German. It involves dative versus accusative case in German. Accusative case indicates reaching some goal, and also these two case markers occur with prepositions. (OK. What, what a long bell!) Some prepositions allow either accusative case or dative case. And what turns out to be the distinguishing factor, you use accusative case when the motion of the trajector takes the trajector into the search domain of the preposition. So the search domain is kind of the goal of the motion. And you use the dative case when the trajector moves entirely within the search domain, or anything that's not like this actually, for dative. That's illustrated in (42) *The car is standing behind the tree. Hinter dem Baum.* Behind the tree. There dative case is used because the car is standing there. All of that is in the search domain. If this is the tree, this is the area behind the tree, the search domain, and the car never leaves that area. That's dative. But if I say *He parked the car behind the tree*, the car moves into that area. So the search domain is the goal of the motion and there you have accusative case. So these are examples where search domain shows up in semantic description, in grammatical description. It's grammatically important.

It's profiled in the English example, but it figures in calculating the case marker on the prepositional object in German.

Those are some preliminaries, and that ends my discussion of methodology per se. But I've also introduced all of the theoretical notions I need, the descriptive notions, and shown why you need them, why they are justified as part of linguistic description on semantic, psychological, and grammatical grounds.

As I said before, people think locatives are easy and well understood. Students like to work on them. Not just students, lots of people like to work on them just because it looks like you can describe them straightforwardly. And to some extent, that's true. But they have many subtleties, very interesting problems. We're still coming to grips with these, and they are still not fully understood. So I am going to say some general things about locatives, quite quickly, then go to the specific comparison of English and Mixtec.

I am talking about prepositions like *in* and *on* and *under*. One question that arises is whether these are really locatives, whether their function is actually to express location. That's the naive view. We think of them as describing spatial locations, or by extension temporal locations, and so on. But there is another school of thought which says that function is more important, not location. Function. For instance, I gave you the diagram for *in*, where the trajector is inside the landmark in spatial terms. That spatially is a prototypical sense of *in*. But the question arises whether *in* is primarily a locative or a spatial element at all. So Claude Vandeloise, who studied with me at San Diego many years ago, did very important work raising the question whether it might be better to describe prepositions and locative elements in functional terms. In the case of *in*, the function would be container and content. In the case of *on*, the function would be support, for instance, to give an idea what I mean by function. It's not just contact with an upper surface, but the notion of actually supporting something against gravity. Annette Herskovits also raised these questions. And here is one of the examples they both gave.

This is a bowl. These are apples. In the bowl, this is an apple, this is an apple, this is a pear, this is the only pear. And you can perfectly well say *The pear is in the bowl*. It's a perfectly good sentence. But this is the bowl. This is inside the bowl. The pear is there. It's outside the bowl spatially. And *in* is perfectly good there. As Vandeloise shows, the trajector can be anywhere in space relative to the landmark, and you can still have an *in* relation provided you have the function. Given the function, it's still the case that the pear is in the bowl. When you move the bowl, the pear goes with it. The bowl is the place where you put the pear, to keep it there, and so on. It's a container with respect to the pear.

Or another example: *The ant is in the glass*. Here is an ant. We can say the ant is in the glass here. Now actually, say, the ant is crawling on the inside surface

here. The glass is simply this physical object, and actually the ant is outside of the physical object. That is, the ant is not embedded in the glass. This [(43)(b)] is one way of making a virtual closure and thinking of all this and the volume it includes as being in the glass with the ant inside it. But it still is inside it if you understand the glass as including the volume it surrounds when you imagine the upper surface being a boundary. But we can do the same thing down here. Here is the glass, there is the ant crawling on the stem of the glass. And if we imagine a volume that the glass defines in terms of making this virtual closure, we should be able to say the ant is in the glass, because I am doing the same thing that we did here. However you can not. You can not say *The ant is in the glass* here. You have to say *The ant is on the glass*. Geometrically or topologically, they are the same. The difference is that this portion of the glass is the portion that contains the liquid. This is the container portion. This is not. It shows that spatial relationships are perhaps not critical, but rather function. So that's an open question. I think both are part of the truth. I think there are canonical shapes and canonical functions. And the shapes are tailored to those functions, they are both part of the story, and there can be different extensions from the prototype. In the prototype, both the function and the shape are manifested. But it's more than just spatial relations that's involved.

I'm just giving you a brief survey of some interesting locative phenomena in different languages and how they differ greatly from language to language. Sometimes in English, and I imagine in Chinese as well, we locate things with respect to a global framework like the cardinal directions, north, south, east and west. I can say this town is a hundred miles to the north of that other town. But that's a secondary system in English. We usually say things like *on the table* or *in front of the house*, things of that sort. There are languages however which use global coordinates all the time even for the most minute circumstances. There are languages like this in Central America, Mayan languages, and also some Australian languages. Stephen Levinson's group has looked at this in various places. So here is a brief description of an Australian language from Levinson. In this language, nearly all the spatial descriptions involve a central reference to something like cardinal directions. To describe someone as standing in front of the tree, you say something like *George is just north of the tree* or to tell someone where you left your tobacco, *I left it on the southern edge of the western table in your house*, or to turn off the camping gas stove, you say *turn the knob west*, and so on. So there are languages like this. Similar in some ways, but very different in another way from the ones we are familiar with. And Levinson goes on to suggest that if you speak a language like this, it has psychological consequences, because even when you are inside a house, no matter what you are doing, you always have to keep track of the cardinal

directions and how you are oriented, because you never know when you might describe where something is.

I'll skip the data from Cora, a Uto-Aztecan language of Mexico. It's notable because it has so many locatives. Almost every sentence has a bunch of locational expressions. On the verb and outside the verb, prepositional phrases and so on. There are languages which have very few prepositions, Palauan, for example, a Polynesian language, an Austronesian language, has just one. Mixtec has only three. They are not important. The basic locative system doesn't involve them. I'll come to them in a moment. And there are systems which are just quite different in how things are put together, like Atsugewi. That's a California Indian language. Leonard Talmy worked on this for his doctoral dissertation. So this is his description. In Astugewi, that's (46) on the handout, a verb stem can be made up of two parts, a root and a suffix. The root describes the figure, what I would call the trajector, and also describes something about the nature of the motion. The suffix describes the path and something about the ground, what in my terms would be the landmark. So these are two parts, the root and the suffix. They both add their own kind of information, and you have some dozens of these suffixes and dozens of these roots. You can put them together in different combinations to add up to a locative specification. So one example, a root *qput* 'for dirtlike material to move or to be located', and then one of the suffixes is *-içt* 'into a liquid'. So you put these together: *qputiçt* 'for dirtlike material to move into a liquid'. I suppose that's a useful thing to say. That's how you would say it in Atsugewi. So next time you are in Atsugewi country, you will be prepared. But that looks very unlike what we're used to with locative systems.

Now, some time ago, Claudia Brugman and Monica Macaulay started publishing their results on a Mexican language called Mixtec. This is reported in various cognitive linguistics literature. Lakoff in particular talked about it a lot, Mixtec being an example of a locative system that is radically different from the English system, which is not that different from the Chinese system. So this is quite a different kind of thing. There is an initial example in (47). Mixtec does have three prepositions according to Brugman and Macaulay. But these tend to be used for more grammatical purposes. They are not the core part of the locative system. For describing where things are in space or how things move through space, instead of things like prepositions, what are used are compounds, noun-noun compounds. Two nouns are put together and the whole compound that you get is also a noun. So what's a compound? Well, something like *finger nail* is a compound, *finger* plus *nail* adds up to *finger nail*. *Finger* is a noun, *nail* is a noun, *finger nail* is a noun. This compound is just like that in Mixtec. An initial example is (47); in English we would say *A bird flew*

over the tree. The path of motion is given by the preposition *over*. And the object of the preposition is *the tree*. So *over* profiles a relationship, actually a path through space, a complex spatial relationship with *tree* as its object. So that's a relational expression. In Mixtec you would say literally *flew one bird head tree*. There is nothing like a preposition there. There is nothing that's like *over*. Instead, you have the noun *head* and the noun *tree* and they form a compound *head tree*, which is also a noun.

So I hope you see the difference. How can this be? How can you express a relationship using nouns which don't profile relationships but things? And this is a kind of problem that people worry about. I know I used to worry about comparable problems when I had been trained in generative linguistics, more traditional approaches. There is a conceptual problem about how this can happen. And what is the relation between English and Mixtec? Are they radically different or are they maybe less different than the grammatical difference appears? I'm going to suggest that certainly they are different, but not that different. It's important to understand exactly how they are the same and how they are different. Now, to do this, I'm going to start with a brief discussion of the English locatives, as a basis for comparison, then we'll go through the Mixtec.

So in English, the basic mechanism is to use prepositional phrases. Prepositions profile relationships between trajector and landmark, and they can be put in various grammatical constructions, and it's relevant to look at those constructions briefly. Take a simple prepositional phrase. Here is the preposition *on*. This is the landmark. This is the trajector. This is the prototypical locative sense. The trajector is in contact with the upper surface of the landmark. And as the functional aspect of the characterization, the landmark supports the trajector. So this double arrow indicates that the landmark is supporting the trajector against the pull of gravity. The trajector and landmark are of course just schematic. *Table* profiles a certain kind of thing. This is an object construction, so the landmark corresponds to the profile of the noun phrase, being elaborated and specified in finer detail. The preposition is the head that imposes its profile on the composite meaning, so the entire expression, *on the table*, profiles a relationship between the trajector and the landmark. Now the landmark is specifically identified as a table. So that's a prepositional phrase.

Now how can we use a prepositional phrase? Well, we might use it to modify a noun. So I'm going to take this composite structure and then combine it with a noun in a modifying relationship. So we get something like this: *the bowl on the table*. Here is *on the table* which we just saw. The trajector is still schematic, so at a higher level of structure it combines with *bowl*, which profiles a certain kind of thing, *bowl*. There is a correspondence between its profile and the trajector. This elaborates the trajector. Here in a modifying construction, *the bowl*

is the head or profile determinant. So the entire expression profiles the bowl, but its relation to the table is part of the overall meaning, the conceptual base. But the whole thing is a noun, a nominal expression. *The bowl on the table* designates the bowl.

Instead of using *on the table* to modify a noun, we could use it in other ways. We could use it as the core element of a clause. I can say something like (50) (a) *The bowl is on the table*. So I am going to take the composite structure *on the table* now, but instead of modifying a noun, I am going to combine it with the verb *be* to form the complex predicate *be on the table*. (It will all fit if I do it right.) So here is the prepositional phrase again, *on the table*. This is a representation of the verb *be*. A verb follows a relationship as it develops through time. And some verbs, the ones I call imperfective, don't involve a change through time. A situation just continues through time without change. That's one kind of process. *Be* is a schematic version of an imperfective verb, that is, *be* profiles a relationship, a schematic relationship. The dashed line indicates that it's only schematic, not any particular relationship. *Be* profiles a schematic relationship which continues through time and just follows its evolution through time as a stable situation. The dotted lines here indicate that this is the same relationship from moment to moment. So that's what I am saying about *be*. When I combine that with a prepositional phrase, the prepositional phrase tells me what relation it is that continues through time. So *on the table* elaborates this relationship which is the one that continues through time. The composite expression *be on the table* is the same as *on the table* except that this is now temporally extended. This is now a complex verb.

I won't go through the other examples like *put the bowl on the table*, *drop a penny into the bowl*. Those are complicated diagrams there. Really, the ideas are pretty simple but they are not really relevant to us. No sense bothering with them right now. So those are some basics about how English locatives work. Now let's turn to Mixtec.

I said the Mixtec locatives are really noun plus noun compounds. I am not an analyst of this language. This is based on Claudia Brugman and Monica Macaulay. Both are good linguists, and I trust what they say about this. They say and argue convincingly that this is unproblematic, that there is no doubt that these elements are nouns. And there is no reason to think of these elements as anything like prepositions. Just take that as established. One way you can see this is that the key elements are in fact still the nouns used for parts of the body in this language. That is, the locative system involves the elements in (54). These are the first elements in the compounds. The term for head, the term for foot, for leg, the term for back in the sense of an animal's back, the term for stomach, the term for hand and arm, the term for back, which

is the human's, the term for belly, and the term for face. I won't try to pronounce it, as I never heard the language spoken. But those are the basic body part terms in the language. Those are the regular nouns for parts of the body. And those are the first elements in a compound, like *head tree*, you may recall. And the second elements are always clearly nouns too. There is no reason to think the entire expression is not a noun.

Mixtec and related languages are very interesting because they use body part metaphor for many other things. Now English does this, too. And I'd be astounded if Chinese did not do this on a large scale. All sorts of expressions in English for parts of things other than people are names given by body part terms extended metaphorically. So we talk about *the neck of a bottle*. Or we talk about *the foot of a bed*. Or *the shoulder of a road*. So terms that are primarily applied to parts of the human body are extended and metaphorically applied to corresponding parts of other kinds of objects. But in English, this is a sporadic thing. There are many, many examples. They are very common, you can make new ones easily, but it's not totally systematic. In Mixtec and related languages, it's a totally systematic thing. There is a particular set of basic body part terms in Mixtec, the ones in (54). And these are applied as a set to any other object. Sometimes they don't all apply; if you have something like a mat which is just a flat simple thing, only a couple of them are going to apply, like *face* would be the top of the mat. So you won't always get all of them. But any part of any kind of object essentially will be named metaphorically in terms of one of these body parts. So that's one thing that's happening.

Let's look at some examples from list in (54). In (55), we have the term *head* used in a non-metaphorical sense. This is the basic sense. *My head hurts*. *Head-my hurts*. So there it just means head. In (56), we have a case of metaphor applied to a tree in this case, so it's the term for hand or arm. *Arm* would be a better translation here, but it's the same term. So literally *arm tree break*. In other words, here the term *arm tree* is referring to a branch, a tree branch, a branch of the tree. A branch of the tree is the arm of the tree. So there is a metaphor. Of course this is a normal way of saying things. It is still metaphorical. This is so pervasive and systematic that you can even describe parts of the body metaphorically in terms of other parts, in terms of the basic parts of the body. In (57), this involves chalk. Luckily there is chalk here. All right, there it is. Holding a piece of chalk in my hand like this, you would say in Mixtec (57), *lie* (it's lying, the chalk is implicit), *It is lying face my hand*. *Face my hand*. So this is the face of my hand. But if I close my hand like this, I would say *It's lying stomach hand*. Right?

Go over to the next page, (59). Here is another example with *head*. *Your clothes be on head tree*. *Your clothes are on that tree*. So instead of the preposition

on, you have the noun *head*. *Head tree* would be the top part of the tree. So these are cases of the metaphorical extension of body part terms to other objects, including other parts of the body. That's half the story. That's metaphor, the other half is metonymy. Let's first go back to (47). Turn back to page 8 for just a second. I just gave you the example *head tree*, where the head is the top part of the tree. The clothes are on the top part of the tree. In (47), *Bird flew head tree*. In this case, the bird doesn't make contact with the top of the tree. The bird flies over the tree. In other words, the body part terms not only designate parts of objects, but also adjacent areas in space. The regions in space are adjacent to those objects. So where the clothes were in the previous example was actually at the top of the tree, in the tree itself. Here the bird is above the tree, in the area of space that's adjacent to the top of the tree.

Now go back to number (60) on the handout. *Sit foot tree. He is sitting at the foot of the tree*. That could just mean he is underneath the tree, adjacent to the trunk. He doesn't have to be in contact with the tree. He is just adjacent to the bottom part of the tree. Or in (61), *I am standing in front of Maria*. Literally *I stand face Maria*. I am standing at Maria's face. It doesn't mean I am standing on her face. I am in an area of space that's adjacent to her face. Her front.

So what we have is a totally systematic pattern involving both metaphor and metonymy. It's exemplified here with *foot*. But this might be an example for any kind of case. In its primary sense, it designates some part of the body like the foot or the leg or the head or whatever. Then by metaphorical extension, you can apply that to the analogous part of any other kind of object. So here is the reference object. It might be a tree. This is the foot part of the tree. Or you can do metonymy. So if you profile a part of an object, by further extension you can instead be referring to a region in space which is adjacent to that part of the object. And you can do the metaphor and metonymy in either combination. That is, you can do one of them and not the other. You can do the metaphor, you can do the metonymy, or you can do them both. So *foot* might mean the lower part of a tree, the lower part of a human body, or an area in space adjacent to the lower part of the tree or the area in space adjacent to the lower part of the body.

Here I show the two occurring in sequence, but they are independent, they are two operations you can do freely. Here, *foot* would typically be a participant. And here it may be a participant, although this is a flexible categorization. It is hard to say, in some cases, whether a part of the body should be thought of as a location or a participant. If I say *My arm hurts*, is the arm a participant or a location? I don't know, because you can't always tell. But certainly once you do metonymy and refer to a region in space, that's not a part of an object. This has to be construed as a location. And once you have the notion of a location,

that creates the potential for there being something in that location. The very notion of a location is tied to the possibility of something occupying it, which is why I have put this little circle here again. So these are some basic semantic phenomena with respect to these body part terms. And we are close to the end now. I have to show how you put together a Mixtec expression, then do the comparison to English.

How do we put together something like (60) *He is sitting at the foot of the tree*. The subject is not expressed here and we don't care about it. Just the other part, *sit foot tree*, for *sitting at the foot of the tree*. I'll go through this element by element. We first have the expression, *foot tree*. The particular interpretation that we're going to need is this one, *foot*", by metaphor the lower part of some other object. And then by metonymy, a region in space adjacent to the lower part of a reference object. That's what I call *foot*". So this is one value of the word for *foot* or *leg*. Now we want to combine that with *tree*: *foot*" *tree*. So we combine them. We make a compound. We establish correspondences between these elements. So here's *foot* in the sense that is going to work semantically in this overall sentence. And here is *tree*; it profiles a kind of thing. And you simply integrate them. That is the reference object relative to which something is adjacent to the lower part. The reference object is the elaboration site. It is put in correspondence with *tree*. So in the composite expression *foot*" *tree*, *foot*" is the head. In Mixtec, the first element of a compound is the head or profile determinant. In English it's the second; in Mixtec it's the first. So *foot tree* refers to a region in space adjacent to the lower part of a tree. This is the profile. It's a locational expression that profiles a location. And that invokes the possibility of something occupying that location. So this is a noun. That's a noun. The whole thing is a noun. They all profile types of things. Nothing here profiles a relationship.

However, there is a relationship here, given the body part and where the body part is in terms of the overall body, and therefore, by analogy, where it is in relation to a reference object, plus a notion of adjacency. Spatial relationships are part of the semantics of this expression even though what's profiled is just an area. You have relational information. This is how you can get locative specifications into sentences without anything that actually profiles a spatial relationship. It still has information about spatial relationships. Profiling is not the same as information. Now we have to combine this with a verb. I gave you examples with English. For English, when we indicate the location of things, we just typically use *be*. So I went through *be on the table*. Sometimes we can use other verbs; we can say *stand on the table*, *sit on the table*, *the books are lying on the table*, *the clock is sitting on the table*. But more typically we just use *be*.

In Mixtec there is a different strategy. There is not just one locational verb but a number of them. The glosses are given in (64). I didn't give the forms because I am not going to do anything with them. But they mean *be located*—that's the general one—*be standing, be sitting, be lying, be in, be on, or be in* (hidden from view). So there is a whole system of basic locative verbs. The most schematic one I guess would be *be located*. *Sit* is one of them. And *sit* is one that occurs in (60).

So, now we are going to take *foot" tree* and combine that with *sit*. That will give us the entire expression. So the question is, what is the meaning of *sit*? How do we describe *sit* semantically? Well, *sit* is an imperfective verb that describes a stable situation through time, a situation that continues through time. And this is the configuration. Again, these correspondence lines indicate that this is the same configuration through time. You are just tracing it through time as a stable situation. But what is it in the case of *sit*? It's more specific. In the case of *be*, it's just a totally schematic relationship and it has to combine with *on the table* to become a specific one. In the case of *sit* there is a lot of content to it. *Sit* involves, first of all, being in a certain location. The location here is given as a rectangle. If you are sitting somewhere, you are somewhere. And it's the same location throughout. *Sit* also involves a posture. If you are sitting, your body has a certain configuration. You are sort of scrunched up like this. That's an internal relationship, one that is internal to the trajector. I just show that here as an arrow. So there is the body posture and then there is a fixed location.

These two semantic elements go into the notion of *sit* as a stable configuration through time. Then we have to combine that with *foot" tree*. That's what the sentence does. *Foot" tree* profiles a region in space adjacent to the lower portion of a tree. This is a location. And we have to get that together with the verb. Well, the verb itself invokes a location in a very prominent way. It's shown by this box. So all we need to do to integrate these is establish a correspondence, which all constructions are based on. The location profiled by *foot" tree* is identified with the location of the trajector of *sit*. And as I told you, locations are associated with things that occupy those locations, so the potential occupant is identified with the trajector. And when you then superimpose these elements onto this scene, this is the composite expression. It still profiles that same relationship of posture and stable location. But now that location is identified as a region in space adjacent to the lower portion of a *tree*. And there you have it.

I think you can always do this. Not every verb invokes a location as saliently as *sit* does. But at least if you're describing physical occurrences, where physical

locations become relevant, there is always some implied location which is either salient or less salient as part of the semantics of the verb. There are some other examples in (66)–(67). *Drowned stomach water* for *Someone drowned in the water*. Well, *drowning* doesn't invoke a specific location, but it does invoke there being water. That is a kind of location and that's spelled out here. Or to *make salsa in the molcajete*, which is kind of bowl for making salsa in. Again, making salsa is something occurs in a location. So *I make salsa face molcajete*. You can always do things like this. You can always find a location to identify with the one that's profiled by the locative element, which is really of course a nominal element.

The last thing to do, which will just take a moment, is a little bit of comparison. How does this relate to a language like English, and how we do locatives in English? We started out as Lakoff and Brugman did years ago, by marveling at how different this is. This is not like the English types. There is nothing like a preposition there. It's a noun-noun compound. But in another sense, it's not really all that different. One basis for observing their similarity is the fact that, historically, body part terms often develop into prepositions. There are traces of that in English. For example, *beside*, the preposition *beside* contains the word *side* as one element. Or *ahead of*; *ahead of* contains *head*. *Behind*, well, *behind* is also a body part term. *Hind* would be the historically relevant part there. And so on. This happens in language after language. Body part terms develop into prepositions. It's a common path of historical development.

How might that happen? Imagine that Mixtec develops historically into a prepositional system. These body part terms in Mixtec at some later historical stage could conceivably evolve into prepositions which are derived from these body part terms. What would that development consist of? Diagrammatically we would have the following. The first two diagrams represent what is already present in the language. We have terms that profile parts of the body, or parts of analogous objects. Now they are parts of other objects. So these, they will profile a part of a thing. This is a noun still, a participant noun perhaps. But via systematic metonymy in this language, the same term can come to profile an adjacent region in space. So this is noun metonymy. And in this use, they constitute locational nouns. They profile locations. And therefore they invoke the potential of there being an occupant in the location. All we would need for this to become a prepositional sense is a shift in profile. We have three elements here, a region in space, an occupant, and a reference object. So if we shift the profile from the region in space to the relationship between occupant and reference object, that would give us a preposition. And the location in space that's profiled by the body part term would be the search domain.

In other words, I have the same three elements here and here. It's just a different profile, shifting the focus of attention from this location to the relationship between these two other entities. With a shift in profile, this looks just like the prepositions we've examined before. Trajector, landmark, search domain. And the shift in profile is metonymy, which happens all over the place in languages, all the time. It is an important development in historical change as well. This might look familiar, if you go back to diagram (39). That was the diagram I gave for English expressions like *Under the bed is all dusty*. In the case of *under the bed*, we shift the profile from a relationship to the search domain. The Mixtec development that would hypothetically lead historically to these body part nouns becoming prepositions just goes in the opposite direction. In other words, the two systems are not as different as they first appear to be. A body part term, certainly as it is applied metonymically, has all the same elements as a preposition. The only thing that's different is what you put in focus and profile. But all the content is there, and there is the potential which is realized historically in different languages or for different purposes, for things to shift in one direction or the other.

In (69), I show this in the form of a table. A locational noun and a preposition are both characterized in terms of three things. With a preposition, those things are the trajector, a landmark, and a search domain. With a locational noun like the ones in Mixtec, you have a profiled region which is analogous to the search domain. You have a potential occupant of that region, which is analogous to the trajector. And you have a reference object which is analogous to the landmark. And the abstract similarity between them is shown at the bottom: *Thing 1* is a spatial region, *Thing 2* is an occupant of that region, *Thing 3* is a reference object. The only difference is what is profiled. That is shown by the boldface. With the locational noun you profile the region, the spatial region. With the preposition you profile the relationship between *Thing 2* and *Thing 3*. But one can easily develop into the other synchronically or diachronically.

Now there is a lot more involved historically in how body part nouns develop into prepositions. Very often you start from a complex construction like *at the head of* or *on the top of*. And you have another preposition there, and articles, things like that. There is a lot of simplification before the body part noun winds up being a preposition. Mixtec might be a simpler case because you don't have anything like another preposition there. You simply have the body part term plus the reference object, two nouns. So morphologically, they might be a lot simpler. But I think the essence of the development in either case is going to be something like this. (And I am done as the bell tells me.) So depending on how you people want to run things, it's time for questions and discussion, if there is time and energy left, or any need of that.

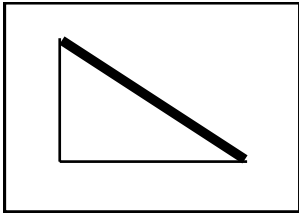
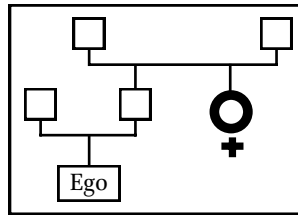
Locatives

1 *Methodology*

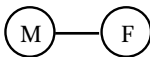
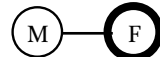
- (1) *Cognitive linguistics* and *cognitive grammar* are “cognitive” in the sense that, insofar as possible, they see language as drawing on other, more basic systems and abilities (e.g. perception, attention, categorization) from which it cannot be dissociated.
- (2) (a) A **symbolic structure** is the pairing between a *form* (i.e. a phonological structure) and a *meaning* (a conceptualization, in the broadest sense).
 (b) Lexicon, morphology, and syntax make up a continuum consisting solely of **assemblies of symbolic structures**.
 (c) Consequently, all elements validly posited in grammatical description have some kind of meaning (often quite schematic).
- (3) **Conceptual unification:** To fulfill its *semiological function*—allowing conceptual structures to be symbolized by sound structures—a language must at least comprise semantic structures, phonological structures, and symbolic links between the two. Cognitive grammar claims that *only* these elements are necessary. It thus achieves the *unification* of grammar with lexicon and their *reduction* to symbolic relationships.
- (4) **Restrictiveness (content requirement):** The only elements ascribable to a linguistic system are: (i) semantic, phonological, and symbolic structures that are (part of) overtly occurring expressions (hence directly apprehended); (ii) abstractions (schematizations) of permitted structures; and (iii) categorizing relationships between permitted structures (e.g. the relationship between a schema and a specific structure that instantiates it).
- (5) A primary working strategy of cognitive grammar is to seek **converging evidence** from three sources: (i) A particular construct is shown necessary for the adequate semantic description of multiple phenomena in various languages. (ii) This construct is related to an independently observable cognitive ability. (iii) This same construct proves critical for the explicit characterization of varied grammatical phenomena.

- (6) An expression's meaning is a function of both the conceptual **content** it evokes and how that content is **construed**. Construal is our ability to conceive and portray the same situation in alternate ways (e.g. in terms of *perspective*, *prominence*, and level of *specificity*).
- (7) *thing* → *creature* → *animal* → *dog* → *poodle*
- (8) (a) *This road winds through the mountains.*
 (b) *This road is winding through the mountains.*
- (9) Within the array of conceptual content it evokes as the basis for its meaning (its conceptual **base**), an expression **profiles** (i.e. refers to) a particular substructure. Expressions that evoke the same content may contrast semantically by virtue of their choice of profile within this base.

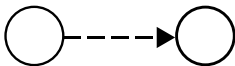
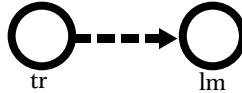
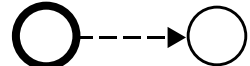
(10)

(a) *hypotenuse*(b) *aunt*

(11)

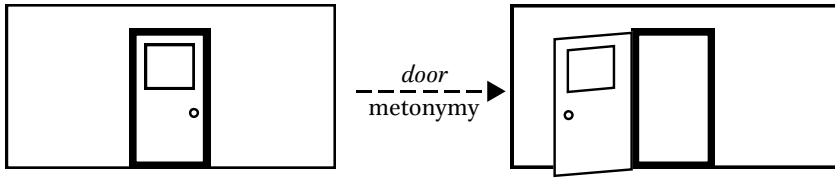
(a) *Base**husband**wife*

(b)

Base*admire**admirer*

- (12) **Metonymy** is a shift in profile. An expression that normally profiles one entity is used instead to profile some other entity within the same conceptual base.

(13)



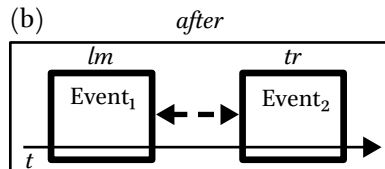
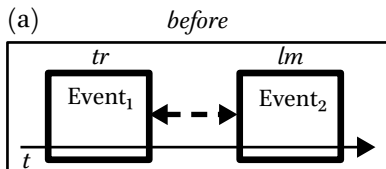
- (14) (a) An expression's **grammatical class** is determined by the nature of its profile.
 (b) The imposition of a particular profile constitutes the essential meaning of certain **grammatical markers**.
 (c) In a grammatical construction, the **head** is the component structure whose profile is inherited by the composite structure.
 (d) A **subordinate clause** is one whose profile is overridden at a higher level of grammatical organization.

- (15) Expressions can profile either **things** or **relationships** (abstractly defined). An expression's *grammatical class* is determined by the nature of its *profile* (not its content). A *noun* profiles a **thing**. A *verb* profiles a **process**, defined as a relationship whose evolution through time is rendered salient. Classes like *adjectives* and *prepositions* involve the profiling of **non-processual** relations.

- (16) (a) *I admire anyone* [who can pole-vault 16 feet].
 (b) *She tried* [to lift the box].

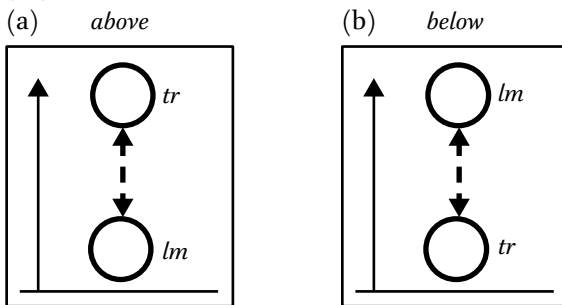
- (17) *before* vs. *after* *above* vs. *below* *over* vs. *under* *in front of* vs. *in back of*
precede vs. *follow* *lead* vs. *trail* *like* vs. *please* *admire* vs. *be admired by*

(18)



- (19) (a) When a relationship is profiled, its participants are made prominent to varying degrees.
- (b) The most prominent, the **trajector** (*tr*), is construed as the entity being located, evaluated, or described. It is the *primary focus* (“figure”) within the profiled relationship.
- (c) Often another participant is made prominent as a *secondary focus*. This is called a **landmark** (*lm*).
- (d) Expressions can have the same content, and profile the same relationship, but differ in meaning because they make different choices of trajector and landmark.

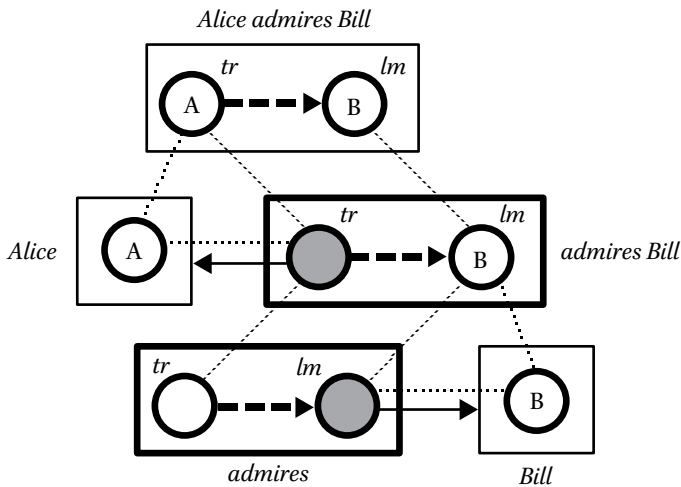
(20)



- (21) (a) *Where is the lamp?*
- (i) *The lamp (**tr**) is above the table (**lm**).*
- (ii) **The table (**tr**) is below the lamp (**lm**).*
- (b) *Where is the table?*
- (i) *The table (**tr**) is below the lamp (**lm**).*
- (ii) **The lamp (**tr**) is above the table (**lm**).*
- (22) The **subject**, at a given level of grammatical organization, is a nominal element which specifies the *trajector* of the relationship profiled at that level. An **object** is a nominal element which specifies the *landmark* at a given level.
- (23) (a) A **grammatical construction** is a symbolic assembly in which a set of **component** symbolic structures and a **composite** symbolic structure are linked by **correspondences** (dotted lines).
- (b) Usually the composite structure inherits its profile from one of the components, which is thus the **head** or **profile determinant** (heavy-line box).

- (c) A symbolic assembly exhibits a kind of **constituency** when the composite structure at one level of organization (in one construction) functions in turn as component structure at a higher level of organization (in a higher-order construction).
- (d) Grammatical patterns are represented by **constructional schemas**, i.e. *schematic* symbolic assemblies that serve as templates in forming new expressions.

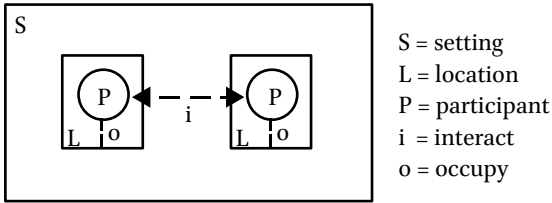
(24)



2 Additional Descriptive Constructs

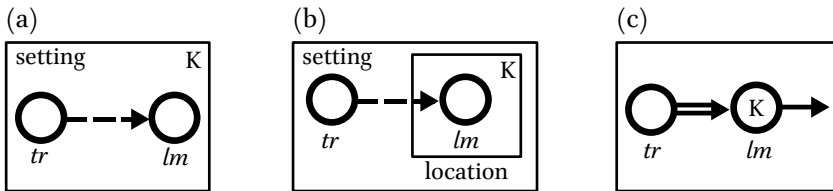
- (25) (a) Some **conceptual archetypes**: physical object, spatial motion of an object, the human face, the human body, a physical container and its contents, a whole and its parts, seeing something, holding something, handing something to someone, exerting force to effect a desired change, speaking, a face-to-face social encounter ...
- (b) Among these archetypes are the conception of a global **setting** containing **participants**, each found at some **location** within it. Participants **interact** with one another, but merely **occupy** locations.

(26)



- (27) (a) *In **the kitchen**, Jack told Jill about his problems.*
 (b) *I saw Jack in **the kitchen**.*
 (c) *Jill is painting **the kitchen**.*

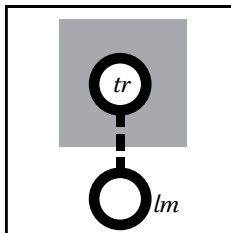
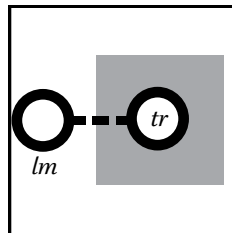
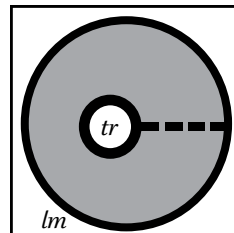
(28)



- (29) (a) ***My cat** is crawling through the grass.* [participant subject]
 (b) ***My cat** is crawling with fleas.* [setting subject]
- (30) (a) ***That director** has seen many exciting performances.* [participant subject]
 (b) ***This theater** has seen many exciting performances.* [setting subject]
 (c) ***The past year** has seen many exciting performances.* [setting subject]
- (31) **Transitivity** involves the *interaction of participants*. Grammatical properties (e.g. object marking, passivization) may depend on degree of transitivity.
- (32) (a) *Ne'huaatl in aaltepeetl ni-k'i'ta-s.* [Nahuatl]
 I ART town I-it-see-FUT
 'I will see the town.'
 [participant object]

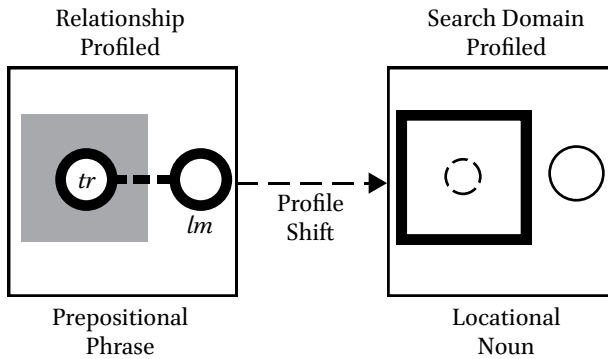
- (b) *Ne'huaatl in aaltepeetl ni-ya-'* [location complement]
 I ART town I-go-PAST
 'I went (to) the town.'
- (33) (a) *Many exciting performances* [participant]
have been seen by that director.
 (b) **Many exciting performances* [setting]
have been seen by this theater.
 (c) **Many exciting performances* [setting]
have been seen by the past year.
- (34) (a) *The soldiers carefully inspected the village.* [participant]
 (b) *The soldiers finally reached the village.* [location]
 (c) *The village was carefully inspected by the soldiers.*
 (d) **The village was finally reached by the soldiers.*
- (35) (a) *Kostner features Li Fuyin in his new film.* [participant]
 (b) *Kostner's new film features Li Fuyin.* [setting]
 (c) *Li Fuyin is featured by Kostner in his new film.*
 (d) **Li Fuyin is featured by Kostner's new film.*
- (36) The **search domain** of a locative expression is the region to which it confines its trajector, i.e. the set of trajector locations that will satisfy its specifications.

(37)

(a) *above*(b) *beside*(c) *in*

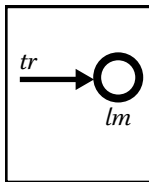
- (38) (a) *Under the bed is all dusty.*
 (b) *Near the fire is quite a bit warmer.*

(39)

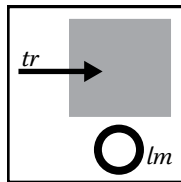


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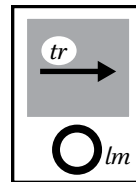
(a) 1-way ACC



(b) 2-way ACC



(c) 2-way DAT



- (41) (a) *Wir wanderten in den (DAT) Bergen.* 'We wandered (around) in the mountains.'
 (b) *Wir wanderten in die (ACC) Berge.* 'We wandered into the mountains.'
- (42) (a) *Das auto steht hinter dem (DAT) Baum.* 'The car is standing behind the tree.'
 (b) *Er stellt das Auto hinter den (ACC) Baum.* 'He parks the car behind the tree.'

3 *Locative Phenomena*

(43)

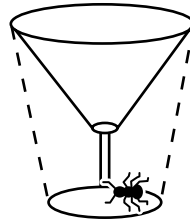
- (a)
- The pear is in the bowl.*



- (b)
- The ant is in the glass.*



- (c)
- *The ant is in the glass.*



- (44) “ ... There are languages that encode very few ‘prepositional’ notions, do not use left and right in an extended spatial sense, and indeed require the conception of spatial relations in a fundamentally non relative manner ... In Guugu Yimithirr ... nearly all spatial descriptions involve essential reference to something like our cardinal directions ... To describe someone as standing in front of the tree, one says something equivalent (as appropriate) to ‘George is just North of the tree’..., or to tell someone where you left your tobacco ‘I left it on the Southern edge of the Western table in your house’, or to ask someone to turn off the camping gas stove ‘turn the knob West’ and so on” (Levinson 1992: 2–3).

(45) Cora

- (a) *na-ʔa-rá-ʔaca* *y-é* *nʔa-hiise-ʔe*
 I-outside-facing:out-have:sore here-outside my-eye-on
 ‘I have a sore right here on my eyelid.’
- (b) *u-h-kí-tʔa-puʔu*
 inside-face:of:slope-short-in:middle-planted
 ‘Its [dog’s] tail is chopped short.’ [seen from behind]
- (c) *a-h-kí-tʔa-puʔu*
 outside-face:of:slope-short-in:middle-planted
 ‘Its [dog’s] tail is chopped short.’ [seen from side]

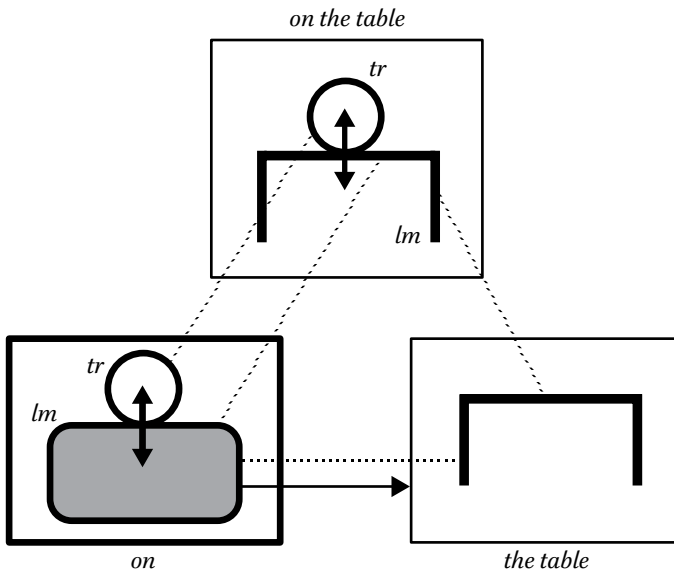
(46) Atsugewi

- (a) Verb Stem = Root (figure/motion) + Suffix (path/ground)
- (b) *qput* 'for dirtlike material to move/be-located'
- (c) *-ičt* 'into a liquid'
- (d) *qputičt* 'for dirtlike material to move into a liquid'

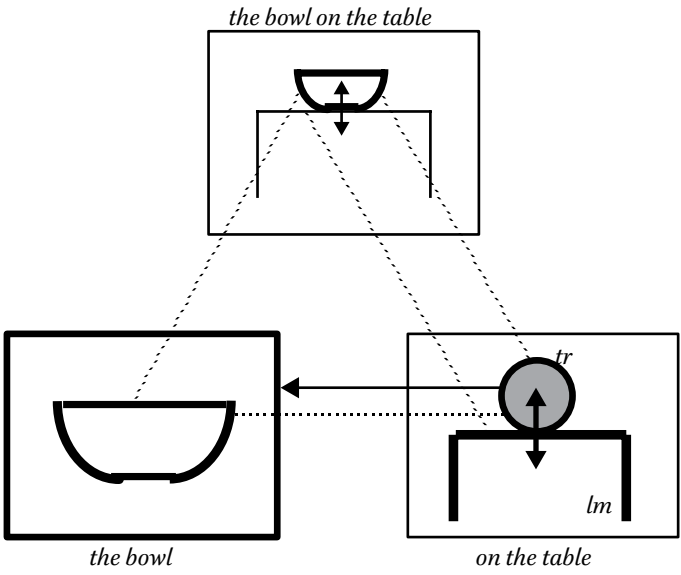
(47) *nindečé ħħ saà šini žúnu* [Mixtec]
 flew one bird head tree
 'A bird flew over the tree.'

4 *English Locatives*

(48)

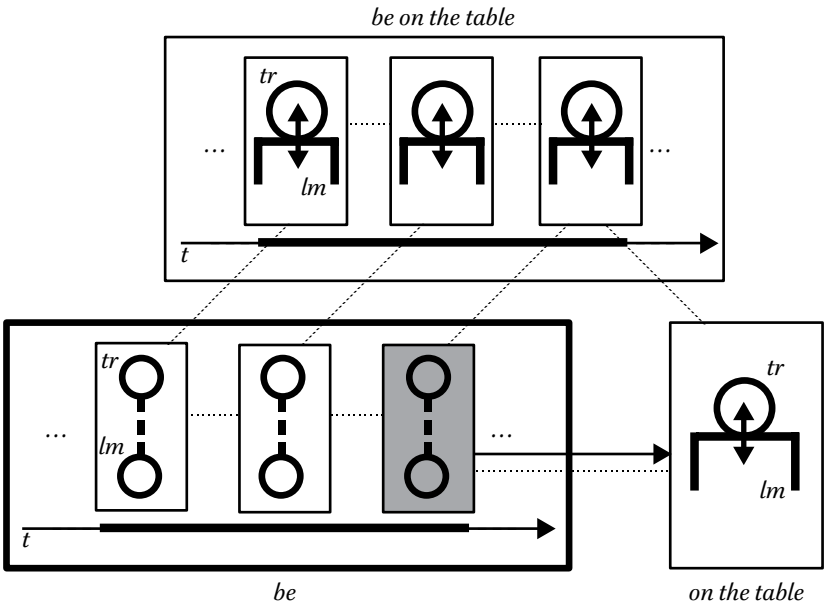


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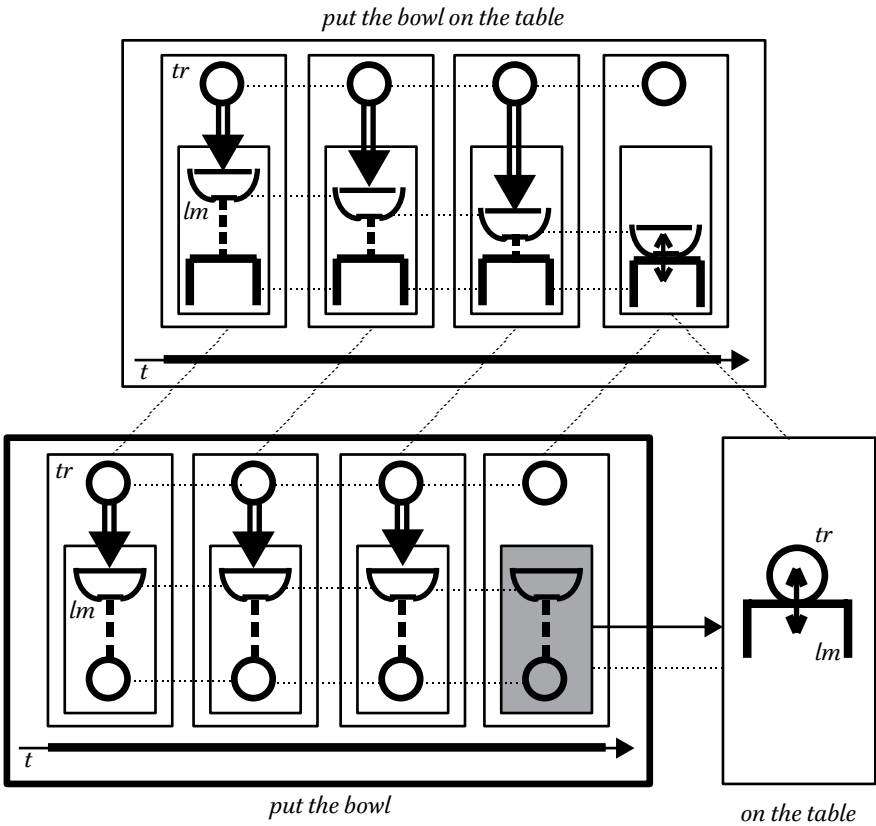


- (50) (a) *The bowl is on the table.*
(b) *Sharon {set/placed/put} the bowl {on/?*onto} the table.*
(c) *Sharon dropped a penny {in/into} the bowl.*

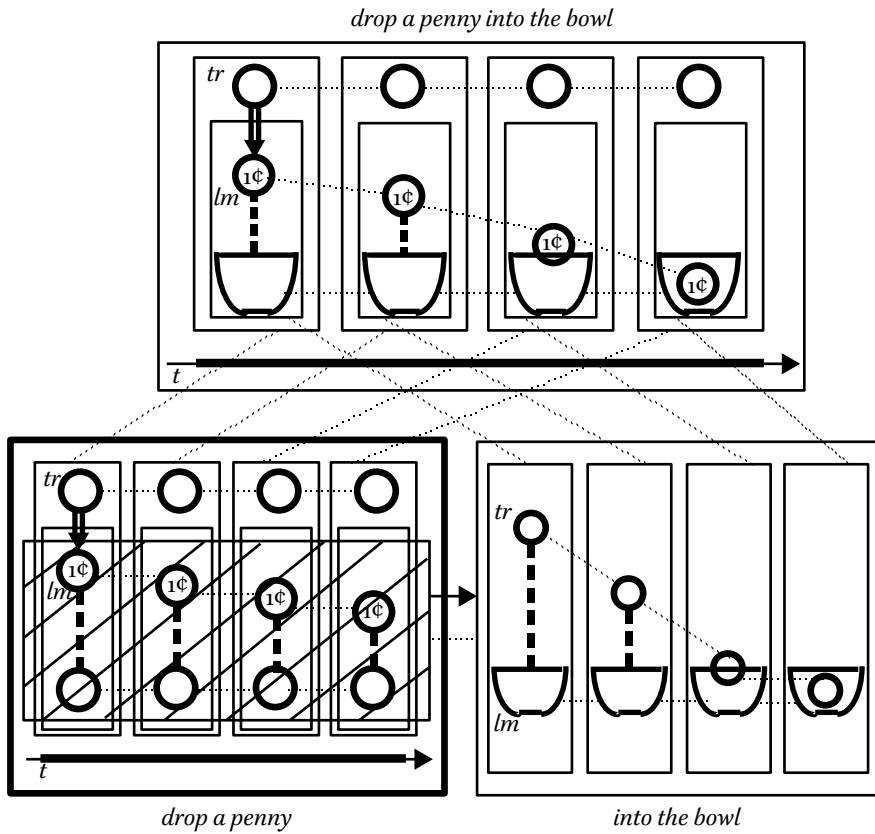
(51)



(52)



(53)



5 Mixtec Locatives

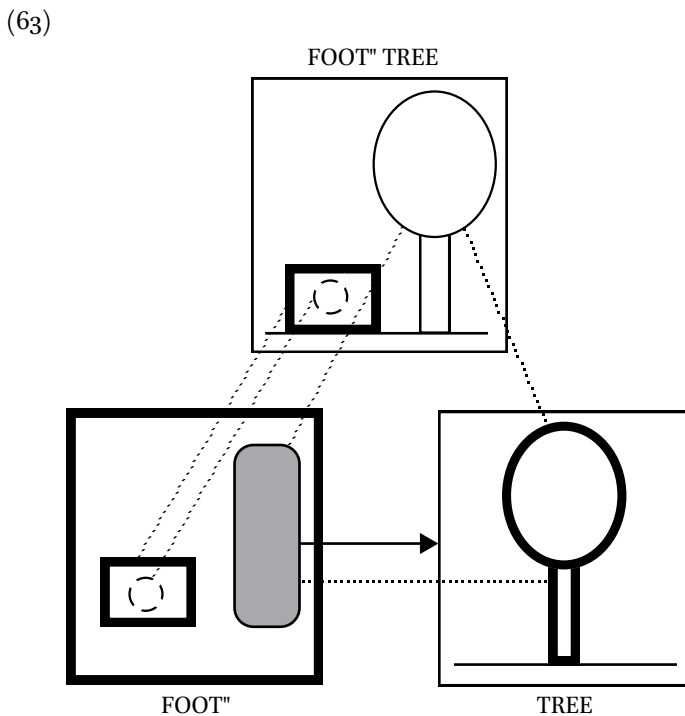
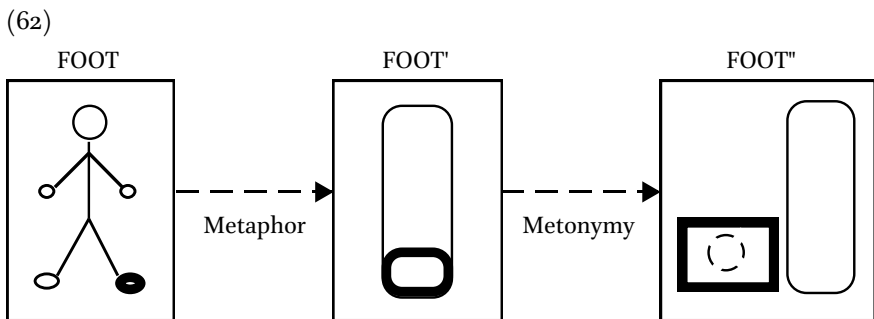
(54) *šini* 'head', *haʔà* 'foot/leg', *siki* 'back [animal]', *ini* 'stomach', *ndaʔa* 'hand/arm', *žata* 'back [human]', *čü* 'belly', *nuù* 'face'

(55) *šini-rí* *ʔúʔù* 'My head hurts.'
 head-my hurt

(56) *ndaʔa* *žúnu* *táʔnu* 'The tree's branch is breaking.'
 hand tree break

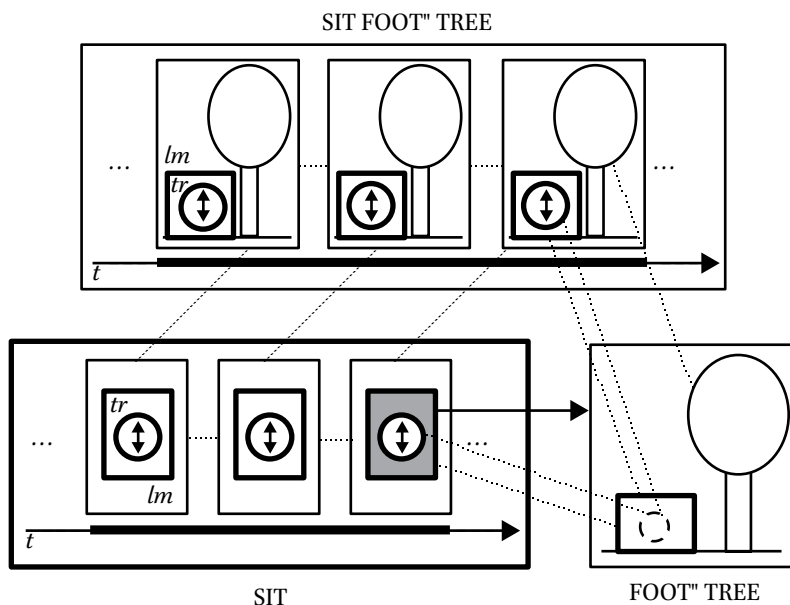
(57) *hítuu* *nuù* *ndàʔa-ri* 'It [chalk] is lying on my hand.'
 lie face hand-my

- (58) *hítuu ini ndàʔa-ri* 'It [chalk] is lying in my hand.'
 lie stomach hand-my
- (59) *súʔunu-ro hísndée šini žúnu wəq* 'Your clothes are on that tree.'
 clothes-your be:on head tree that
- (60) *ndukoo haʔa žúnu* 'He is sitting at the foot of the tree.'
 sit foot tree
- (61) *rùʔù nindii-ri nùù maría* 'I am standing in front of Maria.'
 I stand-I face Maria



- (64) Glosses of locational verbs: 'be located', 'be standing', 'be sitting', 'be lying', 'be in', 'be on', 'be in (hidden from view)'

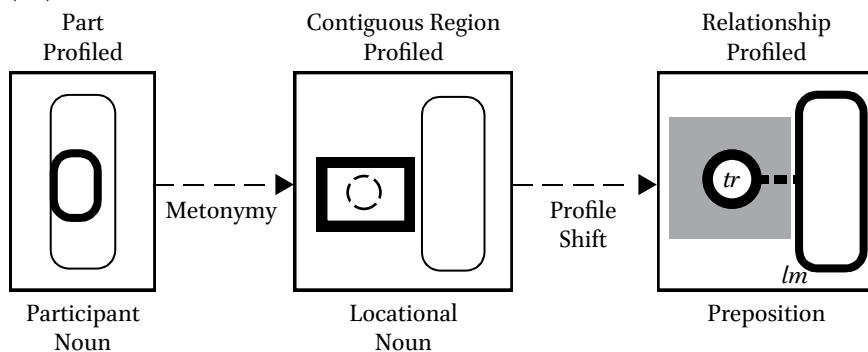
(65)



- (66) *nikqžáa ini ndúča* 'Someone drowned in the water.'
 drowned stomach water

- (67) *sáʔa-rí ndučaʔá nuì molcajete*
 make-I salsa face molcajete
 'I'm going to make salsa in the molcajete.'

(68)



(69)

	Thing 1	Thing 2	Thing 3
<i>Locational Noun</i>	profiled region	potential occupant	reference object
<i>Preposition</i>	search domain	trajector	landmark
<i>Abstract</i>	spatial region	occupant of region	reference object
<i>Commonality</i>			

(70) Everything has to fit, and everything has to fit together.

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All original audio-recordings and other supplementary material, such as any hand-outs and powerpoint presentations for the lecture series, have been made available online and are referenced via unique DOI numbers on the website www.figshare.com. They may be accessed via this QR code and the following dynamic link: <https://doi.org/10.6084/m9.figshare.4788775>.

Possession, Location, and Existence

Thank you for the kind introduction. Can you hear me well like this? OK. I am wired with three microphones here plus all of those devices down there. And this fancy projector too. High technology. I have to warn you this is not the easiest material to talk about. And some of it is not the easiest to understand but I will do my best and I hope it makes sense. The basic topic is possession, and ways of marking possession in a language, and the semantics of possession.

So I will be looking at the questions in (1) on the handout, which I hope you all have. What is the semantic value of possessive elements and constructions? The grounding function of possessives. The difference between nominal and clausal possession. The different kinds of possessive constructions, especially clausal possessive constructions. And something about grammaticization and how possession is related to the notions of location and existence.

I received my degree in 1966. That is exactly 40 years, 4 decades ago. I see the first reference I list here in (2) is also 1966. Even at that time the analysis and meaning of possession was a basic problem in linguistics. I talked about some of this the other day, so the beginning may be a review for some of you. If you look at these examples in (3) of typical possessive expressions in English, you see that semantically they are very diverse. Some of them indicate ownership, as in *the mayor's cell phone*; others indicate kinship, as in *Sam's mother*; others indicate parts of a larger whole, especially the body, as in *my elbow*. And then there are many others where none of these apply. *The supervisor's desk*, the supervisor probably does not own the desk. *Your rook* in chess, *the baby's crib*, *his problems*, *Ellen's candidate*, *our train*. You know *our train* is not the one that we own and it's not a part of us. It's probably the train that we're going to take. Or *the students' qualifications*, *her migraine*, that's have a headache, *the dog's fleas*, *Kennedy's assassination by Oswald*.

So a very diverse group of relationships, if you think about the nature of the relationships in the world. They are so diverse that some people have suggested that there isn't any specific meaning at all to possession. The quote from Bendix, in (2), simply says there has to be some association between the possessor and the possessed. "*A has B* expresses that there is some state relation between 'A' and 'B' [stative relation or state] and leaves a more precise specification of this relation to the context." There is simply some relationship. That's all. As I noted the other day, that's a little bit too general, especially because the existence of a relationship, the existence of association, is a symmetrical

notion: if A is related to B, then B is related to A. But possession usually is not reversible. So we can not say things like *the cellphone's mayor*, *the fleas' dog*, *the current interest rate's bank* or *the assassination's Kennedy*. Those are bad. So possession has to be very general, very abstract in some way, but not totally abstract. There has to be directionality to it.

That was my starting point a number of years ago. Possession is one of the categories for which I made the basic claim in (4), a fundamental notion of cognitive linguistics. (Thank you very much.) That some basic and universal grammatical notions, like subject and object and noun and verb and possessives, have two levels of semantic description. There is an abstract, schematic level which says what all of these possessive expressions share, what they all have in common. But there is also, importantly too, a level of the prototype, the normal senses that possession can take. And at the prototype level, you have things like ownership, part-whole, kinship. Those are standard types of possessive uses. In many languages those uses involve obligatory possession. The schematic or general characterization involves no particular conceptual content but rather a cognitive ability: the reference point ability that I talked about the other day, and I will talk about some more today. The prototypes are based on conceptual archetypes: ownership, part-whole, kinship, these are among the things I call conceptual archetypes. But a key point which I am going to make today and I haven't talked about previously is that the schematic characterization is immanent in the prototype characterization. By *immanent* I mean *lies within it*. The schema is immanent in the prototype. So the conceptualization of the prototypical values incorporates the conceptualization of the schematic value.

I hope that as I go along, that notion will become more clear as illustrated by possession. I think most people would agree that ownership, kinship and whole-part relationships are very prototypical for possessives. The schematic characterization is less obvious and certainly not generally known or accepted. And this is what I take to be based on the reference point ability. Now if you have been attending these lectures you have seen this kind of diagram before, the one in (6). I see the screen is sort of bumpy because the diagram is slightly distorted. (Now if I go over here, can you hear or should I stay by the microphone? Is this OK? OK.) The elements are a conceptualizer, C, a reference point, a target, and a dominion. The dashed arrows stand for a path of mental access. And the notion is that a conceptualizer is able to mentally access a target through a particular reference point. By conceptualizing a reference point, which is easier to direct attention to or easier to apprehend or conceptualize, it becomes possible for that conceptualizer to reach a certain target. And the

dominion is all of the targets that you can reach through a particular reference point. That's the general characterization.

I have pointed out that there are many illustrations of that in our everyday experience. We often use physical objects that are easily perceived as reference points for locating something else. So if you are going to give me directions to find a certain restaurant, you might say *Well, go downtown, look for the big bank tower and the restaurant is in the next block*. So it's easy to find the big bank tower, and once I find that, it will be easy from there to find the restaurant. That's an example of physical search. But mentally we do something similar in locating something in relation to something else. Certainly, with kinship and whole-part relations, this is what we do. A kinship relationship is always relative to a particular person, a reference individual, as in *Sherridan's grandfather*. I am a grandfather, but not with respect to anyone here. It has to be with respect to Sherridan and a couple of others. Whole-part relations. Various people have argued, I think correctly, that we conceptualize a part in relation to the whole. A part is only a part in relation to the whole. So I have here the example *the lion's mane*. We recognize the mane of a lion as a mane only in relation to a lion. If it's considered independently of a lion, it's only a bunch of hair. And less obviously with ownership, there is a natural mental progression in a case like *Jason's wallet* from the person to the wallet. (You will shut one down? All right. I have two microphones. I hope that's enough.) Given our cognitive models of how things work, people are associated with many objects that they can control somehow. And people are cognitively salient to us as opposed to things like wallets, we know people individually, we don't know many wallets individually. So if you are going to start identifying a wallet with respect to a person or a person with respect to a wallet, it goes in one direction. We are going to say *Jason's wallet*. We are going to identify the wallet through its relationship to Jason and not the reverse.

So these are natural paths of mental access. In other words, the reference point relationship is pretty clear for the case of prototypical possessives. And those are the three prototypical kinds of possessives. In number (7), I list some other grammatical manifestations of reference point organization. I think I will not talk about them here. Topic and comment; antecedent and pronoun; trajector/landmark versus profiled relationship. I take all those as other uses than possessive constructions of the reference point ability.

An important point in this presentation that I really didn't discuss before is how the possessive schema is related to this possessive prototype. The schema is given in (5). The schematic characterization of possessive constructions is that the possessor is the reference point, the possessed is the target. That's the

abstract characterization that's held to be valid for all possessive expressions. The prototypical ones and the nonprototypical ones. The prototypes, like ownership, kinship, and part-whole, have much more content. Those are conceptual archetypes. They refer to particular types of experience in the world. But a reference point characterization is not based on any particular content, but rather on mental abilities. It's a matter of mentally invoking one element in order to establish mental contact with another element. That's independent of any particular content. It could apply to anything. But it has built into it a kind of directionality. We access one thing through another. And that's what we need for possessives because possession is very general, it applies to many kinds of circumstances, to all the ones exemplified in (3)(a). But also possessives are not reversible. There is a direction to them. The possessor and the possessed typically do not reverse easily. Of course, in a special context you can always imagine a way to reverse them, but usually you have this asymmetry and that's inherent in the reference point ability.

Now this is one of the parts where it is a little bit hard to explain things. I am going through point (9). This is to discuss how the schematic characterization is immanent in or lies within the prototype characterization. And what do I mean by saying that? Let's consider the possessive prototypes. In the prototypical possessives, R, the reference point or possessor, controls the target in some way. There's some notion of control. That's (9)(a). This control can be physical; it can be social; it can be perceptual or experiential. And an important ingredient in this control is that R has some exclusive privilege of access to T. Remember: R is possessor, T is possessed. (That helps you remember things.) So with a physical object, say the things that I own like my wallet, my belt, my shoes, the things around the house, I control those physically in the sense that I can access them physically. I can pick them up, I can use them. I put them in places, I determine where they go. I also have exclusive privilege of access. If you want to use my car, you have to ask me and get my permission. If you want to wear my shoes for some reason, you have to ask my permission. I have to let them out of my control and give them to you. I know where they are, typically. I benefit from them in terms of my own mental experience. If I own a painting, I have the privilege of looking at that painting whenever I want to. That's experiential control and access and so on and so forth.

The same point holds with respect to the other prototypes, a little bit less obviously. Take a part-whole relationship. Consider, for instance, my stomach. It's a part of my body. Well, I am the one who has exclusive access to my stomach. I am the one who can use it, to put food in. You can't use my stomach. I can. And I experience it. And I am the only one who is experiencing it. If I have

a pain in my stomach, I feel it and you don't. That means you are not able to use it. Also I control it physically, not in the sense that I see it or do anything with it intentionally. But if I move around, my stomach goes with me. So I control its location. And more abstractly, we have similar relations, similar notions with kinship. Kinship relations hold between particular people. There is a kind of social control involved; you interact with a particular kin in particular ways. You have privileges because of that. And one person is the only one who has those privileges, etc.

Actually, most things that are expressed in terms of possession are at the experiential level as opposed to the physical level. Kinship terms are certainly like that. But it is important to know that there are different levels, and in particular examples different levels may be important. So with a wallet, its physical control is highly important. For kinship relationships, experiential and social relationships are more important, and so on. There is perceptual control, perceptual access. So different combinations of things are relevant. Now, the control relation between the possessor and the possessed is objectively construed, is onstage. It's things we explicitly think about. So here is the notion of subjective versus objective construal, which itself is hard to talk about but very important in language. I think I will give an example I very often give in lectures and classes about what it means to construe something objectively versus to construe something subjectively.

Something is objectively construed when it's an object of a conception. Something is subjectively construed when it's the subject of conception. It's doing the conceptualizing. I take my glasses as an example. If I hold my glasses up and look at them from my standpoint, I am construing my glasses objectively. They are the object of perception here. I am perceiving them. If I put my glasses on and look out at the audience, the glasses are now subjectively construed. I don't see the glasses anymore. But they are part of the apparatus which is doing the seeing. So objective construal I refer to metaphorically as putting something onstage as what you are looking at or conceptualizing. Something that's subjectively construed is something we are not even aware of necessarily. It's part of the conceptualizing apparatus itself. Offstage. Implicit. This goes along with being explicitly marked and coded. When we talk about an ownership relationship, a person owning a car or owning an article of clothing, we are conceptualizing that objectively. That is, the possessive relationship, the control that's involved in ownership, is something that's onstage, something we are conceiving of. And that holds between explicit participants. If I say something like *Jason's wallet*, I am mentioning Jason. I am thinking explicitly of Jason. I am construing him objectively. And the wallet also. Or if I say *Jason has a wallet* and use a clause, Jason and the wallet are the subject and

the object, the primary and secondary focal participants. And they are onstage, explicitly mentioned.

So, in this diagram here, I am talking about the possessive prototype. The possessive prototype, the various prototypes involve some kind of control. And that's given here by the solid arrow. And that control holds between the possessor and the possessed, the reference point and the target. It can be physical or social or experiential. But this is the stuff we're explicitly aware of. We mention the possessor, we mention the possessed. The control is onstage and it's something we are conceiving of. These are facets of the possessive prototype. But the possessive schema, the schematic description of possessives, refers to mental access, being able to mentally access the target through the reference point. That is subjectively construed. That's not onstage. That's offstage. It is not the reference point who mentally accesses the target in this sense. It is the conceptualizer. That will be the speaker. It's the conceptualizer who traces this mental path from reference point to target. And the claim is that the only common feature of possessive expressions is this. This reference point ability, the mental access by the conceptualizer through the reference point to the target, to reach the target. That is subjectively construed. If I use the phrase *Jason's wallet*, I'm thinking of Jason. I am thinking of the wallet. But I am not thinking of myself following a mental path. I simply think of Jason and then the wallet.

However, and this is the trickiest part, the idea is that the schematic characterization is part of the prototype characterization. So they are both in this diagram. The schema and the objective control. This probably makes more sense if you heard me talk the other day about dynamicity and sequential access and give various examples of it. The idea is sketched in (9)(c). As the conceptualizer conceptualizes a prototypical instance of possession, that very fact involves the conceptualizer tracing a mental path from R to T. If you conceptualize someone physically controlling something, if I conceptualize R controlling T, as a critical aspect of that conceptualization, I trace a mental path from R to T. I invoke R as the initial reference point, and through that I am able to invoke the conception of R doing something and thereby exerting control over T.

In that sense, the schematic characterization is immanent in the prototype characterization. That is, conceptualizing the control relationship, however it is manifested, conceptualizing that control relationship between the onstage participants R and T requires that the conceptualizer trace a mental path from R to T in one way or another. And that is the schematic value of possessives. So in the prototypical cases, the schema is reinforced by the prototype conception, by actually conceptualizing the control, whether it's physical, or social, or perceptual, or whatever. But in general there will not always be control.

Because we extend the possessive constructions quite widely, there are uses of possessives where there isn't any control between R and T, where R is simply a reference point. I give some cases which approximate that in (11) on the next page of the handout. If I say *his age*, there is no real sense in which he controls his age. It's just that the age in question is the one associated with him. And similarly for all the other examples: *the dog's enormous size*; *the applicant's nationality*; *the table's rough surface*; *my critics*; *the door's hinges*; *Lincoln's assassination*; *our very existence*; *the year's most tragic event*; *the moon's average surface temperature*. The possessor in these cases is not doing anything. The possessor is just there and the conceptualizer is accessing something in relation to that reference point. You know that in the last example, *the moon's average surface temperature*, the temperature in question is the one associated with the moon instead with something else. But the moon is not itself a controller in any real sense.

That I hope is more or less understandable, but this relationship between prototype and schema, I think, is a very general phenomenon in language. Possession is only one example. Another would be, say, subject. Prototypically a subject is something like an agent. But schematically a subject is simply something like initial reference point, a primary focal participant. No real content there. But I think in conceptualizing an agent doing something, we are invoking the schematic value in a way that's immanent in the prototypical value.

Now, the relationship between schema and prototype is what I call subjectification. So here is the prototype. Here is the schema. The schema is immanent in the prototype. But if you eliminate from the picture all of the objective content and just keep the schematic portion, only the subjective portion, then you have the schema. Or to express it in historical terms, diachronic terms, what happens as things get extended or what happens sometimes in grammaticization? As elements change meaning, the objective portion becomes less and less, it eventually disappears altogether, and what remains is simply the mental operations which were originally immanent in the objective conception. A lot of grammar involves mental operations. They are highly abstract in terms of content. So that relationship is what I call subjectification. The objective content fades away and leaves behind the subjective construal that was immanent in it to begin with. That's another story. But I think it's a very important point so I mention it. I will come back to it near the end.

That was Section A. Now the next topic is grounding. Possessives are grounding elements, and that's something I really haven't been talking about so far in this series. The difference is the difference between a noun and a full noun phrase, or between a verb and a full finite clause. This is very clear in English. In the case of clauses, it's not so clear in Chinese because Chinese tends not to

have grounding elements as overt elements. I think I would have a way of accounting for it under the same general view.

But consider nouns. A noun by itself describes or profiles a type of thing. So a simple lexical noun like *friend* or *car* or *wallet* names a type of thing. If you only have a simple lexical noun like that, you are not referring to any particular instance of the type. *Wallet* doesn't identify any particular wallet. It just names a type of thing. A full noun phrase like *Jason's wallet* or *this wallet* or *some wallet* or *that wallet*, those are full noun phrases when you add the determiner in English. It gives you a single instance of the type and relates it to the speaker and hearer. The ground, as I call it, is the speaker and the hearer and the speaker-hearer interaction and the time and place of speaking. So the ground is basically the speaker and the hearer and their interaction. And grounding is relating an instance of a type to the ground. So the function of determiners and making a full noun phrase out of a noun is to direct the listener's attention to a particular instance of a type. The result of a full noun phrase, the intended result, is that the speaker and the hearer have both directed their attention to the same instance of the type for discourse purposes, in the context of the discourse. This is relevant because possessives are grounding elements, so *wallet* by itself only names a type. If I say *Jason's wallet*, I am naming an instance of that type and I am presupposing that that's sufficient for you to know which wallet I am talking about.

Similarly for verbs and finite clauses. A verb like, say, *run* just names a type of process. First of all, I specify the participant, and then if I ground it with tense—in English, tense and modals are grounding elements—then I have a particular instance of that type. If I say that *Jason ran*, then I am profiling a particular instance of the type *run*.

So that raises two questions of description. What's the difference between a type and an instance? How do you describe this conceptually? Maybe it seems obvious, maybe it's not necessary to say more. But the term is not self-explanatory. What is a type? What is an instance? What does it mean to instantiate a type? And how does a type conception differ from an instance conception? I have wrestled with this and have written about it in various places. It is hard to do. You can look at it in either of two directions. You can say that the type is something abstracted from instances. In our lifetime we've seen a lot of chairs. So we've eventually learned that there is a type of thing that we call a *chair*. And that type is abstracted from the instances. It's an abstract conception or a family of conceptions. And it relates to all particular cases of *chair*. But as a type conception, it's not identified with any of them and is less specific than any of them. And if you go in the other direction, you start with the type. Well, how do you get an instance of that type? Or what does it mean to be an instance

instead of just a type in conceptual terms? I think it makes a lot of sense to talk about it as in (15)(b) on the handout. An instance is specifically thought of as occupying a particular location at a given moment. By occupying a particular location, it is an instance and distinguished from other instances. This location will sometimes be in space, but not always. In the case of events, for verbs, it's time always. For nouns, it's typically space. So Chair 1, Chair 2, Chair 3, those are different instances of *chair*. And at a given moment, they will all occupy different locations. The type *chair*, we know that a chair is something that exists in space, but as a type it has no particular location. It sort of floats over all of space and could be anywhere. And when you anchor it to a particular place, then you have an instance.

But it doesn't have to be space. For example, take the noun *prime number*. Prime number, like one, two, three, five, seven, eleven. As a type, a number doesn't have any particular location in the number sequence. But an instance of the type has a particular location in the number sequence. And that location distinguishes the instances of the type. But it's not space. It's the number sequence. This is the domain in which they are differentiated by their locations. So this diagram tries to show this in the abstract. This is a domain like space or the number sequence, where instances are distinguished. This is the type conception, type *t*, and that type conception kind of floats over the domain and can be anchored to different positions. These dots are different locations. And when you connect the type specification with a location, you get an instance conception.

So the inner box here represents the type conception. The larger box is where you add to that its anchoring in the domain. That gives you an instance conception. So a lexical noun all by itself would simply invoke a type. A grounded noun phrase like *that book* would single out an instance of the type, distinguished from others by, in this case, a spatial location. So, this is what I have been looking at, an instance conception, an instance of a type. I'll abbreviate that version in this way. And then in this way, this is my abbreviation. This is now an instance of type *t*. This dot indicates the place where it's anchored in the domain which distinguishes instances. So I make a distinction between a circle for a thing without a dot, that is a type specification. And one with a dot, this is an instance of that type.

So that's type versus instance. We also have to talk about grounding. Grounding is a way of getting the speaker and the listener coordinated in terms of their mental reference. If I say *that chair* and point to it, that's one kind of grounding. I direct your attention to a particular chair, so that at least for a moment, both of our attention is focused on that instance. If I say *the chair*, I am indicating that there is only one chair that's relevant and that both of us

are aware of it. So simply by saying *the chair*, you should know which one it is. There are different ways of bringing about the situation of the speaker and hearer directing their attention to the same instance. But the result, if a noun phrase is successful, is the same. The speaker and the hearer both direct their attention to the same instance of the type. So G is the ground. That includes the speaker and the hearer interacting with one another. And each of them is attending to the topic of discussion. And in nominal grounding, the speaker and hearer should wind up directing their attention to the same instance of the type. That's the intent or the objective. And again I abbreviate it. This configuration I abbreviate this way. So this is now a grounded instance of a type. A full noun phrase will look like this [(17)], using this notation. There is the type specified by the noun. You can see that there is an instance that is singled out. And that instance is identified in relation to the ground, so the speaker and the hearer can both direct their attention to it. Of course, there are different kinds of grounding elements, like demonstratives, where you point physically or you point by indicating the distance. I will talk about definite versus indefinite articles in a little while. But possessives are grounding elements. *Jason's wallet* is an instance of *wallet*. And in a discourse context where *Jason's wallet* would be appropriate, that should be sufficient. The listener will know which wallet is being referred to.

Now how do possessives serve their grounding function? That's the next question. The problem is, we can have a type ... (Let's see. I'll try to point to it here. This is really strange. It looks very funny.) A type may have indefinitely many instances, t_i , t_j , t_k . There could be an open ended set of instances for a given type. (I think I would rather point to it with the pointer.) And there are different strategies for grounding. But one strategy is connected with a general aspect of our experience which leads to an idealized cognitive model. For some types of things, it's typical for each of the instances of the thing to be associated with a different reference point. For example, think of a wallet. One person usually has one wallet. There are exceptions obviously. Or a name. A given person has a given name, one name. You don't have seven or eight names. You have just one overall name within a certain society. To some extent we think of this as how particular kinds of entities function. That there tends to be just one associated with a particular reference point. Then we can use that association as a way of identifying it.

So sometimes you have the configuration that is shown there in that diagram [(18)]. There are reference individuals, capital R, which I have shown as R_i , R_j , R_k . Typically they will be people, but obviously not always. We talk about cities. And talk about the cities' locations. But typically they will be people. Those are natural, salient reference individuals for us. And we have cognitive

models, to the effect that a particular person usually controls a certain set of objects, and for a given type, that person is likely to have one but maybe not multiple instances of that type. So to the extent that things follow that idealized model, we can use association with a particular reference individual as a way of identifying instances of a type. It's sort of obvious in a way. I am just saying something that I think is obvious. But maybe less obvious is that this fits in very nicely with the notion of instantiation that I tried to give you. Instances are instances because they are thought of having a particular location, and are distinguished from one another because they have different locations. Well, locations don't have to be locations in space. I gave you an example of the number sequence and prime numbers. Events or instances of event types are distinguished by position in time. Well, the dominion of a reference point, or the region of control of a reference individual, is a kind of location. This is a generalized or more abstract kind of location, which may or may not correlate with spatial location. Being associated with a particular reference individual is an abstract kind of location. And this model is a way of instantiating things that's often independent of space or in addition to spatial differentiation.

But to the extent that we rely on this to distinguish instances, it is also a way of grounding and identifying instances. So a possessive construction, using these notations, would have this kind of characterization [(19)]. These are different instances of a type. These are different reference individuals. And if you take an expression like *Jason's wallet*, what are we doing? We are first using the noun phrase *Jason*. We first invoke the reference individual with a proper name, *Jason*. So that's sufficient to direct our attention to that instance of its type. In the case of proper names, there is only one instance of the type. So we establish mental contact with the reference individual. And if we go on to say *Jason's wallet*, the possessive marker is telling us that the target is in the dominion of the reference point. That's Jason. So we have already reached Jason. And we know that the target should be in Jason's dominion. And that's sufficient to put us into mental contact with this instance of *wallet* as opposed to all other instances.

The possessive construction, given that it performs its reference point function, is a way of putting us into a mental contact with a particular instance of type. And these instances themselves are distinguished by the possessive notion of dominions. If you have followed this so far, you're in pretty good shape, these are hard things to talk about. I'm sure they are hard to grasp. But they make sense, I think. In a way they are obvious.

The next thing to do is talk about kinds of possession and kinds of possessive constructions. And in a broader sense, there are two types, nominal possession and clausal possession. By nominal possession, I mean things like *Jason's*

wallet or *Sherridan's grandfather* or *my stomach*. These are noun phrases, and the possessor noun phrase is a reference point. The possessed noun specifies a type. And the entire phrase picks out an instance of that type and grounds it. So *Jason's wallet* is the wallet that is in Jason's dominion. Clausal possession is when you say something like *Jason has a wallet*. A clause is expressing possession. In the case of nominal possession you are identifying a thing; in the case of clausal possession, you are saying something about a relationship. You are establishing a possessive relationship: *Jason has a wallet*. The difference is whether you're profiling a thing or whether you're profiling a relationship. So I have been using these notations [(21)].

Here again is the basic configuration. And I have left out the conceptualizer just to make it simpler. But there is a path of mental access from reference point to target. The dominion is everything you can reach through the reference point. So it's the things associated with the reference point that you can reach through it. This is a particular target that you have reached. And I have added another line. I've just added this line to indicate that the target is in the dominion. I simply want a mark to represent the fact that the target is an element of the dominion, it is in the dominion of that reference point. Nominal possession profiles the target. So this'll be Jason, and the wallet. *Jason's wallet*, the whole thing profiles the wallet. Clausal possession profiles a relationship, and the basic type from the standpoint of English is the HAVE possessive, as in *Jason has a wallet*. And that we can say profiles the reference point relation between R and T, because this is schematic. Typically there will be content too, typically there will be objective content, but this is what might be left at the schematic level. *Have* profiles this relationship and that's one type of clausal possession. So I call that HAVE-type possession. But many languages instead use various sorts of BE-type possessives. Those, instead, profile relationships that basically locate the target in the dominion. That's how they are put together conceptually and semantically in terms of explicit elements. But all of these constructions invoke the same content and they all somehow establish a target in the dominion of the reference point. So these are different things you can do with the reference point configuration.

I am going to go through some various types of possessives, and there are some forbidding looking diagrams here. I am trying to take you through them in a way that's comprehensible. By thinking about some basic ideas, we'll maybe come through, even if you don't get all the details. They are not as hard as they look. So let's start with a simple nominal possessive, like in English *Jerry's house*. Well, the English 's I take as being somewhat like the Chinese *de* (的). Here we have three elements in the construction. That's shown in (22). Those elements are the noun phrase *Jerry*, the possessive marker 's, and

the noun *house*. I have not shown constituency here. Actually you first combine *Jerry* and *'s* to form *Jerry's*, and you combine that with *house*. But the constituency is not important for our purposes. So I just show this all at one level. *Jerry* is a noun phrase. It's a proper noun so it profiles an instance of a type. But for a proper noun, there is only one instance of the type. That is how I would characterize proper names, and it's automatically grounded. It's internally grounded. If you use a proper name properly, all you have to do is use the proper name and the speaker and the hearer should both know who you are talking about. Now the marker *'s*, I take it simply as invoking the reference point relationship schematically, and it profiles the target. *House* profiles a thing and specifies a type of thing, *house*. Now when you put these together, *Jerry* elaborates the reference point, so it is going to show up here. *Jerry* is going to show up here as the reference point which is accessible from the ground. This is now identified. *House* instantiates the target. So the target up here is the house. And notice that something happens. *House* by itself merely names a type. But the composite expression *Jerry's house* identifies and names an instance of the type.

So this is a type. And this is an instance. Well, why is it an instance of the type? It's an instance because this thing is specified as being in the dominion of *Jerry*. And that's the location which makes this an instance. It's a grounded instance. It's identified in the discourse context by the mental path from the ground to that instance. So this is grounding. The speaker and hearer can both trace the mental path through *Jerry* to that particular instance. *Jerry* itself is accessible, is grounded. So by saying *Jerry* I get this far, and then the possessive marker tells me there is a reference point relationship, so I can find the target within this dominion. And that gets me to this, to the *house*. I know which house it is, because I can trace this mental path. Some of which comes from the proper name, some of which comes from the possessive relationship.

Now some languages don't have a possessive marker like *'s*. Some languages just mark possession by putting a possessive noun phrase together with a possessed noun. The example in (23) is from a Uto-Aztecan language of Arizona and northern Mexico. Literally this is just *Juan house*. You name a person, then you name a house. The individual elements don't specify a reference point relationship, but the construction does. The import of the construction is that this is a reference point with respect to this and everything works the same. However, I could also say that's part of the meaning of *house*, that a house is typically possessed. It typically is a house with respect to a particular person. So to the extent that some nouns have this reference point function built into them, this becomes more like other constructions. But the important thing is that the result is going to be the same. You are going to wind up with a particular instance of *house* identified relative to this person, and it's by virtue of

being in the dominion of that person. And the identified *house* is grounded through this path. That's all I am going to do with nominal possession. I'm more interested here in clausal possession.

I am going to go through several types of clausal possession, familiar and less familiar. We are going to talk about some other subtle things along the way which are interesting in their own right. The example in (25) is from Hopi. Hopi is another member of the Uto-Aztecan language family that contains Luiseño and Papago (which I just gave an example from), Yaqui (I gave an example the other day), Aztec—but you have heard of Hopi. This is the way you express clausal possession in Hopi. The examples are always going to be things like *He has a house*. Examples like that. *He has a house*, where you are establishing possession. One very common pattern across languages is that instead of having an object noun phrase like *a house*, you simply have an incorporated noun. Literally, the sentence reads something like *he house has*. *He house has*. So *kii* is *house*, it's cognate to the *kii* you saw in the previous example. It's cognate to Luiseño *ki*. So *kii* is simply a noun. It's not a full noun phrase. It is just a noun stem *house*. And that combines with the suffix *-'yta*, which is the part that you translate as *have*. This is actually a verb. It's a schematic verb, more or less equivalent to English *have*. But it shows up as a suffix on the noun. Or to put it in another way, the noun is incorporated into the verb. So you have a verb word with a noun plus an ending morphologically. And you translate it with something like *house have*. Again the subject is grounded. In this case, it's the third person singular pronoun *pam*. *He* I have translated it, but it could also be *she*. The suffix, which is actually the verb of the clause for all practical purposes, profiles a process. It profiles the reference point relationship and it's the grounded verb. There is no tense marker in this sentence, because zero is the typical way of marking present tense. But it's the element which would take any marking for tense and so forth. So *pam* refers to a particular individual. 3s is third person singular.

This is the HAVE relationship as expressed by a suffix. This is the grounded verb in the clause. Grounding is singling out in an instance of a process type and relating it to the ground, just the way nominal grounding is singling out an instance of a thing type and relating it to the ground. So the dot here indicates that the process of having is a grounded instance of that type. That's indicated by this being the element which bears the tense in the clause, even though the tense happens to be zero in this example. So the ground also includes the conceptualizers. The speaker and the hearer are the conceptualizers. So this instance of having is related to the ground. And of course what's profiled is the reference point relationship. So there is also this path. The ground elements are the conceptualizers that access the target through the reference point.

That's what this arrow indicates. And then the noun *house* corresponds to the target. But this is only a noun; this is not a full noun phrase. So we specify the target as *house*. And what I have done up here is that I have shown it as an instance of *house*. That doesn't come from the noun. That is, this is a noun, and not a full noun phrase. So singling out and identifying an instance comes from the larger construction.

He has indicates that the having is an actual instance of having. Then whatever it is *he has* must be a particular instance of the type of what is *had*. You get that? Let me take another example that may be easier to see. If I say, *He pencil broke. He pencil broke*. That's not good English. But suppose I can say *He pencil broke. Broke* indicates it is a particular actual instance of breaking. And since an actual instance of breaking applies to the type *pencil*, that implies that a particular actual pencil broke. It implies the existence of an instance of *pencil* that participates in that actual relationship. So by inference, it follows directly from the semantics of all the elements involved. You have a particular instance of *house* here by inference, and it's a grounded instance because there is a mental path to it from the ground given by the grounding of the subject and also the reference point relationship that's profiled by the verb. Now if you follow that much, you are in good shape.

Let's go to English. This would probably also apply to Chinese, except that English has the advantage of the grounding always being overt, explicit grounding. *He has a house*. This is different from the Hopi, because the object is a full noun phrase *a house*. Determiner plus noun. So *a house* is an instance of the type *house*. The rest is the same. *He*, third singular, masculine, internally grounded as a pronoun. The verb *have*, inflected for tense. That indicates that this is a particular instance of having, and an actual instance, since there is no modal or anything like that. And then we have a full noun phrase, *a house*, with the indefinite article. You will notice that I drew this circle empty. Not like this. Here I show it as an empty circle. It's still an instance of a type. But now I want to talk about why that circle is empty. Then we will come back to this example.

The circle is empty because the article that is used is indefinite. More precisely, I am going to say that indefinites intrinsically involve the notion of a virtual entity until their status is determined by the clause. Now, I am sure that wasn't understandable in isolation. But let me go through this point by point. An initial point is the distinction between actual and virtual entities. I have talked about it previously. I won't try to define that notion in any careful way because I don't know if I can. But it should be clear from examples what I mean by virtual or fictive entities. Let me put it this way. Types as types are always virtual. They are not actual things in the world. They are abstract. They are things we construct in our imagination. Types are always virtual. Instances

of types may be actual. There may be an actual chair, an actual person. There are lots of actual chairs and lots of actual people. However, instances of a type can also be virtual in nature. Things we mentally create, things we conjure up or imagine for some particular conceptual purpose. By the definition in (28), a virtual instance is one conjured up or imagined for some purpose and has no status outside the mental space constructed for that purpose. What we take to be reality or I call actuality, is the default mental space. But of course we construct many other mental spaces: for conditionals, for purposes of general statements, or negative statements.

In (29), all of the noun phrases in boldface designate virtual instances of their types. If I say *Evelyn hopes to invent a perpetual motion machine*, the perpetual motion machine is an instance of the type perpetual motion machine. But there doesn't really exist any in the real world. This instance of the type is something that only exists in the mental space representing what it is that Evelyn hopes. And in using the sentence I am referring to an instance of that type without committing myself to believing that any really exists. It's a virtual, an imagined instance made in order to characterize the desire. Or in generalizations: (b) *Whenever we have a party, a guest breaks a glass*. I am not referring there to any actual party or any actual guest or any actual glass. There have been a lot of parties presumably, and a lot of guests and a lot of glasses. But the ones that are referred to with the singular nouns, *a party, a guest, a glass*, are virtual instances. These are instances I create just for purposes of generalizing about what happens over any number of separate parties. Or *We don't have a dog*. I am referring to a dog. *A dog*, it's an instance of the type of *dog*. And for discourse purposes I can refer to it again. *We don't have a dog, therefore it never bites people. It never bites people*. What doesn't bite people? Well, this dog we don't have. It is a discourse referent, and therefore an instance of a type. But it is not an actual instance because we don't have it. Or in conditionals: *If you buy a diamond ring, you should insure it. It*. But there is no particular diamond ring that's being referred to. It's a virtual instance of the type. Or *A kitten is born with blue eyes*. Generic. No particular kitten.

So this is well-known. The various phenomena are well known, but these I will call virtual instances of the type. More examples in (30). *He wants to marry a Norwegian. She is tall and blonde*. There you are referring to a specific individual. *He wants to marry a Norwegian. She has to be tall and blonde*. There it's a virtual individual. Any Norwegian will do, as long as she is tall and blonde. That's the specific/non-specific contrast which I've analyzed following Fauconnier. Actual versus virtual is a matter of what mental space we find things in. You notice that all these examples so far of virtual entities have been indefinite, with the indefinite article *a* or zero in the case of *blue eyes*.

However, definite noun phrases can also be virtual. Let's just look at (31)(c): *In this corporation, the president keeps getting younger*. That's an example from Fauconnier again, a Fauconnier type of example. I suppose this could be taken as referring to an actual president. You could imagine a president who somehow is blessed by God so that time runs in reverse and this guy gets younger as time progresses. But more likely you mean that there are different people who are presidents at different times, and each successive president is younger than the previous one. In that case the president that is referred to, even though it is a definite noun phrase, is a virtual entity. It's not any actual president. It is the role of president. It is based on the scenario of how companies work. And one slot, one role in that scenario is the president role. And what has been referred to is that abstracted entity, which is distinct from any actual person who would fill the role. So that's the notion of virtual as it applies to nominals. Many things we are referring to with full noun phrases are virtual instances of their type. And it can either be definite or indefinite. That's something which cross-cuts this distinction.

Now what is definiteness as opposed to indefiniteness? What's the difference between the demonstrative and definite articles on the one hand, and something like the indefinite article on the other hand? *The* versus *a*. Here is my proposal. An indefinite is by nature virtual until you determine otherwise. Whereas a definite typically is not. Suppose I say *that chair*. All by itself, out of context. *That chair*. This supposes that uttering that noun phrase will be enough for you to know which chair I'm talking about. But suppose I say *a chair*. I'm not supposing that you can identify the chair. If I say *a chair*, I am really giving you an instruction to imagine one, conjure one up, imagine an instance of *chair*. Then I may say something which lets you identify it in some way. Another way to say this is that a definite noun phrase may be actual all by itself, looking at just the noun phrase. *That chair. Jason's wallet. Jason*. With definite noun phrases like these I am supposing that you are able to direct your attention to the intended actual referent on the basis of that noun phrase alone. But if I say *a chair, some chair, any chair*, I do not have that expectation. I'm expecting you to conjure up, to imagine an instance of the type.

Now obviously, we very often use indefinites to refer to actual entities. The difference is where, at what stage in the overall processing, we achieve that identification and achieve the actuality of it. In the case of a definite, the noun phrase itself will typically carry the notion that something is identifiable and actual. With an indefinite, you depend on the larger context, and for the sake of discussion here, let's say you depend on the clause containing the noun phrase to determine the status of the referent. So if I say *a pencil*, then I am instructing you to imagine an instance of *pencil*. But I could put that in a clause and say

Jason broke a pencil. So at the level of the noun phrase, you can only imagine a pencil. But at the level of the entire clause, you know that there is an actual instance that he broke. So the entire clause *Jason broke a pencil*, because of the nature of the clause and the verb and the fact that the verb is grounded and actual itself, that tells you there must be an actual instance of *pencil* that was broken. And therefore the referent of *a pencil* becomes actual. And also it's identified, it's identified as the pencil he broke. For discourse purposes, it is now identified. That's all you know about it, but that's enough for discourse purposes. You can go on to talk about it: *Jason broke a pencil. It is now shattered.* But with a definite, you don't have to do that. If the definite is at the level of the noun phrase, you have already determined the status of things.

Of course, if I use an indefinite, it might turn out not to be actual in the context of the larger discourse. If I say *I don't have a dog*, at the level of the noun phrase, you invoke a virtual instance of dog; at the level of the clause, *I don't have a dog*, it's still virtual because I don't have it. That's further exemplified in (32) and (33). Let's look at (33) first. *I didn't buy a shirt.* This is an example I just gave. I changed it to *shirt* here. *I didn't buy a shirt.* That tells you that the shirt is just a virtual instance. At the clause level, it remains virtual. But if I put a definite noun phrase there, if I say *I didn't buy this shirt*, the shirt is still actual. That's determined independently of the clause containing it, at the level of the noun phrase. Because of this difference, you can use definites as topics: *This shirt, I just bought it.* But it doesn't work with indefinites: *A shirt, I just bought it.* Because for topic constructions, you need some anchor, you need some independently identified reference point which you go on then to talk about. So that's what I mean by saying that indefinites are virtual, have a certain kind of virtuality. They are virtual from the listener's standpoint, not necessarily the speaker's. They are virtual from the listener's standpoint until the entire clause specifies a process, so you know what status the virtual referent is going to be given ultimately.

So let's go back to *He has a house*. You probably didn't think the clause *He has a house* was so complicated. The house is a virtual house. It's identified with the target here. And in the context of the entire sentence, *He has a house*, you know it's an actual house. You know that because the *have* relationship is portrayed as an actual relationship. And therefore the target of it must be an actual instance of a type, not a virtual instance. It is the instance identified through the reference point relation that the clause profiles.

All right. Back to Luiseño. This is a California language related to Hopi, Aztec, and so on. (How are we doing for time? Alright.) Look at the example first in (34) on page 7. I am going through types of HAVE constructions, clausal HAVE-type constructions. The Hopi type was one where we had just an incorporated

noun. The English type is another where we have an indefinite noun phrase as the object. But then Luiseño gives us another wrinkle on things. Here the object is actually possessed. A possessed noun phrase. So the sentence which is translated here, I think reasonably and accurately, as *We will have a basket*, is literally *We will have our basket. We will have our basket*. And if you think about it, that's sort of strange. The purpose of a HAVE type of sentence is to establish the possessive relationship. But in this sentence as the possessed object, you are already incorporating a possessive marker, which is what you are trying to establish in the first place. I mean how can a construction which establishes a possessive relationship presuppose one as part of its object? So what's going on in an example like this?

I suggest that in a case like this, the object is once again a virtual object. *Our basket* in that example is not an actual instance of basket, but a virtual one. I think it is a kind of role description like *the president of this company. Our basket*. Let's assume that in this culture it's typical for people to have a basket. It's part of the standard scenario that in a household we have a basket. In fact, there are various sorts, and this is one type of basket. So there is a basket role in this scenario of a typical household. And I'm suggesting that *our basket* is referring to the role, with respect to us. Given a certain household, there should be a basket associated with it, that sort of basket. This is the scenario of how things should work in this culture. Whether we actually have one or not is another matter. This is analogous to cases like (35), *The kitten was born deformed—its ears are missing*. You don't take that as being contradictory. You're saying *its ears* but at the same time you're saying it doesn't have ears. The ears refer to the ones it should have, given the standard model of what a kitten is like and what body parts it's supposed to have. So *its ears*, that's a virtual instance of the type. It's a role description relative to a particular possessor. Or *His social skills are non-existent*. You are referring to social skills even though you're saying they don't exist. They're the skills he should have, given cultural expectations.

So the suggestion is that in the example here, in diagram (36), *We will have our basket*, our basket is the one we expect to have. It's a role description in the same way. And then you can make sense of things. So this is the first plural pronoun *we*, *chaam*. And this is *have*, *'ay*. It's the grounded process. It takes tense markers, so this is now going to be an actual relationship. And of course it invokes a reference point model. This is *our basket*. This is itself a nominal possessive expression. This is how you say *our basket*. So the possessor is the first person plural, this is *we*. The target is an instance of *basket*. But it is a virtual instance. This is because it's being interpreted as a role description, *our basket*.

Now we have two reference points here: one is encoded by the verb *have*, the other is encoded by the possessive noun phrase. It comes from the possessive

marker. But in the construction, these reference point relationships are collapsed; they are taken as being the same relationship. Our actual having is identified with the virtual having that goes into defining what *our basket* is. So all these dotted lines indicate those correspondences. The reference point here corresponds to the reference point here. The target here corresponds to the target over here. The dominion here corresponds to the dominion there. And so *basket* is identified with the target. But these collapse into one and you come out with what you expect. The same kind of configuration we had in all the examples. You wind up with an actual instance of a type specified as being in the dominion of the possessor.

Alright. We won't be going through anything that complex again, I think. You will be happy to know that we are going to another subject, the BE possessives. And we are getting close to the end. Those are HAVE-type possessives. They profile reference point relationships. But there is another type of possessive clause that's very common across languages. I call them BE possessives because very often there is a verb BE in these clauses. And these are closely related to locational expressions or things like that. There is an example from Russian in (37)(a): *U menja kniga*. Literally, *at me book*. In the present tense you leave out the verb BE in Russian, but in the past tense, it will show up. So literally it is something like *at me (is) book* for *I have a book*. Instead of locative elements like *at*, this is often marked by dative case. So a well known example from Latin is (37)(b) *Is to John book* for *John has a book*. John is marked dative case. Now this is a very frequent alternative. It shows that locational type expressions, things like *at me (is) book*, are often used for possession. And people have observed that the opposite also happens. In some languages, possessive expressions are used for location and existence, as in (38). You can read those much better than I can. *I have a book* or *The table top has a book*. (38)(b) is the way you would express the location of the book or the existence of the book in a certain location. I hope these examples are OK. They are standard examples.

All the examples in (37) and (38) were cited by John Lyons, a well known semanticist, back in 1967, in an article in a nowadays defunct journal. He made a hypothesis in this article, and it's a hypothesis that other people have entertained even more recently. That is stated in (39): "... In many, and perhaps in all, languages existential and possessive constructions derive (both synchronically and diachronically) from locatives" (Lyons 1967:390). This is what is known as the localist hypothesis. Localist, meaning referring to locations. The idea is that expressions of location are conceptually basic, and expressions of possession and existence are based on, derive from expressions of location both synchronically and diachronically. By diachronically, he means historically they derive from expressions of location; by synchronically he meant that in generative

terms, transformational terms, the underlying structure is a locational structure, a locative structure, and through transformations you get to the surface. And that's still an idea that's floating around. I am going to argue against it. I don't believe in the localist hypothesis, although location is very important; it's often the historical source of things. But (39) is too strong a statement. It is wrong in two respects from the standpoint of cognitive grammar. First, the synchronic part. Lyons is presupposing that you have underlying structures and transformations leading to a surface structure, so that synchronically *have* type expressions or constructions, for instance, would derive from locative expressions; something like (38)(a) would derive from something like (37)(a): *I have a book* from *At me is a book*. In cognitive grammar, you can not do derivations from underlying structures. It's just a monostratal approach. You analyze the surface. You don't set up deep structures. So that's one respect which I would reject. I am not really arguing for that. It's just something that the framework doesn't allow me to do. And I think it's wrong. Historically, however, it also doesn't work. I will come to that later. But what I have to do as the last substantive part of this is say a little bit about locative expressions and how they are related to expressions of existence, and look at a couple of kinds of BE-type possessive clauses.

This is the way I have for a long time tried to associate location and existence. It may be a little bit vague. It's the way I can make sense of things. Location is like a delimited existence. It's existence within a delimited region. Or to put it another way, conversely, existence is location in a non-delimited region where there is no limitation on where the existing element can be. I've tried to capture this in notations. The circle is the element that is being located or which exists. A small circle. The large box is the domain of existence. That's the tricky part. What does it mean for something to exist? And where does it exist? What domain does it exist in? Well, typically when we're talking about things like physical objects, the domain of existence is real world space. Something like that. But that's obviously not the only domain of existence. We have to talk about things that exist for us experientially even if they have no physical instantiation. If my stomach hurts, that pain exists for me. So it's my realm of experience somehow. It's the domain of existence.

And if you believe that 37 is a prime number and that it really exists, then the number sequence is the domain of existence, perhaps. There can be different kinds of domains, different levels. The experiential level in particular is important for possession. But whatever the domain of existence is, existence would simply consist in being located somewhere in that domain, anywhere in that domain. There is no limitation imposed on it. It is just there somewhere. To be in a location with respect to a domain of existence is to be within some

delimited area, which I have shown here with an ellipse. Being in some limited area. If there is no specification, then you only have existence. If you take the existence and pin it down to some narrower region, then you have location.

That's a lot of hand waving. It's vague, but I think something along those lines is what you ultimately have to say. That's how at least I am going to relate location and existence. Now this correlates with the way I have been describing locative expressions like prepositions. This is different from the way I described them this morning, but it is totally compatible with it. This is just a different way of looking at it. The notation in (41) indicates that a preposition serves to locate its trajector within some delimited region, *D*, its search domain. I have simply added to this the reference point relationship. For the particular case of locatives, the relevant conceptual archetype is the everyday experience of finding things in space. We have already talked about it here. One way we find things in space is by locating a reference object and then searching in relation to that reference object. That's another way that we can invoke a reference point function.

So what a preposition does is schematize that sort of experience. If I say *X is above Y*, you are not necessarily trying to find *Y* in space in any physical sense, but just mentally you want to know where *Y* is. As a matter of mental processing, you want to locate *Y* in space. And one way to do it is by invoking a reference point that would be the landmark of the preposition. With respect to that there is an area of search which the preposition specifies for you. The search domain, that would be this. And within that, you find the target. The target is in that search domain somewhere. As you can see, the locative with trajector and landmark and search domain is a special case of the reference point relationship with reference point, target, dominion. *Beside* is another one where the search domain is different. In both cases, you're locating the target relative to the relevant reference point in the domain of search, but the prepositions specify different regions of search relative to the reference point. In the case of *in*, the domain of search is the interior of the landmark, in prototypical cases which we saw this morning, and sometimes you depart from it rather drastically. So this is meant to be a schema for locatives, where we have a reference point and a domain of search. Sometimes the domain of search is external to the reference point. I have just shown it here inside for the sake of convenience. The conceptualizer locates the target relative to the reference point. For present purposes, I characterize a preposition as having the structure in (41)(d). That is, the trajector is the target; the landmark is the reference point; the profiled relationship is the target's position relative to the reference point. But also it includes the notion that the target is in the dominion of the reference point.

Now let's go through a couple of types of BE possessives which are based on this locative experience and this locative instantiation of the reference point relationship. A very good example in some ways is Japanese, the construction in (42), something like *Watashi-ni-wa mago-ga iru*. There are fewer speakers of Japanese than Chinese here. I actually pronounced it badly, I'm sure, I wouldn't even dream of pronouncing a Chinese sentence for you. But besides the topic marker *wa*, you've got literally *me to* or *to me grandchild exist*. This is the canonical form of a BE-type possessive. A locative like *at me, to me*, and then the subject noun phrase, *grandchild* in this case, and then a verb like *be* or *exist* or *sit* or something like that, indicating location or existence. Now it's probably the case that this is not the right analysis for the Japanese sentence. There is evidence that there has been historical evolution so the construction has been reanalyzed and doesn't have the structure I describe for it anymore. But morphologically, in terms of form, it does nicely illustrate it. I'll come back to the change at the very end. But let's assume this is prior to the reanalysis, which I think is probably a very common thing historically. Let's take this literally element by element.

The way this appears to go together in terms of form, and the way it presumably did go together prior to reanalysis (and it may still be active to some degree as one structure or interpretation of these expressions), is as follows. This is the part which means *to me* or *at me*. *Ni* is a very general kind of locative marker. So this is the speaker, first person singular. It's a pronoun. First person singular pronoun. And then this is a representation of the postposition *ni*. The target is in the dominion of the reference point. In other words, you locate the target at or somehow in relation to this reference point, the speaker. So you see all this in the example. This is the notation I'm using for a prepositional or postpositional element. You are saying that the target is in the dominion of the reference point, and that is the nature of the relation. It pairs with the reference point and in this way you are able to access it through the reference point by virtue of it being in its dominion.

Then you have the main part of the clause, the subject *grandchild*. I presume this is an instance of the type, although you have covert grounding here. This is a full subject noun phrase. And that is said to exist, *iru, exist*. There is no location specified. It just says *exists*. So this is the domain of existence. And you're simply saying the grandchild is in that domain of existence. That much by itself would simply say the grandchild exists. This is the grounded verb. So that's a particular instance of existing on the part of a particular grandchild. It's indefinite actually. So maybe I should show it with an unfilled circle, but this doesn't matter right now. How do you combine these? Well, the subject is identified with the target, the trajector, the thing which is *at me*. And then

crucially, the domain of existence is delimited. It's identified with the search domain centered on the speaker in this case. OK? In this construction the correspondences established serve to delimit the domain of existence and limit the existence to the region of the speaker. It might be spatially defined, but in most cases of possession, it will be experientially defined. The region of experiential control or access.

As a result, then, you're still profiling the existence. The grandchild exists. But now it's in the dominion of the speaker. Let's say the experiential dominion of the speaker. And this amounts to a possessive relationship, because through clausal means you are establishing that the speaker has a grandchild, because that's a reference point relationship. The reference point relationship comes through a locative expression, or what's primarily a locative expression. But here the same reference point relationship that constitutes a locative expression is interpreted probably experientially. But either way, it's still a reference point relationship and you get mental access to an instance of *grandchild*, a particular instance, identified as the one in the dominion of the speaker. So it's the same composite structure except for the profiling. It's like the ones we've seen all along for a possessive relationship.

The conclusion is short. We don't have far to go. But prior to that, just one more example. Back to Luiseño. You will recall *We have our basket* or *We will have our basket*, where Luiseño has this peculiar thing of using a possessive marker on a noun that was the target of clausal possession. Well, something similar happens in BE-type possessives. Luiseño has another way of expressing possession, a BE-type possessive which is also peculiar in the same way. It's quite different from the Japanese construction. The Japanese construction is *At me grandchild exists*. Here we don't have any kind of locative. (44)(a) literally is *His younger brothers exist*. *His younger brothers exist* is establishing the possessive relationship, but the subject which exists already includes a possessive marker. So the element whose possessed nature is being predicated is already marked as possessed. I'll give the same analysis as I gave before. *His younger brothers* in (44)(a) is a role description. As a noun phrase, *po-peet-um*, *his younger brothers*, is not describing necessarily actual individuals. It is describing the expected relationship that a particular person would have. The *younger brothers* are those a person might be expected to have given standard cultural models. And what you are doing in the sentence is actually then specifying the status of this by explicit predications of existence. Look at the diagram. Here we do not have a locative at all. Instead we have a nominal possessive expression. The possessor is third singular. *Younger brothers*, I show this as a virtual instance of the type because we don't know the status of it. Here is *younger brothers*. It could be a role description. And then we say *exist*. That is a grounded verb. This is an actual instance of existing. It's not marked as unreal

or anything of that sort. All the rest is the same as in Japanese. The source, it's the same that the trajector here is identified as the *younger brothers*. That what exists. And the domain of existence is identified as the dominion of the possessor. So you can deduce that the younger brothers actually exist, because you have the actual existence of this entity, which is then identified with the younger brothers who constitute the role description, so that the role must be filled by actual individuals. And then we have the possessive relationship. So in one way it's exactly like the Japanese construction. It looks like the same diagram almost. The difference is that in the Japanese construction, this was a postpositional phrase *at me*. Here it is a possessive phrase, *his younger brothers*. But both a locative and the possessive marker are reference point relationships, so in that sense it's equivalent. You wind up with exactly the same kind of composite result. We can build up to that in different ways.

You will be happy to know there is only one complicated diagram left. And that's about Mandarin. I have surveyed a bunch of types. Let's come back to the localist hypothesis. Lyons postulates that clausal possessive markers derive historically from locational expressions. And you may be able to see that's too simple. There are all sorts of possessive constructions. And it's known now because of all the research that has been done on grammaticalization and such, it's known that possessives do not all derive from locative expressions. BE-type expressions sometimes do, like the ones in Japanese. But the Luiseño is another type of BE possessive which doesn't even have a locative in it. It does have an existence thing in it, which is related to location at least. But HAVE-type possessives have another source. Verbs like HAVE don't derive from locational expressions; they derive from verbs of physical control. I give you a quote from Bernd Heine, who's written on this extensively and has a lot of data to back it up. HAVE possessive constructions are "conceptually derived from a propositional structure that typically involves an agent, a patient, and some action or activity". You can see what types of activities those are. Typically they are things like *take* or *seize* or *grab* or *catch* and sometimes things like *hold* or *carry* or *get* or *find* and certain others. Typically verbs of physical manipulation, where you take control of something physically. Actions, agents. Certainly these incorporate a notion of controlling the location of something. The notion of location is not totally irrelevant. But these are not locational verbs or predicates. These are basically action verbs.

Whereas the BE-type possessives, at least in some cases, these conform to what Lyons postulates. For example, the existential verb in Luiseño *qal* that you saw above in (44)(a) derived historically from the proto-Uto-Aztecan *sit*, which involves location. But we see there is more than one type of BE possessive too. Well, there is a lot of data showing that possession and possessives and locatives are closely related, because locative expressions can be used for

possession and possessive expressions can be used for location, in one language or another. So what is the nature of their relationship? The nature of their relationship can not be what Lyons said. Lyons said they are related because they derive from the same kind of underlying structure; they both come from locative deep structures. Well, if you don't believe in deep structures, that's not an explanation. He also said historically they descend from locative expressions. But that's simply false empirically, given what we now all know about the diachronic evolution of things.

So what's the nature of the close relationship between locational expressions and possessive expressions? Of course my answer is the one given in (48). What possessives and locatives share is an abstract conceptual characterization. They are both based on the reference point ability. I have gone through that. You've seen my diagrams for possessive relationships with reference point and target and the dominion and the path of mental access. You recall I gave exactly the same kind of diagram, slightly different in details, in (41) for spatial prepositions. You also have a reference point and a target and a dominion, which is the same as the notion of search domain. So the locative schema in (41)(d) looks just like the possessive schema that I've given except for the trajector-landmark alignment. In contemporary English, HAVE-type possessives do have many uses where they simply involve a reference point relationship, and not any active notion of control. As you go through the examples in (49), the sense of *have* goes further and further away from objective notions of control in the direction of the subject merely being a reference point. So *I have an electric tooth brush*. Well, that implies that I can physically use it, control it. But it doesn't mean I'm using it right now. It's just that I can and presumably do. *She has several dogs*. Well, if she has dogs, presumably she controls them and controls where they are going, and so forth. But here we have a stronger experiential component. There is more of a friendship-type notion involved in it. Dogs are in her domain of experience.

And then we get into experiential things. *Jones has a very good job*. This is part of his life experience. *My brother has frequent headaches*. Purely experiential. And the brother is not a controller with respect to experiencing the headaches, except in the sense of experiencing them. Certainly he wouldn't experience them willingly. Then we get things like *We have a lot of earthquakes in California*. We don't control the earthquakes. *We* is simply the people of California who are in a position to experience them when they occur. But for the most part, *we* is being invoked there simply as a way of specifying a location. But still these happen in our domain of experience and we have the potential to experience them. *Sheridan has brown eyes*. She is simply the location where you are going to find these brown eyes. It's a part-whole relationship. And surely when she walks around, the eyes are going to go around with her.

But she is not exerting any kind of active control. They're just there as part of her. And the fact that they are brown is not part of that control. *Their house has four bedrooms*. Again, basically you just say, alright, find the house, look, you'll see four bedrooms in it. The house is the reference point for locating the bedrooms. For inanimate objects, whole-part relationships tend to be like this. So we have been following this kind of progression.

Two more diagrams. This won't take long. I'm considering now the historical process of deriving a possessive verb with schematic value. We start with an active verb of control. The kinds listed as the sources of HAVE-type verbs quoted from Heine, verbs like *take* or *grab* or *carry*. These involve some force the agent exerts on a patient. Force. Agentive control. There is a specific physical event like taking, grabbing. There is an actual exertion of force. The verbs are perfective. They describe an event. And this is the source of possessive verbs.

Now you reach a later historical stage where the verb in question is the basic possessive verb in a language, like English *have*. English *have* seldom, if ever, is used in this way. English HAVE indicates control in prototypical cases, but the verb is imperfective. If I have an electric toothbrush, I could use it, and grab it and manipulate it. But basically I just *have* it. It's there, it has the potential of use, but having something is not using it. What is profiled is the more abstract relationship of potential physical control or privilege of access or potential for interaction. And because it is potential, I show this with a dashed arrow. There are still objective notions of control and access and use, but this an imperfective verb just describing a stable situation. Actually using it is a result of this, but that's not what it profiles. But there is still objective content in most uses. At the extreme, that disappears altogether and you're left with a purely reference point relationship. At the most abstract level *have* merely indicates a reference point relationship. The conceptualizer is able to mentally access the target through the reference point. All of the objective, the onstage aspects of the relation fade away. You're left with what I call here a passive reference point. The only thing R is doing by way of controlling T is being there, so that a conceptualizer can access T through R. So mental access by C is all that's left. Of course, we're always mentally accessing T through R in conceptualizing these other relationships. I take this as being one frequent path of grammaticization.

I've mentioned the use in some languages of a possessive construction for specifying locations. I have shown you how things can go the other direction, how locational expressions can be used for possession. How can a possessive verb and construction be used for location? I may or may not have all of this right, but this is the way it might look like for the examples I gave.

There is one preliminary point, (51). If you are going to do a spatial search, and access a reference point and then look in the search domain to find the target, what happens when the reference point itself is a location? I gave you

examples of spatial search where the reference point is an object like a building: you go to the tall building and then look in the neighborhood. What happens when the reference point that you invoke is itself a location? What region in space does a location give you access to? The answer is: that location. When the reference point is itself a location, reference point and dominion or search domain collapse. When you access a location, the natural place to look for the target is in that location itself.

So with a locative reference point, a locational reference point, reference point and target collapse into the same element. That gives you a meaning something like this as the basis for this construction. This, I understand, means something like *table top*, and that, I assume, names a location, the top of the table. It's part of an object, but also it's a location.

And then the HAVE-type verb is the reference point configuration except that the reference point and the dominion collapse. They are the same. So this is just one big circle, and the reference point itself is the domain of search and the target is in there. And then *book* here. I take this as being indefinite implicitly, and it corresponds to the target. The location corresponds to the reference point and the dominion. So when you superimpose all of these, using the reference point verb *yǒu* (有), then this is what you get. This is now the table top, and this is the book and you're locating this in the dominion of the table top. But for this purpose, the dominion is spatially interpreted. The reference point is a location and something is in the dominion by virtue of being in that location. Therefore you get what amounts to a possessive expression; sometimes we also translate it with *there*-constructions, which are said to be existential. But I have shown you the relation between existential and possessive expressions.

I hope that doesn't do violence to how you feel about the construction, if you understood what I've said. You can tell me if it does or does not. Finally in (53), I go back to the Japanese example. I won't go through this. But I have told you that the analysis I gave of the Japanese sentence may not be synchronically correct anymore and that there is evidence for reanalysis. That is, the first structure in (53) may now sometimes be analyzed as a HAVE-type construction, as shown on the right in (53). That reanalysis will basically involve an instance of metonymy, a shift in profile, and it's an expected kind of thing. So that's a good thing for further investigation.

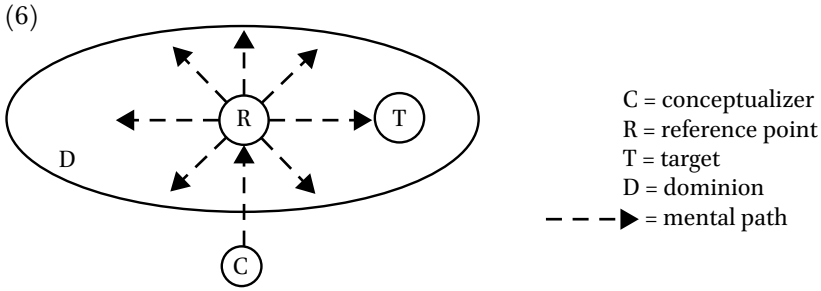
So I went a few minutes late. I apologize for that. But there is a lot of material, and if it's going to be understandable at all, I had to take a lot of time. I hope it was more or less understandable. But if not, you have your chance now to ask for clarification or give me whatever other comments you might have or questions. Thank you.

Possession, Location, and Existence

- (1) (a) What is the *semantic value* of possessive elements and possessive constructions?
- (b) How does nominal possession serve a *grounding* function?
- (c) What is the relationship between *nominal* and *clausal* possession?
- (d) What is the relationship between the different kinds *clausal possessive constructions*?
- (e) How do clausal possessive predicates *grammaticize* from their lexical sources?
- (f) What is the relationship among *possession*, *location*, and *existence*?

1 *What is "Possession"?*

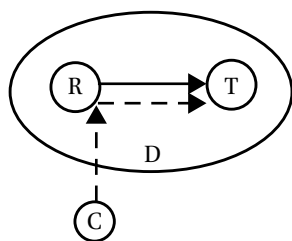
- (2) "... *A has B* expresses that there is some state relation between 'A' and 'B' and ... leaves a more precise specification of this relation to the context" (Bendix 1966: 120).
- (3) (a) *the mayor's cellphone; Sam's mother; my elbow; the supervisor's desk; your rook; the baby's crib; his problems; Ellen's candidate; our train; the student's qualifications; her migraine; the dog's fleas; their exasperation; the bank's current interest rate; Oswald's assassination [of Kennedy]; Kennedy's assassination [by Oswald]*
- (b) **the cellphone's mayor; *the fleas' dog; *the current interest rate's bank; *the assassination's Kennedy*
- (4) Certain fundamental and universal grammatical notions—among them noun, verb, subject, object, and possessive—can be characterized semantically at both the **prototype** level and the **schema** level. The prototype is based on an experientially grounded *conceptual archetype*. The schematic characterization (claimed to be valid for all instances) invokes a basic *cognitive ability* which is **immanent** in the archetype (i.e. "lies within it"). First manifested in the archetype, this cognitive ability is later extended to other cases.
- (5) (a) *Prototypical* values of possessives include **ownership**, **kinship**, and **whole-part relationships**.
- (b) At the most schematic level, the *possessor* can be characterized as a **reference point**, and the *possessed* as a **target** accessible via that reference point.



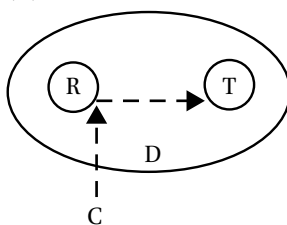
- (7) (a) Other reference point relationships: *topic* (R) and *comment clause* (T); *antecedent* (R) and *pronoun* (T); *trajector/landmark* (R) and *profiled relationship* (T).
 (b) When a verb is nominalized, the profiled relationship is conceptually reified to form an abstract thing. The relation which the trajector or landmark bears to it is then a reference point relationship between two things, hence an instance of possession (*Oswald's assassination*; *Kennedy's assassination*).
- (8) Natural paths of mental access:
 (a) reference individual ("ego") ----> kin [e.g. *Sherridan's grandfather*]
 (b) whole ----> part [e.g. *the lion's mane*]
 (c) owner ----> possession [e.g. *Jason's wallet*]
- (9) (a) In prototypical possessives, R **controls** T in some manner (physically, socially, and/or experientially), implying that R has an *exclusive privilege of access* to T.
 (b) R's control of T is **onstage** and **objectively construed** (an *object* of conception). C's mental access to T is **offstage** and **subjectively construed** (inhering in the *subject* of conception).
 (c) C follows a mental path from R to T (invokes them sequentially) in the conceptualization of R controlling T. The subjective mental path is **immanent** in C's conception of the objective relationship.

(10)

(a) Possessive Prototype



(b) Possessive Schema



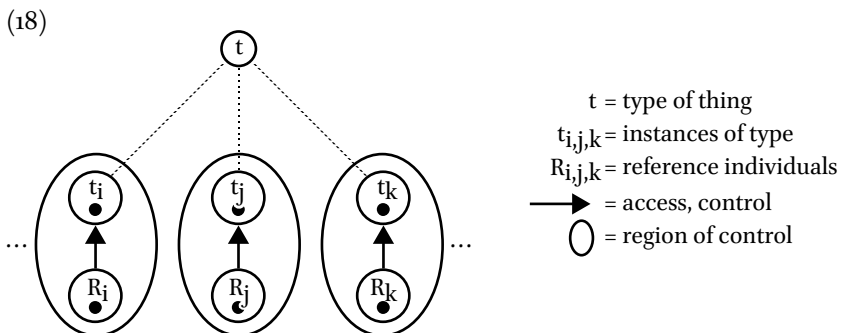
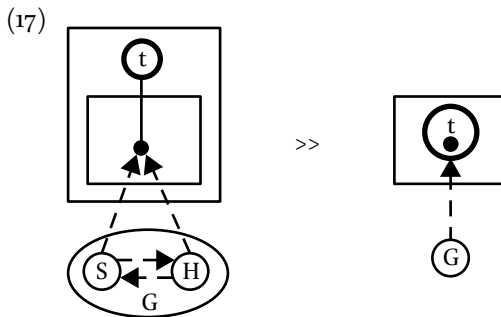
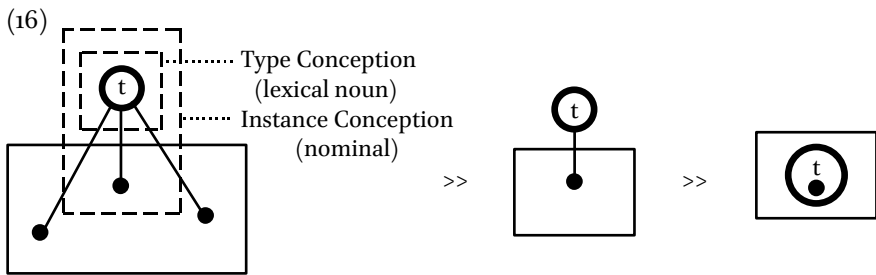
—▶ = access/control by R (physical, social, experiential)
 - - -▶ = mental access by C

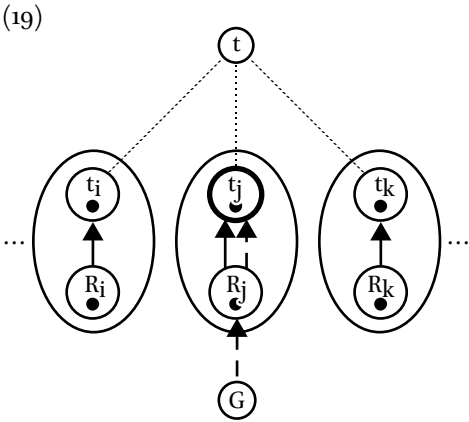
- (11) *his age; the dog's enormous size; the applicant's nationality; the table's rough surface; my critics; the door's hinges; their situation; Lincoln's assassination; our very existence; the car's present location; her complexion; the year's most tragic event; the moon's average surface temperature*
- (12) **Subjectification:** An *objectively* construed relationship fades away, leaving behind a *subjectively* construed relationship that was *immanent* in it (inherent in its conception).

2 Possessive Grounding

- (13) (a) Nominal possessives (e.g. *Sally's friend* or *my new car*) function as **grounding elements**.
 (b) The **ground** (G) comprises the speaker (S), the hearer (H), and their interaction. In their offstage role as conceptualizers of an expression's meaning, the interlocutors are tacit and subjectively construed.
 (c) **Grounding** is the grammaticized means by which S and H coordinate their mental reference to things and events in a discourse.
- (14) (a) A nominal expression profiles a **thing** (defined abstractly). A verb or clause profiles a **process** (a relationship whose evolution through time is foregrounded).
 (b) By itself, a *lexical noun* or *verb* merely specifies a **type** of thing or process. A full *nominal* (noun phrase) or *finite clause* designates a **grounded instance** of a thing or process type.

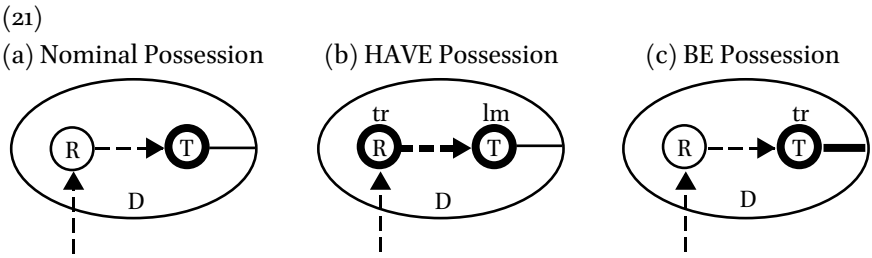
- (c) Nominal grounding elements include determiners and possessives. Clausal grounding elements include tense and certain kinds of modality.
- (15) (a) A **type conception** represents the abstracted commonality of instances. It is *schematic* relative to instance conceptions, and *immanent* in them.
- (b) An **instance** is specifically thought of as occupying a particular location (at a given moment), which distinguishes it from other instances.



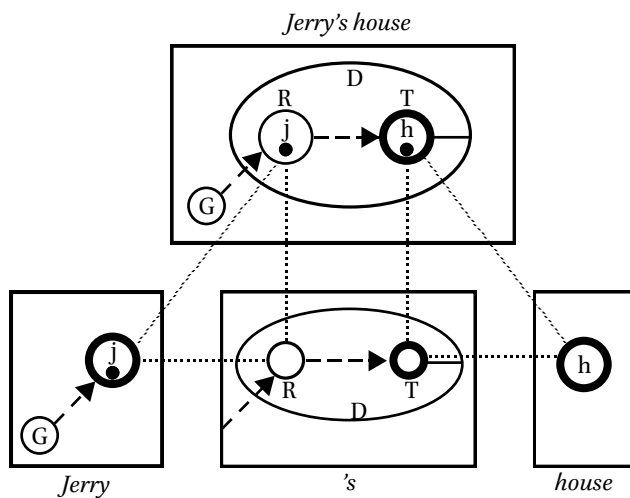


3 *Nominal and Clausal Possession*

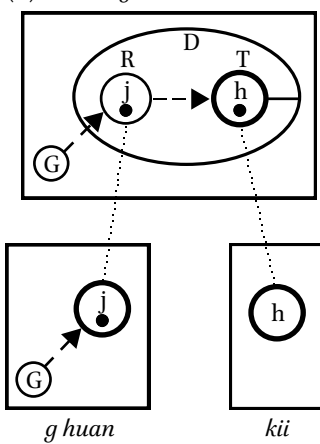
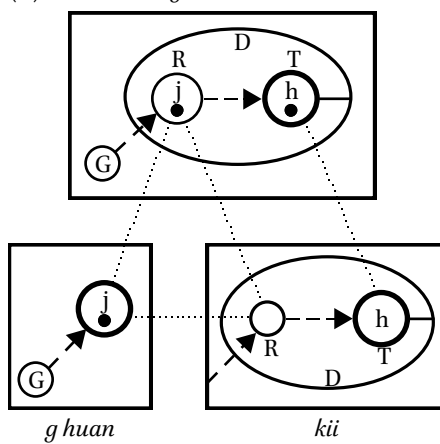
- (20) (a) An expression's **profile** (shown in bold) is the entity rendered salient in the sense of being *designated* (*referred to*).
- (b) In a profiled *relationship*, the **trajector** (tr) and the **landmark** (lm) are the participants accorded *primary* and *secondary* degrees of *focal prominence*.
- (c) A **subject** (or **object**) is a nominal expression which specifies the *trajector* (or the *landmark*) of a profiled relationship.



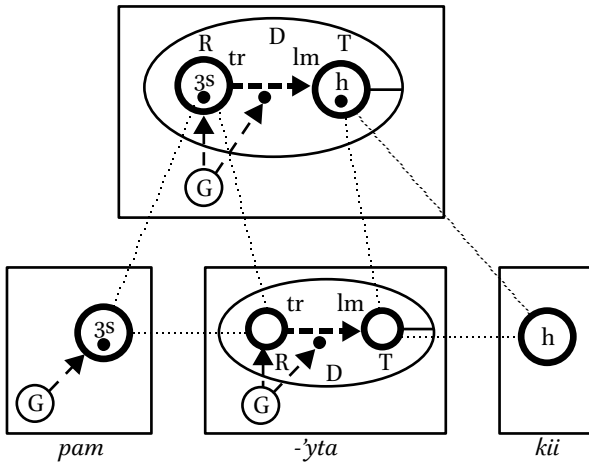
(22)

(23) *g huan kii* (ART Juan house) 'Juan's house' [Tohono O'dham]

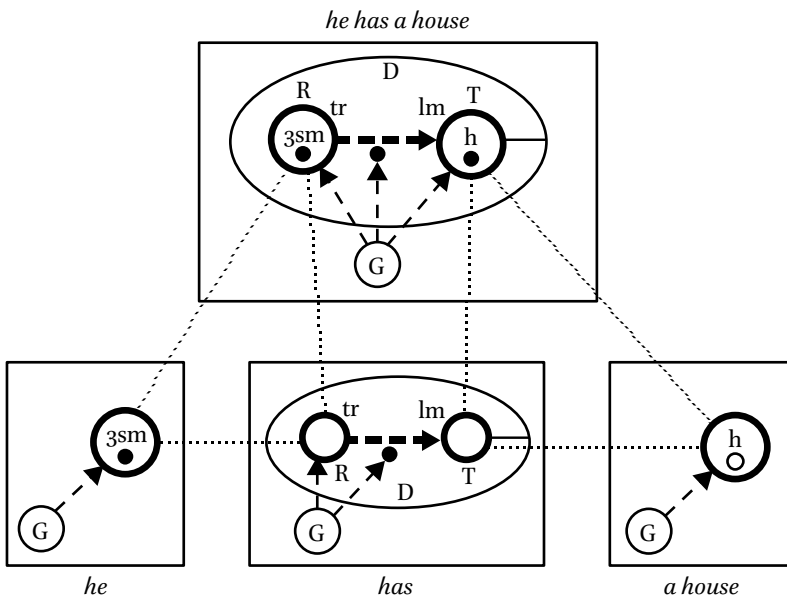
(24)

(a) *g huan kii*(b) *g huan kii*(25) *Pam kii-’yta.* (he house-have) 'He has a house.' [Hopi]

(26)



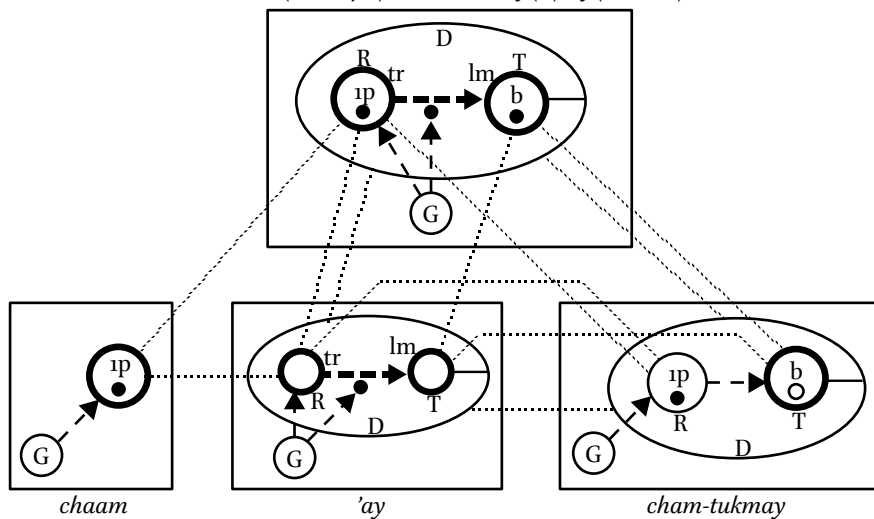
(27)



- (28) An instance of a type can either be **actual** or **virtual (fictive)**. A virtual instance is one "conjured up" for some purpose, with no status outside the **mental space** constructed for that purpose. The *default* mental space is actuality.

- (29) (a) *Evelyn hopes to invent **a perpetual motion machine**.*
 (b) *Whenever we have **a party**, **a guest** breaks **a glass**.*
 (c) *We don't have **a dog**.*
 (d) *If you buy **a diamond ring**, you should insure it.*
 (e) ***A kitten** is born with **blue eyes**.*
- (30) (a) *He wants to marry **a Norwegian**.* [specific/actual]
***She** is tall and blonde.*
 (b) *He wants to marry **a Norwegian**.* [non-specific/virtual]
***She** has to be tall and blonde.*
- (31) (a) *The most important consideration in buying a car is **the engine**.*
 (b) ***The winner** will receive a very nice trophy.*
 (c) *In this corporation, **the president** keeps getting younger.*
- (32) (a) *I just bought **this shirt**.*
 (b) ***This shirt**, I just bought it.*
 (c) *I just bought **a shirt**.*
 (d) ****A shirt**, I just bought it.*
- (33) (a) *I didn't buy **a shirt**.*
 (b) *I didn't buy **this shirt**.*
- (34) *Chaam=cha=po cham-tukmay-i 'ay-ma-an.* [Luiseño]
 we=we=FUT our-basket-OBJ have-DUR-FUT
 'We will have a basket.'
- (35) (a) *The kitten was born deformed—**its ears** are missing.*
 (b) ***His social skills** are non-existent.*

(36)

chaam(=*cha=po*) *cham-tukmay*(-i) 'ay(-ma-an)

4 BE Possessives

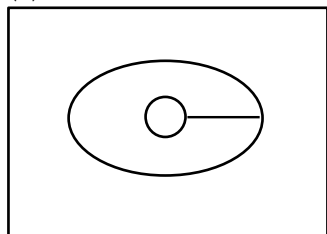
- (37) (a) *U menja kniga.* (at me [is] book) 'I have a book.' [Russian]
 (b) *Est Johanni liber.* (is John:DAT book) 'John has a book.' [Latin]

- (38) (a) *Wǒ yǒu shū.* (I have book) 'I have a book.' [Mandarin]
 (b) *Zhūo-shàng yǒu shū.* 'The table has a book [on it].'/ 'There is a book on the table.'

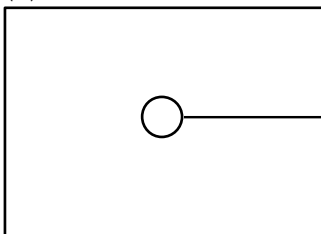
- (39) "... In many, and perhaps in all, languages existential and possessive constructions derive (both synchronically and diachronically) from locatives." (Lyons 1967: 390)

(40)

(a) Location



(b) Existence



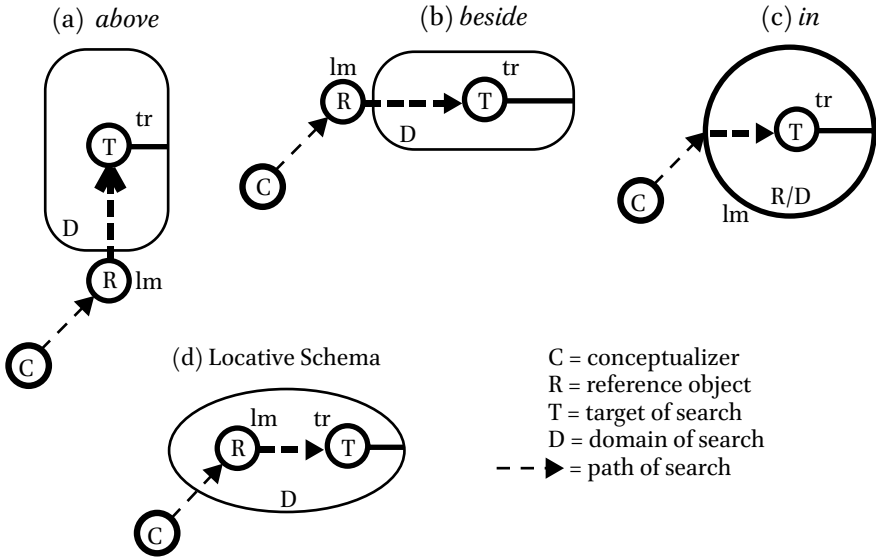
□ = domain of existence

○ = entity being located

○ = delimited region

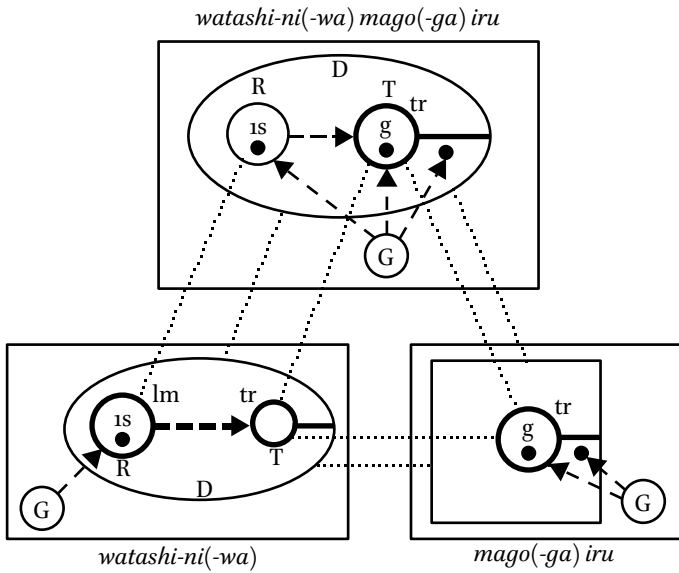
— = locative relationship

(41)



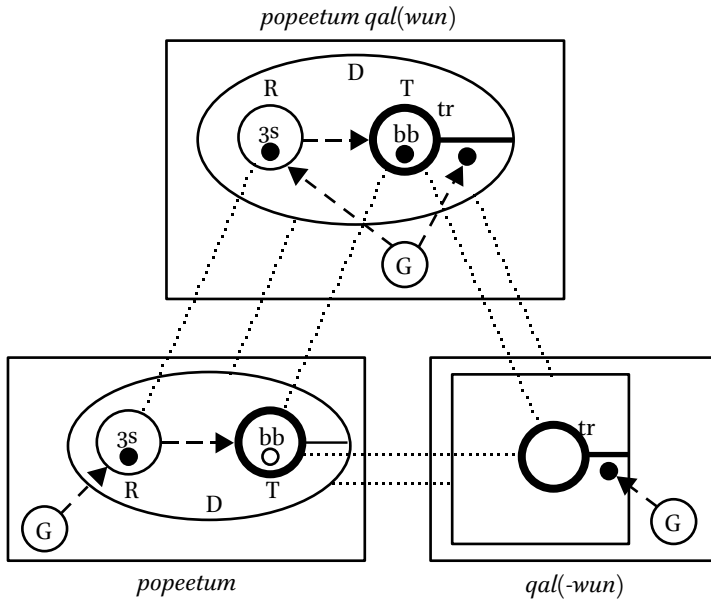
- (42) *Watashi-ni-wa mago-ga iru.* [Japanese]
I-to-TOP grandchild-SUBJ exist
'I have a grandchild.'

(43)



- (44) (a) *Po-peet-um* *qal-wun.* [Luiseño]
 his-younger:brother-PL be-PRES:PL
 ‘He has younger brothers.’
 (b) *Po-qees-um=pum* *’oma-an.* ‘He has no older sisters.’
 his-older:sister-PL=they not:be-PRES:PL

(45)



5 Diachronic Perspective

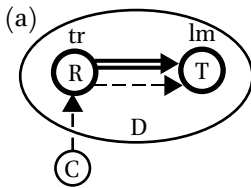
- (46) HAVE possessive constructions are “conceptually derived from a propositional structure that typically involves an agent, a patient, and some action or activity. In addition to ‘take’, a number of related action verbs can be employed, such as ‘seize’, ‘grab’, ‘catch’, and the like, but ... verbs like ‘hold’, ‘carry’, ‘get’, ‘find’, ‘obtain’, ‘acquire’, or ‘rule’ can [also] be used.” (Heine 1997: 91)

(47) Proto Uto-Aztec **kati* ‘sit’ > Luiseño *qal* ‘be/exist’

- (48) What possessives and locatives share is an abstract *conceptual* characterization based on the **reference point** ability.

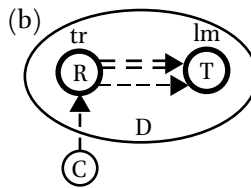
- (49) (a) *I have an electric toothbrush.*
 (b) *She has several dogs.*
 (c) *Jones has a very good job.*
 (d) *My brother has frequent headaches.*
 (e) *We have a lot of earthquakes in California.*
 (f) *Sheridan has brown eyes.*
 (g) *Their house has four bedrooms.*

(50)



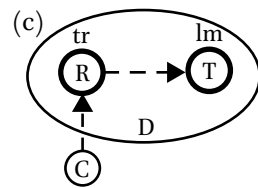
Agentive Control

- specific physical event
- actual exertion of force
- perfective verb
- possessive source



Active Control

- privilege of access
- potential for interaction
- imperfective verb
- possessive prototype

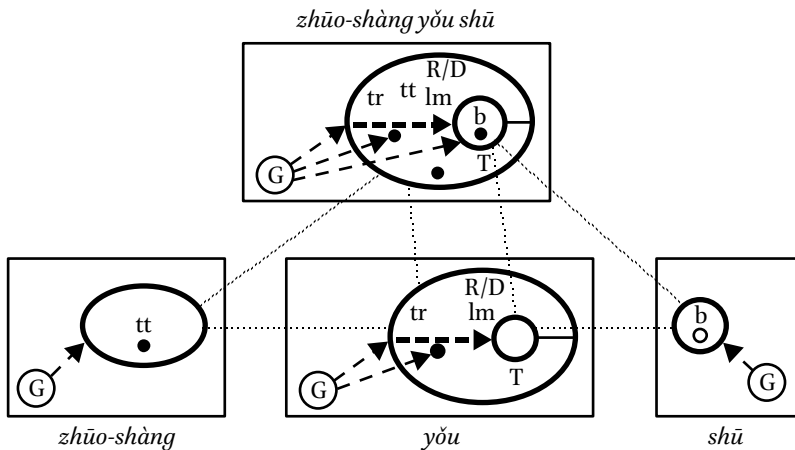


Passive Control

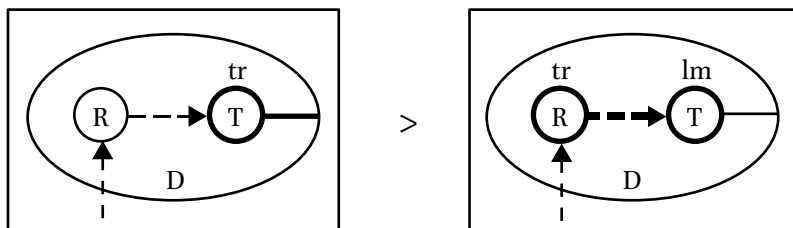
- passive reference point
- mental access by C
- imperfective verb
- possessive schema

- (51) When a location functions as reference point for a spatial search, R and D collapse. The delimited region to which a location affords mental access, to find a target, is naturally taken as being that location itself.

(52)



(53)



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All original audio-recordings and other supplementary material, such as any hand-outs and powerpoint presentations for the lecture series, have been made available online and are referenced via unique DOI numbers on the website www.figshare.com. They may be accessed via this QR code and the following dynamic link: <https://doi.org/10.6084/m9.figshare.4788778>.

Voice

Thank you for the introduction. You can all hear well? Is it OK? I think I have probably seen some of you before. This is now lecture 9 in the series of 10, and the topic for today is voice. When I was a graduate student, that's now over forty years ago, it was possible to believe that voice consisted of the distinction between active and passive, and also that the difference between active and passive voice was simply a matter of syntax, that they have the same meaning and that was essentially all there was to it. Things look rather different these days because we've learned so much about language in the last forty years, but also because of progress in cognitive linguistics and seeing the semantic basis of grammar that I've been talking about. So we can no longer view voice in that way.

The passive construction, for example, is different in meaning from the active construction, if you have an appropriate view of meaning. And the passive construction is not an isolated thing in the linguistic system. The English passive, for example, involves the verb *be*, involves the past participle morpheme *-ed* or *-n*. It also involves the element *by*. And all of those have meanings, all of those have many other uses besides the passive, so that the passive is a particular adaptation of things that are much more widely represented in English grammar. And of course the passive serves a certain kind of discourse function also. So when you see that these elements of grammar are meaningful, you get a very different view of things. Passive is no longer isolated. Voice is no longer limited just to the active/passive alternation, because that is just one special case out of the whole spectrum of grammatical differences in how we present things.

So in this presentation I'm going to look at voice in a very broad sense of the term to try to situate what is usually known as voice—like the active/passive alternation—in terms of a much wider array of phenomena. I will start by presenting some conceptual archetypes and some notations and some terms that will be useful in talking about things later on.

Conceptual archetypes are very basic concepts grounded in everyday experience. I've talked about them before, notions like physical object for instance. For things, for the realm of nouns, we can recognize physical object as one conceptual archetype but another would be the notion of a mass or a substance, like water. Another conceptual archetype would be the notion of a collection of elements, like the people who make up an audience. These are conceptual

archetypes. They correspond to count versus mass noun versus plural noun, for instance. Conceptual archetypes give you prototypes for linguistic categories. Along another dimension we can divide things—that is, noun-type entities—into participants versus locations versus settings, as I described the other day. (Let's see, I may want to get a pointer out here.) So in this diagram P stands for participants, each participant occupies a location, and locations are part of a global setting. And this is characteristic of everyday experience. This whole hall is a global setting. The stage is a location. (I think I may have lost my microphone.) I am one participant. I occupy this location. You are also participants. The microphone is a participant if we can get it to participate again. (They got three microphones. I mean there are two more here and there is one over there. I'm afraid I might be electrocuted if they all operate.)

Anyway I pointed out the other day that we distinguish between settings and locations one the one hand and participants on the other. Participants interact with one another. And this is the basis for transitivity. They simply occupy locations or settings, and that's conceptually a different kind of relationship.

Now here are some basic conceptual archetypes for clauses and verbs. In this column, these are one-participant relationships, kinds of one-participant relationships that I would call archetypal. The simplest one will be simply a participant occupying some location. These first ones will be static. There is no change involved. So a participant occupying a location. Or this notation, a participant exhibits some property. And here with a dashed line, a participant has some experience. And for each of these there is a dynamic counterpart. Examples here will be *stand* and *tall* and *happy*. Here we have the dynamic counterparts. Some participant changes location. I will show this with an arrow. Or a participant changes state or changes in the property it exhibits, or changes in its experience. So things like *sink* change location, *grow* changes a property, and *awaken* changes mental state or mental experience.

For each of these basic types of one-participant process or relationship we can talk about the semantic role of the participants. These are terms I will be using. Someone who has an experience will be called an experiencer. Something that changes state, changes properties will be called a patient. Something that moves will very probably be called a mover. And the other two I call zero, the role of simply being someplace, existing someplace, exhibiting some property. We can think of different terms. Those are the terms I happen to use. These are like case roles or theta-roles. And of course we can talk about others too, but these will be useful for us.

Now if you take the dynamic one-participant relationships like motion, change of state, or experience, each of those dynamic ones can be embedded as part of a more elaborate conception involving causation. And that gives us

two-participant conceptual archetypes, basic types of two-participant clauses or processes. So here is a mover moving. The verb *roll* might be an intransitive verb which encodes that. But that's part of a more elaborate scenario in which an agent exerts force to cause this motion, and that corresponds to the transitive use of *roll*, as in *X roll Y*. And similarly, causing a change as in *X break Y* or causing an experience as in *X wake up Y*.

We can continue. Not every two-participant archetype involves causation. There are also mental interactions with verbs like *see* or *like* or *remember*. And with a verb such as these, the subject is the experiencer: *I see it. I like it. I remember it*. But the second participant is simply a zero. It's simply there. It is not an experiencer. It is not a mover. It is not affected. It does not change. It simply exists. And similarly, we can add a spatial interaction of this sort. The motion of one participant is with respect to another participant which is simply there and is not affected or changed in any way, verbs like *touch* or *approach* or *reach*.

For lots of purposes in language we want to talk about a series of interactions. Here is what I call an action chain, where one participant interacts with the next. There is often transfer of force from one to another until eventually something happens as a result of all of this. One such case would be using an instrument. This is *X break Y with Z*, for example, *He broke the plate with a hammer*. So this is an agent. And this is the patient which undergoes a change of state; it breaks. And the agent causes this, but the instrument is an intermediary in the flow of energy. You use the instrument in order to transmit energy to the patient which is thereby affected. Instrumental causation.

And it is very important to realize that in many cases multiple semantic roles of this sort can be conflated into a single participant. So take a verb like *walk* or *swim* or *jump*. The single participant is both an agent and a mover. It's the source of energy, it causes the motion, although there is only one participant. So we can talk about many other variants of these, but these are some basic ones that will be useful to have.

Now the next section on the handout just summarizes some basic ideas of cognitive grammar, and since most of you have probably been through all these lectures, I'll do this very fast and then we'll start newer things.

A central claim of the framework is, in (7)(a), that lexicon, morphology, and syntax form a continuum fully describable as assemblies of symbolic structures. So I take a symbolic view of grammar. By symbolic I mean the relationships between semantic and phonological structures. So there's no distinction between lexicon and grammar. They form a continuum, and everything in this continuum reduces to assemblies of symbolic structures, which themselves reduce to pairings between phonological forms and meanings.

In describing meaning, there are some constructs that are useful to have. An expression's maximal scope is the full array of content it evokes as the basis for its meaning. Very often there is a portion of this that is called the immediate scope, which is the portion that is directly relevant for some particular purpose. Metaphorically, I call this the onstage region. So you may recall the example of body-part terms like *elbow*. The conception of the entire human body is the maximal scope for conceiving of an elbow, but the conception of an arm in particular is the immediate scope, since it is the arm in particular that is the direct basis for characterizing an elbow. An expression's profile is the onstage element that is singled out as a focus of attention. It's the element that an expression designates or refers to. In the case of *elbow*, the referent is the part of the arm that bends. That's always part of the immediate scope.

Either a thing or a relationship can be profiled. Profiling here is given by heavy lines. So I have been looking at examples of relationships. *Throw* profiles a complex relationship, a process that evolves through time. The trajector exerts force that causes something—I show the thing that's caused in a box—it causes something else to move through the air rapidly. So in this case, a relationship is profiled, but we can also profile things. We can profile, for example, one participant in this relationship. We can profile the agent—that would be a *thrower*, one who throws. Or we can conceptually take this entire event and think of it as an abstract thing, conceptually reify it and make it into an abstract thing, which is shown here. And that can be profiled, so the noun *throw* can be used to profile one instance of the process of throwing: *He made a good throw*. A *throw*, one instance of throwing, is an abstract thing. When you profile relationships, a second kind of prominence comes into play. That's trajector/landmark organization. And you may recall I justify that with pairs of elements like *before* and *after*, which have the same content and the same profiling but still differ in meaning. Here, *before* profiles a relationship in time between two events such that one precedes the other. *After* does the same thing. The difference in meaning between *before* and *after* is not in profiling or in content but in the salience of participants. So the trajector is the primary focal participant; the landmark is the secondary focal participant. The trajector is the element you are trying to characterize or locate, and you sometimes invoke a landmark with respect to which you can characterize it. And of course these are reversed in the case of *after*. So this is some review for many of you.

I'm down to (11) on the handout now. Descriptive constructs, they are justified semantically. That's notions like profiling and trajector/landmark and immediate and maximal scope. These are all things you can argue for in semantic description, but they are also important for grammar. An expression's profile determines its grammatical category. So a noun profiles a thing, in an abstract

sense of the term; for instance, the noun *throw* profiles a type of thing, a conceptually reified event. A verb profiles a process. That's a relationship that's followed sequentially in its evolution through time. And classes like adjectives, adverbs, and prepositions profile various sorts of relationships that are not processes. They are construed holistically instead of being scanned through time. I characterize subject and object as nominal expressions that correspond to the trajector or the landmark of a profiled relationship. So right or wrong, those should be familiar by now.

I talked a little bit yesterday about the claim in (12), the idea that some fundamental grammatical notions have both a schematic semantic definition, an abstract definition that works for all cases, as well as a prototype, a semantic prototype, which of course is a more specific characterization which will only work for prototypical instances, but not all instances. The prototypes are conceptual archetypes, like physical object in the case of nouns. For verbs something like a causative two-participant event, usually involving a change of state, might be the prototype.

General characterizations that will work for all members of the class have to be more schematic. I propose that there are such characterizations, and they involve no particular content but rather various kinds of conceptual abilities. What makes something a verb under this analysis is that it profiles a process. What is a process? Well, a process is a relationship followed sequentially in its evolution through time. This doesn't imply any particular content but only the ability to conceive of a relationship and to follow a relationship as it evolves through time. Whether it's a physical relationship or whether it's abstract, no matter what its character is, those are abilities. And in the case of nouns I talk about the ability to do conceptual reification, which I employ as a term for grouping and treating a group as a single entity for higher-level cognitive purposes. Those are not sufficient descriptions. I just mention them as illustration, in case they can be understood that briefly. And yesterday I talked about possession in these two terms.

Finally, a little bit about grounding. A noun or a verb by itself names a type of thing or a type of process. And that's different from a full noun phrase or a nominal, on the one hand, or a finite clause, which profiles a grounded instance of a thing or process type. So grounding is what you do with things like articles or demonstratives or possessives: they are grounding specifications. Grounding identifies an instance of a type and relates it to the speech situation, while a noun or a verb by itself merely specifies a type. So *book* is a type. *This book* is a grounded instance of the type. A particular referent is singled out. *Run* is a type of process. If I say *Bill ran* using the past tense marker, which is a grounding element, then that's a particular instance of that type which

is related to the speech situation by putting it prior to the time of speaking and in reality. OK. Those are preliminary notions. Now we come to voice more specifically.

The first topic here is called alignment, on page 4. It's possible to observe various parallels between perception on the one hand and general conception on the other hand. Leonard Talmy has pointed out these parallels many times, and I have pointed them out. Sometimes I use different terminology, but it's the same basic idea. It is easy to see this in the case of vision, as you see in the diagram in (14). So let's start with vision. What are some basic notions that you have to talk about to describe a viewing situation, where you are actually seeing something? First, there is a viewer, *v*, and this arrow stands for the line of sight or viewing relationship. This large ellipse, *MF*, that's the maximal field of view. That's everything that falls within your field of view at any moment. Then the smaller ellipse is the onstage region. It's where you direct your attention. It's part of the maximal field of view. So I can stand here and I can look back in the corner over there, I can look at the group down here, I can look over there, you're presumably looking up here. So there is some portion which is the general area of attention. And then there is the particular focus of viewing attention, shown here with boldface. That's *F*. That's within the onstage region. So if I look at the audience, I might look at a particular person like you. That's the focus of attention.

So it is pretty clear that is reasonable to talk about these kinds of things in vision. The interesting thing is that there are analogs of these in general conception, not just perception but any kind of conceptualization in any area. I'm not claiming that all conceptualization is based on vision. I don't claim anything like that, and I have a completely open mind about such matters. I'm only pointing out a parallel. Maybe both of these are special cases of something more general, or this is a special case of this, but in any case there are analogs. For conceptualization there is first of all a conceptualizer. I have tried to argue here on linguistic grounds, but it seems very clear in any case, in conceptualization there will be something we can call the maximal scope. That's the total array of conceptual content that we entertain at any one moment, everything that's active in our mind at any one moment as part of a conceptualization. And within that, there is an immediate scope, a limited region that we're attending to within the maximal scope. Recall the case of the body as a maximal scope and the arm as the immediate scope, and within that there is the profile: what an expression designates or refers to, the specific focus of attention within the immediate scope. You see the similarity of those diagrams. I think that's not an accident. The terms maximal scope, immediate scope, and profile

are needed for semantic description regardless of whether you are describing anything that could be seen perceptually.

This is sort of inherent in any viewing situation. I use the term viewing ambiguously for whether it's perception or whether it's general. I use the term viewing as a general term for all of these, while Talmy uses the term "ception" for all of these. Ception is what conception and perception share. But this configuration can be thought of as a kind of structural frame, a viewing framework. There is a general locus, there is an area of attention and there is a focus of attention. That's a kind of a viewing frame and we can adjust where we direct it. So if I turn around, I have a different field of view, a different maximal field of view, and within a given field of view I can turn my head and move the immediate field of view, the onstage region, and within that I can pick out different foci of attention, but I'm still using those constructs. So given these notions, this framework for viewing things, I can generate indefinitely many different viewing experiences by how I apply them to my surroundings.

Now let's relate this to language in a more direct way. This notion of applying a viewing framework to the surroundings is the key notion here. Alright. A complicated diagram, but let's start with the conceived event. Suppose this is an event that I want to talk about and describe. This is a person Joe, this is an object, it's a cup, and Joe does something, exerts some force which brings about a change. The nature of the change is that the cup undergoes a change of state and acquires the property of being non-functional. NF, I use it here to abbreviate the word non-functional. It no longer functions. In other words, the cup broke. It might break in the sense of coming apart and being in pieces, but it might just have a hole in it. Then it no longer functions, so you broke the cup. So this is an event: Joe breaks the cup. He may smash it with something. He may drop it. We don't know how, but somehow he is the source of a force which brings about this change of state. All of this occurs at some location. Maybe Joe is sitting at the table and that location is in some larger setting, maybe the kitchen. So that is a conceived event and I'm going to describe this event linguistically.

Now we have patterns for describing things, grammatical patterns, and one grammatical pattern will be a transitive clause with a subject and a verb and an object. So this represents a constructional schema. That's a description of the structure of a transitive clause. First of all you have a verb, a transitive verb. This verb has two participants, a trajector and a landmark. Primary focal participant, secondary focal participant. Then you have a subject noun phrase which profiles a thing. You have an object noun phrase which profiles a thing. Those things correspond to the landmark and trajector, and you form

the composite structure by superimposing corresponding elements. I haven't shown many details, but think of that as the constructional schema describing how you put together a transitive clause. This constructional schema has built into it a way of viewing situations. It has a verb which profiles a relationship. It profiles an interaction between these two participants, so the construction tells you that you're supposed to focus your attention on an interaction between the two participants. That's part of the meaning of the construction and the meaning of any particular transitive verb. Also it's part of the construction that primary focal prominence, the most prominent participant, is going to be the active participant, and the secondary degree of prominence goes to the patient, the secondary participant.

Of course there will be some notion of scope in here. This will be the immediate scope for conceptualizing the interaction. So a constructional schema has built into it a way of viewing things in terms of what it focuses on, degrees of prominence of various sorts, including profiling and trajector/landmark organization. So this is the schema I'm going to use now to describe this conceived event. I have to choose appropriate lexical items to fill in the slots in the schema, and those are going to correspond in certain ways to the scene I want to describe. So this is now the relationship between a schema and a particular expression. In this case the expression I choose is *he broke it*. In the right discourse context that might be the way I would say this. If you are already talking about Joe and the cup, it might not be necessary to mention them again except through pronouns. So let's assume a discourse context where the right way to say this would be *he broke it*. The verb *break* instantiates the verb slot in the schema, the pronoun *he*, third singular masculine, instantiates the trajector slot, becomes the subject, and the pronoun *it*, third singular neuter, is the object nominal. It specifies the landmark.

So this is now a particular expression that's put together, and that expression maps onto the conceived event in a certain way. The trajector is *Joe* and these are the same individual, they correspond. The agentive part of *break* corresponds to what Joe does. The change of state corresponds to what the *cup* undergoes. The immediate scope for conceiving of the process of breaking would be identified perhaps with the location in this scene. So the linguistic expression imposes a particular way of viewing a scene, with certain things given certain degrees of prominence, and there is a certain scope and there are primary and secondary focal participants. This viewing framework is applied to this content by using the expression. And the correspondences show you how it applies. Certain things are expressed; certain things are not expressed. That's part of a viewing framework. For example, the location and the setting here are not expressed. They are left implicit in *he broke it*. In another sentence

I might express them, but here I don't. And this is Joe but I only say *he*, I don't say *Joe* because I'm assuming that in the discourse context that's not necessary. So the result of applying this way of viewing things to the situation will be what I call the coded event. This is the event as portrayed by the linguistic expression. It invokes the notion of breaking. It profiles the event of breaking. It is silent about the location and the setting. It doesn't specify them. It identifies the trajector only as third singular masculine and identifies the landmark only as third singular neuter. And in the discourse context, that'll be sufficient to evoke all of this.

So this is now a basis for talking about what grammar is doing and how voice operates. The key notion here is alignment. Alignment. What elements appear here, line up with what elements down here. The alignment is shown by the correspondences, different ways of applying this viewing framework to the situation. And just as I can change my visual experience by changing my viewing alignment with respect to this room—looking here or looking there or looking there—we can change the nature of a conceptualization as expressed linguistically by changing what elements we choose as a viewing structure and how you align it with respect to the content.

In a particular language, there are normal ways of doing this. There is a normal alignment. Canonical is the term I will use. Canonical alignment is the default or usual alignment. I have an example in (16). It's a very unnatural sentence because I don't have anything like pronouns in it: *In the kitchen, Ken was chopping celery on the counter with a cleaver*. So the event of chopping celery with a cleaver, that's a dynamic event, a prototypical kind of event, and the sentence encodes this in the canonical way. It's normal if you have a dynamic event like chopping something for that to be coded by a verb, and it's normal for the agent to be coded by the subject, and it's normal for the patient to be coded by the object. The profiling goes on the chopping, the primary focal participant is the agent, *Ken*. The secondary focal participant is the patient *celery*. And those are the most salient elements in the clause grammatically, and that makes them the most salient elements conceptually in the coded event. Other aspects of the total situation are expressed in other ways. The setting is expressed by this adverb outside the clause, *in the kitchen*. That's the global setting, *in the kitchen*. That's expressed by an adverb. It is not an intrinsic part of the clause. It's proposed to the clause.

The location, that's a more limited portion of the setting where things actually happen. That's coded by a prepositional phrase, an adverb that's inside the clause, *on the counter*. That's where the celery is, where the chopping occurs. An instrument is neither an agent nor a patient. Other participants like an instrument are coded by prepositional phrases also, like *with a cleaver* in this

case. So that's a normal way of aligning things in English. The various kinds of grammatical elements, with the various kinds of prominence they have, apply in a certain way to a canonical kind of scene, corresponding to various conceptual archetypes. So languages have normal alignments. There are defaults. There are canonical alignments. And languages can differ in this way. Not every language is like English in this respect. I don't know how different they can be, but there are at least two basic strategies that languages seem to have. Every language makes use of both of these strategies in one way or another. It's a matter of relative degree of use. But one basic strategy is agent-oriented. The other basic strategy is theme-oriented. And actually I realize that I forgot to tell you something. We'll back up for a second.

When I was going through these conceptual archetypes at the beginning, I give these as names of the roles for participants: a mover, a patient, an experiencer, or zero. These are semantic roles, or theta-roles if you want to call them that. They are like Fillmore's cases. Agent would be another. Instrument would be another. But these four basic roles which are characteristic of the single participant in single-participant archetypes, these four are what I call themes. The term theme is used a lot of ways in linguistics. I'm using the term theme as a general term which covers experiencer, patient, mover, or zero. In other words, theme is the participant in any of these basic kinds of one-participant occurrences. (What do we have here, something happened. I don't think I touched anything. Shall we get that back on?) A theme can also be the inner participant in caused motion, caused change, caused experience. Thus the theme corresponds to an object very often. In a transitive clause, a two-participant clause, the object will generally be a theme. So that's what I mean by theme. (I'd better not touch anything. I don't think I did.)

But look at (17) on the handout. Two basic kinds of alignments are agent-oriented and theme-oriented. That's why I need the term theme. A clause structure incorporates a particular viewing structure, a mental framework for viewing things, where there are things prominent to different degrees that tend to be organized in terms of maximal scope, immediate scope, profile, trajector/landmark. And the question is how it is going to be applied to situations. The key factor is what is going to be the trajector, the primary focal participant in the profiled relationship. The trajectors are the most salient elements. So the key question is what will be, by default, chosen as trajector. That's the basic question of alignment. In some language like English, it's the agent. The normal choice of trajector is agent. (17)(a) shows how you can apply clause structures to different kinds of situations, a two-participant event or a one-participant event. If you apply a transitive clause to a two-participant

event, it's very straightforward. How will you do that? You make the trajector the agent. The landmark will then be the theme. I take it to be the case that in a language like English, an agent-oriented language, a two-participant clause is the typical kind. And a one-participant clause is a secondary kind. But how do you deal with a one-participant clause? Well, basically speaking, you assign trajector status in general to the participant that's most like an agent. (Maybe that works now? Let's see. Not yet. Now comes another one. Smaller? OK. Thank you. Alright. I'll see if I can break this one, too.)

So this represents the grammatical form of a transitive clause. These are conceived events up here, two-participant event, one-participant event. And this is the natural mapping. We can encode a two-participant event very easily with the structure. But what happens when you only have one participant? Well, it's treated the same way as the agent is. In other words, the trajectors of other kinds of events are treated analogously to the way you treat an agent, you assign trajector status to the most agent-like participant. If there is only one participant, it has to be the most agent-like participant because it is the only participant. I put this change in a dashed line box because I assume that in this type of language it's primary to have two participants, and if you omit this, you get the secondary clause type, for you only have one participant.

Now there are various ways in which a language makes the agent more prominent. If there are just two participants, it's the agent that is by default the trajector or the clausal subject. Also this is now the secondary participant. That correlates with things like case-marking. Languages of this sort mark the secondary participant overtly and the agent is marked by zero. So nominative case is usually zero, accusative case has some explicit marking. Also the trajector will be the most likely thing for the verb to agree with if you have verbal agreement. Various things point to the agent being most prominent and the theme being the secondary participant.

In the other kind of language, a one-participant clause is primary, and a theme as trajector is the basic pattern. It's special to have two overt participants. This is the preferred pattern. So you have to do something special when there is a second participant. You have to cope with this kind of situation. And in this type of language, the trajector in a two-participant event will be the participant that's most like the theme in a one-participant event. In languages of this sort, the theme is usually marked by zero if you have case marking. And the agent is marked by something overt if you have two participants. These are sometimes called ergative and absolutive. Absolutive is always zero. Ergative is overtly marked. And although I haven't investigated this, I suspect that in this type of language the theme will be more commonly indicated in verbal agreement.

These are two basic ways a language can have of aligning things. Which is the preferred choice of trajector, of aligning the viewing framework. This includes the notion of primary focal participant, and how that maps onto the situation. So preference for the agent being the trajector, or preference for the theme being the trajector.

(Why? that looks good up there, doesn't it? Sort of striking to see color on the screen.) So far I have been talking about just the basic pattern in a language, the default, the canonical pattern in a language. But our topic today is voice. Voice is alternation in this. Voice is variations that you have, options that you have, ways of departing from the default and doing other things for discourse purposes. If you have an agent-oriented system, this is the normal way of mapping the clause structure onto a complex event. The agent will be the trajector. The theme will be the landmark. This is now a grammatical structure, a transitive clause, the trajector, the landmark. This is the conceived situation. This would be the normal alignment. So the agent will come out as the subject. But if that's your basic system, you are going to need some way to depart from it, for those cases when you want to put greater emphasis on the theme, and that's what we do with a passive. In a passive situation, it might be the same overall relationship, but the theme is made the trajector. So the subject role maps onto that participant. So notice the labels here. This is the agent-oriented canonical alignment. This will be an active sentence. In that type of language, you need an alternative. This is the alternative, an agent-oriented alternative alignment. That is a passive, where the theme is now the trajector.

But this is the same as the normal alignment in a theme-oriented system, the theme being the trajector. That's the canonical alignment in some languages. So in that type of language, you may need an alternative, a theme-oriented alternative alignment, where the agent instead is the trajector. Languages which work along these lines usually have this type of construction called antipassive. It does involve two participants but typically you make the agent the subject and you don't give this any focal prominence. This one is encoded, if it's encoded at all, with something like a prepositional phrase. Periphrastically, in other words. The way a *by*-phrase agent is used in English.

So what I am talking about now are variations, alternatives to the basic alignment. These variations can come about in different ways. There can be variations due to prominence. That's what I am talking about now in section B. There can also be variations due to specificity. That's what I will talk about in section C. And then section D, which deals with impersonals, I will probably skip today because that will be the subject for tomorrow. That will depend on time. So what I am going to be discussing now for a while are variations in how we present situations that are based on prominence.

The first type involves different choices of trajector. We've just looked at that briefly. The basic trajector choice and the alternative trajector choice we make, where the trajector is like the primary spotlight of focal prominence. It is normal to direct it at a certain place, but we have the option of directing it somewhere else. There can be different kinds of passive constructions. Passive constructions can be different from one another structurally. English does it in one particular way which is illustrated briefly in (19). But there are other ways too. Briefly, how does English do it? We have an active in (19)(a) *Someone stole our car last night*. And since we don't know who did it, we might choose to use the passive, so we don't have to specify. We could say *Our car was stolen last night*. The English passive involves three elements. It involves the verb *be*, the passive participle morpheme—the *-en* part of *stolen*—and then the *by*-phrase which lets us specify the agent: *Our car was stolen by thieves*. It's optional. It's not critical to the passive. The core of passive involves *be* plus the perfect participle. It's only in special circumstances that you bother to specify the agent, because, after all, one purpose of the passive is to allow you to avoid putting prominence on the agent.

In fact, this is a good time to mention that many years ago—well, not that many years ago, 21 years ago, 1985—Matt Shibatani published a nice article in the journal *Language*, arguing that the basic function of the passive construction is to defocus an agent. The passive construction makes the patient salient, but the primary function of passive, he argued, was to defocus the agent. The agent is normally the primary focal participant. But if you want to deemphasize the agent, let it fade out of the picture, a passive is the way you do it. And by making that the primary property of passives, he was able to explain various phenomena and relate the kinds of uses that passives have, relate them to one another as naturally connected semantically. I pretty much agree with that.

That goes along with the *by*-phase being optional in the English passive. Now the key element in the English passive is actually the participial ending, the *-en* in *stolen*, because the participle itself has passive alignment. You don't need the verb *be* if you simply want to use a clause-like structure to modify a noun, as in (19)(b). You don't need the verb *be*. You can say *the car stolen last night*. We only have a participle there, *the car stolen last night*. It has passive alignment already just by the participle. The participle itself imposes this alternative alignment on the verb that it combines with. Then if we want to use that in a clause, we add *be* to make *stolen* into a complex verb. So there is a particular morpheme, the participial morpheme in English, which does the realignment.

In other languages, there isn't any special morpheme which does the realignment. What looks like a passive is either different in how it is implemented

or might be a different kind of voice phenomenon that perhaps shouldn't be called a passive. A first example is from Samoan, a Polynesian language. This was looked at in great detail by a student of mine many years ago, Ken Cook, who knows those languages very well. And he analyzed the phenomenon in (20) as active versus passive. *The boy cut the yam. The yam was cut by the boy.* And he had reason to do this. If you look at the sentence in (20), the tense marker comes first, *na*, a past tense marker. Then there is the verb cut, *tipi*. Then you have two noun phrases, *the yam, le ufi* and *the boy, le tama*. Samoan has case markers on nouns. They indicate the semantic role of the noun. What's called here the ergative case marker identifies an agent, so that's *e*. Then the absolute case marker, the one that identifies a patient, will be zero. So *cut the boy the yam*, and *the boy* is marked as an agent, *the yam* is marked as absolutive, zero. And you see that the two noun phrases occur in opposite orders, *Na tipi e le tama le ufi* or *Na tipi le ufi e le tama*. You know who does the cutting pragmatically, but also because the ergative marker tells you who the agent is. But grammatically the subject is the first element after the verb, so the subject is *the boy* in one case and *the yam* in the other case. The basis for a subject, who it is, is something I won't discuss. Cook does have evidence that is published. This illustrates, first of all, that Samoan is a theme-oriented language. The intransitive clause type is primary. A theme-oriented language goes along with the ergative system of case marking. The theme in this case is a patient. The theme is marked by zero. And the agent is the one that's specially marked. That's the theme-oriented system. But you mark noun phrases for their semantic role whether or not they are the subject. That's distinct from subject and object. So Cook described (20)(a) as an active and then (20)(b) would be the passive alternative.

Now it's not clear to me that active and passive is the right way to describe this phenomenon. First of all because this is a theme-oriented language and passive is the sort of thing you expect in an agent-oriented language. Also, there is no marker in here. There is nothing like a passive marker. There is nothing corresponding to the English *-en*. The verb is exactly the same. There is nothing like *be* or *by*. All that changes is the word order. So based on what little I know about the language and what I have seen, I'm inclining to analyze this in a different way. The notion passive implies that you have an initial alignment where the agent is a trajector and then you do something to shift trajector status to the theme. But what this language suggests in its form is that the verb itself doesn't make a choice. The verb itself does not make any particular choice of trajector. It's the same verb form throughout. And then you encode the participants with the various case markings, to indicate their semantic role. And when you go about forming a clause, you choose one of the

participants to make into a subject. So at the level of the clause, there is a trajector. It can either be the agent or the theme. But the verb itself doesn't specify which it's going to be. The verb can go either way, and it's only when you put it into a syntactic construction that you have a subject choice. So you still have trajector/landmark organization, but it would be only at a higher level of organization, when you have a clause, and is not given by the verb intrinsically. That's a suggestion. I've never talked to Ken Cook about it. I will someday, but I think he will probably think that's reasonable.

Now I turn to a distantly related language, where it looks like that's the only workable analysis. The language is Tagalog, which is the national language of the Philippines, an Austronesian language. And I base my data here on some classic papers published decades ago by Paul Schachter, a linguist at UCLA at that time. The references are near the bottom of the handout. I have four sentences there from Tagalog, which has a very interesting grammatical phenomenon. Other Philippine languages have things like this too. You see that all four sentences have the same basic content, the verb *take out* in the future, *will take out*, then the *woman*, *the rice*, *the sack*, and for the benefit of *a child*. And you notice that one of the noun phrases in each clause is put in boldface and is marked by this marker *ang* before it. This is the phenomenon we are concerned with. This marking *ang* can go on any of the noun phrases in the clause. In (21)(a) it goes on the agent, *ang babae*, *the woman*. In (21)(b) it goes on the mover, the theme, *rice*, *ang bigas*. In (21)(c) it goes on *sack*, the location, *ang sako*. In (21)(d) it goes on the beneficiary, *the child*, *ang bata*. It replaces an article or a preposition, so one noun phrase in a clause is singled out as specially prominent in some way by this marker *ang*. Also, the same noun phrase is made prominent by marking on the verb. You notice that the verb stem *aalis* or *salis* takes an additional marker, which tells you that that some participant is focused. So in (21)(a), *mag-salis*, *mag-* indicates agent focus, and the agent is *woman*. In (21)(b), *-in* is theme focus, and the theme is *rice*. In (21)(c), *-an* is location focus, LF, location focus, and *the sack* is the location. And in (d), *ipag-* is beneficiary focus, and *the child* is the beneficiary.

In other words, in a clause one participant is made prominent grammatically in two ways. It takes this marker *ang* and the verb takes a special marker which tells you that the focus is on that element. Now that's the phenomenon. Schachter wrote one of these articles in order to explore whether Tagalog has something we could call a subject. And his conclusion was that this is nothing like what we call subjects, nor is it a discourse topic. So he concluded that this phenomenon in Tagalog and other languages is something different, neither subject nor topic. It's a different kind of phenomenon. That's the issue I'm addressing now. That was Schachter's conclusion. I'm using his data.

I'm going to suggest a different analysis, whereby the focus element is in fact a subject. In my terms, it is a subject and meets the definition of a subject. What is a subject? Well, a subject is a noun phrase which specifies the primary focal participant. Among the participants of the clause, it's the primary one. The major spotlight is on that participant. And that's my definition. A subject is something that specifies the trajector, which is the primary focal participant. And metaphorically, trajector status is like a spotlight, you can shine it at different elements in the scene. In a language like English, you usually shine it at the agent, but in the passive you shine it at the patient or theme. Tagalog, as I would analyze it, is a language where we can simply shine it in more places, with greater freedom as to where we direct the spotlight. In fact, Tagalog would seem to be a language where this is exactly what you need to say. It's the primary spotlight you can direct to different places freely.

And in this language, you can see that the verb stem itself, the *aalis* part, doesn't specify a particular trajector. It's only when you add a marker to it that you have agent focus or location focus or theme focus or beneficiary focus. The stem itself doesn't make a choice. This is the kind of situation I hypothesized for Samoan, but for Tagalog it looks like the natural description. You have a verb stem which specifies a type of activity and itself does not impose a trajector. It's free as to what is going to be put in primary focus. And then you inflect this morphologically to make a particular choice and that is reinforced grammatically with the particle *ang*.

So that's my analysis. I think it makes a lot of sense. If so, it's a different kind of voice phenomenon. This is not like a passive. A passive is an alternative to trajector focus or to agent focus. But here nothing is an alternative to any other particular thing. You just have alternative choices to begin with. If anything, these languages would be theme focus and not agent focus. If there is a default, it's that the focus is on the theme. So I call them trajectors here, TR is trajector. People who worked on these languages didn't know what to call this, so they made up terms like trigger, or something they called focus, but no traditional term seemed to fit. While in my system, there is a term trajector. I don't have to make up a new one. It fits. It's exactly what a trajector is supposed to be.

Let me elaborate on that just a little bit. I suggest that the notion subject is a fundamental and universal grammatical notion. It's one of these notions that has both a schematic characterization and a prototype characterization. The schema would be trajector, a primary focal participant, the prototype would be agent in a language like English. In a language like Samoan or Tagalog it might be theme, it might have a different prototype, and I think that's the right way to describe it. But anyway, I claim that the notion subject is universal. Now what does that imply? It doesn't have to be an absolute universal. If there turns out

to be some language where you have no reason to talk about a subject, that's OK. I can believe that, my system would not collapse. It could be a near universal. But I suspect that it probably is a universal. But almost all linguists today, including cognitive linguists, would say that the notion subject is not universal. So how do we deal with this? It has to do with how you define the notion subject, obviously. So here is how things went historically.

People are used to describing languages like English, French, and Russian and so forth as having grammatical subjects. So the question is how do you characterize the notion subject? This is now in traditional grammar and more traditional forms of linguistics. Well, maybe you can try to characterize the notion subject semantically. So people try that. Maybe a subject is an agent. Well, fine, but it doesn't work, not as a general definition, because many subjects are not agents. So linguists give up on semantic definitions. Maybe it has a discourse definition. Subjects are topics. Of course that's typical, but many grammatical subjects are not discourse topics. It is only typical. It doesn't work as a general definition, so people give up on that. What linguists then conclude—showing you the depth of thought of linguists—is that, well, subject must be a purely grammatical phenomenon, not definable semantically. So you define subject on the basis of a cluster of grammatical behaviors. So in English the subject would be the element that the verb agrees with. The subject would be the usual antecedent for a reflexive. The subject would be the usual controller to interpret the unspecified subject of an adverbial or infinitival clause. There are whole clusters of grammatical properties that are characteristic of subject in a given language and you define the notion subject for each language in terms of these grammatical behaviors.

The trouble is that every language is different, and subject behaves differently in every language, so that the defining properties are different in every language. So you don't have a unified notion of subject that works across languages. So there isn't any universal notion of subject. The notion of subject is language-specific. That's the conclusion. And you see it in print even in articles written today. And then I come along to say the notion of subject is universal and no one believes it. Because they don't read what I say, of course, they just read the words *subject is universal*. They are assuming the standard definition of subject in terms of a cluster of grammatical properties. But in my terms, the notion subject is trajector, primary focal participant, that's a semantic notion. And it is not a notion based on particular content like the notion agent. Agent won't work. No particular semantic role will define subject because subject can be anything semantically. If there is a general definition, a schematic definition, it has to be highly abstract, independent of content. And the notion primary focal prominence, trajector, is a definition of that kind. But linguists don't

even talk about phenomena like primary focal prominence. Prominence is not a dimension of traditional semantic description. In modern linguistics, that's too psychological to be taken seriously, obviously.

So you have to understand the claim that subject is universal with respect to the abstract definition, the schematic definition of subject as primary focal participant. It's a matter of construal, not content, primary focal prominence. Once you understand it that way, then things look very different. First of all, because the subject is the prominent participant, you expect the subject to be active grammatically. You expect grammatical phenomena to be sensitive to salient participants. But I take the grammatical behaviors as being symptoms, consequences of subject status, not as a way of defining subject status conceptually. But if you have this more abstract definition of subject which is independent of particular grammatical behaviors, then it can apply to phenomena in other languages which don't look like subject behavior in standard traditional terms. Tagalog is a case of that. Schachter, who looked at the Tagalog data for purposes of determining whether Tagalog has subjects, concluded that no, it doesn't. So you have to describe this thing marked by *ang* in some other way. But if you have a more abstract definition of subject to begin with, one which I think you need just to make sense of a language like English in the first place, then this phenomenon in Tagalog is just another way of manifesting that same abstract definition. OK. So I think that's interesting in its own right. I'm sorry to take so much time on this. That's a basic analysis I want to make. This is then a different kind of voice system. Active/passive is one, but this is quite different. Notice that when you put focal prominence, trajector status, on one participant in (21), it's not the case that any other participant becomes less prominent. Passive in English is a way of defocusing an agent. But this *ang* marking in Tagalog is not a way of defocusing anything. It is simply a matter of focusing something. It's a different kind of philosophy perhaps.

In any event we'll move on now. I've talked about voice phenomena, voice alternations based on different placements of trajector status. Our talk will be now about different profiling. That's another realm of phenomena. In a way we've already talked about this, because when you move the trajector, move the primary spotlight from one participant to another, that changes the profiling in subtle ways. For example, in (22), *Soldiers destroyed the village*, because the agent is the most prominent participant, the agent's role in the process is more salient. The activity is more salient in the profiled relationship. But if I use a passive, *The village was destroyed by soldiers*, then there is more emphasis within the profiled relationship on what happens to the village. These are matters of degree. There is no drastic difference. But I think every time you move

the focal prominence around to different elements, that tends to highlight the elements that are directly involved.

But there are more drastic ways of adjusting profiles, which goes along with how you treat participants and also involves alignment. Let's look at the cases in (23). These are cases I talked about some in this last week. *The refugees have seen some traumatic events* or *The refugees have witnessed some traumatic events*. That's a fairly standard sentence involving the canonical alignment, because the trajector is the most agent-like of the participants. So here we have the schema for a transitive clause. Now we're applying this to a situation where there is a perceiver. This is the relationship of seeing or witnessing. So this is the perceiver, and this is the event that is witnessed. Since the sentences involve the word *event*, I show this as some kind of occurrence. In the clause it's going to show up as the noun *event*. It's going to be nominalized and show up as *event*. But in any case, applying the clause schema to this kind of situation, the most agent-like element is the viewer, the perceiver, so that's the trajector, and then the event would be the landmark. So we've taken the viewing framework that's intrinsic to the clause structure and we apply it in the obvious way to the situation.

We have the alternative, however, that's illustrated in (23)(b): *This country has seen/witnessed some traumatic events* or *The last decade has seen/witnessed some traumatic events*. In this case, something else happens. We have a different way of encoding things. This is an alternative to the normal alignment because we are not specifying who does the seeing. Instead, the trajector is projected onto the global setting. We realign the viewing framework of the clause structure involving trajector and landmark. We realign this and make different correspondences, so that primary focal prominence goes on the setting. It's a setting in space, a spatial setting in *This country has seen some traumatic events*, or it can be a setting in time: *The last decade has seen some traumatic events*. We have this option in English. This is a voice alternation in just the same way that a passive is, involving a different alignment, a different mapping. And it has drastic consequences for grammar. But it is just a slightly different alignment. With the regular alignment, the profiled relationship looks like this. This is now the person who sees. This will be the people. This will be the event that's perceived. These are coded linguistically as subject and object. But in the other case, when we say the country or the last decade has seen something, the profile shifts because the trajector has shifted. In this alternative construction, the trajector is the setting. Then all this occurs in that setting. Because the trajector is the primary focal participant, the major focus within the profile is on the relation between the setting and what happens in that setting. The primary emphasis is no longer on the interaction. The primary emphasis is now

on the containing relationship, where all this is contained or manifested in the setting. There is seeing or witnessing going on and is witnessing of events. But the viewer is now defocused. There is no longer any particular viewer implied. The import of the sentence is that anyone in this setting would have witnessed the event. This is a generalized viewer. Anyone in this position, within the setting, would be in a position to witness or see these events.

So a different profiled relationship. All I've done is adjust the correspondence line and direct it to something else, but it's a completely different thing. This affects transitivity and other grammatical properties, as I explained the other day. You can passivize (23)(a), but you cannot passivize (23)(b). These are in (26). You can say *Some traumatic events have been seen by the refugees*. You cannot say *Some traumatic events have been seen by this country*. Passive is something that gives you an alternative for how to code participants. The passive construction involves transitivity, which is the interaction of participants. When the profiled relationship does not hold between participants, then you cannot passivize. So this relation between a setting and a participant, it's not a relation between participants. The landmark occupies the setting but does not interact with it.

I'm going to jump down to number (29) on the handout now. I've talked about cases like (28) before, and I will talk about cases like (27) tomorrow. A different kind of voice alternation is what is sometimes called the middle construction. That's well known in Indo-European studies. It shows up in languages like the Slavic languages and the Romance languages. And there are kinds of middle constructions in English, too. The examples in (30) are from Spanish, based on work by a student of mine, named Ricardo Maldonado, a speaker of Mexican Spanish. It involves the element *se*, which you see in (30)(a)(ii), for example, *El anciano se ahogó*. This marker is also the reflexive marker in the language, translated as *himself*. But we are not talking about reflexive. We are talking about the middle construction, which is a different voice traditionally, and I agree with that. It fits into my system as a kind of voice alternation. It's called the middle because it's sort of intermediate between transitive and intransitive.

Let me do it in the abstract first. The uses of this *se* are extremely varied. The meanings form a complex network. There is a prototype and many extensions from the prototype, and Maldonado treats the result with great detail. This is the prototype. Now compare it to a transitive. A normal transitive involves force, transmission of force from an agent to a theme which then moves or undergoes some change of state. At the other extreme is the least transitive. That is a what I call an absolute intransitive, a single-participant process where there is only a theme. And I call it absolute to indicate that there isn't

any salient notion of causation or force or energy. This could be some of the archetypes I gave to begin with, something like *think* or *wake up* or just *sit* or *be there*. Simple intransitives with one participant and no salient notion of causation. The middles are like intransitives. They profile a single-participant process having only one focused participant, and only what happens to the theme is profiled. But they are like transitives because they do invoke the notion of force or energy or causation in some way, even though they don't specify an agent.

Look at (30)(a) *The thief drowned the old man*. That's a transitive. It's force-dynamic. There is causation. *El ratero ahogó al anciano*. So the agent, the thief, caused the old man to change state, to drown. And that's all I have to say about that. We can make that reflexive. The second example, *El anciano se ahogó*, could be a reflexive. *The old man drowned himself*. A reflexive is the case where the agent and the theme are the same, but it's based on a transitive structure. A reflexive is a case where there is an agent and there is a theme, but these are the same individual. So if the old man intentionally caused himself to drown, that would be the reflexive. That's shown in this diagram [(31)]. A reflexive that's based on a transitive. The middle is different. It's the same form. More likely the sentence would be interpreted as a middle, *The old man drowned*. In English we just express it intransitively, but it implies some notion of struggle. It is force-dynamic. Force is involved. It is not just something happening, it is something happening in a force-dynamic way. Presumably, the old man didn't want to drown, he's struggling and eventually he loses the battle.

So you can get to a middle by starting with a transitive. And the marker *se* is interpreted this way. So fade out the notion of agency and you are left with this. But you can also start with an intransitive and mark it as middle, and you wind up with the same situation. In this case you are adding some notion of force and causation. So it's different from the other kinds of voice alternations in that sense. The notion of force can either be objective, it can be something out there in the world that's real force, or it can be a subjective version of that. Something can be force-dynamic in the sense of running counter to normal expectations, so that conceptualizing it or accepting that that it occurs is more difficult. It's not that the force is up there in the scene, but the force is the force required in a conceptualization of it, subjectively construed instead of objectively construed.

So let me take the verb *fall*, Spanish *caer*, fall. A tree might fall over. Force is involved, but it's only the force of gravity. Because gravity is always there, something we take for granted, it doesn't count as force for linguistic purposes, particularly. So (30)(d), *In the autumn, the leaves fall from the trees*. That's a normal thing to happen. In the autumn, the leaves dry up and then they fall. All that

happens is that the leaves go down. And it's the normal expectation that they will fall. So this is not marked middle. There is the simple intransitive verb fall, *caer*. *Caer* in the example (30)(d)(i). That's this situation, leaves fall. If you talk about a person falling, so I'm walking along and I fall, you have to say *caerse*. You have to use *se*, *se cayó*, *he fell*. You could not use this, now, if a person just lets himself go into a swimming pool intentionally, just suspends all efforts at remaining upright and just topples over intentionally. Then you would say *cayó*. But if a person trips and falls down inadvertently, then you need to say it with a middle construction, because that's force-dynamic in a subtle way. The normal expectation is that people will stay upright, they will exert whatever muscular control is necessary to keep from falling. And when you fall, that means that something has happened to interrupt your exertion of control, so the force of gravity takes over and you go down. That's a force-dynamic notion. There's an interplay of forces which results in the falling. So it's not agentive or intentional, but it's force-dynamic, so you say *se cayó*, *fell down*.

Also, if something is simply counter to normal expectations, it requires mental force to imagine it happening, then you can use *se*. So the other example is (d)(ii) *In the spring, the leaves fell from the trees*. You don't expect leaves to fall off trees in the spring. That's when the leaves are just coming out. They are fresh and green. It's counter to expectations. It's a noteworthy event and implies that some special force has been responsible for this, because it runs counter to the normal course of events. So there you use the *se*, *se cayeron*. That's middle again.

Once you have a broad definition of voice which involves alternations in prominence, trajector status, profiling, you can also extend the notion of voice to alternative choices of landmark. Why not? A case like (32) *She mailed a package to her daughter. She mailed her daughter a package*. A well-known alternation in English. In the first case, *package* is the landmark; in the second case, *daughter* is the landmark. I would consider this to be a voice alternation. It's a matter of the viewing framework imposed by the clause structure, or the alignment. The landmark, the secondary spotlight of focal prominence, can either go on the theme or on the recipient. Many languages have a flexible way of imposing landmark status. There can be more than just two choices; some of the Bantu languages in Africa are like that.

I've taken some examples from the language Rwanda. I quoted these, I think, from Talmy Givón. There is (33)(a) *He wrote the letter with a pen. The letter is the landmark there*. That's the expected object, but there are ways of marking the verb which imposes landmark status on other elements. So in (b), you add the suffix *-ish* to the verb, *y-a-andik-ish-ije*. *-ish* focuses the letter as IF. That's instrument focus. If you put this ending *-ish* on the verb, it tells you that

landmark status, secondary focus is on the instrument. So the object in that sentence is *pen*. You might translate it as *He wrote-with pen, the letter*. *Pen* is the object. Or in (c) and (d), we show something similar with a goal, *Charles worked-for money*. Money is the goal. It's a prepositional object, *for money*, but if we put the marker *-e* on the verb, that puts the focus on the goal, and then the money becomes the direct object of that complex verb *work-for*. *He works-for money*. This might look familiar. This is just like the Tagalog example, where trajector status can go on different elements and you mark on the verb where it's going to go. Here is a case where there're different choices of landmark, and you mark on the verb where landmark status is going to go. This phenomenon is called applicative. You call these endings applicative endings very often, in modern grammar discussions.

The last thing I will talk about today, since I talk about impersonals tomorrow, is a little bit on specificity. Passive, as I noted following Shibatani, can be characterized as defocusing an agent. But there's more than one way to defocus something and make it less salient. The way I have been talking about is with notions like trajector and landmark and profiling, by changing the assignment of focal prominence, by directing the viewing framework at different aspects of the situation with different alignments. But you can also make something less prominent simply by saying less about it, by describing it in less detail, being vague about it. And that's the dimension of specificity. These are related as I describe in (34). The absence of focal prominence and the absence of specificity are both strategies for defocusing something and making it less salient and make it stand out less clearly within the scene. These are mutually reinforcing strategies. Each of these strategies detracts from the optimal circumstances for viewing a given participant. The optimal circumstances are a situation where you have a single, clearly delimited, fully identified individual put onstage as the specific focus of attention. And you can move away from that situation either by shifting focal prominence and putting the spotlight somewhere else, or by describing the participant in less detail and maybe not describing it at all.

In the English passive, we do both of these things. If I say *The thief was caught*, I defocus the agent by not mentioning the agent at all. And I move the trajector onto the theme. The agent is no longer the trajector in the passive and is not described at all, so it's totally unspecified. Of course, I can, if I want to, put in the *by*-phrase and say *The thief was caught by an alert security guard*. So we have the flexibility to defocus an agent but still let it be known who that agent is, if there is reason to do that. But typically the two strategies work together. But they can also work independently, and so I'll be looking at, briefly, some ways of defocusing things by being less specific. There are in some languages markers, sometimes called impersonal markers, which are defocusing in the

second way. They don't change the assignment of trajector and landmark, but they tell you that a participant is not going to be specified. It's there, but it's not going to be characterized in any way.

The examples I have in (37) and (38) are from two Uto-Aztecan languages. It's the family that Luiseño is in. Southern Paiute, which Edward Sapir described in great detail, and Hopi, which Benjamin Lee Whorf described, among other people. They are both in this family. You don't have to figure out all the details of those complex words in Southern Paiute. The important thing is the suffix *-tu'a*, the impersonal suffix. This can go on a verb, as you see in (37)(a) and (b). And it tells you that the trajector or subject will not be specified. But it still is the trajector, that is, you don't change subject and object status around. So the translation of (37)(a) would be something like *Is killing him*. It still has an object. That object has not become the subject as it would in a passive. *Is killing him*, unspecified subject, but that unspecified element is still the trajector. You defocus by specificity alone. And because this doesn't require the landmark to become the new trajector, it also applies with intransitives, where there is only one participant, as in (37)(b). Literally, something like *Are eating*. Hopi does this in a slightly different way. In Hopi there isn't any special verb suffix. You can simply use the construction in (38). You have an object there. This is marked as the object. And you put a plural subject marker on the verb, but you know the subject is really just unspecified. It's unspecified people, so literally it's something like *Killed the man*. And *man* is still the grammatical object. It's marked with the object marker *-t*. So this is not a passive construction, because a passive is a matter of creating a new subject.

So what does it mean for a participant to be unspecified? Well, here is an attempt to describe what is involved in that. We have some grammatical role. In this case, it would be the grammatical role of trajector, or it could be landmark, but there is some grammatical slot. Something in grammar tells us that there is a participant. You have a role in the grammar, and then normally you would use a noun phrase to specify or identify that participant. Then that noun phrase would be the subject or the object. This large circle represents all the possible candidates, all the things in our conceptual world which might potentially be identified as filling this role. In a normal expression where you specify the trajector or the landmark with a noun phrase, the noun phrase picks out a particular candidate, identifies it as the one that we are talking about. That corresponds to this participant, and therefore we know who fills that role. It may be just a single individual. It might also be a plural. This corresponds to the case of a plural subject or object. We might use a plural subject or a plural object so that some set of individuals collectively fill that role.

So the grammar tells us that there is some role, and the noun phrase then tells us how to fill it. The effect of these constructions, or markers for something being impersonal, is that you still have the grammatical role, you still have a trajector or a landmark, and you still have the notion that something fills that role, but you are not given any information about what. So all conceivable candidates can apply. That is, you are just not given any further information. And a marker like the Southern Paiute -*'tu'a* tells you: don't even look, we are not going to specify this. We're just going to leave it blank. We're going to leave it as a question mark.

I want to conclude quite quickly here. I talked about definites and indefinites yesterday. Indefinites are a way of making impersonal statements. In English, if I want to leave blank who the trajector is, I might simply use an indefinite form like *someone*. *Someone did something*. And because *some* just invokes a virtual referent, and *one* doesn't tell you anything about the candidate except that it's a person, that is effectively the same as the impersonal construction, in that you still don't know who fills the role. Even though you use a noun phrase, this noun phrase doesn't inform you about the identity of the person who fills the role.

There is one another phenomenon that I'll conclude with. Another way to be vague about things is to use a noun. You do have a noun to fill a grammatical slot, but it's simply a noun, not a full noun phrase. And that noun can vary in its degree of specificity. So let's go through that and then we will be finished here.

I have here some examples from Classical Nahuatl. That, you may recall, is the language of the Aztecs, the classical Aztec empire in Mexico City, related to Hopi and Luiseño. So we are starting in (48) now. (48) would be a normal type of sentence: (48)(a) *I will eat the meat, Ni-k-k'aa-s in naka-tl, I it eat the meat*. That's a regular object construction. *The meat* is a full noun phrase and it elaborates the landmark. So this is the verb *eat*. The landmark would be the patient here, and then this represents *the meat*. This is the type specification. The noun *meat* specifies a type of thing. So of all the candidates, all the things in the world that we might conceptualize, the noun picks out a subset which are instances of that type. It's instances of the type *meat*. It's this subset that we are going to look at to fill this role because we're using *naka* as the noun in the noun phrase. But it is a grounded noun phrase. It's a full nominal, and the effect of grounding is to pick out a particular referent, and that referent is one of these instances. So if you have a full noun phrase, you identify a particular referent out of all these potential candidates, and that's identified as filling the landmark role. That's how a normal subject or object construction works with a normal noun phrase. It makes a type specification and is grounded to

pick out an instance of that type, and that instance fills the role of trajector or landmark.

But there is an alternative, and it's the alternative that's relevant here. This is a kind of voice alternation because it marks defocusing by specificity. Instead of having a full noun phrase as object, we can simply use the noun *meat*. Not the full noun phrase, just the noun stem, and morphologically that's incorporated into the verb. So if you look at sentence (48)(b) *Ni-naka-k^waa-s*, *I meat eat-FUTURE*. So we've created the complex verb *meat-eat*. This is the phenomenon known as noun incorporation. The noun only specifies a type, and there is nothing which singles out an instance of that type. So this again is a set of candidates. This is the type specification, so it limits the candidates to a subset, the instances of *meat*. And the grammatical construction tells us that the landmark is going to be specified by *naka*, but that only brings us this far. We know that the landmark is identified with something within the set, but that's all we know. It's unspecified, unspecified within this subset. So the effect is to say *I do meat-eating*, *I meat-eat*.

Now we have to add to that one other thing. The noun that you incorporate can be specific or less specific. *Meat* is fairly specific. But we have a whole range, as I show in (50). I can talk about *bacon* or *pork* or *meat* or *food* or maybe just *stuff*. And when you get to the level of *stuff*, you just have a mass, but you don't know what kind of mass it is. So one way to defocus—and this is part of the picture of voice—one way to defocus a participant is to incorporate a noun like this but to make it highly schematic. And *meat* is very specific. If we just say something like *thing* or *stuff*, effectively you are going to leave it blank. And Classical Nahuatl has a marker like that. It's on the next page, on page 11. It's the prefix *tla-*, *ni-tla-k^waa-s*, *I will eat*. *Tla-* tells you it's a noun. It goes in the same slot in the verb as *naka*. And *tla-* tells you that the landmark is nonhuman, but it doesn't tell you anything else. So effectively the landmark is totally unspecified.

This can also happen with the trajector. Shoshoni is another Uto-Aztecan language. And Shoshoni has the verb prefix *ta-*, which means unspecified subject. And in fact, the example you have there has both an incorporated object and the unspecified subject marker. That is, the object is *house*, but it's only a noun, it's an incorporated noun. So it tells you that this is *house*, but you don't identify any instance, so the landmark projects to the subset without identifying it further. But *ta-*, which is in the trajector slot, tells you: OK, that's it, we're not going to say anything more. *Ta-* means unspecified subject. There is some element, but we don't know where it falls within the range of candidates. We don't even have a subset to choose from. So this translates into something like *House has*. I don't know when it would be useful to say this kind of thing, but

that's grammatical, you can do it. I know the data is good because it's from a very reliable linguist, who knew Shoshoni perfectly.

The *tla-* and the *ta-* are actually related historically. They go back to the same proto-Uto-Aztecan prefix, which, if I recall right, was an unspecified subject marker. This is based on the research I conducted myself decades ago when I was working on these languages. *Tla-* and *ta-* reconstruct to the same historical element, which I think was unspecified subject or unspecified nonhuman object. I forget the details, it has been so long. It gets specialized in different ways in different branches of the family. The phonological shape *ta* becomes *tla* in Classical Nahuatl. *Ta* becomes *tla*. That is a well-established sound change that was discovered by Benjamin Lee Whorf when he worked on Uto-Aztecan. I couldn't claim the same success, but now you know I've done something in my life besides work on semantics. I think that's where I'll stop for today.

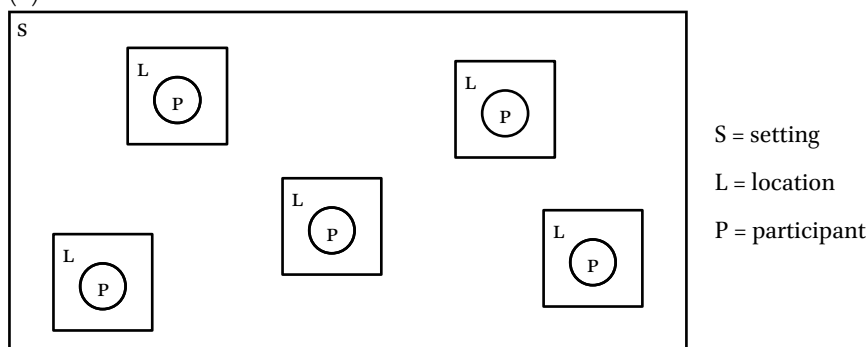
Voice

1 *Basic Notions*

- (1) The notion **voice** will be interpreted quite broadly. In a conceptual characterization, classic voice distinctions—notably active vs. passive—are part of a much wider spectrum of related grammatical phenomena.

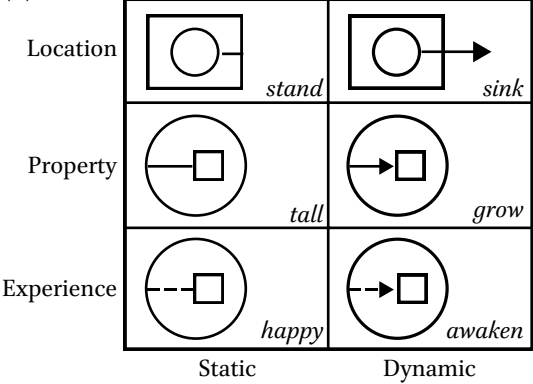
Conceptual Archetypes

(2)

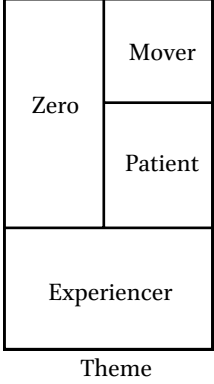


(3)

(a)

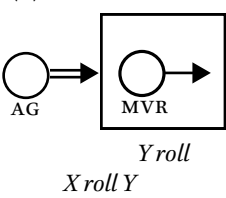


(b)

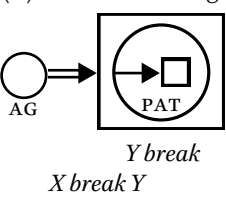


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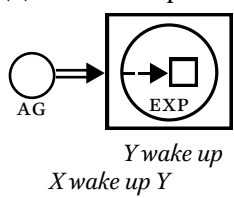
(a) Caused Motion



(b) Caused Change

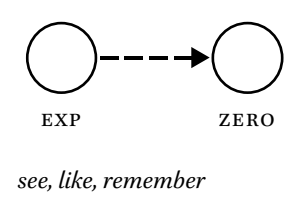


(c) Caused Experience

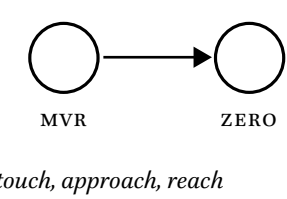


(5)

(a) Mental Interaction

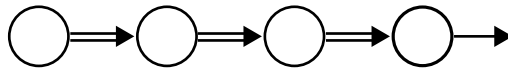


(b) Spatial Interaction

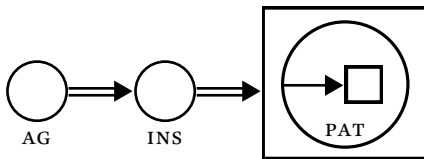


(6)

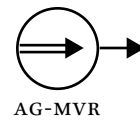
(a) Action Chain



(b) Instrumental Causation

*X break Y with Z*

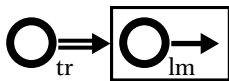
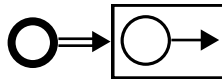
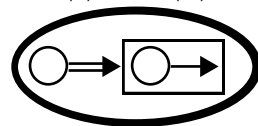
(c) Role Conflation

*walk, swim, jump*

Descriptive Constructs

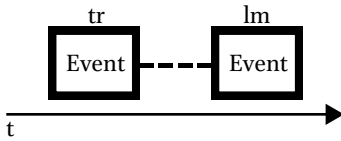
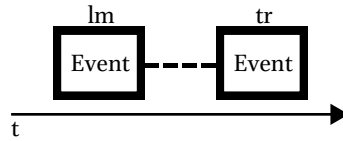
- (7) (a) Lexicon, morphology, and syntax form a continuum fully describable as assemblies of **symbolic structures**, each the pairing of a semantic and a phonological structure.
- (b) An expression's **maximal scope** (MS) is the full array of content evoked as the basis for its meaning. Its **immediate scope** (IS) is the general locus of attention ("onstage region").
- (c) An expression's **profile** is the onstage element singled out as the specific focus of attention—the entity it designates (its conceptual referent). Either a *thing* or a *relationship* can be profiled.

(8)

(a) *throw* (V)(b) *thrower*(c) *throw* (N)

- (9) Two kinds of **prominence** are *profiling* and *trajector/landmark status*. A **trajector** (tr) is the *primary focal participant* in a profiled relationship. A **landmark** (lm) is a *secondary focal participant*.

(10)

(a) *before*(b) *after*

(11) Descriptive constructs justified semantically also prove essential to grammar:

(a) An expression's *profile* determines its **grammatical category**.

(i) A *noun* profiles a **thing** (defined abstractly).

(ii) A *verb* profiles a **process**, i.e. a relationship *scanned sequentially* in its evolution through time.

(iii) Adjectives, adverbs, and prepositions profile relationships apprehended **holistically**.

(b) A **subject** is a nominal expression specifying the trajector of a profiled relationship. An **object** specifies a landmark.

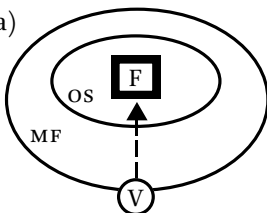
(12) Fundamental grammatical notions have both a **schematic** semantic characterization (one valid for all instances) and a semantic **prototype**. The former reside in cognitive operations (e.g. conceptual reification, sequential scanning, conferring of focal prominence), the latter in conceptual archetypes (e.g. physical object, agent-patient interaction).

(13) A lexical noun or verb specifies a **type** of thing or process. A nominal (i.e. noun phrase) or a finite clause profiles a **grounded instance** of a thing or process type.

Alignment

(14)

(a)



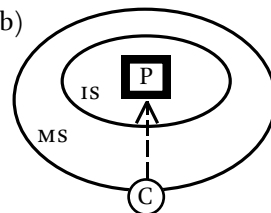
V = viewer

MF = maximal field of view

OS = onstage region

F = focus of viewing attention

(b)



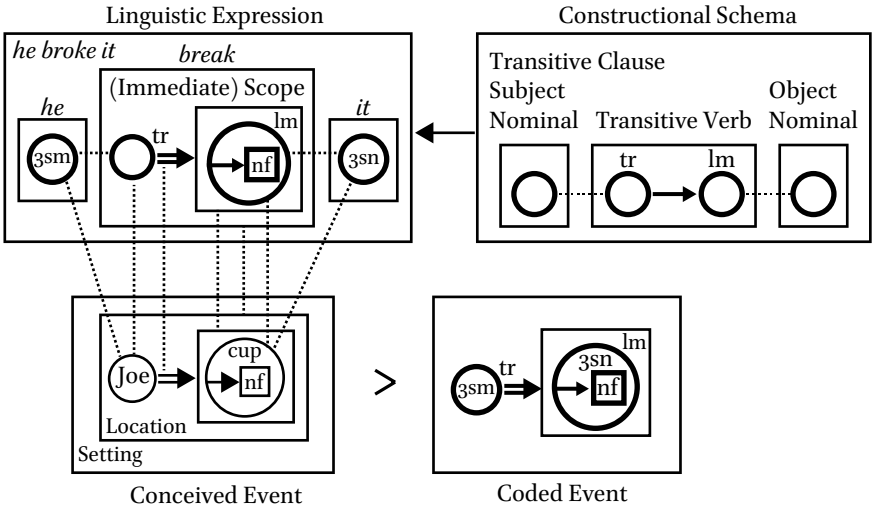
C = conceptualizer

MS = maximal scope

IS = immediate scope

P = profile

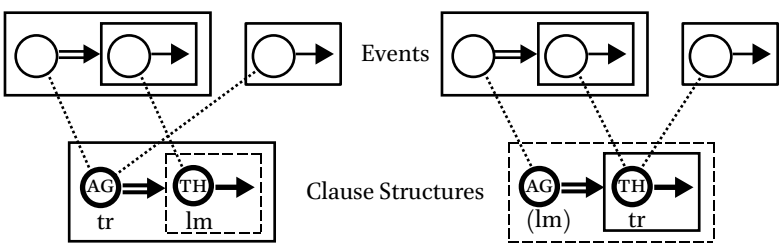
(15)



(16) *In the kitchen, Ken was chopping celery on the counter with a cleaver.*

(17)

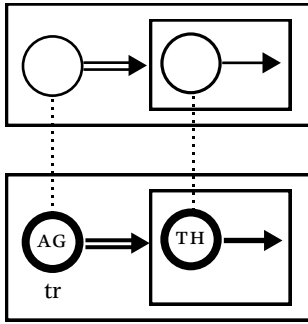
(a) Agent-Oriented Canonical Alignment (b) Theme-Oriented Canonical Alignment



2 Prominence Trajector Choice

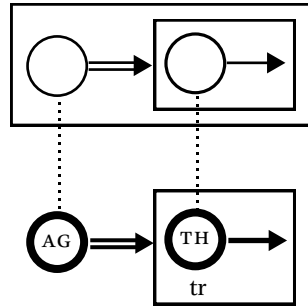
(18)

(a) Agent-Oriented
Canonical Alignment



Theme-Oriented
Alternative Alignment
(antipassive)

(b) Theme-Oriented
Canonical Alignment



Agent-Oriented
Alternative Alignment
(passive)

(19) (a) *Someone stole our car last night.*

(b) *the car stolen last night*

(c) *Our car {was/got} stolen last night.*

(20) (a) *Na tipī e le tama le ufi.* [Samoan]
PAST cut ERG the boy the yam

'The boy cut the yam.'

(b) *Na tipī le ufi e le tama.*
PAST cut the yam ERG the boy

'The yam was cut by the boy.'

(21) (a) *Mag-salis ang babae* [Tagalog]

AF-will:take:out TR woman

ng bigas sa sako para sa bata.

ART rice LOC sack BEN child

'The woman will take some rice out of {a/the} sack for {a/the} child.'

(b) *Aalis-in ng babae ang bigas sa sako*

will:take:out-TF ART woman TR rice LOC sack

para sa bata.

BEN child

'{A/The} woman will take the rice out of {a/the} sack for {a/the} child.'

- (c) *Aalis-an* *ng* *babae* *ng* *bigas* *ang* *sako*
 will:take:out-LF ART woman ART rice TR sack
para sa *bata*.
 BEN child

'{A/The} woman will take some rice out of the sack for {a/the} child.'

- (d) *Ipag-salis* *ng* *babae* *ng* *bigas* *sa* *sako*
 BF-will:take:out ART woman ART rice LOC sack
ang *bata*.
 TR child

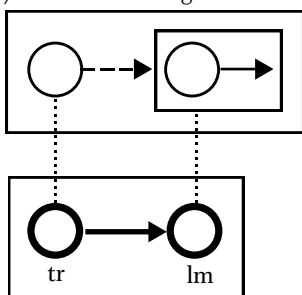
'{A/The} woman will take some rice out of {a/the} sack for the child.'

Profile Adjustment

- (22) (a) *Soldiers destroyed the village.*
 (b) *The village was destroyed (by soldiers).*
- (23) (a) *The refugees have {seen/witnessed} some traumatic events.*
 (b) *{This country/The last decade} has {seen/witnessed} some traumatic events.*

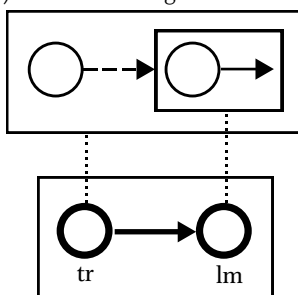
(24)

(a) Canonical Alignment



Clause Schema

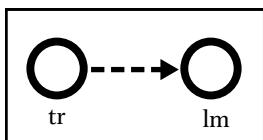
(b) Shifted Alignment



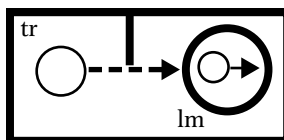
Clause Schema

(25)

(a)



(b)

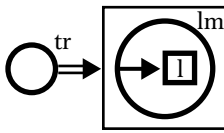


- (26) (a) *Some traumatic events have been {seen/witnessed} by the refugees.*
 (b) **Some traumatic events have been {seen/witnessed} by {this country/ the last decade}.*

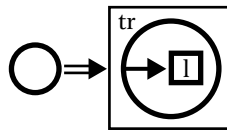
- (27) (a) *The garden is swarming with bees.*
 (b) *The nighttime sky was blazing with forest fires.*
 (c) *The whole town was ringing with church bells.*
 (d) *My cat is crawling with fleas.*

(28)

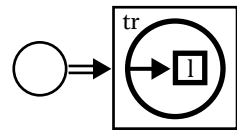
(a) *he melted it*



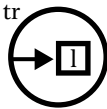
(b) *it was (quickly) melted*



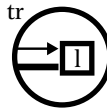
(c) *it melted (easily)*



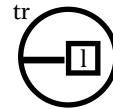
(d) *it (just) melted*



(e) *it is (finally) melted*

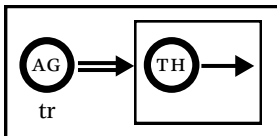


(f) *it is liquid*

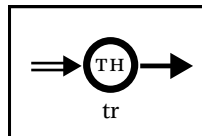


(29)

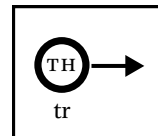
(a) Transitive
(Force-Dynamic)



(b) Middle
("Energetic")



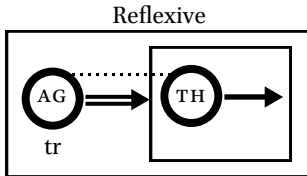
(c) Intransitive
(Absolute)



- (30) (a) (i) *El ratero ahogó al anciano.* [Spanish]
 'The thief drowned the old man.'
 (ii) *El anciano se ahogó.* 'The old man drowned.'
 (b) (i) *El ruido lo molesta.* 'The noise bothers him.'
 (ii) *Se molestó con el ruido.* 'He was bothered by the noise.'
 (c) (i) *Pedro subió la escalera.* 'Peter went up the stairs.'
 (ii) *Pedro se subió a la mesa (de un salto).*
 'Peter got up on the table (in one jump).'
 (d) (i) *En el otoño, las hojas caen de los árboles.*
 'In the autumn, leaves fall from the trees.'

- (ii) *En la primavera, las hojas se cayeron de los árboles.*
 'In the spring, leaves fell off the trees.'
- (e) (i) *Miró a su hija.* 'He looked at his daughter.'
 (ii) *Se miró en el espejo.* 'He looked at himself in the mirror.'

(31)



Landmark Choice

- (32) (a) *She mailed a package to her daughter.*
 (b) *She mailed her daughter a package.*
- (33) (a) *Y-a-andits-e ibaruwa n-ikaramu.* [Rwanda]
 he-PAST-write-ASP letter with-pen
 'He wrote the letter with a pen.'
- (b) *Y-a-andik-ish-ije ikaramu ibaruwa.*
 he-PAST-write-IF-ASP pen letter
 'He wrote-with the pen the letter.'
- (c) *Karoli y-a-koz-e ku-mafaranga.*
 Charles he-PAST-work-ASP for-money
 'Charles worked for money.'
- (d) *Karoli y-a-kor-e-ye amafaranga.*
 Charles he-PAST-work-GF-ASP money
 'Charles worked-for the money.'

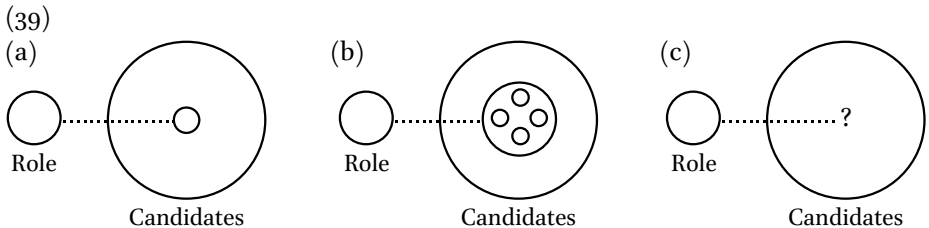
3 Specificity

- (34) Absence of *focal prominence* and absence of *specificity* are mutually reinforcing strategies of defocusing. Each detracts from the optimal circumstances for viewing a given participant: the situation of a single, clearly delimited, fully identified individual put onstage as the specific focus of attention.

- (35) (a) *The thief was caught (by an alert security guard).*
 (b) **The garden is swarming.* [cf. (27)(a)]
 (c) **The last decade has witnessed some traumatic events by Americans.*
 [cf. (23)(b)]
- (36) *The soldiers went on a rampage—they killed, they destroyed, they raped and pillaged.*

Full Unspecificity

- (37) (a) *Pa'ka-ngu-'tu'a-yi=anga.* [Southern Paiute]
 kill-PNCT-IMPRS-PRES=him
 '[One] is killing him.'
 (b) *Ti'ka-'ka-'tu'a-yi.* '[People] are eating.'
 eat-PL:SUBJ-IMPRS-PRES
- (38) *Taaqa-t niina-ya.* '[They] killed the man.' [Hopi]
 man-OBJ kill-PL:SUBJ

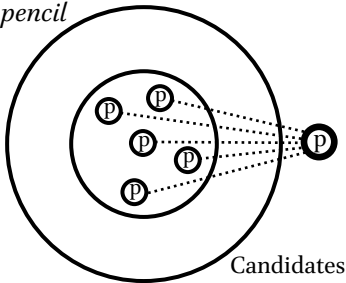
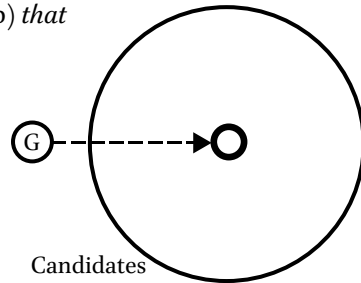
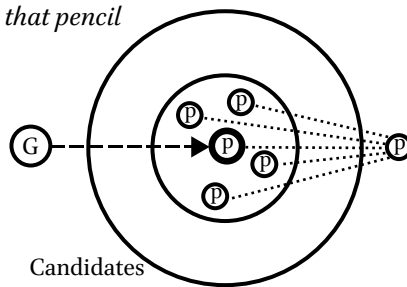


- (40) (a) *This truck steers quite easily.*
 (b) *The truck steered quite easily (*by the workman).*

Nominal Organization

- (41) (a) A lexical noun specifies a **type** of thing. A **nominal** (i.e. a full NP) profiles a **grounded instance** of some type.
 (b) The **ground** (G) comprises the speech event, its participants, and its immediate circumstances (e.g. the time and place of speaking).
 (c) **Grounding** is a grammaticized means of indicating how a profiled thing or process relates to the ground with respect to certain fundamental, "epistemic" notions (e.g. time, reality, identification).

(42)

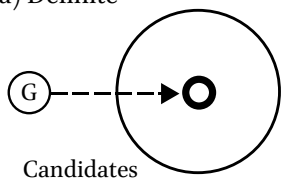
(a) *pencil*(b) *that*(c) *that pencil*

- (43) (a) Both *definite* and *indefinite* determiners function as grounding elements.
- (b) A *definite* nominal is taken as being sufficient to single out the intended referent, at the current stage of the discourse, **independently** of the clause containing it.
- (c) An *indefinite* nominal has a kind of **virtuality** with respect to the range of candidate instances: it instructs the hearer to “conjure up” (i.e. imagine) an instance of the type, **pending** the information provided by the clause containing it.
- (44) (a) *Jill broke the pencil.* [particular pencil, identity established independently]
- (b) *Jill needs the pencil.* [particular pencil, identity established independently]
- (c) *Jill broke a pencil.* [particular pencil, identity established by the clause]
- (d) *Jill needs a pencil.* [no particular pencil singled out (non-specific)]

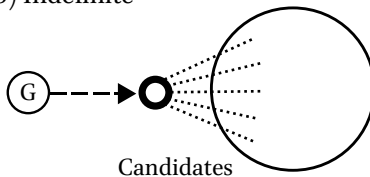
(45) *Jill needs {the/a} pencil—and she needs it now.*

(46)

(a) Definite



(b) Indefinite



Non-Definite Impersonals

(47) *With this flea-collar your cat will be flealess.*

(48) (a) *Ni-k^waa-s in naka-tl.* [Classical Nahuatl]

I-it-eat-FUT ART meat-ABS

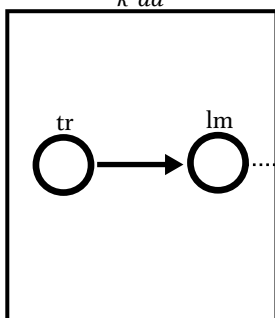
'I will eat the meat.'

(b) *Ni-naka-k^waa-s.* 'I will eat meat.'

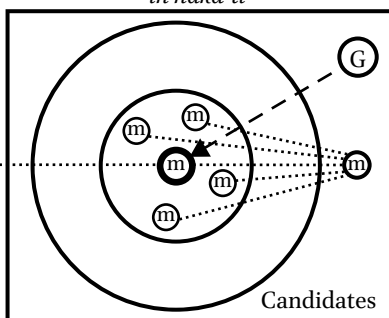
I-meat-eat-FUT

(49)

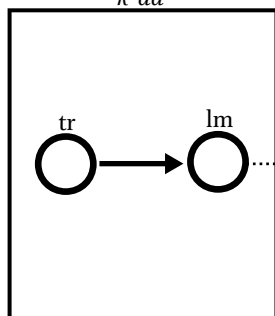
(a) *k^waa*



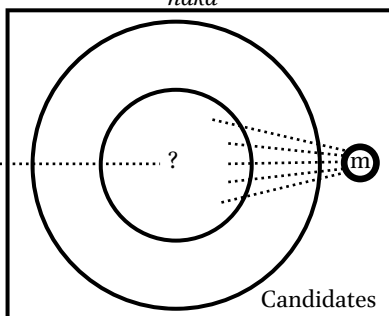
in naka-tl



(b) *k^waa*



naka-



(50) [schematic] ... *stuff* > *food* > *meat* > *pork* > *bacon* ... [specific]

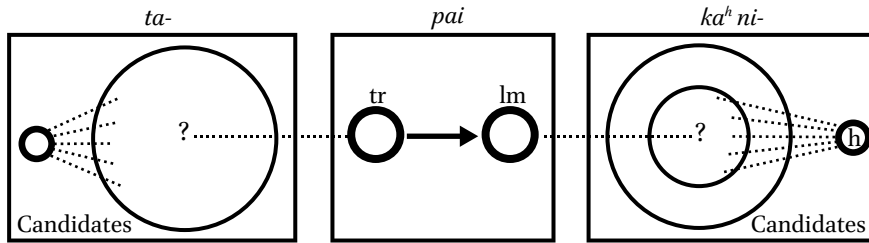
(51) (a) *Ni-tla-k^waa-s.* 'I will eat.' [Classical Nahuatl]

I-NH-eat-FUT

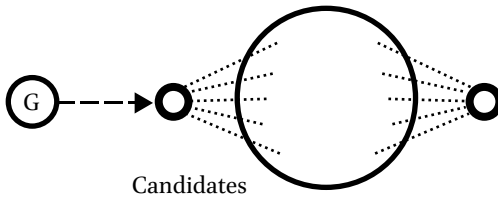
(b) *Ta-ka^hni-pai.* '[One] has [a] house.' [Shoshoni]

UNSPEC:SUBJ-house-have

(52)



(53) Indefinite Pronoun



(54) (a) *Someone broke my watch. He's going to regret it.*

(b) **One broke my watch. He's going to regret it.*

(c) *One is never as rich as {he/one} would like to be.*

4 Definite Impersonals

(55) (a) *We cannot predict the future.*

(b) *You never know when tragedy will strike.*

(c) *They say that getting old has the sole advantage of being better than the alternative.*

(d) *It seems that life is always difficult.*

Delimitation

- (56) (a) **Selection/singling out:** the process of directing attention to an instance of some type (as a profiled nominal referent), i.e. *choosing* an instance.
 (b) **Delimitation:** how the profiled instance projects to the world (or the relevant universe of discourse); the *size (extension)* of the instance itself or the pool of *eligible candidates* (those conforming to the type specification).
- (57) (a) *A zinc atom can be found at several **places** in this molecule.*
 (b) *That's a good **place** to put the vase.*
 (c) *They're looking for a suitable **place** to build a shopping mall.*
 (d) *Beijing is an interesting **place**.*
 (e) *The world has become a very hostile **place**.*
 (f) *The universe is a very big **place**.*
- (58) (a) *Put the vase right **here**.*
 (b) *We should build the garage right **here**.*
 (c) *Things are rapidly changing **here** in China.*
 (d) ***Here** in our solar system there is only one habitable planet.*
 (e) *Everything in the universe has a reason for being **here**.*
- (59) (a) *Hand it to me right **now**!*
 (b) ***Now** we can pay our debts.*
 (c) *The earth is habitable **now** but won't be much longer.*
 (d) *The universe is very different **now** than in its formative stages.*

Vagueness

- (60) (a) ***This** is getting us nowhere.*
 (b) ***That's** the trouble with you academics.*
 (c) *What's **this** about your getting married?*
 (d) ***That's** not fair!*

Plural Pronouns

- (61) (a) ***We** have a lot of earthquakes in California.*
 (b) ***You** have a lot of hurricanes in Florida.*
 (c) ***They** have a lot of tornadoes in Kansas.*

- (62) (a) *California has a lot of earthquakes.*
 (b) *Florida has a lot of hurricanes.*
 (c) *Kansas has a lot of tornadoes.*
- (63) (a) *We just had a nice one-on-one conversation.*
 (b) *We can now understand the impersonal use of plural pronouns.*
 (c) *We have the right to exploit the world's resources at the expense of everybody else.*
 (d) *We are not alone.* [I.e. there is other intelligent life in the universe.]
- (64) (a) *They met in Istanbul.*
 (b) *They didn't fund my grant.*
 (c) *In generative grammar, they claim that syntax is autonomous.*
 (d) *They say it's never too late to learn new skills.*

Impersonal *it*

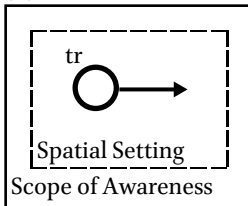
- (65) *It* is “a ‘definite’ nominal with almost the greatest possible generality of meaning, limited only in the sense that it is ‘neuter’ ... it embraces weather, time, circumstance, whatever is obvious by the nature of reality or the implications of context ... Our mistake has been to confuse generality of meaning with lack of meaning.” (Bolinger 1977: 84–85)
- (66) (a) *Impersonal* uses of *it* represent extreme cases of vagueness and non-delimitation, but nonetheless conform to its general meaning.
 (b) Impersonal *it* profiles the conceptualizer's **scope of awareness** for the issue at hand.
 (c) Though it may be spatially or temporally interpreted, the scope of awareness is basically an **abstract setting**.
- (67) (a) *It was {raining/snowing/foggy/cold} last night.*
 (b) *It's our wedding anniversary.*
 (c) *It's awkward when your wife meets your lover.*
 (d) *It's obvious that our leaders cannot be trusted.*
- (68) (a) *I'm certain that she's avoiding me.*
 (b) *It's certain that she's avoiding me.*

- (69) The *primary focal prominence* constituting trajector status resides in the trajector being invoked as the **starting point** (or *initial reference point*) in mentally accessing the profiled relationship. Setting-subjects can serve a *presentational* function and are commonly used in existential expressions.

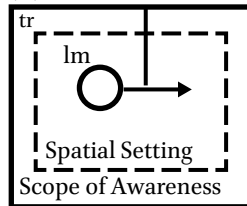
- (70) (a) *Een hond blaft.* 'A dog barks.' [Dutch]
 a dog barks
 (b) *Er blaft een hond.* 'There barks a dog (there).'
 there barks a dog
 (c) *Er worden overtreders vervolgd.*
 there become trespassers prosecuted
 'Trespassers are being prosecuted (there).'

(71)

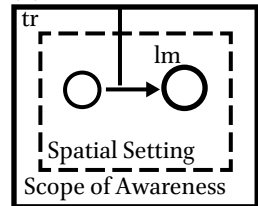
(a)



(b)



(c)



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All original audio-recordings and other supplementary material, such as any hand-outs and powerpoint presentations for the lecture series, have been made available online and are referenced via unique DOI numbers on the website www.figshare.com. They may be accessed via this QR code and the following dynamic link: <https://doi.org/10.6084/m9.figshare.4788781>.

Impersonals

The last of the ten lectures. If you have been to all them, I congratulate you for so much effort and for staying with this for so long. I'm happy to be at this great university. And I thank everyone who has been involved in this whole lecture series, for organizing it and arranging it and for being very nice hosts.

The topic for this afternoon is impersonals. I'll describe what impersonals are in a little bit, but mostly the major focus is the impersonal *it* in English. This is the word *it* that occurs in examples like those in No. (1). *It is obvious that my novel will never be published. It's hard to wash a cat. It seems that the fire started in the attic. It's embarrassing when you can't remember someone's name. It's in April that we go to China. It is very peaceful without the children around. It rained last night.*

How do you describe the meaning of *it*? Or does *it* have a meaning? Many linguists assume that the *it* is purely there for syntactic purposes and does not have any meaning. There've been various ways of describing it in modern linguistics. On one analysis that was done earlier, in the transformational era, for sentence (1)(a) *It is obvious that my novel will never be published* you started with an underlying structure like (2)(a) *That my novel will never be published is obvious*, or for (1)(b) *It's hard to wash a cat*, the underlying structure, the deep structure was *To wash a cat is hard*. And there was a rule that transformational grammarians postulated which could take a subject clause, which was the subject of the sentence, and move that clause to the end of the sentence. The clauses are really semantically the subject, it was argued. You can move it to the end, and when you move it to the end, this particle *it* is put into the place that it left from, serving to mark where it came from. That analysis was adopted for many years, but it doesn't work. It works maybe for cases like (1)(a) and (1)(b), but for all the other examples in (1) there isn't any underlying structure that you can derive them from. So you can just go through them. *It seems that the fire started in the attic*. You cannot say *That the fire started in the attic seems*. Or *It's in April that we go to China*. You cannot say *That we go to China is in April*. Or *It's very peaceful without the children around*. We do not have an underlying structure or a surface structure *Without the children around is very peaceful*. Or *It rained last night*. You cannot say *Last night rained*. So that analysis doesn't work.

One approach which does attribute *it* a meaning is to say that *it* is the regular pronoun *it* and the antecedent of the pronoun is the thing at the end. So in

(1)(a) *my novel will never be published* is said to be the antecedent of the pronoun *it*. It's a pronoun-antecedent relationship. That is, *it* refers to *that my novel will never be published*, or in (b) *It's hard to wash a cat*, *it* is co-referential with *to wash a cat*. That doesn't work either. That's simply not right semantically. And grammatically it cannot be right because if you consider where pronouns go with respect to their antecedent, as in *Bill said that he was going to the movies*, where *Bill* and *he* are the same person, they could never be in that configuration. You could never say *He said that Bill was going to the movies*, where *he* and *Bill* are the same person. A subject pronoun cannot have as antecedent some following element in the same sentence.

An approach that does make some sense is to say that some languages, like English and like French, require that a finite clause have an overt subject. Some languages, like Spanish, do not require an overt subject. These are sometimes called pro-drop languages. So in English (3)(a), we say *It seems that she is very intelligent* where each clause needs a subject, or in French, *Il semble qu'elle est très intelligente*. In Spanish, *Parece que es muy inteligente*, there you don't have pronouns, in the main clause or in the subordinate clause. You don't have to have an explicit subject in Spanish. So the claim is that in those languages where you need to have an explicit subject, just as a syntactic requirement, then when there isn't any subject semantically, you put in this element *it* just for syntactic purposes. Now I actually believe that is correct. That is, English has this requirement that you need an overt subject and *it* fills that function. However, that does not entail that *it* is meaningless. It is still the regular pronoun *it*, I will claim. So that will be my topic. How do you describe this element *it*?

It has to have a meaning, given the central claim of cognitive grammar, which I repeat in (4): that lexicon and grammar form a continuum that's fully describable as assemblies of symbolic structures, each of which pairs semantic and phonological structures in symbolic relationships. So an element like this has to have some meaning. But how do you describe it?

In cognitive linguistics and functional linguistics, there have been attempts to describe the meaning of *it*. The various notions in (5) have been suggested for *it* or similar elements in other languages. It has been called a mental space, or I have described it as an abstract setting. My student Michel Achard has described it as indicating the immediate scope. I will talk about it as describing what I will call the field. Bob Kirsner has described it in terms of some notion of the scene, saying the identity of the scene is immaterial, but there is some notion of the scene. The best description is probably the one that was given many years ago by Dwight Bolinger. Bolinger described it as (f). *It* is a definite nominal with almost the greatest possible generality of meaning, limited only

in the sense that it is neuter. Neuter is not masculine and not feminine, it's neutral. It embraces weather, time, circumstance, whatever is obvious by the nature of reality or the implications of the context. Pretty close. All of these descriptions are similar to one another. I'm not arguing against them, these are all compatible with one another, but I will try to clarify what's involved. As Bolinger said, the meaning of *it* has to be very general, but just because *it* has a very general meaning, that doesn't entail that it is meaningless. Our mistake has been to confuse generality of meaning with lack of meaning. But the things whose meaning is most general, those things are the hardest to describe semantically. It's not hard to describe, say, what a *panda* is. You can give some verbal definition. But how do you describe, say, something very general like *it*? It's much harder. And *it* is about the most general notion around, so it's maybe the hardest to describe.

I'm going to approach this question from three directions. So there will be three sections, all of which give us some insight about the nature of *it*, and then after that we try to tie things together and make a specific description. First, I will describe *it* in relation to other impersonal constructions. Second, I will describe *it* in relation to other pronouns. And then I will describe *it* in relation to a cognitive model that I call the control cycle. So three avenues of approach.

So first impersonal constructions, and this follows what I was talking about yesterday in the lecture on voice. First, some basic review in (7) and (8), notions that you've heard about before if you've been following these lectures. The notion profiling: an expression has some conceptual content as it base and within that it profiles some substructure. The profile of the expression is that portion of its overall content that it designates or refers to. The profile of an expression determines its grammatical category. A noun or a noun phrase profiles a thing, in an abstract sense of the term. A verb or a finite clause profiles a process, which is a relationship apprehended by tracking its development through time. An adjective, adverb, or preposition profile other kinds of relationships. And if you have a profiled relationship, the participants have different degrees of prominence. The trajector is the primary focal participant. The landmark is the secondary focal participant. And subject and object are nominals that elaborate or specify trajector and landmark.

So let's take a simple example to start with, *Floyd broke the glass*, a well-known sentence in linguistics, if you've been in linguistics long enough. This represents the verb *break*, in the middle, it profiles a process in particular. It's an event where one participant exerts some kind of force on another participant which causes that participant to undergo a change, so that it ends up in a new state. That state is the state of not being functional or not working any more, not functioning any more. So that's *break*. The trajector is the source of

the energy. The landmark is the patient that undergoes the change. So all of this is the verb *break*: profiling, trajector, and landmark. *Floyd* profiles a thing, a person. *Glass* profiles another thing, an object. These correspond to the trajector and landmark. So *Floyd* is the subject and *glass* is the object.

So this is a standard type of transitive clause, but it is important to realize that this is a normal kind of situation to describe with a transitive clause. And an essential point, which people who criticize cognitive linguistics sometimes don't see, is that these kinds of prominence that I'm talking about are not kinds of prominence that are out there in the world. These sorts of prominence are imposed by the linguistic expressions that we use. If I say that *Floyd* is the primary focal participant in this event, *Floyd broke the glass*, that's because I choose to make it the primary focal participant by making it the subject of the clause. It's not in the world that it's necessarily the primary focal participant. And I might instead be primarily concerned with the glass and describe the same event in some other way, say *The glass was broken* or *The glass broke*. So all these kinds of prominence are part of linguistic structure, and they can be applied to any kind of situation. The salience or prominence that is imposed linguistically by grammatical and lexical means is not to be found out there in the world. It's created by the linguistic structure, although obviously it's natural to make the more salient linguistic elements coincide with the ones that psychologically or cognitively have some kind of salience. But ultimately we always make that choice. That's all described in No. (10).

As one place we make a choice, in No. (11) I can choose different things as the landmark. Suppose Jack teaches a particular subject, American history, and he teaches to a certain audience, that's immigrant children, and he teaches in a school which is an elementary school, and he teaches at a certain level in the school, fourth grade. I can take any of those things and make it into the landmark, the secondary focal participant. I could say *Jack teaches American history*, I can say *Jack teaches immigrant children*, *Jack teaches elementary school*, *Jack teaches fourth grade*. I make some things prominent and other things less prominent by not even mentioning them at all or mentioning them in some other way. So the landmark is the things in bold there. I can vary the choice of which element will have the secondary focal prominence. I might point out that *American history* is a participant in the teaching, *immigrant children* is a participant in the teaching, but *elementary school* and *fourth grade* are not participants. *Elementary school* would be the global setting where the teaching occurs. And *fourth grade* a location within that setting. These are not participants. So in terms of what I was describing in previous lectures, that makes (11)(a) and (11)(b) transitive because it involves participants interacting. (11)(c) and (d) are not transitive because the landmark is a location or setting, not a

participant. So I can make the first two into passives, but not the second two. I can say that *The immigrant children are taught by Jack*. That's OK. But I could not say *The elementary school is taught by Jack*.

So we have choices as to where we put focal prominence, i.e., profiling or trajector or landmark status. And impersonal constructions, as that term is usually used, refer to a certain kind of choice. Impersonal constructions are constructions which provide alternatives to the usual situation, in which the subject of the clause is some clearly identified specific individual, typically a person. So the normal, canonical, optimal type of subject is usually a person, or if not a person then some clearly identified specific referent. But moving away from that situation is what's involved in impersonal constructions. There are various ways of moving away from that situation. One departure from that would be, going back to a previous example, to use a passive. Now this is impersonal in a certain sense. If I say *Floyd broke the glass*, here we have a personal subject that refers to a particular individual. The passive construction makes it possible to describe the same event without talking about who did it. So this is moving in the direction of being impersonal. You don't specify the agent. You simply say *The glass was broken*. With respect to the agent, this sentence has become impersonal. You don't specify the agent. You just leave it unidentified and unmentioned. Now in a passive construction, the patient becomes the trajector. So when *the glass* specifies the trajector, it is the subject of the clause. So we usually don't talk about a passive as being an impersonal construction because it does have a specified subject, *the glass*. But with respect to the agent, it has become impersonal. The term impersonal usually refers to how the subject is expressed, but in a generalized sense of the term I can say that it's impersonal with respect to expressing the agent.

The next couple of cases are things I talked about yesterday. A little bit of review for you because it is relevant here once more. In an impersonal construction you defocus the agent or defocus the element which would be the subject. And there are different ways to take focus or emphasis away from a participant. You can not make it a trajector or landmark, that is, you can not give it focal prominence. That's what happens with the agent in the passive, you don't make it a focal participant, you put primary prominence on the patient.

The second way is simply by not specifying the participant, not describing it, not giving any information or identification. And we also do that in the passive. If I say *The glass was broken*, I don't mention the agent either. It's no longer the trajector, no longer has focal prominence, and is not described unless I add a *by*-phrase, which is unusual. There are languages and constructions where one of these happens but not the other, and that was the point of the examples in (15)–(16) that I went through yesterday from the American Indian languages

Southern Paiute and Hopi. These are two different languages and two slightly different ways of doing it. In Southern Paiute, there is a suffix *-tu'a*, which is an impersonal suffix. It goes on the verb. It goes on *kill* in the first example. It goes on *eat* in the second example. The suffix is an indication that the subject will not be specified. So the translation of (15)(a) is literally *Is killing him*, and the translation of (15)(b) is *Are eating*. The subject is not identified or mentioned in any way and the suffix *-tu'a* is a marker that this is what's happening. It's an impersonalizing suffix, takes a verb that would normally have a subject and it lets you leave out the subject and not specify it. However, it doesn't change the trajector, which means the trajector and landmark organization remains the same. This is not a passive. That's why these are called impersonals. You don't specify the agent but the landmark is still the landmark. The unspecified participant is still the trajector. You can see that by the form of these things, like in (16), the object marker on *man* in Hopi *taaqa-t*. The *-t* marks *man* as object even though the subject is unspecified.

There are a variety of constructions. Passive constructions and impersonal constructions are ways of removing the natural emphasis that would go on an agent and placing the emphasis somewhere else or defocusing the agent. Another construction is called the middle construction. That's the one in (18). The verb *steer* is usually transitive: *He steered the truck carefully through the streets*. But we also have the possibility of saying *The truck steers quite easily*. This is not a passive. This is a middle. A passive profiles the entire event. It simply makes the patient into the trajector. The middle construction changes the profile so that only what happens to the theme is profiled. But it is similar to a passive because the theme becomes the trajector. This is a construction that also lets you avoid mentioning the agent. *The truck steers easily*. You can't even mention an agent. You are not allowed to. There is no way to do it. You can't say *The truck steers quite easily by the workman*. So with respect to the agent once more, this is impersonal.

Or compare the examples in (19). In the first column we have sensory verbs which take a perceiver or experiencer as the subject, as the trajector: *She tasted the soup, She smelled the milk, She felt the cloth, She looked at the lawn, She listened to his voice*. So one example for each of the basic senses. But we have the alternative of not mentioning the experiencer, not tying this to any particular person or any particular person's experience. I can simply say *The soup tastes salty, The milk smells sour, The cloth feels smooth, The lawn looks healthy, or His voice sounds pleasant*. With these verbs, then—in some cases they are the same verb which is used in a different way—the theme or the zero element which exhibits the property—the stimulus in other words, for the experience—is made the subject and has its prominence, and there is no

experiencer mentioned. With respect to the experiencer, we've made this impersonal. We are abstracting away from any particular experiencer. And these suggest a generalized experiencer: that anyone who tastes the soup will see that it tastes salty. So we are going away from viewing an event in terms of one particular individual and looking at it in general terms.

A similar thing happens with locations. A well-known example is the one in (20): *The garden is swarming with bees. The nighttime sky was blazing with forest fires. The streets were ringing with church bells. My cat is crawling with fleas.* Let's look at these a little more carefully. The bees are the ones who cause the swarming. The garden isn't doing anything. The garden is just there. It's the fires that blaze. It's the church bells that ring and it's the fleas that crawl. In *My cat is crawling with fleas*, my cat is probably just there sleeping. It's the fleas that are crawling and are crawling all over the cat. The cat is covered with fleas, in other words.

So these sentences involve a departure from a personal construction. If I say that *Fleas are crawling all over my cat*, I am referring to the fleas as the active participants and make them prominent as a subject. But here I remove the agent or the mover from the prominent position and make the location, the cat, into the primary focal element, that is the subject. In other words, the subjects in these sentences are the location where some activity occurs. The subject is not the actor. It's a location. And the actors are specified in this prepositional phrase with *with*. Now this is an interesting type of construction.

I give a diagram here in (a). This arrow in the middle here is the activity that's going on. So this is the crawling or the ringing or the swarming or the blazing. And this is the actor with respect to this activity, so this is the fleas who do the crawling or the bees that do the swarming. So this activity takes place in a certain location. And as was pointed out in an article by David Dowty a few years ago, what these sentences indicate is that the location is filled with this activity in some way, to the extent that there is a sensory impression that you have when you observe this location. That is, it will involve sound or vision. In the case of the bees, *The garden is swarming with bees*, you are saying that if you observe the garden, you will be impressed by this buzzing sound or this swarming activity, which seems to fill the garden. There is a perceptual experience.

So this construction implies an experiencer. Someone who's observing this and receives that impression. This arrow indicates that the activity gives an impression. It stimulates the experiencer who observes the activity. So that's part of the semantics. But this is the verb *crawl* or *blaze*. The trajector is the location because the sentence is used to describe a property of the location, a property based on the experience, on the activity. So this is impersonal in that you don't make the actor into the trajector. The trajector is not the bees or the forest fires.

And the experiencer is only a generalized experiencer. You are not mentioning any particular person. So you are abstracting away from any particular person. This is one kind of impersonal because what appears as a subject is simply a location, not a particular individual.

I've also talked some the last couple of days about setting subject constructions like the ones in (22) with verbs like *experience* or *see* or *witness*. *Florida experiences a lot of hurricanes. This town has seen a long series of political scandals. The last few decades have witnessed amazing scientific progress.* Normally it's people who experience things or see things or witness things, but in this grammatical construction, you make the global setting like *Florida* or a period of time into the trajector. This arrow represents the process of seeing or witnessing or experiencing. It implies an experiencer, someone who does observe or see or witness the landmark, but it's a generalized experiencer again. You abstract away from any particular person. Instead of saying *he saw these events*, you say *the city saw these events*. So it's a kind of impersonal construction with a generalized experiencer. You make the setting into the subject. And because you've made this the trajector, the profiled relationship becomes the relationship between the trajector and this witnessing activity. What you are profiling is that the setting is the host for witnessing or observing or experiencing. The import being that anyone who would be an experiencer in the situation would see or experience the object. So those are some kinds of impersonal or impersonalizing constructions. As you see in (23), this is not a transitive construction because it doesn't profile an interaction between participants, it profiles a setting-participant relationship, which is not transitive, so it doesn't passivize.

This is relevant because one characterization of *it* that I've suggested is that it profiles a setting. And it of course is a classic impersonal construction. The *it*-constructions are impersonal constructions. The subject, what is the subject? Well, *it*. But what's *it*? *It* is the opposite of a particular focused individual. OK. Now there is evidence that *it* might be something like an abstract setting. In some cases you can put a noun phrase in what looks like object position. I can say things like (24)(a) *It's raining big drops*. Normally we think *rain* is intransitive, but sometimes it has an object or noun phrase in object position, *It's raining big drops*. Or with a verb like *seem*. You have *it* in subject position, and then the verb *seem*, and then you have a clause in object position. And often sentences like this can passivize, that is, you can take an object clause and make it the passive subject: *That she is intelligent was observed by almost everybody*. So it looks like we might be able to do that in a case like (24)(c) *It seems that the Florida election was rigged*. But neither of those sentences passivize, you cannot say *Big drops are being rained* or *being rained by it*, nor can you say *That the Florida election was rigged is seemed by it*. Those are very bad.

In other words, these sentences are behaving in the same way as the sentences in (22). The sentences in (22) have a subject and a verb and a noun phrase in object position. But they don't passivize, and they don't form passives because they don't profile the interaction between participants. They profile a setting-participant relationship. And so by analogy, we can explain the data in (24): that the *it* sentences with objects don't passivize because *it* profiles a setting.

So that's my first approach to *it*. There is some evidence that *it* is semantically designating a setting. It has to be an abstract setting. It can't be space. It can't be time. Something abstract, but a setting. And if that's the case, when it occurs in subject position and you also have something in object position, you don't expect a passive because passives don't happen in English with settings or locations, but only when you have participants interacting. Alright, we'll come back to that kind of thing later. That was the first avenue of approach to *it*.

The second is to look at other pronouns. There are preliminary remarks about nominal structure, starting in No. (25). I talked about some of these previously. A lexical noun specifies a type of thing. So *cat* specifies a type of thing. A nominal or a full noun phrase profiles a grounded instance of some type, so *this cat* profiles a particular instance of the type *cat*, one that is identified to us, it's near to me somehow. So grounding is what happens with things like determiners: articles, demonstratives, possessives. Grounding a noun has the effect that the expression designates or profiles an instance of the type. It's not just a type specification, but profiles an instance of the type and identifies that instance with respect to the speaker. The use of a noun phrase has the effect of the speaker and the hearer momentarily directing their attention to the same referent, to the same instance of the type, the referent in the discourse sense of referent.

Now nominals can either be definite or indefinite. The definite grounding elements are the demonstratives *this*, *that*, *these*, *those*, the definite article *the*, possessives also. And proper names and personal pronouns are also definite. Indefinite nominals are ones grounded by *a*, *some*, *zero*, or the grounding quantifiers, like *all*, *most*, *some*, *no*, etc. And as I indicated the other day, definiteness versus indefiniteness has to do with actuality versus virtuality. A definite nominal is one that, in the current discourse context, is taken as being sufficient to identify its referent independently of the clause containing it. An indefinite nominal introduces an instance of the type as a discourse referent, but does not itself identify it. Its identification and its status as specific or non-specific, as actual or virtual, depends on the clause containing it. You may recall all of that. I'll quickly go through it again in (28).

Of course, lots of languages do without things like articles. English is very peculiar for having articles. You can probably think of a language that doesn't use them. If I say *Jill broke the pencil*, *the pencil* refers to a particular instance of the type *pencil* and that instance, the identity of that instance, is established independently of the clause. It is known beforehand. It is not the breaking of the pencil that identifies it. If I say *Jill needs the pencil*, still it's a particular pencil and the identity is established independently of the clause. If I change to the indefinite article and say *Jill broke a pencil*, well the sentence as a whole tells me that there is a specific instance of *pencil*, there is a particular pencil that's being referred to. However, its identity is established only by the clause. You don't know the identity independently. What pencil is it? Well, it's the pencil that she broke. The fact that we are describing a particular act of breaking, a particular actual act of breaking, and that this occurs with respect to a pencil, let us know we have a discourse referent, the pencil, and we identify it as the one that she broke. But you didn't know anything about this pencil before. All you know about it is that she broke it.

With (28)(c), you identify the pencil based on the fact that she broke it. But in a case like (d), *Jill needs a pencil*, needing a pencil doesn't imply interaction with any particular one. The semantics of *need* is different from the semantics of *break*. So if I say *Jill needs a pencil*, that does not succeed in singling out any particular pencil. That's what we call non-specific. You still just imagine a pencil as part of the mental space which characterizes her need, but it's not independently known or identified. And the clause doesn't identify any particular actual instance if it remains a virtual instance, whereas if she broke one, it has to be an actual pencil.

An indefinite, then, has this property that it evokes a referent in a virtual fashion from the standpoint of the listener, and tells you to imagine an instance. It is only in the larger context that the surrounding clause may or may not let you identify that instance as an actual one and identify it through the action. Because they do not themselves single out a specific and clearly identified referent, indefinites lend themselves to impersonal use. That is, one kind of impersonal construction involves an indefinite, an indefinite pronoun in particular. For instance, just go down to (32) *Jill sharpened the pencil*. Jill is a specific person. This is a personal sentence in the complete sense of that term. The subject refers to a particular person. But if I say *Someone sharpened the pencil*, I'm not really telling you anything about the actor. Obviously someone must have done it. I have a full noun phrase there but it is indefinite. And it's a pronoun. The noun is *one*. It is not a particular type like *person* or like *woman* or anything. It's just *one*. So even though it has a full noun phrase in subject position, it is an indefinite pronoun. So effectively the sentence is impersonal.

It's as if I simply said *sharpened the pencil*, leaving the subject blank. *Someone* is not informative. Or I can put it in the passive and say *The pencil was sharpened*. That will be another way to avoid saying anything about the actor. That's indefinite, but we are concerned with definite and indefinite pronouns. *It* is a definite pronoun. So definites single out referents and identify those referents independently of the clause containing them.

I'm going to go through the different kinds of definites, and that will take us to pronouns in particular. Demonstratives single out a referent by pointing to it, sometimes with a physical pointing gesture, but sometimes more abstractly with a kind of a mental pointing gesture. And the difference between proximal and distal is a kind of attenuated pointing. So I could say *I want this piece*, *I want this*, and point, as a canonical strong demonstrative use. (34)(a) *I want this one*. The arrow indicates pointing. In the appropriate context, it wouldn't be necessary to point, but by using *this* versus *that*, you are selecting either a closer or a more distant referent, whether it's distant in time or space or some other domain. *I like this shirt much better than that other one*. If I have been trying on a series of shirts, I can say *I like this shirt better than that other one*. *This shirt* would be the one I'm trying on now. *That one* would be the one I tried on previously. Or *this one* would be close, *that one* would be far. You are selecting from referents by, in one way or another, pointing to them, physically or more abstractly. The definite article is like a weakened demonstrative, *the*. The definite article indicates that there is only one instance of the specified type salient enough in the current discourse context for it to be a candidate as the element we are referring to. Since there is only one instance of the relevant type available to think about in the discourse context, you don't have to identify it, you don't have to select among eligible candidates, you simply have to indicate that the definite article is appropriate, that there is only one.

So consider the example in (36)(a): *I bought a belt and a shirt. The shirt was too small*. In the discourse context I've introduced a shirt and a belt, one instance of each type, but there is only one instance of *shirt* that's been evoked in any way as salient in the discourse context. So I can simply say *the shirt* and you know it's the one that was just mentioned. However, if I say (36)(b), it's bad: *I bought two shirts. The shirt was too small*. That doesn't work because there are now two instances of *shirt* established in the discourse context. You have more than one candidate. So you cannot use a definite article. You have to use a demonstrative or something. OK. The unique instance of the type doesn't have to be explicitly mentioned or even talked about before. It just has to be available and clearly available in the discourse context and unique. So I could say something like *The air-conditioning just went off*. You might not have been thinking about the air-conditioning at all. It's just there in the background, but

it shut off and you say *The air-conditioning just went off*, you know which air-conditioning was talked about. There is only one instance that's obvious in the discourse context. Or if I say something like *The sky is very blue today*, you probably know which sky I'm talking about.

Now proper names single out their referent because they incorporate, as a part of what it means to be a proper name, they incorporate an idealized cognitive model, described in (37). This cognitive model specifies that every person in some community, the relevant speech community, has a distinct name. This name is known to everyone. So simply mentioning the name is enough to uniquely identify the intended referent. This is an idealized model. It doesn't always hold in reality. Sometimes there are multiple people with the same name, but this is an idealized cognitive model in Lakoff's sense. This cognitive model is part of the semantics of every proper name. So in accordance with this model, all you have to do is use the name, mention the name, and assuming that the model holds, then that is enough to identify the intended referent. It just follows from the cognitive model that there is only one instance of the type.

Now personal pronouns are different still. Personal pronouns identify their referents in relation to the interlocutors, that is, in relation to the speaker and the hearer, who constitute the ground. Obviously, for first and second person pronouns like *I*, *you*, and *we*, they just refer to a part of the ground. And that's usually sufficient to identify the intended referent. Normally there is just one speaker, so if I say *I*, you know who I'm talking about.

Let's move on to (39), a rough characterization of the personal pronouns. First person singular refers to the speaker. First person plural refers to a group that includes the speaker. Second person singular refers to the hearer, the listener. Second person plural refers to either the multiple listeners or a group that includes the listeners or listener. Third person singular is some single individual other than the speaker and hearer, so the speaker and hearer are excluded. And third person plural is a group that excludes the speaker and hearer. So this is the nature of deixis. The referent is identified in relation to the ground, and in the case of the first and second person pronouns, that's sufficient. Now for third person pronouns, forms like *he* and *she* and *it* and *they*, that's not sufficient. At a given moment, there is just one speaker but in this room there are lots of individuals at this moment who are properly identified as *he* or *she* and a lot of things in this room that are properly identified as *it*.

So simply using them without qualification or special circumstances would not be enough to single out a referent, because the third person pronouns by themselves only tell you that it's something other than the speaker and the hearer. So that's why the third person pronouns are used in conjunction with

antecedents. They are interpreted as referring back to elements that have previously been mentioned in the discourse, as in (41)(a) *The farmer chased the duckling, but he couldn't catch it*, where *he* refers back to *the farmer* and *it* refers back to *the duckling*. Of course, you don't have to have a specific linguistic mention if the context is right. If, for example, we're standing here and we're observing a scene and there is a farmer running around with an axe or something trying to catch the duckling and cut its head off, and we are both clearly watching this, and I know that you are seeing the same thing that I'm seeing, I could simply say *He'll never catch it*. But if I say something like *It is 17 inches long*, you don't know what I'm saying. You don't know what *it* is in this context. I might be referring to the width of a seat here, something like that, but you don't know. There is no way to know. So these are the definite personal pronouns. These are personal pronouns, as they are called.

Now that's relevant for the following reasons. First of all, because *it* is a personal pronoun. But what's amazing in a way is that many of the personal pronouns can be used in impersonal constructions. It seems like a contradiction. Personal pronouns in English have impersonal uses. *It* is an example. That's what we're talking about ultimately, but others also.

For instance in (42), *We know that the universe is expanding*. *We*. It's not that this particular physicist knows it, or that a particular group of people know it. This *we* is impersonal. It's no particular people. It is not you and me. People in general know it. Or *They have proved that smoking causes cancer*. Who? You are not really saying who. You are going very far away from the situation of referring to specific identified individuals. You are virtually at the opposite extreme from those personal uses. How is this possible?

Let me give you an indication how it's possible. I say that a full noun phrase, which is grounded, singles out or selects a particular instance of its type as the profiled referent. I will use this language, *singling out* or *selecting*, for choosing an instance of a type. So if I say *this cat*, I'm singling out or selecting one instance of *cat* as the one I was referring to, out of all the cats that might exist. So that's choosing a referent. And I'm going to distinguish *singling out* from something I will call *delimitation*. That's described in (43)(b). Delimitation is not a matter of choosing an instance. It's a matter of how that instance, once chosen, relates to the world. You might say the size or extension of the instance itself or the size or extension of the pool of eligible candidates that the instance could be chosen from.

Now I can best illustrate this with an example. Take the noun *place*. It's described in some of the examples in (44). *Place* is a count noun. It profiles a region in space, a bounded region in space, a place. And it has that meaning in all the uses in (44). It profiles a single bounded region in space, so it has a

constant meaning in (44). The question is: how big is that place? How big is the referent with respect to the world? And that's totally variable. A *place* is a bounded region, but it has no intrinsic size. You determine the boundaries and the size by the function to which it's put. I could talk about the place where I put my bottle right now. It's just a small region in space. But if we meet here in *a place*, we require more space than the bottle does to all fit. So going to (44): *A zinc atom can be found at several places in this molecule.* The place is very small there. *That's a good place to put the vase. They're looking for a suitable place to build a shopping mall.* Well, it has to be quite large. *China is an amazing place.* China is even bigger than the shopping mall. *The world has become a very hostile place.* The whole world can be a place, relative to other planets perhaps. Or *The universe is a very big place.* That's delimitation. Some uses of *place* are highly delimited or restricted in extent. In other uses, like the last one *The universe is a very big place*, there is no delimitation. The place expands to all of space. No delimitation, no circumscription limiting its size.

The plural pronouns are like that. *We* profiles a group that includes the speaker. Now typically that would just be, maybe two people, you and me, *we*. But in this room I can say *We are comfortable*, it's an OK temperature, *We are comfortable in this room*. Well, it's much more than just two, but it's still delimited relative to the set of all humanity. I can also say something like *We know that the universe is expanding.* *We* is still a group that includes me but now essentially includes all of mankind. Or *We are not alone*, meaning that there are creatures in the universe other than humans. Well, *we* is all humans. So *we* has a constant meaning, and it's the same meaning in all these uses, or more or less the same: a group that includes the speaker. But when this is applied with minimal delimitation, then it's effectively an impersonal use. The same with *they*. *They* is just a group that excludes the speaker and hearer. So *They have proved that smoking causes cancer.* Well, that means I didn't do it, and you guys here didn't do it, but someone out there, people out there did it. Or *They say that being rich is better than the opposite.* I don't necessarily say that, I'm not attributing it to you, I'm just attributing it to everyone else. It's a generalized source, general human wisdom perhaps. So that's how definite pronouns, personal pronouns can be impersonal when used in conformity with their meanings. There are uses where there is no delimitation within the maximal possible referent, and so you are not singling out any particular people as you would in more canonical uses.

There is a second factor in impersonal uses of personal pronouns, and this is especially relevant for *it*. That's what I call here vagueness in (43)(c). Vagueness is referring to some aspect of a situation without being able to specify precisely which aspect it is that you are referring to. If we've been having an argument or

discussion about something, and it's clear that we are not reaching any resolution, I might say something like *This is getting us nowhere*. What does *this* refer to? I'm clearly referring to something that's been happening, but it's not too obvious just what. Or a better example. This is my imagined context. There is a teenage girl who wants to go to a party on Saturday night, and her parents will not let her go. She has to stay home, and so she complains to her parents and says *That's just not fair!* Now what does *that* refer to? Does it refer to the decision that she cannot go? Does it refer to the fact that she has to stay home, which is different? Does it refer to the fact that the parents are exerting their authority in a way that's oppressive? Does *that* refer to the general misery of being a teenager? Or any or all of these things? You don't know exactly. She might not know exactly what she is referring to. It's vague, but she is referring to something in that whole situation.

That's the kind of thing I mean by vagueness. Orin Gensler many years ago wrote a nice paper in BLS showing how pervasive these uses of *that* are. But *it* can be used in similar ways. The teenage girl might have said *It's just not fair*. So that the referent of *it* is vague in exactly the way I just described. And from there, if we add to that the possibility of non-delimitation, we can see how impersonal *it* might be able to be impersonal despite being a personal pronoun. In *It's obvious that corporate interests control the American government*, what does *it* refer to? Well, maybe it's just vague or maybe the *it* is undelimited. If *it* refers to some kind of circumstances or some kind of evidence, it can be anything of any size, any degree of closeness, any degree of delimitation. *It* can refer to the universe. So even if I'm referring to some aspect of the universe, physical or non-physical, it might be being used very broadly, but still conform to the meaning of *it*. So one thing I will say about *it* is that it represents a regular meaning of the third personal singular neuter pronoun. It is not a special meaning. It instantiates the basic sense of *it*, but represents uses where there is maximal vagueness and minimal delimitation.

This is the kind of thing that Bolinger said, that I quoted before. That's what he was getting at. So I've added some semi-technical terminology to help explicate that. So that was the second approach to *it*. First of all, I indicated that you can call *it* an abstract setting of some sort, and that goes along well with its characterization as a neuter pronoun that doesn't impose delimitation and is maximally vague.

The third approach will involve what I call the control cycle. It's an idealized and abstract cognitive model. It will take me a while to explain this and to give an indication of its linguistic importance, as I think it is very fundamentally important not only in language but in conceptualization generally. This looks like a complicated diagram, but it's really kind of simple-minded in a way. The

control cycle I will describe in terms of four phases or stages. The baseline is a starting point, a baseline situation. Then the potential phase, then the action phase, and the result phase. A is some kind of actor. D is called the dominion. It's the realm of control, something that the actor is in control of. These are things in the actor's dominion, under the actor's control. F is what I call the field. This is the region of potential interaction. The field is the area within which the actor can interact. T is a target. A target is something which is in the field and has the potential for the actor to interact with it.

So let's start with a particular example. Just to make everything concrete, let's imagine a frog. The frog would be the actor. There is a frog sitting there in a pond. Maybe it's sitting on a log, a frog on a log. This is the actor, the frog. There are things under the frog's control. There are things that are part of its body, there are ... whatever. Frogs don't have many possessions usually, but the frog is just there. This is a static situation, stasis, nothing is happening, the frog is simply there. Then a fly wanders by. A fly moves into the field, where the frog can see it and potentially reach it. Now frogs like to eat flies. Right? At least that's my understanding. So when this fly moves into the field, that creates some potential for their interacting. And from the frog's standpoint this is a state of tension. Flies are something frogs are supposed to pay attention to and do something about. So the frog has to do something. The frog might choose to ignore it and go to sleep. Or the frog might choose to run, to hop away and get away from the fly, but more likely the frog is hungry and will try to catch it. So there is the tongue going out. This is the action phase. The actor does something to deal with the situation to resolve the tension. And one way to resolve the tension is by capturing the target. So the double arrow here, you can think of it as force, exerting force on the target. And as a result of that, the target comes within the frog's region of control. The frog probably swallows it. So we have a static situation again. We have a new baseline. This is the result, but it's a new baseline. If another fly comes along, then the whole cycle can occur again. It's the control cycle whereby the actor gains control of things, resulting in a new stable situation of control. You can see the connection here to reference point, target and dominion that we talked about with possessives. That's a special case of all this.

The control cycle has many instantiations if you describe it in the abstract. Forget about the frog and the fly. Just think about this in abstract terms. There are all sorts of aspects of human experience which exemplify the control cycle. We might want to catch this fly ourselves. But we certainly do eat other things. When we are hungry and feel the tension of hunger and the potential for eating something, we grab it and eat it, and we then enter a new static situation. You can describe breathing in this way. You can describe acquisition of

possessions in this way, social relationships. When you meet a new person at a party, for example, that creates a state of tension because you don't yet have any established social relationship with that person. And you have to determine whether you are going to get to know that person, or reject that person, or establish some working social relationship. That involves various kinds of actions, and eventually there might be some established social relationship between you, so you both know how to behave and so forth. There is a kind of social control which is established and that's now a situation of relaxation. A social relationship has resulted. Possession is another case. Focusing your attention on something is capturing it momentarily, for some span of time, within your region of perceptual control. That would likely be brief, because we tend not to visually perceive something for too long, any particular thing. But just bringing something into your focus of attention, visually or in some other way, for some span of time, that's a result of dealing with something that enters the field of potential perceptual interaction.

Still another instantiation is learning, building up a view of the world. In that case the actor would be some kind of conceptualizer. The target would be some kind of proposition which is offered for consideration. And then there might be some action of accepting that proposition as being a true or valid or inaccurate depiction of the world. The result is then stable knowledge. The proposition is accepted as part of the conceptualizer's view of reality, which is what the dominion would be, an established view of reality as conceived by a particular conceptualizer. So those are some examples of things I think can be described in terms of the control cycle.

This is linguistically important, I believe. First of all, it unifies the various kinds of domains and levels that I talked about and gives us some unified way of talking about a variety of phenomena and partially describing the meanings of many verbs and other predicates. So in number (48), I give a few initial examples. I've taken the three phases besides the baseline phase: the potential phase, the action phase and the result phase. And here are some verbs: *catch*, *get*, *see*, *have*, *hold*, *keep*, *reach for*, *look for*. Particular verbs can be described as profiling relationships partially characterized by their position in the control cycle. So certain verbs like *catch*, *The frog caught a fly*, profile an action which leads to a result. I put these ticks on the end to indicate that it's a bounded event. These are perfective processes. These are bounded events. So *catch*, or more abstractly *get*, profiles the transition into a result by virtue of carrying out the action.

Then there are verbs like *see* or *have*, which profile the result. These are imperfective. They describe a stable situation which is the result of such an action. First of all, you *catch* something, then you *have* it. And this continues

indefinitely. It's not intrinsically bounded. In the case of perception and *see*, seeing is a locally stable situation in something like *I see the mountain*, but just by the nature of perception overall the episode would tend to be brief, but locally it's stable and imperfective. But there can also be actions which are intended to maintain the result once it has already been achieved. So once you *catch* something and *have* it, you might try to *keep* it, prevent it from leaving your control, or you *hold* something. These are perfective verbs. These occur in bounded episodes. There are also predicates which describe the potential phase, which is preparatory to an action. So you might *reach for* something. That's preparatory to grabbing it. Or you can *look for* something. That's preparatory to seeing it in the active sense or in the result sense.

Now the main interest here is with predicates pertaining to knowledge. That is cases where the actor is a conceptualizer and the dominion is the conceptualizer's view of reality. So I'm assuming that we have a cognitive model to the effect that every person builds up a view of the world. If we describe that as a set of propositions, every conceptualizer controls a set of propositions which that conceptualizer accepts as valid, as accurate descriptions of reality. But arriving at that result for a given proposition involves a process like the control cycle. So I'm thinking of verbs like, for example, *know* or *be sure*, *be certain*. Those describe the result: *I know that the world is round*. This is now just a stable situation where the proposition that *the world is round* is part of my conception of reality. That's imperfective. But there are also actions. I can decide that something is valid. I can decide to accept a proposition into my view of reality. So this is like *catch*, but it's with respect to a proposition, to accept something as true. *He decided that he needed more money*.

Now it's really interesting to look at this area of vocabulary. It turns out we have extremely many predicates devoted to this domain of experience. It's even necessary to divide things in a finer-grained way, so I divide the potential phrase prior to the action into three subphases: formulation, assessment, and inclination. Together these make up the potential phase. And with respect to all of these, there are lots and lots of predicates that describe them. So what do I mean by formulation? Formulation is when you simply formulate a proposition, the proposition is there to be considered. But formulation is prior to considering it, prior to any kind of evaluation. It's just a matter of apprehending the proposition. So we have predicates that are like that. Then we have predicates of assessment, where we assess, and then what are called inclinations.

Let's go through some examples. Examples of these are given in (50). First of all, the result phase, where you are just profiling a stable situation where the proposition is accepted. It's already established as real, as part of the conceptualizer's view of reality. So predicates like *know*, *believe*, *think*, *realize*, *accept*,

be sure, be certain, be convinced. So *He knows that Bush is a pacifist. He realizes that Bush is a pacifist. He is sure that Bush is a pacifist.* The struggle for knowledge is over. The person has established this as part of the view of reality. Some of these belong to different categories. *Believe* also sometimes indicates inclination, but one of its meanings is that it's a firm, definite belief. Something regarded as knowledge. Then there are action predicates which lead to that result. The proposition is incorporated into the conception of reality. So *learn, discover, decide, conclude, realize, determine, find out, figure out.*

Then formulation predicates. They indicate that there is a proposition to be considered. But the consideration of it has not yet begun. There is no indication of any progress or effort at assessing it. So these are exemplified, as you see, in (c), predicates like *possible, conceivable, plausible, feasible, imaginable. It's possible that they could be of some use to us. It's imaginable that they could be of some use to us.* In other words, because something is possible or can be imagined, we cannot just reject it automatically. We're going to have to consider it. But it doesn't indicate that we have considered it yet, beyond indicating that we know about it and have to consider it.

Then there are assessment predicates. These can either be bounded events, perfective, or they can be static states, situations. These are illustrated in (d). They indicate the process of evaluation somehow. *He wondered whether the effort was worth the bother or considered, asked, he was unsure, he was undecided, he was unclear.* These indicate that there is consideration going on somehow. Then finally, inclination is the stage where there is a preliminary judgment, but a decision has not yet been made about the validity of a proposition. But there is an inclination either for or against its validity. The examples here all are positive but there are also negative ones, like *doubt*. So *I suspect they will never agree to my offer. Suspect*, I don't know it. I only suspect it, so I'm inclined to the validity of the proposition, but it could turn out otherwise. These are imperfective verbs. They are stable situations. These are not actions. These are just preliminary kinds of judgments: *suspect, believe, suppose, think, figure, reckon*. Again you will notice that some verbs occur in multiple categories. They have different senses.

There is linguistic evidence that you need to distinguish these phases. There are linguistic properties that go along with these phases. For example, the assessment verbs. A lot of them take the complementizer *whether*. They occur with *whether* instead of *that* as in (50)(d): *He wondered whether the effort was worth the bother. He was unsure whether the effort was worth the bother.* The inclination predicates are correlated with the linguistic property that's sometimes been called negative raising, where a negative element that semantically belongs to the subordinate clause appears grammatically in the main clause.

This is well-known from generative studies. And I'm not going to try to say why this is the case, but am just pointing out that it is a linguistic property which is characteristic of inclination predicates. So if you look at the examples in (51): *I don't suspect they will ever agree to my offer* or *I don't believe, I don't suppose, I don't think they will ever agree to my offer*. The negation *don't* is in the main clause. However, the sentences in (51) are roughly the same semantically as the sentences in (50)(e) with inclination predicates, where the negation is in the subordinate clause. *I suspect they will never agree to my offer* and *I don't suspect they will ever agree to my offer* are essentially the same. Even though the negation appears in the main clause, it seems to apply in the subordinate clause or be equivalent to the use of negation in the subordinate clause. So that's a distinct property of the inclination phase. All the negative-raising predicates are inclination predicates.

I will give you a couple more properties in just a moment, but so you don't have to go back and forth on the handout, let's look at the last diagram, (52), on that page. These are some notations I'm going to be using. These are three of the phases. These are the steady-state phases, whereas the assessment phase can be an action and the action phase is an action. These are the stable ones: formulation, inclination, result. Assessment leads from formulation to inclination, action leads from inclination to result. But these are the stable ones. These are the ones I choose to represent and talk about for the most part. C is the conceptualizer. D is the conceptualizer's dominion, or in this case, since we're talking about propositions, the dominion is the set of propositions the conceptualizer accepts as real. That is the conceptualizer's view of reality. P is a proposition, and here is a proposition that has appeared in the field. It's there to be considered, but it's not yet being considered. The inclination phase is where the conceptualizer has some attitude towards the proposition, the conceptualizer is inclined to accept it as real. There is this potential of accepting it as real, of acting to bring it into the realm of reality. But that potential is still just potential. It has not happened yet. So this is the inclination, like *suspect*. This is the result phase where the proposition is part of the conceptualizer's view of reality. So those are just notations.

Now I'm going to go to the next page and continue with some properties that distinguish the phases. The action phase which connects these two is an action. The assessment phase can either be an action or a state, but I'll consider the actions. The actions involve either active assessment as in *wonder*, or the actual action of judgment, like *decide* or *find out*. So these are the active phases. And if you look at (53), the active phases require a personal subject. They don't allow impersonal *it*. So *Albert learned* or *decided* or *discovered that aliens had stolen his shoes*. That is the action phase. And the assessment phase:

Albert wondered or considered or asked whether aliens had stolen his shoes. So those are the active phases, and they require a personal subject. The impersonal *it* doesn't work. You cannot say *It learned that aliens had stolen Albert's shoes.* With the impersonal *it*, I mean. I can imagine a robot learning that, but the impersonal *it* doesn't work. *It wondered, it considered, it asked,* those are all impossible. You need a personal subject for the active ones.

Now take the formulation phase. The formulation phase is where the proposition is there, is within the field as something to be considered, but has not yet in any way been evaluated. It's prior to assessment. That only works with *it*. I can't find examples with personal subjects. The examples that I analyze that way are in (54): *possible, conceivable, plausible, feasible, imaginable.* You can use *it* in all those sentences in (54): *It is possible, It is conceivable, It is plausible that they could be of use,* but I cannot say *We are possible that they could be of some use to us.* That doesn't work. It has to be impersonal.

And both of these things make sense. First of all, that's evidence that these phases are different from one another, but it also makes sense semantically. The action phases require a personal subject because it's only people who can carry out actions. But this [formulation] requires an impersonal *it*. You cannot have a personal subject. There is no reason, strictly speaking, why we could not have a personal subject here. But it makes sense that there might not be, because how often would it be that we are aware of a proposition, but don't even begin to assess it or evaluate it? It's kind of unrealistic in a way. It's not a useful thing to say, that someone is aware of proposition, period. All our efforts are devoted to gaining control of our view of reality, so we're talking about what happens once we are aware of it. So in a certain way it makes sense that you would have this distribution. You can see why it's that way.

This is all relevant, now, because sentences do very often have impersonal *it* as subject. And a clue as to what is going on comes in the fact that the impersonal *it* is a way of avoiding mentioning any particular conceptualizer. With some impersonal predicates you cannot mention a conceptualizer; with others you can with a *to*-phrase. So the examples in (55): *It is conceivable to me that we could do it without getting caught.* So I say *to me*, *conceivable to me.* So the conceptualizer is mentioned in the *to*-phrase. Or *It is plausible to me that we can do it without getting caught.* But with many predicates you cannot even put in the *to*-phrase. So I cannot say the following: *It is possible to me that we can do it without getting caught.* That's bad. *It is possible,* not *it is possible to me.* And similarly for the others. *It is unclear to me whether mosquitoes have souls,* but I cannot really say *It is uncertain to me whether mosquitoes have souls.* There might be some fluctuation in this judgment. I could imagine speakers differing. These are my judgments. *It seems to me, it appears to me—seem and appear*

allow *to me*, but not *It is likely to me* or *It is dubious to me that she has enough money to buy Microsoft*.

I have not done corpus research on this, but I'm sure that if you look at a corpus and look for these phrases with *to* plus the conceptualizer, almost always the conceptualizer is the speaker, *to me*. In principle, I could say something like *It is conceivable to Bill that such and such*, but it's really hard to imagine a context when you would say that. I think you would have a hard time finding real examples. It's almost always the speaker. But of course, the speaker is the source of information, source of the overall judgment in the first place. That's sort of taken for granted. So you can see that the impersonal construction is a way of avoiding attributing the assessment or the inclination to any particular conceptualizer.

There are some cases, then, where you can either have a personal or impersonal subject, as in (56), *I am certain that formalists will someday discover the meaningfulness of grammar* versus *It is certain that formalists will someday discover the meaningfulness of grammar*. If I use the second sentence, *It is certain that formalists will someday discover the meaningfulness of grammar*, because I'm the speaker and I say that this is certain, that implies that I think it's certain. You can infer that I am certain about this. However, (56)(b) does not say directly that I am certain. It says that *it* is certain. Let us put it in the other direction. In (56)(a), *I am certain that X*, that's a direct description of the speaker accepting the proposition as valid, a direct description of this configuration with respect to the speaker. But if I say *It is certain that X* or *that P* [proposition], then, although you could infer that I believe that and accept it, I'm not saying so directly. What I'm really saying is something like the following. I'm invoking a generalized conceptualizer. Any conceptualizer, given the global circumstances, would accept it as true, as valid. And those global circumstances, I'm going to suggest, are what we refer to by *it*.

So those were the three approaches to *it*. I hope you see that they are all relevant in some way. They all led us to *it* and to observations about its possible value. So let's now look at impersonal *it*. This is Section E. What does *it* mean? Alright, *it*, the third singular neuter personal pronoun, definite personal pronoun. First, I claim, *it* is always meaningful and referential. It's always referring to something, and although I imagine I can talk about more specific senses, there is a general sense that *it* always has even in the impersonal uses. Secondly, its meaning is just what you expect it to be for a third singular neuter definite pronoun. The impersonal uses of *it* conform to this meaning, but they represent the extreme case of vagueness and non-delimitation.

So let's think about *it* for a moment with the observations in (58). Why does the referent of *it* so often seem unidentifiable? Why is it sometimes even

considered meaningless because it doesn't seem to refer to anything? Well first of all, the deictic component—that's person—merely points away from the speaker and hearer. So one thing we have going for us is first person, second person, third person. First and second person give you a very specific referent, the speaker or the listener. Third person simply says: anything else. So being third person only excludes the speaker and the listener from the candidates for a possible referent. It doesn't tell you much, only that you are dealing with something other than the speaker and the hearer. There is no type specification, that is, it doesn't occur with a noun like *cat*. There is no type. The only type is the schematic type—thing. So that doesn't give you any information. That is, we are talking about why *it* seems to be so flexible or indeterminate in what we refer to. There is no lexical type specification like *cat*. *It* does tell you that whatever type it is, it's neuter, that it's not masculine and it's not feminine. So that is a kind of type specification, but it's very general. It only excludes humans essentially, or animals, humans and some animals. It's singular. Well, being singular excludes plurals, but that's all it excludes. So all of these semantic features exclude certain things, but what's left as possible referents is still a very large pool of candidates. It could refer to a non-plural mass of any size or type. It could refer to any single physical entity other than a person, or it can refer to anything abstract.

Also, there is the factor of delimitation. Certain kinds of entities like masses and locations, which *it* could refer to, can be of any size and degree of inclusiveness. They can be totally non-delimited even. And there is also the factor of vagueness that we saw with *it* and *that* previously: imprecision or uncertainty about exactly what one is singling out, even when you are referring to something. So these are reasons why *it* could seem so vague or indeterminate as what it refers to but still be meaningful and still have its basic meaning. They follow from the actual characterization of *it*.

The first couple of examples in (59) are from Bolinger. Bolinger cites these examples to make the point about vagueness. There are times when *it* is referring to something, very clearly. But what it's referring to is quite vague or undelimited. If we say *How's it going?*, as a greeting, *How is it going?*, what does *it* refer to? It's hard to say. He gives a paraphrase *How are things going?*. *Things* is equally vague. You know *it's* referring to something, but it's hard to say just what. It's something about what's happening in your current life. Or *It's all finished between us*. The end of a romance or something. What's all finished between us? Well, he gives the paraphrase *Everything is finished between us*. Or a case like (59)(c), *I don't want to be rude—it's just that I have to go cook dinner*. What does *it* refer to? If you try to say what *it* refers to, it might be something like the reason I have to leave and therefore appear to be rude. But maybe that's

even too specific. So those are cases where clearly *it* is referring to something but it's hard to say just what. Forget about (d), that takes too long explain.

Let's go to the notion that *it* refers to some kind of setting. These are now cases where the referent is sort of all inclusive, includes the entire setting. So non-delimitation, the referent expands to include the setting in some sense. That's the kind of idea I'm getting at. One reason it's hard to further pin down the meaning of *it* is that we use impersonal constructions for many different kinds of situations. So if you try to specify in any precise way what *it* is referring to, it seems to vary from case to case. So we use it with meteorological verbs, that is, verbs for weather like *rain* and *snow* and *foggy* and *cold*. So *It was raining last night*. *It was cold last night*. Suppose we then say that *it* in these uses is somehow referring to the setting. Well, in this type of use you are tempted to say that the setting is physically interpreted as all the surrounding space. In these uses, you are tempted to say it has a kind of physical area, the physical domain of space as its referent. But that's not so clear and that's not sufficient. I list in (60)(b) some ways that you might try to be precise about that. Does *it* refer to the surrounding atmosphere? Or is it referring to the atmospheric conditions? Or does *it* refer to the spatio-temporal setting, not the atmosphere but the space? Or does *it* refer to the scope of awareness—that is, if I say *It's cold*, does *it* refer to the region in space that I'm aware of? Because I can see it or perceive it or know about it? Those are not the same referent. Those are different aspects of it. In other words, even if you try to interpret *it* more or less physically as referring to some region in space, there are still various possibilities. It is not clear that any of these is right or should be preferred to any other. In fact, what I'm going to say is that *it* should be interpreted psychologically. It's the scope of awareness, the relevant scope of awareness. Everything that the conceptualizer is bringing into the scene, so speak, in order to express something, so a psychological characterization.

But there are other uses. If we take *it* as referring to something physical, like the physical surroundings, it isn't always the three dimensional surroundings. It isn't always something like the air. Bolinger gives the example in (61)(a): *We can't walk through this field—it's oozing oil all over*. Oil is coming up out of the ground all over. There the setting, the spatial setting, if we interpret it physically, is the ground and not the atmosphere. It is whatever is relevant. I'm saying the scope of awareness, but there are many cases where *it* again seems to be referring to the surrounding conditions, the relevant conditions. Those conditions don't have to be physical. They are not spatial. *It is our wedding anniversary*. There the surroundings would be temporal and social. Or *It's quiet in the countryside*. There you might argue it's physical. *It's chaotic in the Middle East*. Well, it's not just physical space. You are talking about the whole social

circumstances and the warfare going on, stuff like that. There is much more than just space that's involved. Or *It's fun when old friends get together*. There it's the emotional and social surroundings that are somehow relevant. Or *It's awkward when your wife meets your lover*. Again, social and psychological, mental factors are involved.

But still in all those examples, you can be a little bit specific. It's like the social circumstances or time, something of that sort. What about the cases we considered in regard to the control cycle, where you're judging propositions like (62): *It is conceivable that we'll have to buy a new mattress. It's uncertain whether he can finish the race. It appears that the epidemic was caused by a virus*. How can we identify the surrounding circumstances in a case like this? Well, this is much more abstract obviously, since what is at issue is judging propositions for their validity, whether to accept them as real or not. What counts as the relevant circumstances would be everything that can be brought to bear on making the judgment: our total knowledge of the world, or all the evidence that we might allude to. But of course we are not talking about any particular evidence or any particular knowledge, we are just saying that the total circumstances, which crucially involve knowledge and inference and evidence, all of that somehow might be identified as the relevant circumstances. That's what I'm getting at.

What I want to say, coming back to the control cycle, is that *it* profiles the field: the scope, which I can also describe as the scope of awareness, what the conceptualizer is aware of. So I talked about the field as the area of potential interaction. If something comes within the field you can interact with it, potentially. Well, the field for the purposes of epistemic judgment is what we are aware of.

In other cases, it would be perhaps interpretable in a slightly more narrow sense, as I've just gone through in all these examples. But the general characterization, as best as I can articulate it in a way that isn't totally vague and circular, but trying to relate it to something more general and halfway precise, is to say that it profiles the field. The relevant scope of awareness is how I'm trying to verbalize this and describe it in slightly different language. So coming back to cases like (64), we have this contrast, just talking about propositions now. *Bush firmly believes that the rich should pay no taxes*. That's a personal judgment, a personal subject. You have a specific, focused conceptualizer while assuming that this person is capable of conceptualization. With a specific focused conceptualizer, the sentence profiles the interaction of participants. *Bush* is one participant, the proposition *that the rich should pay no taxes* is another participant. And what is profiled is the result phase, where that's part of the conception of reality. This is a transitive expression. So you're profiling the

relationship between a particular individual and a proposition. You can passivize it. *That the rich should pay no taxes is firmly believed by Bush or by everyone in the Bush administration.* The *it*-construction, *It is obvious that the rich should pay no taxes*, that's different, it's impersonal. There is an implicit and generalized conceptualizer. The trajector, the subject, is abstract. It's setting-like. It's the opposite of a specific individual. And this is intransitive. You cannot passivize it. You cannot say *That the rich should pay no taxes is obvious by it*. And as I've indicated, the import is something like the following. There is a generalized conceptualizer. You are not attributing it to any particular conceptualizer. You are saying something like: given the total circumstances, all the available knowledge and inference and evidence—everything which constitutes the relevant field, that's *it*—given that, any conceptualizer in that circumstance will have this result, will have that proposition in one's view of reality.

I'm going to skip the stuff in (65) and (66) and finish by making this a little bit concrete, by looking at a couple of impersonal constructions. It will just take a moment, we're essentially done. (Actually, the other one comes first. I've got these in order here.) The sentences are the ones in (67). And I'm contrasting a personal subject, *it* as the subject, and a setting as the subject. So *I'm hot here in Chicago. I'm cold here in Chicago. I'm miserable here in Chicago. Or It's hot in Chicago. It's cold in Chicago. It's miserable in Chicago.* Or I could say *Chicago is hot. Chicago is cold. Chicago is miserable.* We'll just take *cold* as an example. I would usually say *I'm cold in Chicago*. I could say *It's cold in Chicago*, or I could say *Chicago is cold*. What do those look like? What am I saying about them semantically?

Alright, this is an experiencer, a person. This is the experience. In this case it would be the experience of being cold. This is the general setting, this box, that would be Chicago in this example, the global setting. This is the field, the dashed line box. This would be the scope of the experiencer's awareness. That is what the experiencer can perceive. In this case, the experiencer can perceive the surrounding temperature and so forth in the setting. And this is causation or force, something within the field of awareness which induces the experiencer to have this experience. And in the sentence *I'm cold in Chicago*, the trajector is the experiencer. What's profiled is the experience *I'm cold*, and *in Chicago* tells you the setting. And of course it's implied that something about what you can perceive within the setting induces the experience of being cold. The surrounding atmosphere and the temperature induce the experience.

That's the easy one. What about the sentence *It's cold in Chicago*? That's different. The trajector is no longer a person. It's the *it*, which I take to be the relevant scope of awareness, the field. This is still the setting. That's Chicago. *It's cold in Chicago* still implies an experiencer, but now it is not any particular

experiencer. It's a generalized experiencer. It says that any experiencer in the circumstance would have the experience of being cold. Something causes that. And the profiled relationship is that given these the global circumstances, the scope of awareness, this experience is something that happens in that kind of situation on the part of any experiencer.

And finally, *Chicago is cold* is similar, except it makes the setting into the trajector. It says that Chicago is the host. It's the host of occurrences of the situation inducing the experience of being cold on the part of any experiencer who might be there. These look like setting-subject constructions we've seen previously, like *The last century has witnessed many surprising events*, where some generalized viewer is implied and it's the setting which is the host for this kind of experience. So *it*-constructions fit into that pattern.

Here is an intuition I haven't checked with people, but I've presented it to audiences and no one has really disagreed with it. Since I'm one of the few native speakers here, I don't expect too much trouble. Contrast the sentences *It's hot in Chicago* and *Chicago is hot*. What's the difference? Here is my judgment. If I am writing, say, a scientific paper, some article just to describe the objective facts of temperature, I might say *Chicago is hot*. If I say *It's hot in Chicago*, I'm expressing an experience. *Chicago is hot* is a more objective statement. *It's hot in Chicago* implies someone has experienced this. So I can say *Venus is very hot*, but it's very strange to say *It's hot on Venus*. Why? If no one has been there, no one experiences this. These are matters of degree. That's my judgment, but if it's correct, it follows from the characterization. This will correspond to saying *Chicago is hot*. There is just a generalized experiencer. Everyone who would be there would experience it being hot. But if I say *It's hot in Chicago*, *it*, the field, is the trajector. The field is the trajector and the field is defined as the scope of awareness. It's what a conceptualizer takes into account, the scope of awareness. That's tied more closely than Chicago is to the notion of experience. That's just on the side.

One last thing. Go back to the epistemic predicates. I will illustrate these with the inclination predicates, but it could be used for the others too. So these correspond to the sentences in (69). Inclination predicates like *suspect*, *believe*, *imagine*, *appear*, *seem*, *likely*, *probable*, *doubtful*. Inclination. These can also be personal, impersonal, or other: *I suspect that she will be elected*, *It appears that she will be elected*, or *That she will be elected is likely*. In the case of a personal subject, this is the conceptualizer. This is the view of reality. This is the proposition. This is the inclination to accept it as valid. So with a personal subject, you simply profile this relationship. Again, that's a transitive clause to some degree. It's also possible to make *it* the subject. That's the scope of awareness, and with epistemic judgment the scope of awareness would be all relevant evidence

and knowledge and considerations and inference, etc.—anything that might be brought to bear on the judgment. Given the total circumstances, inclination to accept the proposition would be characteristic of any conceptualizer, a generalized conceptualizer. And if you don't want to make the person the trajector, or the field, you have the option of choosing the only other element, namely the proposition itself, and say *That she will be elected is likely*. It's still an inclination with respect to any conceptualizer, but it's no particular conceptualizer and you are not highlighting the scope of awareness.

I guess what I should say at this point is that that's *it*.

Impersonals

1 Introduction

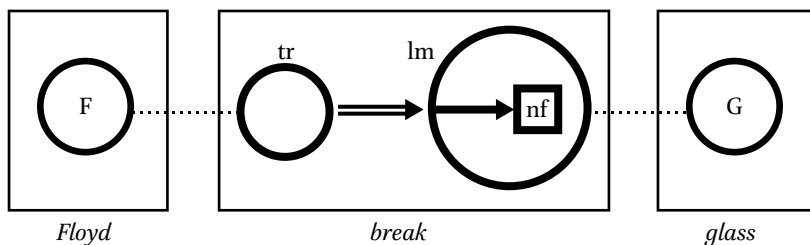
- (1)
 - (a) *It is obvious that my novel will never be published.*
 - (b) *It's hard to wash a cat.*
 - (c) *It seems that the fire started in the attic.*
 - (d) *It's embarrassing when you can't remember someone's name.*
 - (e) *It's in April that we go to China.*
 - (f) *It is very peaceful without the children around.*
 - (g) *It rained last night.*
- (2)
 - (a) *That my novel will never be published is obvious.*
 - (b) *To wash a cat is hard.*
 - (c) **That the fire started in the attic seems.*
 - (d) **When you can't remember someone's name is embarrassing.*
 - (e) **That we go to China is in April.*
 - (f) **Without the children around is very peaceful.*
 - (g) **Last night rained.*
- (3)
 - (a) *It seems that **she** is very intelligent.*
 - (b) *Il semble qu'elle est très intelligente.* [French]
 - (c) *Parece que es muy inteligente.* [Spanish ("pro drop")]
- (4) The central claim of Cognitive Grammar: Lexicon and grammar form a continuum fully describable as **assemblies of symbolic structures**, each of which pairs a semantic structure and a symbolizing phonological structure.

- (5) Semantic descriptions of *it* or its congeners:
- (a) **mental space** (Lakoff 1987: 542; Smith 2000)
 - (b) **abstract setting** (Langacker 1993a)
 - (c) **immediate scope** (Achard 1998: 7.2)
 - (d) **field** (Langacker 2002, 2004a)
 - (e) “low situational deixis”; “general presence or availability”; “mere sceneness”—an entity is “on the scene”, but “the identity of that scene is immaterial” (Kirsner 1979: 81)
 - (f) “a ‘definite’ nominal with almost the greatest possible generality of meaning, limited only in the sense that it is ‘neuter’ ... it embraces weather, time, circumstance, whatever is obvious by the nature of reality or the implications of context” (Bolinger 1977: 84–85)
- (6) “Our mistake has been to confuse generality of meaning with lack of meaning.” (Bolinger 1977: 85)

2 *Alternations in Focal Prominence*

Basic Grammatical Notions

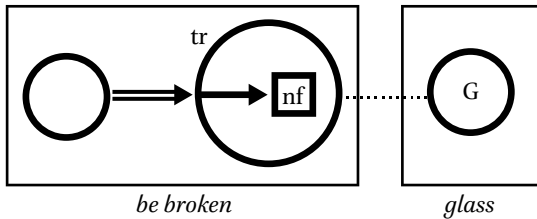
- (7) (a) Within the conception it evokes as its **base**, an expression **profiles** some substructure, i.e. puts it in focus as the entity it *designates* (refers to).
- (b) A noun (also a full NP) profiles a **thing** (abstractly defined).
- (c) A verb (also a full finite clause) profiles a **process**: a relationship apprehended by tracking its development through time.
- (d) An adjective, adverb, or preposition profiles a **non-processual** relationship.
- (8) (a) **trajector** (tr): *primary focal participant* in a profiled relationship
- (b) **landmark** (lm): *secondary focal participant* in a profiled relationship
- (c) **subject**: a nominal expression which specifies a trajector
- (d) **object**: a nominal expression which specifies a landmark
- (9) *Floyd broke the glass.*



- (10) (a) Profiling and focal prominence are *not inherent* to a scene, but *imposed* by the linguistic structures used to code it.
 (b) Different expressions allow us to construe and portray the same situation in alternate ways.
 (c) We can focus whatever we like—the elements made prominent linguistically need not be the most salient on non-linguistic grounds.
- (11) (a) *Jack teaches American history to immigrant children.*
 (b) *Jack teaches immigrant children American history.*
 (c) *Jack teaches elementary school.*
 (d) *Jack teaches fourth grade.*
- (12) **Impersonal** constructions provide alternatives to the usual situation in which a specific, clearly-identified referent—typically a person—is put in focus as a clausal subject.

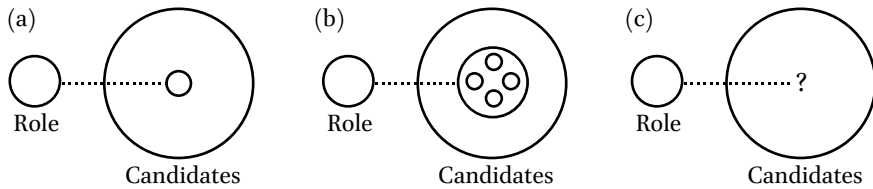
Actor Defocusing

- (13) *The glass was broken (by Floyd).*



- (14) Two complementary means of defocusing a participant:
 (a) not according it focal prominence (trajector or landmark status)
 (b) leaving it implicit and unspecified
- (15) (a) *Pa'ka-ngu-tu'a-yi=anga.* [Southern Paiute]
 kill-PNCT-IMPRS-PRES=him
 '[One] is killing him.'
 (b) *Ti'ka-'ka-tu'a-yi.* '[People] are eating.'
 eat-PL:SUBJ-IMPRS-PRES
- (16) *Taaqa-t niina-ya.* '[They] killed the man.' [Hopi]
 man-OBJ kill-PL:SUBJ

(17)



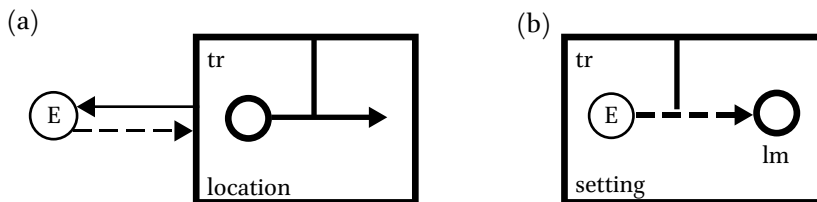
- (18) (a) *This truck steers quite easily.*
 (b) *The truck steered quite easily (*by the workman).*

- (19) (a) (i) *She tasted the soup.* (ii) *The soup tastes salty.*
 (b) (i) *She smelled the milk.* (ii) *The milk smells sour.*
 (c) (i) *She felt the cloth.* (ii) *The cloth feels smooth.*
 (d) (i) *She looked at the lawn.* (ii) *The lawn looks healthy.*
 (e) (i) *She listened to his voice.* (ii) *His voice sounds pleasant.*

Non-Participant Trajectors

- (20) (a) *The garden is swarming with bees.*
 (b) *The nighttime sky was blazing with forest fires.*
 (c) *The streets were ringing with church bells.*
 (d) *My cat is crawling with fleas.*

(21)



- (22) (a) *Florida experiences a lot of hurricanes.*
 (b) *This town has seen a long series of political scandals.*
 (c) *The last few decades have witnessed amazing scientific progress.*
- (23) (a) **A lot of hurricanes are experienced by Florida.*
 (b) **A long series of political scandals have been seen by this town.*
 (c) **Amazing scientific progress has been witnessed by the last few decades.*

- (24) (a) *It's raining big drops.*
 (b) **Big drops are being rained (by it).*
 (c) *It seems that the Florida election was rigged.*
 (d) **That the Florida election was rigged is seemed (by it).*

3 *Pronouns*

Nominal Organization

- (25) (a) A lexical noun specifies a **type** of thing. A **nominal** (i.e. a full NP) profiles a **grounded instance** of some type.
 (b) The **ground** (G) comprises the speech event, its participants, and its immediate circumstances (e.g. the time and place of speaking).
 (c) **Grounding** is a grammaticized means of indicating how a profiled thing or process relates to the ground with respect to certain fundamental, “epistemic” notions (e.g. time, reality, identification).
- (26) (a) Nominals are either **definite** or **indefinite**.
 (b) In English, definite nominals are grounded by demonstratives (*this, that, these, those*) or the definite article (*the*). Proper names and personal pronouns are also definite.
 (c) Indefinite nominals are grounded by indefinite articles (*a, sm, zero*) or grounding quantifiers (*all, most, some, no, every, each, any*).
- (27) (a) A **definite** nominal is one that, in the current discourse context, is taken as being sufficient to identify its referent independently of the clause containing it.
 (b) An **indefinite** nominal introduces an instance of the specified type as a discourse referent but does not itself identify it. Its identification and status (specific vs. non-specific) depend on the clause containing it.
- (28) (a) *Jill broke the pencil.* [particular pencil, identity established independently]
 (b) *Jill needs the pencil.* [particular pencil, identity established independently]
 (c) *Jill broke a pencil.* [particular pencil, identity established by the clause]
 (d) *Jill needs a pencil.* [no particular pencil singled out (non-specific)]

- (29) *Jill needs {the/a} pencil—and she needs it now.*
- (30) Because they do not themselves single out a specific, clearly-identified referent, **indefinites** lend themselves to impersonal use.
- (31) (a) *{Jill/That woman/That person/She} breaks a lot of pencils.*
 (b) *{Some woman/Some person/Someone} breaks a lot of pencils.*
 (c) *{A woman/A person/One} breaks a lot of pencils.*
 (d) *{Every woman/Everyone/Anyone} breaks a lot of pencils.*
- (32) (a) *Jill sharpened the pencil.*
 (b) *Someone sharpened the pencil.*
 (c) *The pencil was sharpened.*

Definites

- (33) **Demonstratives** single out a specific referent by pointing to it, often with a physical pointing gesture [→]. In context, the contrast between **proximal** (*this/these*) and **distal** (*that/those*) may be sufficient to direct attention to the intended referent without a physical gesture.
- (34) (a) *I want **this**[→] one.*
 (b) *I like **this shirt** much better than **that other one**.*
- (35) The **definite article** indicates that only one instance of the specified type is salient enough in the current discourse context to be a candidate for reference. Simple mention is thus sufficient for identification.
- (36) (a) *I bought a belt and a shirt. **The shirt** was too small.*
 (b) **I bought two shirts. **The shirt** was too small.*
 (c) ***The air-conditioning** was just turned off.*
 (d) ***The sky** is very blue today.*
- (37) **Proper names** incorporate an *idealized cognitive model* which specifies that every person in the relevant speech community has a distinct name, known to all, so that simply mentioning the name is sufficient to uniquely identify the intended referent.

- (38) **Personal pronouns** identify their referents in relation to the interlocutors (speaker and hearer). In the case of first and second person pronouns (*I, you, we*), this is usually sufficient for unique identification.
- (39) Referents of **personal pronouns**:
- (a) *first person singular*: speaker
 - (b) *first person plural*: group that includes the speaker
 - (c) *second person singular*: hearer
 - (d) *second person plural*: (group that includes the) hearers
 - (e) *third person singular*: individual other than speaker and hearer
 - (f) *third person plural*: group that excludes the speaker and hearer
- (40) With third person pronouns (*he, she, it, they*), there are indefinitely many potential referents. Like the definite article, they presuppose that only one instance of the specified type is salient enough in the current discourse context to be a candidate for reference. However, since the type is highly schematic, they presuppose that this instance has already been singled out as a focus of attention, either through explicit mention or by joint attention in the discourse context.
- (41) (a) *The farmer chased the duckling, but he couldn't catch it.*
 (b) [seeing a farmer chase a duckling] *He'll never catch it.*

Definite Impersonals

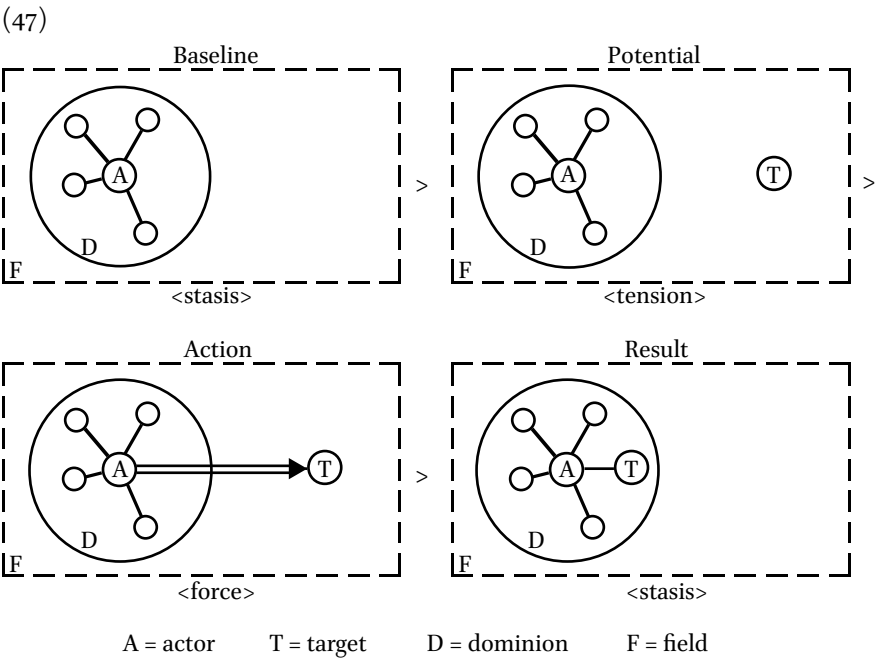
- (42) (a) *We know that the universe is expanding.*
 (b) *They have proved that smoking causes cancer.*
- (43) (a) **Selection/singling out**: the process of directing attention to an instance of some type (as a profiled nominal referent), i.e. *choosing* an instance.
 (b) **Delimitation**: how the profiled instance projects to the world (or the relevant universe of discourse); the *size (extension)* of the instance itself or the pool of *eligible candidates* (those conforming to the type specification).
 (c) **Vagueness**: referring to some aspect of a situation without being able to specify precisely which aspect it is.

- (44) (a) *A zinc atom can be found at several **places** in this molecule.*
(b) *That's a good **place** to put the vase.*
(c) *They're looking for a suitable **place** to build a shopping mall.*
(d) *China is an amazing **place**.*
(e) *The world has become a very hostile **place**.*
(f) *The universe is a very big **place**.*
- (45) (a) ***This** is getting us nowhere.*
(b) ***That's** just not fair!*
- (46) (a) ***It's** just not fair!*
(b) ***It's** obvious that corporate interests control the American government.*

4

The Control Cycle

The General Model



(48)

- (a)

 >

 >

 (*catch, get*)
- (b)

 >

 >

 (*see, have*)
- (c)

 >

 >

 (*hold, keep*)
- (d)

 >

 >

 (*reach for, look for*)

(49)

- (a)

 >

 >
- (b)

 >

 >
- (c)

 >

 >
- (d)

 >

 >
- (e)

 >

 >

Epistemic Level

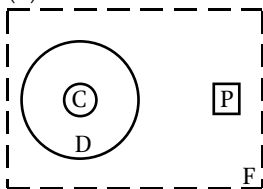
- (50) (a) Result: *He {knows / believes / thinks / realizes / accepts / is sure / is certain / is convinced} that Bush is a pacifist.*
- (b) Action: *She {learned / discovered / decided / concluded / realized / determined / found out / figured out} that his whole story was a pack of lies.*

- (c) Formulation: *It is {possible / conceivable / plausible / feasible / imaginable} that they could be of some use to us.*
- (d) Assessment: *He {wondered / considered / asked / was unsure / was undecided / was unclear} whether the effort was worth the bother.*
- (e) Inclination: *I {suspect / believe / suppose / think / figure / reckon} they will never agree to my offer.*

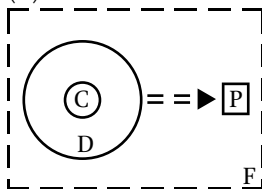
(51) *I don't {suspect / believe / suppose / think / figure / reckon} they will ever agree to my offer.* [roughly equivalent to (50)(e): "negative raising"]

(52)

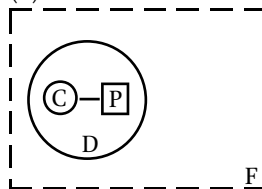
(a) Formulation



(b) Inclination



(c) Result



- (53) (a) *Albert {learned / decided / discovered} that aliens had stolen his shoes.*
- (b) *Albert {wondered / considered / asked} whether aliens had stolen his shoes.*
- (c) **It {learned / decided / discovered} that aliens had stolen Albert's shoes.*
- (d) **It {wondered / considered / asked} whether aliens had stolen Albert's shoes.*

(54) **We are {possible / conceivable / plausible / feasible / imaginable} that they could be of some use to us.*

- (55) (a) Formulation: *It is {conceivable / plausible / *possible / *feasible / *impossible} to me that we could do it without getting caught.*
- (b) Assessment: *It is {unclear / *arguable / *uncertain / *unsure / *undecided} to me whether mosquitoes have souls.*
- (c) Inclination: *It {seems / appears / *is doubtful / *is likely / *is dubious} to me that she has enough money to buy Microsoft.*
- (d) Result: *It is {apparent / evident / obvious / *certain / *definite / *true / *undeniable} to me that China is destined to be the world's next superpower.*

- (56) (a) *I am certain that formalists will someday discover the meaningfulness of grammar.*
 (b) *It is certain that formalists will someday discover the meaningfulness of grammar.*

5 ***Impersonal it***

What does *it* Mean?

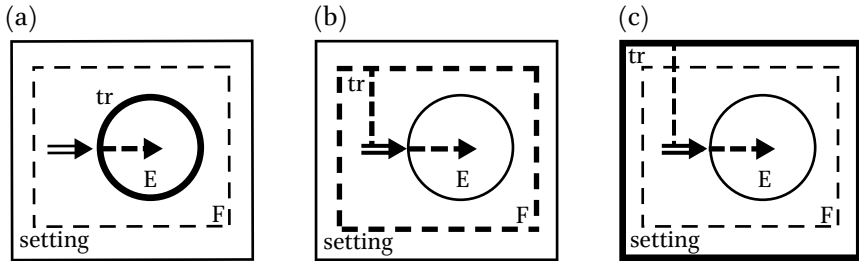
- (57) (a) *It* is always meaningful and referential.
 (b) Its meaning is just as expected for a third person singular neuter definite pronoun.
 (c) *Impersonal* uses of *it* represent extreme cases of vagueness and non-delimitation, but nonetheless conform to its general meaning.
- (58) Why *it* may fail to significantly delimit its referent:
- (a) Its deictic component (person) merely points away from the speaker and hearer.
 (b) Its type specification excludes very little:
 (i) no lexical type specification;
 (ii) 'neuter' excludes only humans;
 (iii) 'singular' excludes only plural entities.
 (c) The remaining pool of eligible candidates is extremely broad and variegated:
 (i) a non-plural mass of any size or type;
 (ii) any single physical entity other than a person;
 (iii) anything abstract.
 (d) Certain kinds of entities—including masses and locations—can be of any size and degree of inclusiveness.
 (e) Inherent vagueness of reference (imprecision or uncertainty about exactly what one is singling out).
- (59) (a) *How's it going?* [cf. *How are things going?*]
 (b) *It's all finished between us.* [cf. *Everything is finished between us.*]
 (c) *I don't want to be rude—it's just that I have to go cook dinner.*
 (d) *Look, it's Harry!*
- (60) (a) *It was {raining / snowing / foggy / cold} last night.*
 (b) Possible referents of *it*: the atmosphere; atmospheric conditions; the spatio-temporal setting; the relevant scope of awareness (either the speaker's or that of a local observer).

- (61) (a) *We can't walk through this field—it's oozing oil all over.*
 (b) *It's our wedding anniversary.*
 (c) *It's quiet in the countryside.*
 (d) *It's chaotic in the Middle East.*
 (e) *It's fun when old friends get together.*
 (f) *It's awkward when your wife meets your lover.*
- (62) (a) *It's conceivable that we'll have to buy a new mattress.*
 (b) *It's uncertain whether he can finish the race.*
 (c) *It appears that the epidemic was caused by a virus.*
 (d) *It's very clear that our leaders cannot be trusted.*
- (63) Impersonal *it* profiles the relevant **field**, i.e. the conceptualizer's *scope of awareness* for the issue at hand.
- (64) (a) *Bush firmly believes that the rich should pay no taxes.*
 [specific, focused conceptualizer; profiles interaction of participants; transitive]
 (b) *It is obvious that the rich should pay no taxes.*
 [implicit, generalized conceptualizer; abstract, setting-like trajectory; intransitive]
- (65) (a) **Dynamicity:** The *time course* of a conceptualization—how it develops and unfolds through processing time—is an important dimension of semantic structure.
 (b) **Reference point organization:** Invoking one entity as a *reference point* in order to mentally access a *target* associated with it; accessing one entity *via* another.
 (c) **Focal prominence:** *Trajector* and *landmark* are the *first* and *second reference points* accessed in building up to the full conception of a profiled relationship (the target).
- (66) (a) *In the driveway sat a brand new luxury car.*
 (b) *He's staying in La Jolla, at La Valencia Hotel, on the sixth floor, in room 619.*
 (c) *the book of Job, chapter 28, verse 17*
 (d) *finger nail, door handle, tire tread, tree root, jar lid, table leg, mountain top*

Impersonal Constructions

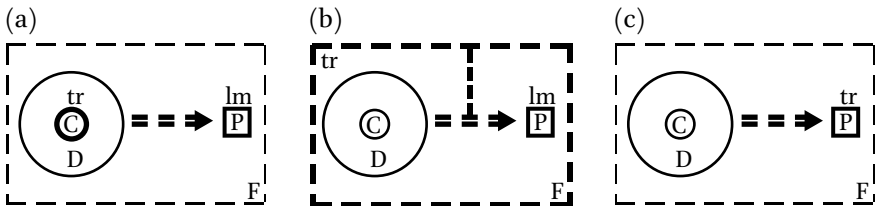
- (67) (a) *I'm {hot / cold / freezing / miserable} here in Chicago.*
 (b) *It's {hot / cold / freezing / miserable} in Chicago.*
 (c) *Chicago is {hot / cold / freezing / miserable}.*

(68)



- (69) (a) *I {suspect / believe / imagine} that she will be elected.*
 (b) *It {appears / seems / is likely} that she will be elected.*
 (c) *That she will be elected is {likely / probable / doubtful}.*

(70)



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