A Language without Particulars
Author(s): Ian Hacking
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II.—A LANGUAGE WITHOUT PARTICULARS

By Ian Hacking

Must most of the simple declarative sentences of any natural language break into subject and predicate ? Could there be a natural language without what Quine calls *singular terms*, or one whose speakers do not, in Strawson's phrase, *introduce particulars* into their remarks ? Strawson very nearly answers these questions in the second part of *Individuals*, where he provides criteria for recognizing a language without particulars, and for distinguishing between subject and predicate. His observations force him to conclude : " Given that we wish to say things having approximately the force of the things we actually do say, then the premium on the introduction of ordinary concrete particulars is enormous, the gains in simplicity overwhelming."[1]

Aside from the implication that a language without particulars is impracticable, Strawson is right. But I shall use his work to prove not only that there can be a language without particulars, and whose sentences do not break into subject and predicate, but also that, very probably, the actual languages spoken by some fairly cultivated peoples are of just this sort.

The procedure is as follows. (I) Records a little history, so as to relate this essay to the work of Strawson and Quine. (II) Retails a relevant part of *Individuals*. (III) Mentions one aspect of a language without particulars, conceived along Strawson's lines, which will nearly force any European linguist to describe the language as one with at least a degenerate subject-predicate structure. (IV) Contains brief excerpts from distinguished linguists, and provides a *prima facie* case that certain real languages do satisfy Strawson's criteria for being without particulars. We shall also indicate how these real languages compensate for lack of singular terms, so that one can see why, although " the premium on the introduction of ordinary concrete particulars is ", as Strawson says, " enormous ", there may be quite different linguistic mechanisms bringing " gains in simplicity " that are equally " overwhelming ".

I. *History*

Scholars have sniped at the subject-predicate distinction for a very long time, and many have urged that undue attention to it is pernicious in philosophy. Logic, once a target for the snipers,

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[1] *Individuals*, London, 1959, p. 225.

came to their aid, for Russell was able to eliminate definite descriptions from the predicate calculus, and hence to provide an adequate formal logic without any subject-predicate structure. He made "the subject-predicate logic, with the substance attribute metaphysic" seem entirely parochial : "It is doubtful" he wrote in 1924, "whether either would have been invented by people speaking a non-Aryan language."[1] In a similar vein Quine contended that all proper names should be eliminated from a canonical language for philosophical enquiry. His ideas are very much the mainstream of modern thought. Aside from Strawson it is hard to find any persistently reasoned claim that there is anything universal in the subject-predicate dichotomy.

Strawson's article " On Referring " in MIND for 1950 led him to ask how we ever make clear what we are talking about, how we ever establish " identifying reference ". In MIND for 1956 he published the first of all papers which seriously call in question the glib surrender of the subject-predicate division. He argued that of necessity a human society could speak a Quinean language only if it were parasitic upon a natural language which does, in effect, have subjects and predicates. The more recent *Individuals* does not repeat this claim. It is no longer, in Strawson's opinion, logically impossible for a Quine-style language to exist on its own, but it is practically, nay humanly, impossible for a moderately civilized society, whose members want to convey the sorts of facts we convey in English, to have anything like Quinese for its only language.

Although Strawson ably defends his latest conjecture, the present study aims at refuting it. But the refutation succeeds only by using distinctions forged by Strawson himself. Many people have been sure there is nothing universal about the division into subject and predicate, but there has been no proof. Strawson's thorough criticism has delivered the very tools we need for proof.

Most of Strawson's technical terms are avoided in the sequel, but his talk of ' introducing a particular ' has already been used. Even my title is taken from a chapter heading of *Individuals*. Strawson never defines the word ' particular ', but we can grasp what he means by it. Particular things, episodes, events, and the like are particulars ; let us not quibble over the boundaries of application of his term. The meaning of the phrase, ' Introducing a particular ', is equally undefined, but its meaning is suggested by examples. If someone says " Raleigh smokes " in the course of making a remark, then the name ' Raleigh ' serves

[1] " Logical Atomism " (1924). Reprinted in *Logic and Knowledge*, London, 1956, p. 330.

to introduce the person, Raleigh, into the remark ; the verb
' smokes ' serves to introduce the habit, smoking (146). Any-
thing which is, or can be, so introduced is a *term*. When an
expression serves to introduce a term which is a particular, it
introduces a particular. (Warning : Quine's singular terms are
linguistic expressions, not Strawson's sort of term ; they pretty
well coincide with what Strawson calls ' expressions which serve
to introduce particulars '.)

Strawson argues that the grammatical distinction between
subject and predicate reflects a deeper distinction between
expressions that introduce particulars and ones that introduce
other sorts of terms. A *language without particulars* is a language
in which there are no expressions by means of which one may
introduce particulars. Strawson's arguments, if sound, entail
that a language without particulars is a language whose simple
declarative sentences do not break into subject and predicate.

We shall exhibit a language which, on Strawson's own criteria,
is very probably " without particulars ". None of its sentences
break into subject and predicate. But this is not an essay in
linguistics. We are trying to understand the properties of human
communication and how it affects the human view of the world.
Our concern is not whether there are languages without parti-
culars, or languages to which the subject-predicate distinction is
irrelevant, but whether there could be. Excerpts from linguists
will show that there could be such languages : for unless altogether
new considerations are adduced, the existence of a strong *prima
facie* case for an actual language without particulars, and the
existence of novel linguistic mechanisms compensating for lack
of particulars, do show how there could be such languages.
Since a *prima facie* case is not a complete case, my excerpts will
not prove definitely (what one may still urge to be true) that my
languages fail to introduce particulars, and lack a division into
subject and predicate.

A final word of caution. The following results may bear on
what Russell called the substance-attribute metaphysic. They
may bear on what Quine calls the ontology of this or that group
of people. But they do not bear on ontology. They do not help
answer the question, What kinds of things are there ? They
certainly do not arise from the silly question, Are there particular
things in the world ? Of course there are particular things. Our
question is only, Can there be people who live in this world full of
individual things, and who " say things having approximately
the force of the things we actually do say ", but who speak a
language which introduces no particulars ?

II. Feature Placing

(a) Features

Strawson observes that some English sentences, like 'It is snowing' and 'There is water here', are commonly used to state that some feature of the world (water, or the falling of snow) is to be found in some place and time indicated by the context of utterance. He notes that such sentences have no subject. 'Feature-placing sentences,' he calls them; he speaks of 'water' as a *feature-placing universal*. (202). Water, he says, is a "general kind of stuff", not a "property or characteristic of particulars". He thinks the term 'water' does not provide a principle for distinguishing, enumerating, and reidentifying particulars of some sort. Could every term in a language be like 'water', every sentence a feature placing sentence, no sentence divide into subject and predicate, nor any expression introduce particulars?

The implied model of a language must be very ancient. Assertions might consist of utterances of feature-words. If 'whale' and 'spouting' were such words in a feature-placing language we might translate an utterance of 'Whale' as, 'There is a whale'. 'Spouting' would be, 'There is spouting going on'. 'Whale spouting' would convey the fact that the features of whaleness and spouting are found together in some place indicated by context: A whale is, or whales are, spouting. The force of these feature-placing sentences is much like that of sentences of an interpreted predicate calculus: (Ex) (Wx), (Ex) (Sx), and (Ex) $(Wx \wedge Sx)$.

(b) Plurals

Strawson's first and main conclusion about feature-placing is very clear. We regularly speak of another whale, the same whale; another cat, and same cat again. We do not have the locution, another water. Another body or bucket of water, but not another water. Just more water. With cats, on the other hand, we have "the idea of particular reidentifiable cats". It is just this, says Strawson, which marks out *cat* as what he calls a sortal universal rather than a feature-universal.

We distinguish the same cat, seen again, from another cat. Strawson leaps upon this fact, and on page 207 italicizes: "*The decisive conceptual step to cat-particulars is taken when the case of 'more cat' or 'cat again' is subdivided into the case of 'another cat' and the case of 'the same cat again'.*"

How can we tell when some aliens, who speak only the language

Q, have made the decisive conceptual step ?   Not just if they arrange their lives as if they know there are (as we should say) a good many cats.   Nor is it enough if there are sentences u and w of Q, such that when you say u, your cat-hating friend brings his bolt action rifle, while when you utter w, he totes an auto-matic.   For w may be the feature-placing, ' Black cat.   Ginger cat ' ;   the mad marksman will know that such a concatenation of features needs the Browning not the Lee-Enfield.   There will nearly always be quality features like colour, or relation features involving place and history, which will suffice, in practice, to let it be known that some situation involves what we call different instances of the same universal.   So how do we tell when some aliens have made the decisive conceptual step ?

One might try to apply Strawson's criterion directly, seeing if Q contains expressions for ' same again ' and ' another '.   That is no good.   Any language sufficiently unlike English even to be a candidate for feature-placing will be so hard to translate—there will be so much of what Quine called " indeterminacy of trans-lation "—that one can place no emphasis on some subtle differ-ences which are thought to parallel our ' again ' *versus* ' another '. Indeed any semantic application of Strawson's criterion is going to be suspect.   Fortunately his criterion implies an entirely syntactic criterion ;   this is one reason why Strawson's work is such a decisive advance on anything previous.

Observe that if we have one cat and another cat, we have cats, but if we have the same cat again, we have just one cat.   Even if a language lacks locutions corresponding to ' again ' and ' an-other ', but does have a plural form marking roughly our distinc-tion between ' cat ' and ' cats ', then it has, I think Strawson would have to say, taken the decisive conceptual step.

This does not imply that a true feature-placer can admit of no plural at all.   It might possess what linguists call *distributive* forms.   Suppose the feature *cat* crops up in conversation, and the *cat* in question is as it were broken up, that is, from our point of view distributed over separated parts of space and time.   Our language has a distributive plural if we use the plural form of *cat* whether we are speaking of the same cat poking its head around the corner from time to time, or of a lot of different cats sitting on a fence.   Distributive plurals are plurals which do not embody our distinction between ' same one again ' and ' another one '.

Thus it is only a so-called *true plural* which a feature-placing language need lack—a plural in which one speaks of cats if and only if different cats are in question.   Paraphrasing Strawson, his criterion implies that *the decisive step to particulars has been*

taken when the language possesses a true plural, not just distributive plurals.

This criterion is weaker than Strawson's : even if a language has only a distributive plural, one might argue, on other grounds, that Strawson's " decisive conceptual step " has been taken.   But it is useful because it is a syntactic criterion which is quite easily applied.   In calling it syntactic I do not mean that it can be used without any attention to meanings, for whatever some linguistic theories say, there is no currently practicable method of grammatical analysis which provides a reliable grammar independently of any semantic insights.   I mean primarily that the criterion of plurals is relatively independent of Quine's indeterminacy of correlation.   In contrast, take another criterion which may be readily distilled from Strawson's own.   If the " decisive conceptual step " has been taken, then it ought to show in counting.   But how ought it to show ?   Mere syntax will not suffice. Many of us accept Frege's analysis of number, yet it is by no means clear that his account very adequately fits the number concept even as expressed in colloquial English or German.   It will be incomparably harder to reach firm conclusions about the use of numbers in alien languages.

(c) *Reference*

Anyone naively reflecting on an imagined feature-placing language must wonder how speakers of the language would ever get across what they are talking about.   One of them says, " Whale spouting ", but what whale or whales, where ?   How to refer to particular objects without expressions introducing particulars ?   Ayer's paper " Names and Descriptions " (printed in his collection, *The Concept of a Person and Other Essays*) rightly argues that a language without singular terms would be different, in this respect, from English.   Strawson is of the same mind. Both authors suspect that for these difficulties alone a feature-placing language would be intolerably more prolix than English. We must bear their views in mind when we examine any actual candidate for feature-placing.

(d) *Completeness*

Frege notoriously called predicate expressions of German *ungesättigt*—unsaturated or incomplete.   Strawson claims to explicate the idea.   As Tsu-Lin Mei observes in the *Philosophical Review* for 1961, part of Strawson's account relies too heavily on grammatical features peculiar to inflected languages.   Mei concluded his article by crossly demanding that Strawson

" formulate a logical criterion for the particular-universal distinction ". Yet Strawson nearly does just that, in passages to which Mei never adverts. They belong to what Strawson himself calls one of the most difficult parts of his book.

Strawson contends (i) that introduction of terms, as explained in (I) above, involves " identifying introduction "—it must be possible to identify the term introduced (181). (ii) To achieve identifying introduction of a particular, " there must be some true empirical proposition known, in some not too exacting sense of this word, to the speaker, to the effect that there is just one particular which answers to a certain description " (183). (iii) No parallel condition can be generally insisted on for universals (183). Correspondingly (iv) expressions which serve to introduce particulars " are such that one cannot know what they introduce without knowing (or learning from their use) some distinguishing empirical fact about what they introduce " (186). By way of further explanation, (v) these selfsame expressions, although they do not explicitly state facts, " perform their role only because they present or represent facts, only because they presuppose, or embody, or covertly carry, propositions which they do not explicitly affirm " (187). (vi) Expressions satisfying the descriptions of (iv) and (v) are called *complete*. A language which is truly without particulars will have no expressions which are complete in this sense.

I have purveyed these opinions almost entirely by quotation because even with English as the model there are, I think, cogent grounds for challenging one by one each of the steps (i)-(v). Such a challenge would need an essay of its own. Instead we shall respect Strawson's undertaking, and argue that our candidate for a natural feature-placing language is devoid of " complete " expressions, no matter how liberally we construe Strawson's exact words.

III. *Relation Features*

Now we must examine an aspect of feature-placing, irrelevant to Strawson's own work, which will harass any attempt to show that an actual language satisfies Strawson's criteria for being feature-placing. The trouble is that even an unprejudiced and thoroughly reflective European linguist, if he were to discover people speaking a feature-placing language composed by Quine himself, would almost certainly describe the grammar of the language in terms of nouns and verbs, yes, subjects and predicates. Surprisingly enough, this is not so much a matter of European bias but rather of feature-placing grammar.

When ought a linguist to classify the expressions of a language into singular and general, or, less inflatedly, into noun and verb ? He must use syntactic criteria relying on the internal properties of the language. It would be unwarranted to call a word a noun just because it regularly translates into an English noun. But if, for example, all and only words translating into nouns end in -al, or occur at the end of sentences, there is in the language a natural class of terms which, since all of its members translate into nouns, might aptly be called a class of nouns.

In a feature-placing language, call it Q, both particular and universal terms of English are replaced by feature terms. Before examining any actual language we must ask if, a priori, the grammar of such a language would of necessity give some syntactic basis for a linguist's classifying at least some of the feature-universals as verbs, and others as nouns for referring to particular things. Until now our model has been too simple, for we have implied that an utterance would be a string of feature-words in which word order does not matter. But just as there are more than particular and universal expressions in English, so Q, if it will serve as well as English, needs more than feature-universals. In English we have modal terms like ' it is said that ' and ' perhaps ' and ' likely '. Quine's canonical languages tend to exclude these, but some less doctrinaire form of feature-placing might admit such things, and they could be syntactically distinguishable from feature-terms.

More interesting, we have qualifiers like ' very ' and ' big ' which do not indicate universals at all. Suppose ' very ' were a word of Q, used to say of a feature that it appears intensely. Then if word order were irrelevant, ' Very whale spouting ', would be ambiguous between ' This superb specimen of a whale is spouting.' and ' The whale is spouting an extraordinarily high tower of water above its head.' Grammar must show what the qualifier qualifies. Maybe prefixing (Very whale spouting versus Whale very spouting) would do the trick. Whatever system were used, it might give a syntactic basis for distinguishing between feature-universals and qualifiers. But it need not give, so far as I can see, any basis for calling some features nouns, and others verbs.

As soon as we turn from monadic features to relations—many-termed features—we are in trouble. It is almost a joke. We know how the logic of relations shows the traditional subject-predicate logic inadequate. *But if a feature-placing language contains expressions for relation-features, a European linguist can usefully describe the language in terms of the subject-predicate*

distinction, and even say that some of its expressions refer to particulars.

Suppose a feature-placer wanted to say that his chief is hunting for bear. He can not just list the concatenation of three features, ' bear ', ' chief ' and ' hunting '. Who is hunting for whom? Speakers must be able to distinguish a chief hunting for bear from a bear hunting a chief. There must be some linguistic mechanism which indicates the direction of the relation. It may be word order, as in much of English, or, as in the predicate calculus, a system of suffixes. Any such system will give a syntactic way to pick out dyadic relations. Think how easy it is in the predicate calculus : all and only those words consisting of a feature term followed by two suffixes (the so-called variables ; really, place markers) stand for dyadic relations. In English, relations are typically expressed by verbs, or at least predicate expressions. So a linguist could refer to the class of dyadic features as a class of verbs, or call the relation-feature the " predicative part " of the sentence. This is not European imperialism, but a good brief way of conveying facts about the language to a European audience.

Worse still, the plentiful relations which, in English, we express by verbs of action, have subjects, and direct and indirect objects. In describing the structure of a sentence of Q, the linguist will cast about for, as we logicians would say, the features related by the relation-feature, but, as the linguist would say, for subject, direct and indirect objects. He will be able to locate these syntactically, in terms of whatever the grammar of Q uses to indicate the direction of relation-feature. Frequently these subjects and objects translate into English nouns. So the linguist will find natural classes of expressions most of whose members translate into nouns. So he may tend to refer to these as classes of nouns. Fortunately this classification will break down for sentences which do not involve relations, and so one might imagine the linguist describing Q as having a kind of " degenerate" subject-predicate structure.

It is not only relations of action which will cause trouble. People constantly use possessive pronouns, not just to indicate their possessions, but also to distinguish his arm from yours. Here again we have a relation-feature, and in familiar English, possession is usually possession of particulars. So the category of feature words standing as the " object " of relation-features denoting possession will form a syntactically recognizable category, all of whose members translate into noun forms.

It may begin to look as if, of necessity, we could never have

experimental data, based on linguistic investigation, to prove that a particular language is feature-placing. But that is not so. We need only use Strawson's criteria to cut across our prejudices.

IV. *Basic Wakashan*

In the course of criticizing Strawson, Tsu-Lin Mei recalls a remark of B. L. Whorf's : " Our Indian languages show that with a suitable grammar we may have intelligent sentences that cannot be broken into subjects and predicates."[1] Strawson's feature-placing ' It is snowing ' shows this is as true of English as of any Amerindian tongue. But Mei might with profit have quoted from the same page of Whorf : " When we come to Nootka, the sentence without subject or predicate is the only type . . . Nootka has no parts of speech ; the simplest utterance is a sentence, treating of some event or event-complex. Long sentences are sentences of sentences (complex sentences), not just sentences of words." This report on Nootka is not altogether correct, but it does tell us where to look.

Languages of the *Wakashan* family, including *Nootka* and *Kwakiutl*, are spoken by natives of Vancouver Island, off the west coast of Canada. Kwakiutl and Nootka differ no more than Danish and English. Franz Boas, the great ethnologist who may justly be called the first student of structural linguistics, did much of his work on Kwakiutl, and used it as the touchstone for his theory of language. Soon afterwards Edward Sapir undertook to examine Nootka. The reports of Sapir and Boas are among the most distinguished and most philosophically sophisticated in the whole of linguistic science. We are lucky to be able to use them here. I shall advert to only some of their works, but pages 207-210 of volume 27 of the *International Journal of American Linguistics* include a complete bibliography of the Wakashan family.

(a) *Sentence form*

Wakashan languages employ two types of element : *stem* and *suffix*. A word is a stem followed by some suffixes. Most stems express what Strawson calls a feature, or what Sapir calls a theme. Many suffixes also express features. Others convey aspects of the feature-words to which they are affixed : whether the feature (say, light) endured (like a lamp burning in the ceiling) or lasted but a moment (like a lightning bolt) or has just begun (like a newly

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[1] " Languages and Logic " (1941) reprinted in *Language, Thought, and Reality, Selected Writings of Benjamin Lee Whorf*, New York, 1956, p. 242.

lit candle) or repeatedly appears and disappears (like a flashing danger signal). Other suffixes express modalities, convey the direction of relations, or may indicate elements of temporal and spatial location. The simplest utterance consist of a stem followed by a string of suffixes.

(b) Noun and verb

Since relation-features abound, neither Boas nor Sapir altogether avoids the terminology of noun and verb. Boas says of Kwakiutl that " as in other languages that lack the defining verb ' to be ' the distinction between noun and verb offers difficulties because every noun may also be predicative ".[1]   Earlier he had written, " All stems seem to be neutral, neither noun nor verb ; and their nominal or verbal character seems to depend solely on the suffix with which they are used, although some of the suffixes are also neutral."[2]   And this " character " is not internal to the language, but arises from how we translate it.

The trouble is partly that the same feature, call it *hand*, may appear in one word where we would use a noun (He held it in his hand) and in another where we have a verb (He handed it to his friend).   The only discernible grammatical difference is that in the former we have what Boas calls a " nominal suffix " to indicate the direction of handing.   And this is true of virtually every feature-term.

Sapir and Swadesh, describing essentially the same facts, more tersely record that " All normal words [all words aside from interjection, exhortations, and the like] express a potential predication, which becomes an actual predication on the addition of paradigmatic suffixes.   This statement applies to words corresponding to English verbs, adjectives, nouns, prepositions, and adverbs."[3]   In a popular essay Sapir tried to illustrate how this is possible :

> [We represent a stone falling as] an analysis of the situation into " stone " and what the stone does, which in this case is " fall ". But this necessity, which we feel so strongly, is an illusion.   In the Nootka language the combined expression of a stone falling is quite differently analysed.   The stone need not be specifically referred to, but a single word, a verb form, may be used which is in practice not essentially more ambiguous than our English

[1] " Kwakiutl Grammar ", *Transactions of the American Philosophical Society*, xxxvii (1947), p. 205.
[2] *Handbook of American Indian Languages*, I, (Bureau of American Ethnology, Bulletin 40, Part I), Washington, 1911, p. 441.
[3] *Nootka Texts*, Philadelphia, 1939, p. 235.

sentence. This verb form consists of two main elements, the first indicating general movement or position of a stone or stonelike object, while the second refers to downward direction. We can get some hint of the feeling of the Nootka word if we assume the existence of an intransitive verb "to stone", referring to the position or movement of a stonelike object. Then our sentence, "the stone falls", may be reassembled into something like, "It stones down" (Sapir's *Selected Writings*, p. 158).

The very English expression with which Sapir tries to paraphrase Nootka—' It stones down '—is Strawson's paradigm for feature placing—' It is snowing '.

(c) *Pronouns*

The evidence cited in (b) may be doubted when we find our linguists speaking of pronouns, of which the Wakashan languages have an elaborate system. Reflect, *a priori*, on how a feature-placer can express the fact that the women are throwing stones at the boy. One imagines a concatenation of the features *woman, throwing-at, boy* and *stone*. Disregarding the definite descriptions, we might express the matter in the predicate calculus by a string of existential quantifiers followed by ' Woman (x) ∧ Throwing-at (x,y,z.) ∧ Boy (y) ∧ Stone (z).' What Russell rather aptly calls the " apparent " variables—what a grammarian calls pronouns—indicate the direction of *throwing-at*. It is far from fanciful to construe our sentence of the predicate calculus as a word-for-word translation of the corresponding Kwakiutl. Kwakiutl relation-features are even followed by pronouns in the same order as the x,y,z : " Subject ", " object ", " instrumental ". Actually the Kwakiutl sentence also needs suffixes bearing on the location of the features mentioned, but we leave this aside until (e) below.

Fortunately for anyone trying to follow a Kwakiutl sentence, pronouns are inflected according to the sex and shape of the features they " stand for ". ' Stand for ' is a misnomer, for though in English you can often replace a pronoun by the noun it stands for, you can no more do this in Kwakiutl than you can replace variables by predicates in the predicate calculus : the pronouns are place markers, just as in the predicate calculus. A closer representation of the Kwakiutl sentence is ' Woman (she) ∧ Throwing-at (her,him,it) ∧ Boy (him) ∧ Stone (round-it)'. If this incorporates too much English inflection, take instead a many sorted logic, with *m* a variable ranging over male features, *f* over female ones, and *r* over round ones. If open sentences stood for

their existential closures the contents of the Kwakiutl sentence would be paraphrased by $W(f) \wedge T(f,m,r) \wedge B(m) \wedge R(r)$.

However, the markers f, m and r are not constant throughout the sentence : the female marker after W is not the same as the f after T. This augments our European tendency to read $W(f)$ not as ' Woman(she) '—feature followed by " pronoun "—but as stem followed by a " nominal suffix ", *viz.* a suffix which appended to a stem gives something we translate as a noun. After all, in English we do not constantly need " pronouns " directly after the stems for which they stand so it seems odd to speak of the stem followed by a pronoun. But what we have, I contend, is nothing more than a system like that of the predicate calculus for indicating the direction of relations. It is more complex than the predicate calculus, for this is a spoken language, and requires, as information theorists tell us, more redundant information than a merely printed calculus.

It is very nearly true that each of the items of the Kwakiutl sentence—$W(f)$, $T(f,m,r)$, etc.—is also a sentence of Kwakiutl. Much the same sort of thing can be said for Nootka. Hence the force of Whorf's generalization : a compound sentence is a string of simple sentences. But we retract at once. Phonemic and morphemic processes for putting words together provide instant counterexamples to the generalization ; moreover compound sentences may include words which cannot significantly be uttered on their own. But Whorf's remark is a fair indication of the first crude outlines of Wakashan syntax.

(d) Plurals

Sapir and Swadesh state briefly of Nootka that " normal words have a distributive form, ordinarily made by reduplication or by infixed or suffixed elements " (*loc. cit.*). Reduplication is meant literally, as if we said *catcat* for cats and *sasalmon* for many salmon. Boas' more elaborate account of Kwakiutl establishes the nature of plurals :

> It is entirely immaterial to the Kwakiutl whether he says, *There is a house* or *There are houses*. The same form is used in expressing both ideas, and the idea of singularity and plurality must be understood either by the context or by the addition of a special adjective . . . the Kwakiutl, who are rather indifferent to the expression of plurality, are very particular in denoting whether the objects spoken of are distributed here or there. When this is the case, the distribution is carefully expressed (*Handbook*, p. 37).

The details are as follows :

> Reduplication of a noun expresses rather the occurrence of an object here and there, or of different kinds of a particular object,

than plurality. *It is therefore rather a distributive than a true plural.* . . . In the verb, the idea of plurality is naturally closely associated with that of distribution ; and for this reason we find also in Kwakiutl, the idea of plurality fairly frequently expressed by a kind of reduplication similar to that used for expressing the distributive of nouns. . . . Related to the reduplicated nominal plural is also the reduplicated verbal stem which conveys purely the idea of distribution, the idea of an action done now and then (*Handbook*, p. 444, italics added).

Apparently the division into noun and verb is artificial : we have one phenomenon : *There is no true plural, and distributive plurals are expressed by reduplication.*

As remarked in (II) above, even in English we may show that two cats are in question by mentioning features which distinguish them : ' Black cat, ginger cat.' When distinctions are effected in this way, the Kwakiutl often use a plural distributive : " Objects segregated from others of the same class by specifying adjectives or predicated as having a certain characteristic separating them from others of the same class are pluralized " (*Kwakiutl Grammar*, p. 291). To round out this picture we mention a final contrast between English and Kwakiutl. In English, some words have no plural form different from the singular (' deer '), but when there are two forms, it would be misleading to use the singular if several things of the same kind are in question. In Kwakiutl this is not so, for there is a general reluctance ever to use the plural form unless it is really essential to avoid confusion ; only with humans and anthropomorphized animals are plurals regularly used.

(e) Reference

In the matter of reference we find cheering corroboration for our hypothesis. Everyone has predicted that speakers of a feature-placing language might have trouble making clear what they are talking about. And so it is with Wakashan, or rather, these languages have devices which overcome the difficulty. Boas tells us that,

The contents of the Kwakiutl sentence are characterized primarily by an exuberant development of localization. This is brought about partly by the use of local suffixes which define the exact place where an action is performed, without regard to the speaker, partly by the expression of location in relation to the speaker (*Handbook*, p. 445-6, *Kwakiutl Grammar*, p. 206).

In Kwakiutl, our sentence, *The man is sick,*

would have to be rendered by an expression which would mean, in the vaguest possible form that could be given to it, *definite man*

near him invisible sick near him invisible. . . . An idiomatic
expression of the sentence in this language would, however, be
much more definite, and would require an expression somewhat
like the following, *That invisible man lies sick on his back on the
floor of the absent house* (*Handbook*, p. 43).

A sentence with less localization than this is just not grammatical.
We should not, however, imagine that conveying so much in-
formation leads to prolixity ; to put it crudely, a few glottal
stops do most of the work.   Nootka is much the same.

Localization is not the only way to make clear what you are
talking about.   In Kwakiutl, " the psychological relation of the
sentence to the state of mind of the speaker—or to the contents
of preceding sentences—is expressed with great care " *Handbook*,
p. 446).   There is an important form for indicating whether
something has previously been introduced into conversation.
And a rather unusual aspect of Nootka must help make even
plainer who or what is being talked about :

> It is possible and often customary in Nootka to imply in speech
> some physical characteristic of the person addressed or spoken
> of, partly by means of suffixed elements, partly by means of
> " consonantal play ".   Consonantal play consists either in
> altering certain consonants of a word, in this case sibilants, to
> other consonants that are phonetically related to them, or in
> inserting meaningless consonants or consonant clusters in the
> body of the word.   The physical classes indicated by these
> methods are children, unusually fat or heavy people, unusually
> short adults, those suffering from some defect of the eye, hunch-
> backs, those that are lame, left handed persons, and circumcised
> males.[1]

(f) Completeness

If we are to use Strawson's criterion described in II(d) above,
we must be sure that in Kwakiutl and Nootka there are no
" expressions such that one cannot know what they introduce
without knowing (or learning from their use) some distinguishing
empirical fact about what they introduce."   My doubt about
the applicability of this criterion in English makes me a biased
witness on Kwakiutl : I can only report that there seem to be no
expressions of Kwakiutl falling under Strawson's description.
Certainly the expressions will not be what Boas calls the words of
the language, for these state facts, and do not " carry them
covertly ".   It is to the stems that we must turn.   No stem
seems to satisfy Strawson's condition.   For certainty let us

[1] E. Sapir, *Abnormal Types of Speech in Nootka* (Canada Department of
Mines Geological Survey Memoir 62), Ottawa, 1915.

examine geographical place names. Strawson has some intrigu-
ing theoretical reflections on how one might determine boundaries
of chunks of space and time. Having in mind the possibility
that we might have names for such chunks, he writes,

> If, while still avoiding the introduction of ordinary particulars,
> we introduce into a feature-placing language definitely identi-
> fiable items or terms other than the general features themselves,
> the term-introducing expressions for these items will manifest
> the 'completeness' which was the theme of [II(d)]. The
> identification of such a term rests upon an empirical fact (224).

It is instructive to see what actual feature-placers do. Boas
has plenty of maps of Kwakiutl communities with the boundaries
of various plots of land, and lists the "names" of these plots.[1]
Aside from the obvious description (red ground, or, berry picking
place) we have straightforward expression of geographical facts—
last-one-on-the-ground (the last patch on a level before getting
on to a steep slope), or trail-behind. These "names" enter
sentences in the way in which other features do. You say that
the chief is going to the place called last-one-on-the-ground by
concatenating four features : chief, going-to, and last-one and
on-the-ground. The last two features appear as stem and suffix
of one word, and the first two can be expressed as stem and suffix
of another word, so the whole assertion consists of two words,
each of which could, independently, have sufficed to make a less
bold assertion.

We are really in the presence of Quine's "indeterminacy of
correlation". For it may be said that my thesis crumbles against
Strawson's completeness criterion. The expression corresponding
to 'last-one-on-the-ground' serves to introduce a term into dis-
cussion, namely, a particular patch of ground. To identify
that patch we must know some empirical fact about it, say, that
it is the last patch before the hill.

Against this one will urge that someone who in the course of
his conversation utters the equivalent of 'last-one-on-the-
ground', intending to bring to our attention his plot of viburnum,
is simply introducing two features : last-one and on-the-ground.
No special empirical fact is needed to "identify" these features.
Against *this* it will be protested that last-one-on-the-ground has
attained the conventional role of a name, introducing a particular,
not two features. What can settle the matter ? Nothing, I
think. It is neither definitely right, nor definitely wrong, to

[1] *Geographical Names of the Kwakiutl Indians* (Columbia University
Contributions to Anthropology XX), New York, 1934.

say these " geographical names " serve to introduce particulars.
The criterion of completeness does not mesh with these Indian
languages.

(g) Aspect

Strawson implies that the introduction of particulars, with the
corresponding division into subject and predicate, brings a kind
of economy of expression. If this is true we shall want to find
Wakashan ways of attaining comparable brevity without intro-
ducing particulars. Even if one doubts whether a language can
meaningfully be called " economical ", one may ask after items
of Wakashan grammar unknown to English.

The most notable characteristic of Wakashan stock is the
system of aspects. Linguists have used the word ' aspect ' to
refer to a great many phenomena, and often the so-called aspects
of a language are hard to grasp. But the Wakashan system of
aspects, fundamental to the languages in the group, has bold
outlines which are curiously easy to comprehend.

Think of a " feature ", say *noise*. Instances of noise fall into
two classes : those which last, and those which do not. The
roar of a waterfall persists, but a thunderclap is pretty transitory.
In line with this distinction all the features of Nootka take on
either of two basic aspects, which Sapir and Swadesh aptly call
Durative and *Momentaneous* (*Nootka Texts*, 140-141). Standard
suffixes indicate aspect.

Of course some features, like *cat*, seem naturally to endure,
others do not. Accordingly the momentaneous may bear several
different relations to the durative. When the feature may either
endure or not, the relation is as for *noise*. But with naturally
enduring features, the momentaneous can express the brief doing
of something with the feature (*money* in the durative is money ;
in the momentaneous it is giving or betting or using money. But
our translation is weak : although we have a word, 'noise', covering
both bangs and blaring, we have none covering both coins and
the doing of something with coins).

Nootka play a great many variations on these two basic
themes. For example, our authorities cite the feature of *turning*,
or circling. The durative covers turning or circling which lasts,
the momentaneous, the making of a particular circuit or turn.
The following variations on durative are listed : Inceptive (to
start turning about) ; Graduated inceptive (starting to turn
about) ; Pre-inceptive (to start starting to turn about) ; Inceptive
iterative (to start turning about at intervals) ; Repetitive (turning
round and round—with emphasis on the repetition of the act) ;

and Repetitive inceptive (to start turning round and round).   The momentaneous admits of comparable variations.

In case these distinctions sound inordinately complex, we should notice how the forms which express them have an almost Shavian rationality.   For example, adding a suffix to the stem gives the inceptive ;   essentially repeating the stem gives the repetitive ; adding the inceptive suffix to the doubled stem gives inceptive repetitive.   If we can speak in terms of efficiency, these devices give a lot of sharp distinctions with little oral effort.   It may be imagined how much the aspect helps make clear exactly what is being talked about.

(*h*) *Conclusion*

The final thing we must check is whether, in Strawson's words, people of Wakashan stock can " say things having approximately the force of the things we actually do say ".   Here we disregard technical vocabulary : feature-words for new ideas like *electromagnet* can be, and have been, added at will.   We also disregard questions about how well a Kwakiutl can express an abstract mathematical or physical theory in his native tongue—not because these questions are unimportant, but because any answers are in practice untestable.   A Kwakiutl learns his science in English, and the very fact of becoming bilingual alters his own idiolect ; there are not enough Kwakiutl for him to take the trouble to rephrase what he has learnt in the speech of his fathers. Anyway, it is apparent that Strawson is primarily concerned with how well a language without particulars can express so-called ordinary matters, and here there is every reason to believe Wakashan is as good as English.   Even if we consider only printed evidence, the volumes of Kwakiutl tales recorded by Boas cover every aspect of village life effectively and entertainingly, and combine a wealth of imagination with great ability to record practical detail.   The same holds for Nootka, though fewer Nootka tales have been published.   Apparently we have two feature-placing languages in which you can say anything you want.

University of British Columbia