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MYCENAEAN INSCRIBED VASES

II. THE MAINLAND FINDS

Thebes, where the greatest store of inscribed jars was found, continues to play an important part in discussions bearing on the relations between the Greek Mainland and Crete in the Late Mycenaean period. The confusion and contradictions inherent in scholarly thinking on this subject may be illustrated from a recent symposium¹ to which a number of distinguished Aegean specialists made contributions. S. Dow, it will be recalled, had already contributed a helpful survey on 'The Greeks in the Bronze Age' in 1960², which was considered worthy of inclusion in G. S. Kirk's *Language and Background of Homer*³. In this paper Dow maintained that during the entire Late Minoan III period "Crete was reduced to being isolated and quiet. That is the evidence of archaeology." In his more recent study this position is reasserted⁴: "In the succeeding period, Late Minoan III, Crete was prosperous, . . . but was in a backwater, and had no part in the flourishing trade of the Mycenaean Empire." On the day before Dow read his paper another contributor had communicated some archaeological facts which were difficult to reconcile with this thesis of Cretan isolation from trade.

In his paper⁵ 'Minoan influence on the Mainland: variations of opinion since 1900' T. L. Shear speaks of the wholly Minoan embellishment of the Mycenaean palaces. The following passage⁶ invites consideration in the present connexion: "Particularly interesting also is the actual importation of Cretan materials for use in architectural details. The lords of Mycenae employed considerable

¹ A Land Called Crete. A Symposium in Memory of Harriet Boyd Hawes, 1968

² XI^e Congrès international des sciences historiques, Stockholm 1960. Rapports II — Antiquité 1—34

³ 140—173

⁴ 137

⁵ 47—65

⁶ 63

quantities of Cretan alabaster or gypsum in the pavements of their megaron; and the frieze from Tiryns, just mentioned, was likewise carved from the same imported stone." From this account it is clear that the builders of the thirteenth century Mycenaean palaces were aware of the existence and attractions of Cretan building material and took effective steps to get it quarried and transported to their Mainland building sites. In the third part of this article we shall recall the presence at Knossos in a part of the palace actually rebuilt in LM III B (on Evans's own testimony) of a store of lapis Lacedaemonius, a material obtainable only from Krokeai in Laconia⁷. How is Shear's factual statement to be reconciled with Dow's assertion about Cretan commercial isolation after 1400 B. C.?

It was an observation about inscribed Mainland stirrup-jars which was one of the main factors in disturbing the present writer's confidence in the orthodox account of economic relations during LH III B to which Dow has given clear and vigorous expression. A renewed study of this evidence and the nature of the arguments and conclusions based on it is all the more necessary because of the confusions and misapprehensions evident in current discussions of the subject. I cite by way of example the paper on the relevance of Thebes to the date of Linear B in Crete published in this journal⁸ by E. Grumach. In the course of this he quoted with approval a passage from an article by N. Platon and E. Touloupa⁹: "The dating of the newly-found tablets to 1300 B. C. allows us to see in these the intermediate stage between those of Knossos, dated to 1380 B. C., and the Pylos ones, dated by C. Blegen to the end of the 13th century B. C. This invalidates the main argument of Professor Palmer, who considered impossible the dating of the Knossos Tablets to the beginning of the 14th century B. C. because of their great similarity to those of Pylos."

The first comment to be made on this passage is one of simple logic. If the point of dispute is the date of the Knossos tablets, it is surely inadmissible to import the date of 1380 B. C. into the argument. This is a particularly striking example of the *petitio principii* which bedevils argument and thinking in this whole field¹⁰.

⁷ See A. J. B. Wace in *Documents in Mycenaean Greek*, xxiv

⁸ *Theben und das Alter von Linear B*, *Kadmos* 4, 1965, 45—57

⁹ *Illustrated London News* 5. 12. 1964, 896

¹⁰ On this see D. Levi, *Parola del Passato* 96, 1964, 188

Moreover, in an important communication in this journal relating to a new find of tablets from Thebes T. C. Spyropoulos writes¹¹: "On the evidence of this pottery, we can establish with accuracy the date of the collapse of the room, a date which is clearly of exceptional importance in determining both the time when the main Palace was destroyed and also the age of the tablets. I illustrate here (Pl. Ia, b) just two of the vases found, which date, in my opinion, to the closing years of LH III B or to the beginning of the next ceramic phase, LH III C." Finally, it may also be added that Platon has confused my arguments with those of C. W. Blegen. In my earliest communication on this subject¹², indeed in the first paragraph, I had dismissed the argument based on the similarity of the script at Knossos and Pylos: "Even before the decipherment the striking fixity of the Linear B script and documentary habits, extending apparently over a period of some two hundred years, had occasioned comment but had been accounted for by scribal conservatism and limited literacy (SD 1.122). Thus this fact could not seriously challenge the dating of the KN tablets to LM II, c. 1400 B. C." It was in his article of 1958¹³ that Blegen used an argument based on the national character of the Hellenes with their "characteristic passion for novelty" (p. 62). "Surely", he wrote, "if Linear B continued to be used for two centuries and more, we might expect some epigraphical modifications and developments."

Thus dubious fact and faulty logic were used to 'invalidate' an argument not my own. Misapprehension also enters into the articles by H. W. Catling and A. Millett¹⁴ on the Theban inscribed jars. Since these are the subject of the present contribution and it is of some scientific interest that a philological conclusion should apparently have been confirmed by a scientific test, a brief restatement of the progress of the investigation will help to clear the ground.

¹¹ The Discovery of the Palace Archives of Boeotian Thebes, *Kadmos* 9, 1970, 170—2. Professor Marinatos had already, with his usual generosity, communicated the facts to me in a letter of July 11, 1970: "The tablets from Thebes have been found together with pottery of Late Minoan III B and two vases, at least, may belong to early III C. It is the same situation as we know it from Pylos." These two vases are illustrated in the article. It will be of interest to compare the pottery associated with Platon's finds when it is published.

¹² Minutes of the London Seminar 3. 6. 1960

¹³ *Minoica* 61—66

¹⁴ A Study of the Inscribed Stirrup-Jars from Thebes, *Archaeometry* 8, 1965, 3—85; Theban Stirrup-Jars: Questions and Answers, *ibid.* 11, 1969, 3—20

It was not consideration of a conservative script but a series of observations made on the Linear B texts that proved difficult to reconcile with the alleged political and economic isolation of Crete from the Mycenaean world at the time of the destruction of the palaces towards the end of the thirteenth century. The first of these was a technical point — the use of the word-divider by the scribe of the PY Ta set. This prompted the proposal¹⁵ to emend Ventris and Chadwick's translation of *ai-ke-u ke-re-si-jo we-ke* as "Aigeus the Cretan brought it" to "with goat decoration, of Cretan workmanship". This was reinforced by the possibility of construing¹⁶ the group *ke-re-te ka-si-ko-no* in PY An 128 as "Cretan (sword) craftsmen". The culmination in this 'renewal of doubt'¹⁷ came from a study of the texts on the inscribed jars. In a review¹⁸ of MT II the presence of the Cretan place-names *o-du-ru-wi-jo* and *wa-to* on the Theban jars was noted and also the fact that "by a curious stroke of fortune" these are adjacently listed in KN Ch 902. This text also offers the name *56-ko-we*: "Can it be an accident that this very name in an identical spelling occurs on the inscribed jar Tiryns II? *da-22-to* on the Eleusis stirrup-jar is also known as a place-name from the archives of Knossos. The evidence is accumulative and considering the very few texts of this kind which are known, is it now possible to ascribe to chance the fact that *e-ra*, which appears on the Mycenae jar, is likewise known as a place-name from the Knossos tablets?" In subsequent publications (M & M, 170, Interpretation, 107, OKT, 3) I stressed repeatedly that the evidence was to be interpreted as indicating the *Cretan* origin of these vessels. Despite this Catling and Millett constantly state or imply that my conclusion was that they came from *Knossos*¹⁹. The essential point to be made now is that they came from a group of places which the tablets show were under the control of Knossos when the palace was destroyed. Prompted by this conclusion Catling obtained borings from some of the Theban jars and had the clay

¹⁵ BICS 2, 1955, 36—45

¹⁶ Interpretation, 336

¹⁷ Mycenaean and Minoans¹ 164ff. In view of persistent misunderstanding it may be well to state explicitly that the string of points which increased doubt were never put forward as a *proof* of the lateness of the tablets. They simply contributed to a decision to look into the find circumstances of the tablets.

¹⁸ Gnomon 31, 1959, 429—33

¹⁹ e. g. 1965, 19; 1969, 4: "We thought . . . that the jars would prove either to be all local products of Thebes . . . or that they would be imports from Knossos."

subjected to spectrographic analysis: the results pointed not only to a Cretan origin but suggested²⁰ that "east Crete has a strong claim to be the source at which many were made". J. Raison has cast doubt on the validity of this experiment²¹, and Catling and Millett have recently attempted to allay his doubts. The linguist will not intervene in this technical discussion. It will perhaps be more profitable to restate the purely philological case, for new evidence affects assessment of the cumulative force of the coincidences observed.

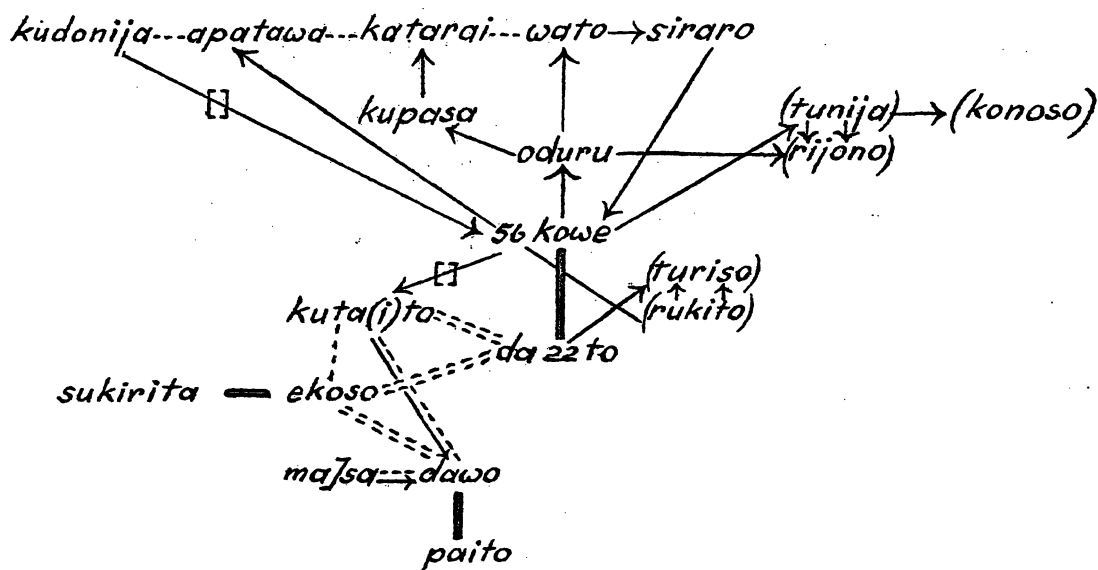


Fig. 1 — The *kndonija-apatawa* group

(The arrows indicate textual order of adjacent names; broken lines, membership of sets; thick lines, Dn pairs; square brackets, textual lacunae; parentheses, members of neighbouring groups).

The first task is to try and site the place-names of the KN tablets in their contextual relationships and then to superimpose this set of relations on the map of Crete by use of the fixed points given by clearly identifiable sign-groups such as *ko-no-so* (Knossos), *a-mi-ni-so* (Amnisos), *tu-ri-so* (Tylissos), *pa-i-to* (Phaistos), and *ku-do-ni-ja* (Kydonia). This is the most delicate step between the contextual relations of the sign-groups and their topographical siting. It follows that dubious equations such as *ru-ki-to* = Lyktos and *u-ta-no* = Itanos must be excluded from the initial steps. The equations will

²⁰ 1965, 3

²¹ Les vases à inscriptions peintes 1968, 196

be all the more convincing if we can operate with groups such as *ku-do-ni-ja* and *a-pa-ta-wa* = Kydonia and Aptarwa. In the application of this method the foundations have been firmly and expertly made by G. R. Hart²², but certain of the conclusions have been invalidated by joins made after the appearance of her article²³. Another distorting factor was the use at too early a stage of the equation *ru-ki-to* = Lyktos. This in any case dubious equation becomes still more unattractive if it is agreed that the essence of the method is first to analyse the contextual groupings of the words identified as place-names and to interpret textual adjacencies as geographical contiguities. This is an acceptable hypothesis²⁴ if, as seems firmly established, the scribes show consistency in their ways of listing localities. Once a complex pattern of toponymic inter-relations has emerged, comparison with Cretan topography as known from later sources will be less hazardous. The relevant texts and their data must therefore be summarized first and the resultant relationships presented in diagrammatic form.

A particularly strong tie between place-names is evidenced by the Dn series²⁵, which appear to be totalling tablets corresponding to the texts listing flocks of sheep under the names of herdsmen with entries relating to locality and ownership. Among these are Dn 1200 (*do-ti-ja* and *ra-su-to*) and Dn 1096 (*ra-ja* and *pu-na-so*). Now the text X 979 + C 7051 + X 7657 records a functionary entitled *a-to-mo* in connexion with the four places listed on these two Dn tablets. This is a strong presumption for the geographical proximity of the places in question and, as Olivier comments²⁶, the fact that *do-ti-ja* is written first and in larger characters suggests that the official in question was concerned with a 'circonscription' of which *do-ti-ja* was the 'chef-lieu'. This gives encouragement in the present connexion, for two of the names occurring on the Mainland vessels are linked on a Dn tablet: Dn 1093 with *da-22-to* (cf. EL I) and *56-ko-we-i* (cf. TI II). Our study will thus profitably begin with an examination of the textual affinities of these two place-names, all the more so because the latter is linked with *a-pa-ta-wa* and indirectly with *ku-do-ni-ja*, and this gives us a tentative geographical fix which can be subjected to repeated tests.

²² Mnemosyne IV 18, 1965, 1—28

²³ See J.-P. Oliver, SMEA 2, 1967, 86

²⁴ See Hart's cautious formulation, op. cit. 2

²⁵ For these texts see J.-P. Olivier SMEA 2, 1967, 71—93

²⁶ Cambridge Colloquium 63

We begin with C 59 which lists *jsa*²⁷, *da-wo*, *jtō*, *da-22-to*, *tu-ri-so*, *ku-do-ni-ja*. Now *da-wo* is inseparable from *pa-i-to*²⁸, and it is listed with one intermediary^{28a} before *da-22-to*, *tu-ri-so* and *ku-do-ni-ja*. This gives us what we shall call a 'scribal route': the scribe seems to have started in the south near Phaistos and to have gone northwards via *da-22-to* to Tylissos and then west to Kydonia. This relative position of *da-22-to* is indicated by a number of other considerations. In the first place, G 464 links it with *ku-ta-to*, and this is a place which also enters largely into the relations of *56-ko-we*, the twin of *da-22-to*.

G 820 is of particular interest, for after an entry relating to *ku-do-ni-ja* it lists two pairs of ethnics, *jsa-qe 56-ko-we-i-ja-qe* and *jtī-ja ku-ta-ti-ja-qe*. This link both with *ku-do-ni-ja* and *ku-ta-to* appears again in Ce 902, a text of exceptional importance to our theme, for, as we saw, it lists no fewer than three of the names appearing on the Mainland jars: the order of listing is *o-du-ru-wi-jo*, *wa-to*, *si-ra-ro*, *56-ko-we*, *o-du-ru-we*²⁹, *ri-jo-no*, *ru-ki-ti-jo*, *a-pa-ta-wa*, *ku-ta-i-to*. We note further that the Co set, also found in the Northern Entrance Passage, deals with a group of places which includes not only *wa-to*, *si-ra-ro*, *a-pa-ta-wa* and *o-du-ru-wo* but also *ku-do-ni-ja*. Moreover, the place *ka-ta-ra-i* (Co 906) is grouped (in the case-form *ka-ta-ra-pi*) with *u-du-ru-wo* in V 145. The impression which these texts give — that we are dealing with a group of places lying in an area with fixed points at *da-wo* (twin of Phaistos) in the south, Kydonia-Aptara in the west and Tylissos in the east — is reinforced by other relationships which emerge.

In the first place the revised text of L 5646³⁰ gives us a list *e-ko-so*, *56-ko-we*, *tu-ni-ja*. *e-ko-so* is the twin place of *su-ki-ri-ta* (Dn 1092), and the latter is attractively identified as Sybrita, a fix which is consistent with the topographical pattern which has so far emerged (see Fig. 1). The link of *56-ko-we* with *tu-ni-ja* will be the subject of scrutiny below, where it leads eastwards towards Knossos. At this point it is worth bringing in some evidence which may be taken as faintly confirmatory. Hart has pointed out that the Uf series deals mainly with land sited in *ti-ri-to* and *qa-ra* (both mem-

²⁷ That *jsa* is to be completed as *ma-jsa* is argued below.

²⁸ See Hart, *op. cit.* 7

^{28a} KT⁴ reads *ku-jta-to*.

²⁹ On the distinction between *o-du-ru-(we)*, the 'chef-lieu', and *o-du-ru-wi-jo*, its district, see Interpretation 183

³⁰ Joined with Dv 6012

bers of the *tu-ri-so* group, as indicated below); but some of the arrangements recorded relate to *da-22-to* and *e-ko-so*. This clustering is reinforced by the density pattern of the flocks of the palace grandee *U-ta-jo* at *da-22-to*, *e-ko-so*, *ku-ta-to*, and *da-wo* (see further below and Fig. 2). In view of the accumulation of consistent

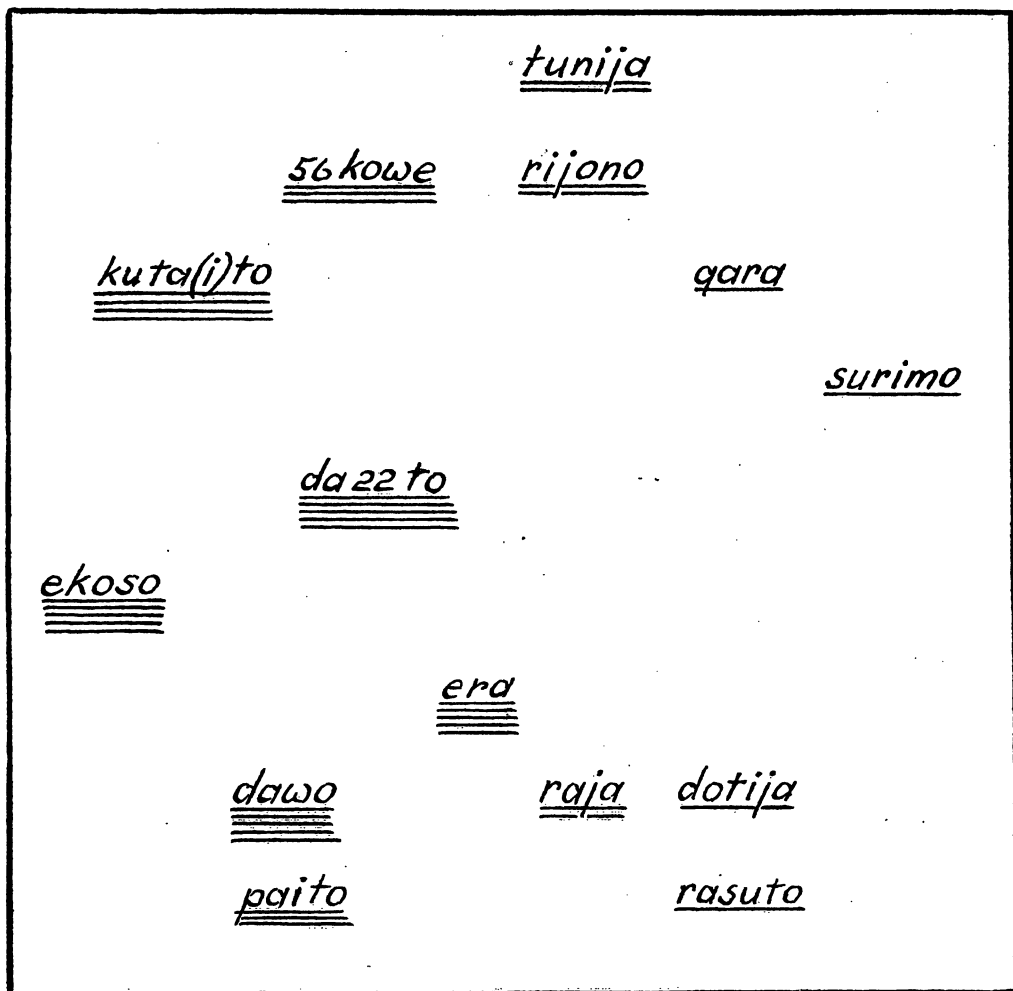


Fig. 2 — The flocks of Utajo.

indications it may be relevant to bring in a small group of D tablets found in the southwest part of the palace³¹: here *da-22-to* figures prominently, but we also find *e-ko-so* and *ma-sa*, and this last becomes an attractive restoration *ma-]sa* in C 59^{31a}, which thus would list this place before *da-wo* before going on to *da-22-to* and *tu-ri-so*.

³¹ See OKT 70, 101, 104

^{31a} KT⁴ now reads *ma-sa*.

At this point we can move eastwards by taking up the links of *da-22-to* with the *tu-ri-so* group. Here we have exceptionally complex and consistent indications which have been exploited in Hart's article. Attention may be focussed on *ru-ki-to* because (in its ethnic form *ru-ki-ti-jo*) it is a link in the chain *56-ko-we*, *o-du-ru-we*, *ri-jo-no*, *ru-ki-ti-jo*, *a-pa-ta-wa* and because with its twin *pu-so* it lies at the heart of the *tu-ri-so* group and also links up with the 'circonscription' of *do-ti-ja*. This gives us a gratifying number of geographical fixes to the west and south of Knossos.

The close link with *tu-ri-so* may be brought out first. E 668 lists GRANUM against the ethnics *ru-ki-ti-jo*, *tu-ri-si-jo*, and *ra-ti-jo*. *ru-ki-ti-jo* also occurs before *tu-ri-si-jo* in Og 833, an important text with a long string of toponymic references which recur in E 749 and in the Pp set from Magazine VIII. This group of texts was central to Hart's study and for convenience I reprint her lists with the necessary corrections and additions.

Og 833	E 749	Pp
<i>su]-ri-mi-jo</i>	<i>qa-ra-jo</i>	<i>ti-ri-to</i>
<i>u]-ta-ni-jo</i>	<i>ru-ki-ti-jo</i>	<i>qa-ra</i>
<i>ti]-ri-ti-jo</i>	<i>ti-ri-ti-jo</i>	<i>su-ri-mo</i>
<i>qa-mi-jo</i>	<i>su]-ri-mi-jo</i>	<i>u-ta-no</i>
<i>pu-si-jo</i>	<i>qa-mi-jo</i>	[<i>ru-ki-to</i> ? ?]
<i>ru-ki-ti-jo</i>	<i>u-ta-ni-jo</i>	<i>qa-mo</i>
<i>tu-ri-si-jo</i>	<i>pu-si-jo</i>	<i>e-ra</i>
<i>qa-ra-jo</i>		<i>mu-ka-ra/pa-i-to</i>

Also relevant to the interpretation are the pairs *pa-i-to* — *da-wo* (Dn 1094), *ti-ri-to* — *qa-ra* (Dn 5015), *ru-ki-to* — *pu-so* (Dn 5318), *u-ta-no* — *qa-mo* (Dn 5559) and *ri-jo-no* — *ra-to* (Dn 1209).

The first step is to consider *qa-ra*, for it precedes *ru-ki-to* in E 749 and follows *tu-ri-so* in Og 833. In Pp *qa-ra* follows *ti-ri-to*, and it is paired with this place in Dn 5015. The fact that these twins are nevertheless far apart in Og 833 with *tu-ri-so* intervening suggests that the scribes are making the rounds of a group of places which includes Tyliossos³². The contextual affinities of the members of this group are set forth in Fig. 3. It is of importance that *e-ra* in Pp precedes *pa-i-to* (on one and the same tablet) and is itself preceded by *qa-mo*. This sites *e-ra* to the south of the Tyliossos group, and this location is consistent with the density pattern of the flocks of

³² This is merely a minor modification of Hart's circular route, op. cit. 4

pa-i-to — *da-wo* group in the other. In X 1538, a tablet from the Queen's Megaron³⁴, *ku-ta-to* is linked with *da-wo*. The find-place suggests that this tablet should be grouped with the Ga set in Hand 221: Ga 1530 lists *da-wi-jo*, [], *pu-na-si-jo*; Ga 1533 *e]-ki-si-ja*; and Ga 1536 *pa-i-ti-ja*. The inclusion of *e-ki-si-ja*, the ethnic from *e-ko-so*, in this group with *ku-ta-to*, *da-wo* and *pa-i-to* is suggestive and adds to the already strong evidence for the linkage of this place with the *ku-do-ni-ja* group. Another point of interest is that in Am 821 a *i-je-re-u* of *e-ra* is followed by the *e-qe-ta* of *e-ko-so*, another contextual affinity which fits without difficulty into the pattern which has emerged (see Fig. 5.).

The further links of the *tu-ri-so* group may now be explored. In E 668 *ra-ti-jo* follows *tu-ri-si-jo*, and it is paired with *ri-jo-no* in Dn 1209. The latter is a key place, for it has links with the *ku-do-ni-ja* group and with what may be called the Knossos group. In Ce 902 *ri-jo-no* follows *o-du-ru-we*. On the other hand, it has a double link with *tu-ni-ja* (X 149^{34a}, Ap 629), a place which joins up with *a-mi-ni-so* and *ko-no-so*. First L 654 lists *a-mi-ni-si-ja*, *se-to-i-ja*, *tu-ni-ja*. Of greater interest is L 641, which begins with *pa-i-ti-ja* and *da-wi-ja*, goes on to *do-ti-ja*, next lists *qa-mi-ja*, a member of the *tu-ri-so*

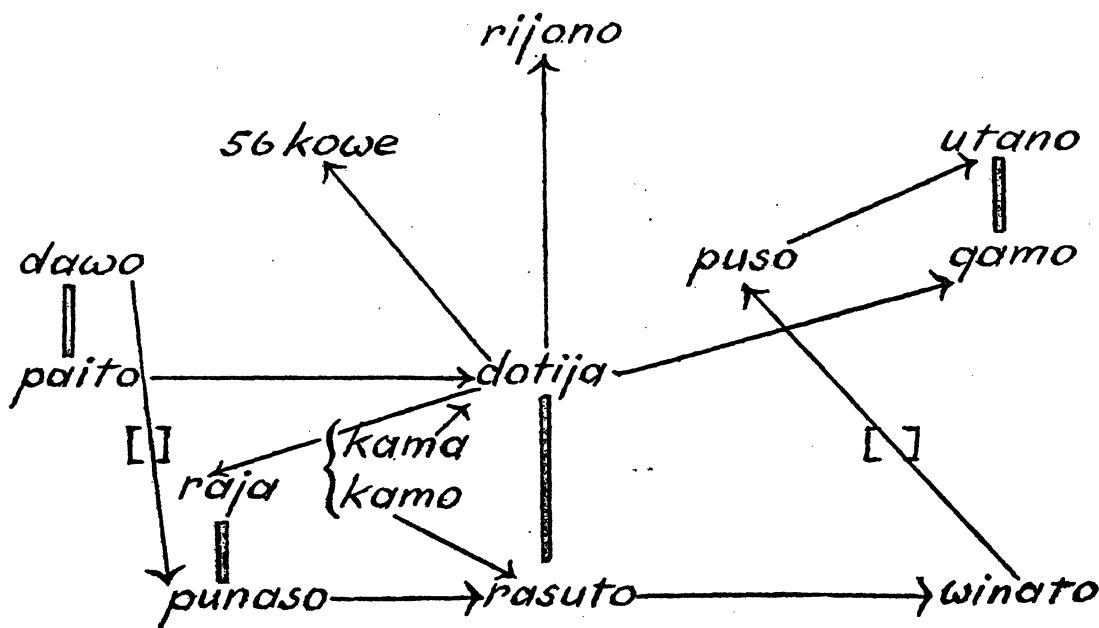


Fig. 4 — The *dotija* group and its connexions.

³⁴ See OKT 150

^{34a} *e-ra*, *tu-ni-ja*, *ru-i-no*

group, then *ko-no-so*, and finally *tu-ni-ja*, at which point we again link up both with the *tu-ri-so* group and with the *ku-do-ni-ja* group (see for instance L 5646: *e-ko-so*, *56-ko-we*, *tu-ni-ja*).

With the mention of *do-ti-ja* in this 'scribal route' from *pa-i-to* to *ko-no-so*, the time has come to consider the position of Olivier's 'circonscription' with its 'chef-lieu'. On the evidence of L 641, just quoted, it would appear to lie on the route from the Phaistos area to Knossos between *da-wo* and *qa-mo*. Study of the affinities of this group of places brings in yet another of the names on the Mainland jars. As 604 + 606 + As 5863³⁵ lists men at *ka-mo*, *ra-su-to*, []^{35a}, *wi-na-to*, [], *pu-so*, and *u-ta-no*. The last two are members of the *tu-ri-so* group and along with *qa-mo* they form a stable triangle of relationships (see Fig. 3), *pu-so* being sited between *u-ta-no* and its own twin-place *ru-ki-to*. The link of *ka-mo* with *ra-su-to* is especially revealing, for in L 520 the latter's twin-place *do-ti-ja* is followed by *ka-ma*. As Hart has argued³⁶, this is a strong indication that *ka-mo* and *ka-ma* are different spellings of a single place-name. In L 641 *do-ti-ja* has a direct link with *qa-mo*, which is adjacent to *e-ra* and *pa-i-to* in the Pp set. Thus *ka-mo* enters into relationships which bring it into close contextual affinity with *e-ra*. This gives us another 'cluster coincidence' to add to *o-du-ru-wi-jo* — *wa-to* and *da-22-to* — *56-ko-we*. The calculation of the probability of such a 'chance' will occupy us below.

Since *do-ti-ja* has links with *ri-jo-no* and *tu-ni-ja* (Ap 629) and with *56-ko-we* (Ap 633), whereas the affinities of *ra-su-to* are with *pu-so*, *u-ta-no*, and *wi-na-to*, their relative positions will be as represented in Fig. 4. It remains to distill what information we can for the other pair of places in the 'circonscription'. *Pu-na-so* precedes *ra-su-to* in X 979 while in Ga 1530 it is linked, at one remove, with *da-wo*. In this connexion it is worth noting that the scribe with Hand 136, who wrote the tablets concerned with 'spices' found in the Corridor of the House Tablets (Ga 415—423), dealt with a group of places the surviving members of which are *pu-na-so*, *qa-mo*, *su-ri-mo*, *ru-ki-to*, *qa-ra*, and *ku-ta-to*. Finally, *ra-ja*, which follows *do-ti-ja* in X 979, occupies an interesting place in the density pattern of Utajo's flocks (see Fig. 2), the eastern rim of which is formed by *ra-su-to*, *do-ti-ja*, *su-ri-mo*, and *qa-ra*. There is thus an

³⁵ See Cambridge Colloquium 54f.

^{35a} KT⁴ now reads *ra-su-to* in the entry before *wi-na-to*.

³⁶ op. cit. 8

encouraging consistency in the manifold sources from which our information is drawn.

The *do-ti-ja* group provides another possible geographical fix which is consistent with those utilized hitherto. If *wi-na-to* can be equated with Inatos (located on the south coast to the east of Phaistos on Tsoutsouros Bay), a 'scribal route' is evident in As 604. In the text as we have it *ka-mo* is preceded by an unknown place-name *si-[]so*^{36a} and is followed by *ra-su-to*. Then by an unknown stage we reach the coast at *wi-na-to*. From here, again by an unknown stage (perhaps *qa-mo*??) we join up with the *tu-ri-so* group as represented by *pu-so* and *u-ta-no*, the twin-place of *qa-mo*. This route running from the direction of Phaistos — *da-wo*, first eastwards south of the *tu-ri-so* group and then northwards touching the more easterly members of that group, is consistent with the 'scribal route' of L 641: *pa-i-ti-ja*, *da-wi-ja*, *do-ti-ja*, *qa-mi-ja*, *ko-no-so*, *tu-ni-ja*. The data presented by the four groups can be harmonized as in the combined diagram Fig. 5.

In interpreting the 'scribal routes' certain facts of physical geography must be borne in mind. First given the two routes from the Phaistos area (1) more or less direct to Tylissos and (2) first to the south of the Tylissos group, eastwards and then northwards towards Knossos, we should perhaps be guided in our topographical siting by the main routes still in use today (1) the main road from Phaistos to Heraklion and (2) the more easterly road that runs to Pyrgos, or perhaps to Ierapetra. Second, in considering the links between the *ku-do-ni-ja* group and the others, we have to bear in mind the obstacle presented by the Ida massif. In this connexion it should not be forgotten that, in the main, the texts we have been analysing are concerned with a largely sheep-based economy, and the areas mapped out are sheep-walks with centres occupied to a great extent with the processing of the wool. If we suppose that the places listed in pairs had a natural 'sheep-frontier', it would be quite conceivable, for instance, that *su-ki-ri-ta* and *e-ko-so* were on opposite sides of a mountain or hill. Certainly a 'sheep-frontier' must be drawn between this pair of places, as emerges from the density pattern of Utajo's flocks (Fig. 2), for this shows that *e-ko-so* belongs to a sheep area comprising in the main this place along with *ku-ta-to*, *da-22-to*, *da-wo*, *pa-i-to*, and *e-ra*, whereas its twin *su-ki-ri-ta* appears to have been a much smaller area (517 sheep as

^{36a} KT⁴ reads *si-ra-so*.

against 2262) pasturing, as far as we can see, exclusively 'ownerless' (i. e. royal) flocks. It is perhaps from this 'sheep-walk' point of view that we can overcome the evident difficulty of plotting on the ground a route between Phaistos and the *ku-do-ni-ja* group to match the evident 'scribal routes'.

It now remains to draw some conclusions about identifications hitherto widely admitted in the literature. First *u-ta-no*: its firm integration into the Tylissos group (see Fig. 3), its pairing with *qa-mo*, which has affinities with *do-ti-ja* and indirectly (via *pu-so*) with *wi-na-to*, present evident obstacles to an identification with Itanos, quite apart from the difficulty with the initial vowel. Next *ru-ki-to*: this place with its partner *pu-so* lies at the heart of an intricate network of relationships which site it close to Tylissos with connexions on the one hand with *da-22-to* and on the other with Phaistos — *da-wo*. There is nothing here to encourage the in any case dubious equation with Lyktos³⁷. In fact, Lykastos would be preferable geographically, but here too the inexact equivalence must give pause. The equation of *ra-to* with Lato is formally irre-

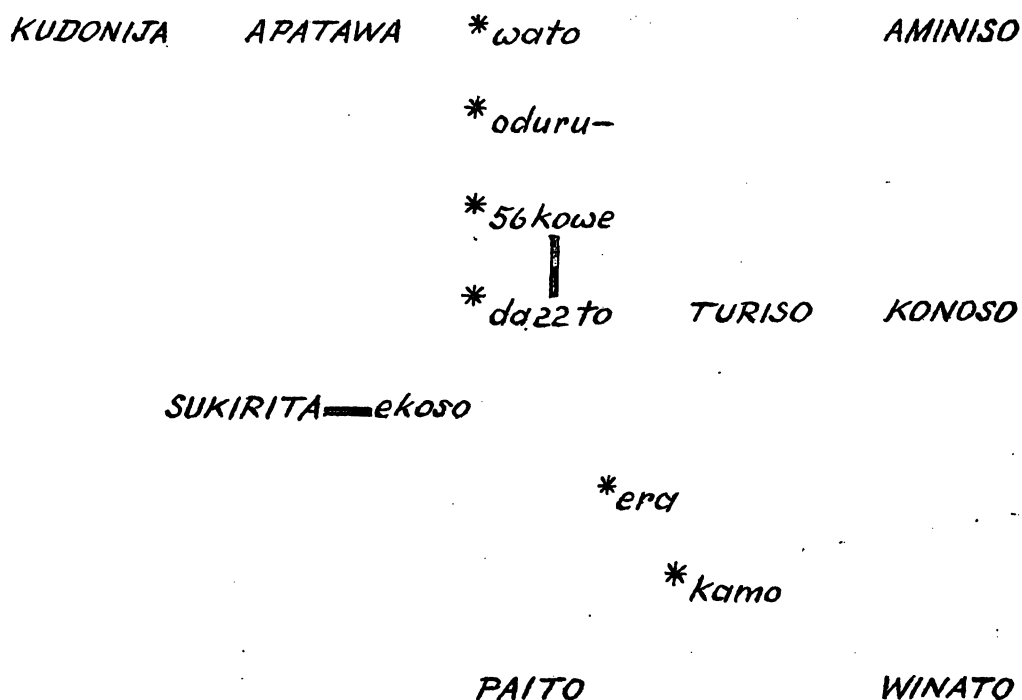


Fig. 5 — The siting of the stirrup-jar toponyms (asterisked) with reference to identifiable place names (in capitals). For details, see Figs. 1—4.

³⁷ This premature 'etymological' identification was prejudicial to Hart's results.

proachable, but here again the contextual siting is against it; for *ra-to* is linked on the one hand with *tu-ri-so* (see Fig. 3), and it is paired with *ri-jo-no* which has links with *tu-ni-ja* and *o-du-ru-wi-jo* (see Fig. 3). There is nothing here which points to a situation close to Hagios Nikolaos. Finally, *se-to-i-ja* is sited contextually between Knossos — Amnisos and *tu-ni-ja* which, as we have said, has close links with *ri-jo-no*. As Hart has already pointed out, the evidence of the tablets does not support the identification of *se-to-i-ja* with Setaia. The removal of Itanos, Lato and Setaia from the list of places under the control of Knossos radically alters the picture drawn by earlier authors of the area of Crete controlled by 'Linear B Knossos'³⁸. The palace certainly records an offering to Dictaeon Zeus, but there is nothing in the economic texts which suggests that its writ ran anything like so far east. In fact, what has emerged from this study is that the palace administration of Knossos at the time of the tablets looked south and west rather than east.

From the above analysis it is clear that the Mainland inscribed stirrup-jars offer a series of sign-groups which are identical with a group of place-names on the Knossos tablets which have intricate contextual interrelations that suggest geographical clustering. Doubt was soon cast, however, on the validity of the philological deductions which pointed to a Cretan origin for the Mainland jars³⁹, and since Raison in his (archaeologically) definitive book has also argued for a different interpretation, it will be well to lay bare the logical foundations of the argument.

What we have to account for is a series of resemblances between Linear B words on the Mainland vases and others which appear on the Knossos tablets but not on the tablets from Pylos, Mycenae, or Thebes. We begin with the jars from Thebes, and in particular those which offer the most complex texts (consisting of three words), for these can be interpreted 'in depth', as the cryptographers say. This means no more than that words which appear in the same 'place' are to be given the same interpretation. By this means we are enabled to subject a 'first guess' to a number of tests. For instance, *e-u-da-mo* occurs in the first place in TH II. This is known as the name of a man in KN B 799, 5 (cf. X 57 + 8036). The hypothesis that this word is an anthroponym is confirmed by another 'first-place' word *e-wa-ko-ro* (TH V; cf. V 1005, a text which has to be

³⁸ Docs. 141: "... the area in contact with, and probably subject to, Knossos covers virtually the whole of Crete."

³⁹ G. E. Mylonas, *Hesperia* 31, 1962, 284—309; cf. J. Raison, *op. cit.* 202—5.

interpreted along with the other 'po-ti-ro' texts in Hand 125). Since we have established a category of personal names occurring on the jars, this encourages us to accept a similar interpretation for other first-place words, e. g. *ka-u-no* and *pi-pi* in the three-word texts and for *a-nu-to* and *ta-de-so* in simpler inscriptions⁴⁰.

In the 'second place' of the three-word inscriptions, attention is first focussed on *wa-to*, which occurs on a number of Theban jars. This sign-group, as we have seen, is a place-name known from the KN tablets. The hypothetical equation is confirmed by *o-du-ru-wi-jo*. Given now the category of place-names, we can turn to other sites. At Eleusis we have *da-22-to*. Here the principle of economy of hypotheses is applied: once again the KN texts provide us with an exact equation⁴¹. Turning to Tiryns, we find a jar with *56-ko-we*. The same principle holds good: this too is matched exactly with a Knossian place-name. It should be noted that the proposed value for *56⁴² was based on a single word-pair (*56-ra-ku-ja* KN L 587, 2, and *pa-ra-ku-ja* KN Ld 575). The first form appears to refer to the colour of cloths, and the second also occurs in the description of cloths. The equation of the two words, with the resultant value *pa₃* for *56, was tempting, but this can be regarded as no more than a 'first guess', and we have not the means of confirming it. At the Cambridge Colloquium of 1965 it was decided (quite rightly) to leave the sign untranscribed. There is a double reason for not equating *56-ko-we* with *pa-ko-we*, 'sage-scented': first the uncertain value of the sign, and second the introduction of a superfluous category of interpretation. Economy of hypotheses and exactness of equation favour the interpretation of *56-ko-we* on the Tiryns jar as a place-name.

At this juncture we can return to *wa-to* with strengthened confidence that this is also a place-name. The suggestion that this is to be identified with a vocabulary word *wastos* 'citizen' not only offends against the fundamental principle of economy, it also runs into a philological difficulty: the Mycenaean form of this word was

⁴⁰ In conformity with the principle of economy, the suggestion that *a-do-we* (TH IX) may be a 'perfume' adjective should be withdrawn. There is no reason why this word should not be an anthroponym.

⁴¹ Strangely Mylonas (see note 39) did not offer any interpretation of *da-22-to* on the Eleusis vase. One might reasonably have expected him to begin with this vase, which had figured in a previous article by him (AJA 40, 1935, 420ff.), more particularly because this place-name is paired with *56-ko-we*.

⁴² Gnomon 26, 1954, 67; cf. Interpretation 19

almost certainly *wastwos*, a derivative from *wastu*, which is attested in Thessalian Ϝαστῶς . In Linear B we should expect the spelling *wa-tu-wo* or *wa-to-wo*⁴³.

Given these 'coincidences' and the interpretation of the Mainland sign-groups 'economically' also as place-names, this still would not prove that, say, *56-ko-we* on the Tiryns jar referred to the Cretan place rather than to a place with an identical name in the Argolid. The same argument could be applied to the other 'coincidences'⁴⁴. This is simply a matter of 'probability', a word much abused by scholars in the humanistic fields of study. To make the problem amenable to scientific discussion we must try in the present instance to give it a 'numerate' content. Fortunately this can be done. Granting that place-names may recur in different localities, and supposing (with Raison) that the names on the inscribed jars represent a random selection from the repertoire of Mainland place-names, how often could we expect to 'draw' a name found also in Crete? A comparison of the Pylos tablet corpus with that of Knossos will provide a numerical basis. The figures can be easily established from the Glossary of *Interpretation*, where the place-names from both sets of texts are marked P (PY) and P (KN) respectively. We can also include the derived ethnics marked E (PY) and E (KN). A count shows that we have some 67 place-names in the Knossos corpus and some 220 in that of Pylos. If we take this as a game of chance, we can say that the Pylos scribes in writing their texts have given themselves 220 'draws' to match the Knossos place-names. They have succeeded only once, on PY An 943. 2 with *a-mi-ni-so*.

We now add the fact of clustering, which is particularly important in judging *e-ra* and *ka-mo* on the Mycenae jars. It has been shown above that there is a close topographic relationship between *e-ra* and *ka-mo*. Now let us suppose that *je-ra* and *jka-mo* on the jars are incomplete and represent the tail-ends of complete words and that these may be not only place-names but also words of

⁴³ On *wa-to* see most recently A. Heubeck, *Athenaeum* NS 47, 1969, 147. In Docs. VC waver between the interpretation as a place-name and a vocabulary word, 'citizen'. In their list of place-names (146—47) neither *o-du-ru-wi-jo* nor *wa-to* appears, the latter being listed as a vocabulary word, p. 411.

⁴⁴ See Raison, op. cit. 205: "et l'on ne sait, en définitive, si l'on doit attacher grand prix à ce genre d'homonymies"; cf. Heubeck's comment op. cit. 159 "... dafür daß es Homonyme auf dem Festland oder gar in Boiotien gegeben habe, fehlt jeglicher Anhalt."

other categories, such as personal names or vocabulary words. We should then have to conclude that a double accident of destruction and survival has give us a misleading pair of dissyllables which happen to match a pair of Knossos place-names belonging to the same geographic cluster as *o-du-ru-wi-jo* — *wa-to* and *56-ko-we* — *da-22-to*. We could test the probability of this assumption by counting the number of truncated Pylos words that are homonymous with Knossos place-names, and of truncated words from Knossos that are homonymous with Pylos place-names; with the added proviso that there must be close topographic relationships between any two such 'coincidences'. This test will provide figures on which we can calculate the 'probability'.

Those who believe that the resemblances noted on the Mainland jars are due to 'chance' will realise that this too is a hypothesis. They must face not only the statistical problem of succeeding six times in this very limited corpus; they must also account for the fact that the corresponding Cretan places have close contextual relations and presumably geographical proximity. By such means as have been indicated above we can make amenable to scientific discussion subjective judgements such as "les jarres ont peu de chance d'être venues de Crète." If we can expect a success in this game of chance only once in 220 'draws', then six successes represent a chance of 1 in 220⁶. We suggest that from this 'numerate' point of view there is in fact very little chance that the resemblances between the Knossos tablets and the tiny corpus of Mainland inscribed jars are to be discounted as 'accidental homonyms'⁴⁴.

Scholars who, like Heubeck, regard the Cretan provenance of these inscribed jars as „kaum zu erschüttern“ will be prompted to closer consideration of the archaeological context of these vessels, on which Raison has thrown so much light in his exemplary publication. Two facts may be singled out. First, the group of *wa-to* jars comprises more than forty vessels, about half of all the inscribed stirrup jars of Thebes. Secondly, we have the resemblance of certain jars from Tiryns to some from Thebes, a resemblance so remarkable both ceramically and epigraphically that Raison seriously poses the question whether they do not come from a common source⁴⁵. If we add the fact of the geographical clustering of the names on the jars, the hypothesis of a common source is further strengthened.

⁴⁵ op. cit. 102, 158, 207. Raison does not say why these strikingly similar vases should be "plus plausiblement" of Mainland rather than Cretan provenance.

This complex of philological facts prompts still more insistently the economic and historical question posed at an earlier stage of this long debate⁴⁶. To take one fact, does not the large number of *wa-to* jars from Thebes suggest massive importation from a single centre situated in Crete? Further, seeing that what we have is a chance selection due to the accidents of survival at so many different sites, and that there is such a high proportion of Cretan place-names, should we not take this sample as representative of the much larger original stock, in other words must we not conclude that a great proportion of such inscribed vessels bore Cretan place-names? This must surely be indicative of extensive Cretan exports to the Mainland at the time of the destruction of the palaces in LH III B. This conclusion would agree well with Shear's observation of imports of Cretan building stone for the embellishment of these palaces. Return imports from the Mainland to Crete are evidenced by the store of lapis Lacedaemonius in the Sculptor's Workshop at Knossos.

As for the pin-pointing of the exporting centres, the recent spectrographic analysis of the clay from some of the Theban jars has suggested the conclusion that *wa-to* is to be identified with Palaikastro and *o-du-ru-wi-jo* with Zakro. The factual basis for this is that the clay of the *o-du-ru-wi-jo* jar closely resembles samples taken from Zakro, while clay from the *wa-to* group bears a similar relationship to a sample from Palaikastro. These results have been greeted with enthusiasm by some archaeologists⁴⁷, but Raison has raised objections⁴⁸, and Catling and Millett have endeavoured to remove his doubts. This is a matter beyond my competence⁴⁹, and the philologist will be better advised to make his own independent contribution. From the above analysis it will be clear that a location in East Crete of *wa-to* and *o-du-ru-wi-jo* is not compatible with the

⁴⁶ See Interpretation 276

⁴⁷ e. g. W. A. McDonald, *Hesperia* 35, 1966, 417: "I have yet to see a group of students or faculty or the public that is not fascinated to hear about a discovery such as that by Catling and Millett in connexion with the inscribed stirrup jars from Thebes."

⁴⁸ *op. cit.* 196f.

⁴⁹ Judgment may be suspended until the sampling covers with adequate density the philologically indicated area of West and Mid-West Crete. The ideal, but doubtless impossible, solution would be to identify and excavate the sites of *wa-to*, etc., and to analyse the potter's clay. If in the light of the above calculation we can safely exclude chance homonymity, the comparison of the clays with those of the Mainland jars would be a neat way of testing the validity of the inferences advanced by Catling and Millett.

evidence of the texts if the basis of interpretation is correct. Linear B scholars⁵⁰ who regard the clay analyses as overwhelmingly convincing may still feel the urge in their own field of competence to account for the high degree of internal consistency in the contextual relations of the place-names on the Knossos tablets and for the undoubted affinity of the Mainland names to the *ku-do-ni-ja* group.

Still, it is gratifying that at least we are agreed on the Cretan provenance of the Mainland jars, and it may be that Raison too will surrender his doubts once he has given a numerate interpretation to his 'peu de chance'. Important, too, is the recognition that they are all of the LH (LM) III B class. As Raison has written (p. 161), they all belong to a single archaeological horizon which is to some degree 'privileged' in that it is the horizon of the Linear B script. Into this privileged horizon, embracing, as we now know, both the Mainland and Crete, there is no difficulty in fitting the inscribed LM III B jar from the Unexplored Mansion, and the more fragmentary sherds from Khania⁵¹. All this goes to confirm an observation made by Furumark, which Raison quotes and underlines (p. 188): Cretan pottery from the beginning of LM III showed renewed vigour and made its influence felt outside the island; "and if the great island imported a great deal during this period, it is reasonable to believe that it was a new spirit and new processes and techniques rather than objects." Further, he writes, "there may have also been to some extent a renewal of the population."

With such opinions we are far from the isolated and quiet Crete of LM III, which, we were informed in 1960, was "the evidence of archaeology." In the final part of this study we hope to show, in the light of an important recent publication, that opposing lines of research have finally converged and that the new inscribed jar from LM III B Knossos fits into that 'privileged' horizon which is also that of the Linear B tablets from Knossos.

⁵⁰ J.-P. Olivier, *SMEA* 2, 1967, 86; J. Chadwick, *Minos* 10, 1969, 119

⁵¹ J. G. Tzedakis, *Zeugnisse der Linearschrift B aus Chania*, *Kadmos* 6, 1967, 106—109