VARIATION WITH INTRUSIVE T
IN
ANCIENT GREEK

DISSERTATION

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BY

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ABSTRACT

Nominal stems ending in *t* are very rare in Proto-Indo-European. Despite this fact Ancient Greek displays a series of nominal stems that end in *t*. Their presence in Ancient Greek suggests that the insertion of *t* in words of PIE origin must be a process which occurred in Greek itself.

From a diachronic perspective these stems fall into two categories. The first is represented by words which display the *t* in their stems in all the historical records we have, both in epigraphical evidence-including Mycenaean-and in literary sources. For this category we cannot trace the moment and the place when this “older” *t* entered the paradigms. The second category, however, contains words that show an allomorphic variation between *t*-ful stems and *t*-less stems. Given the fact that Homer uses in the majority of cases the *t*-less stems one can see, in post-Homeric dialects, how the stems with this “intrusive” *t* coexist with the *t*-less stems and win eventually over. The main goal of the dissertation is to see how this allomorphic variation evolved through historical Greek. Its second purpose is to see what this allomorphic variation can tell us about the origin of the intrusive *t*.

The perfect active participle shows up in historical Greek as a *t*-stem. Nevertheless, scanty evidence from Mycenaean suggested that in this dialect of Greek the
participle may have been \( t \)-less. The work addresses this problem again and comes up with the hypothesis that the forms Mycenaean displays might be only adjectives derived from former \( t \)-less participles, but not \( t \)-less participles. Consequently, the \( t \)-ful participle may still be a creation of Common Greek.

A last issue regards the \(-ti\) adverbs in Greek, which have been often considered to be former locatives of \( t \)-stems. The study shows that this hypothesis does not seem to be true and that they are more likely to be the result of an analogical process, which occurred in Greek and not in PIE.
Dedicated to my daughter, Theodora
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CHAPTER 1

PRELIMINARIES

The objectives of this study are twofold: on one hand, to trace the historical entry of $t$ in some of the $t$-stem nouns\(^1\) which exist in Greek, and to determine when and in what dialects this process, resulting in what I call here “intrusive $t$”, took place, and, on the other hand, to document and examine the coexistence of $t$-stems with the $t$-less-stems in various dialects. This dichotomy is a very important one not only because it will show the allomorphic variation in these words, but also because it will take into account the double nature of the $t$-stems: some of these stems are likely\(^2\) to have the $t$ in their stem as an archaism\(^3\) dating from the Proto-Greek stage and, therefore, it is probable that they existed in all dialects, whereas the others have their $t$ as a result of an innovation in a specific dialect and, consequently, cannot be found in all dialects. In this way, the study takes into account the fact that the variation in the morphological forms of some words is due to the creation of new $t$-stems, whereas in some others it is due to the appearance of new $t$-less-paradigms next to the archaic ones represented by the $t$-stems. What is

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\(^{1}\) As we shall see below there are many other $t$-stems in Greek. Nevertheless, for those others, there are no historical records which show a stage when the $t$ was not present in the paradigms of these nominal stems. These stems are, therefore, not the object of this study.

\(^{2}\) The hypothesis belongs to Benveniste, *Origines de la formation des noms en indo-européen*, Paris 1935, p.32sqq. I start by assuming this hypothesis to be true. See below for this theory.
essential for both cases, however, is the fact that this variation shows that at some point in Greek the paradigm of the t-less-stems came to be mixed with that of the t-stems. This is due, as we shall see, to the fact that the nominative of the t-less-stems was identical with that of the t-stems.

These considerations exclude from the start as object of the analysis the t-stems for which there is no morphological variation attested in historical Greek dialects between them and the corresponding t-less stem. I also exclude from the analysis words for which we can see different stems for different classes as defined by certain grammatical categories, for example gender, as with the masculine λέων, λεοντος, a t-stem and the feminine λέανα, a t-less-stem\(^4\), and where there is no attested morphological variation within that class of that particular grammatical category.

T-stems, i.e., nouns whose stems end in \(t\), are very poorly\(^5\) represented in PIE; the only t-stems which are of PIE date are: the word for “honey”, Gk μέλι, μέλιτος, Hitt milit-, Luw mallit, Alb mjaltë, Goth milip; the word for “face”, *hant-, which gave Gk ἀντί, Lat ante, Ved anti (“near”), Hitt ha-an-za ([hants]) and which was preserved as such only in Hittite, the other IE languages showing forms which go back to a locative *H\(_2\)enti “in front of”; the word for “grandson”, Lat nepōs, ὀτίς, Skt napāt-, Gk ἀνεψιάς < *H\(_2\)nept-yos. Besides these there are stems in –nt-, which are mentioned below.

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\(^3\) By “archaism” I understand here that these stems belong to a very early stage of the language, namely to Common Greek. “Innovation”, on the other hand, would be, in this view, the entry of \(t\) in one of the subsequent dialects.

\(^4\) Λέανα < *le-η-ya; *le-ηt-ya would have given *λέασσα

Greek, on the other hand, shows various nominal stems in $t$, but their $t$ is not of PIE date. In other words, $t$ in these words is a Greek-internal$^6$ matter and is treated as such throughout this dissertation.

As stated above, among these stems in $t$ one can notice that, for some, the insertion can be traced back in the historical period from the texts or epigraphical evidence we have, whereas for others we cannot do this, because the $t$ insertion occurred in prehistoric times and, therefore, there is no way one could find a form of such a stem before the $t$ entered its paradigm. Some examples illustrating this would be, on the one hand, the word for “horn”, $κέρας$, which appears both as a theme in $t$ and one in $s$: for example, the genitive singular displays both $κέρατος$ and $κέρας$.$^7$ On the other hand, for a word like $δυναμικόν$ (İonic) $δυναματικόν = "name", one cannot find anywhere in Greek a token which does not have the $t$ inserted into the paradigm, although we know from the other IE languages that the word was not a theme in $t$: Sk $nāma$, Sk $nāma$, Namnás, Lat nomen, nominis, etc. Given these observations we can now divide$^8$ these words into two big classes:

A. Words for which we cannot determine the point in time when the insertion of $t$ took place and words with suffixes ending in a $t$ of PIE date$^9$:

1. Participles (a) and other words (b) in -ον, gen. -οντος or -ες, gen. -αντος:

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$^6$ This goes especially for nouns and less for participles, see below.

$^7$ $κέρας$ is the Ionic form. In Attic there is, next to $κέρατος$, another form $κέρως$, which is the result of the contraction of the Ionic (-Attic) form.

$^8$ The best source for doing this is Buck & Petersen, A Reverse Index of Greek Nouns and Adjectives, Chicago 1945.

$^9$ The stems themselves are $t$-less in PIE; some PIE suffixes, however, end sometimes in $t$ as is the case with the participial ending $-*nt$.
a. -ντ- participles: present, aorist: type φέρων, φέροντος; Skt. bharan,

*bharantas*

b. λέων, λεοντός (but fem. Λεαίνα< *lewnH₂), δράκων, -οντος, ὄδους, 
-οντος, γέρων, -οντος, ἀρχων, -οντος, etc. Sometimes these forms are considered 
to be participial forms10, this is the reason why I group them here along with the 
participles, although some of their etymologies are not clear.

c. Words in –ας, -αντός: ἐλέφας, -αντός, Ατλας, -αντός; most of them are thought to be participial constructions, e.g., πολύτλας, -αντός = “much-enduring”

2. Gk. neuter words in -μα: δινόμα, ονόματος. Skt nāma, namnās and Lat

*nomen, nominis* show that there was no theme in *t* in PIE.

3. Words ending in –είς<*- Fents, -εσσα<*-Fentya, -εν<*-Fent. The suffix 
- Fεντ- corresponds to Indo-Iranian –vant-: ἀστέρεις, χαρίεις, Skt rūpa-vant = 
“having beauty”, etc.

4. Words with the abstract noun suffix –της, -τητος (Doric –τας)< PIE –*tāt-

5. Greek words, sometimes with dubious etymology, about which we cannot say 
when or how they got their *t* in their paradigms and which display the *t* in all the dialects 
of Greek: δοίς, δοιτός, λίς, λιτός, etc.

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11 These latter suffixes can be “decomposed” into *-wen-t* and *-teH₂-t*, so that they show “intrusive *t*”. Nevertheless, this process occurs at the PIE stage and is thus irrelevant to the Greek-internal *t*-insertion phenomenon.
B. i) Words in which we can follow the insertion of $t$ in their paradigms and thus witness the process of its lexical spreading. These are not very many, and we can follow the way the $t$ enters their paradigms in various dialects.

ii) Words which originally were $t$-stems, according to Benveniste’s theory\textsuperscript{12}, but which switched to another declension type and, therefore, present the same variation as the nouns in $i$.

iii) The Perfect Participle Active, $\epsilon\delta\omega\varsigma$, $\overline{\omega}\tau\omicron\varsigma$, is present in Mycenaean without $t$ and, therefore, enters this category.

This work addresses only the B-category. The words in question\textsuperscript{13} are the following: $\overline{\alpha}\lambda\alpha\varsigma$ “salt”, $\overline{\alpha}\rho\tau\varepsilon\mu\iota\varsigma$ “Artemis”, $\chi\rho\varpi\varsigma$ “skin”, $\epsilon\rho\varpi\varsigma$ “love”, $\gamma\eta\rho\alpha\varsigma$ “old age”, $\gamma\epsilon\rho\alpha\varsigma$ “gift”, $\gamma\epsilon\lambda\omega\varsigma$ “laugh”, $\gamma\omicron\nu\nu$ “knee”, $\delta\epsilon\sigma\varsigma$ “fear”, $\delta\omicron\rho\omicron$ “spear”, $\delta\epsilon\rho\alpha\varsigma$ “skin”, $\delta\epsilon\pi\alpha\varsigma$ “cup”, $\iota\delta\rho\omega\varsigma$ “sweat”, $\kappa\epsilon\rho\alpha\varsigma$ “horn”, $\kappa\rho\epsilon\alpha\varsigma$ “meat”, $\sigma\pi\epsilon\omicron\varsigma$ “cave”, $\kappa\nu\epsilon\phi\alpha\varsigma$ “cloud”, $\tau\epsilon\rho\alpha\varsigma$ “monster”, $\chi\alpha\rho\iota\varsigma$ “grace”, $\sigma\epsilon\lambda\alpha\varsigma$ “light, brightness”, $\phi\omega\varsigma$ “light”.

Before beginning the actual analysis of these words, various methodological and theoretical aspects of this work need to be discussed.

\textsuperscript{12}See below p.11.
\textsuperscript{13}See the end of this chapter for other important words to the issues taken up here.
Methodology and Objectives

To study the B-category words, it was necessary as a first step to establish as exhaustive a list as possible of relevant forms in all Greek dialects, including Mycenaean. Buck & Petersen’s language index is the tool used to find out these \( t \)-stems.

The next step, which actually makes up the core of this research, is, on one hand, to see when the \( t \) enters the paradigm of these nouns and leads to allomorphic variation between the “older” \( t \)-less stems and the “newer” \( t \)-ful stems, on the other, to analyze how the “older” \( t \)-stems coexist with the “new” \( t \)-less stems. For this I use all the forms found in Greek literature and also in inscriptions, namely the forms which belong either to the \( t \)-less or to the \( t \)-ful paradigms. Each word is treated separately. Basically, what I do here is to extract from the Liddell-Scott Lexicon and the TLG\(^{14}\) both the \( t \)-less and the \( t \)-ful forms of the words in question and to see, on one hand, when and where (in what author and dialect) the \( t \)-stems occurred for the first time and, on the other, when the \( t \) is an archaism, when and where the \( t \)-less forms occurred. For the \( t \)-stems I determine then, to the extent possible, whether the first appearance of such a \( t \)-stem in a certain dialect is a matter of borrowing or represents a phenomenon which belongs just to that particular dialect. In other words, I consider whether, given that there might be other dialects in which this stem can be found, the appearance of \( t \) is due to a common heritage from a previous mother-dialect or whether it is a matter of a borrowing of some sort\(^{15}\). For this purpose it is crucially important to see what happens in all dialects. A form appearing in

\(^{14}\) *Thesaurus Linguae Grecae*, on CD, Irvine, California.

\(^{15}\) There can be literary borrowings in addition to the “normal” borrowings, which spread from speech community (dialect) to speech community.
dialects A and B could well have appeared at a time before these dialects split up that is to say in a putative proto A&B dialect. For example, if a $t$-stem can be found both in Ionic and in Attic then the default conclusion that the comparative method gives is that the theme appeared at least by the time of the Ionic-Attic unity, unless we can find some proof that the theme was borrowed later from one of the dialects$^{16}$.

An important step of this research is to see how the parallelism between forms evolved with time in respect to each other, namely whether one form became more predominant with time or not, and, at the same time, to establish what happened to the “old” forms, that is to say whether they were lost immediately or whether they continued to exist in parallel with the new forms. In principle there is no limit to the period of time which can be analyzed. To simplify matters I follow a period of time which begins with Homer, as the earliest literary source in Greek, and continues throughout the Hellenistic age. Nevertheless, where possible and necessary, I draw data from periods that go beyond this. I do not neglect, for instance, Mycenaean, in which some of these words can be found as well. The data is eventually set in tables highlighting the time, place or the center of spreading$^{17}$. Then I try, if possible, to draw some general conclusions about this morphological change, namely whether this is an issue which pertains to a specific dialect (or mother-dialect) or a matter of independent innovations in several dialects. Another

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$^{16}$ The claim may seem too strong, since independent innovations are not entirely excluded. Nevertheless, as we shall see, in our cases the possibility of independent innovations is reduced. This is, on one hand, because sometimes a form is met in more than two dialects (Ερωτ$, χρωτις, etc.). On the other hand, sometimes the innovations include many features, e.g., χρωτ二季度 presupposes also that the innovation started from the nominative form. All these facts increase the likelihood of our hypothesis. My claim is not a general one, but it applies to the particular cases we are dealing with here.

$^{17}$ By the “center of spreading” I mean the fact that it might be that in one dialect the $t$-stem is met more often than in another, so that it probably appeared first in that dialect; then the splitting up of those dialects resulted in a partial suppression of the $t$-stem in the second dialect.
central objective of this research is to establish for these themes the time of spreading, the place of spreading (in what dialect) and the point from which the spreading took place. I also try to establish whether the spreading of this morphological change started off with a certain case and then affected others. This inquiry is not trivial, since the claim has been made\(^{18}\) that the Greek t in neuter nouns in –\(\chi\mu\alpha\nu\mu\)a, \(\chi\nu\omicron\mu\alpha\tau\omicron\varsigma\) spread from the ablative suffix -\(\tau\omicron\) first to the genitive and then to other cases, with the \(t\) being reinterpreted as part of the stem and not of the ending.

To sum up, there are two kinds of stems we are dealing with here: on one hand the stems that are originally \(t\)-less stems and acquire the \(t\) later, during historical Greek and in certain dialects only, and, on the other hand, the \(t\)-stems which have acquired their \(t\) at a very early stage of Greek, in the prehistory of Greek, but then change to a non-\(t\)-stem in historical Greek and display a morphological variation between the \(t\)-less and the \(t\)-ful stems.

**Stems with later \(t\)-insertion**

This process is a morphological change which affects certain words in Ancient Greek: a \(t\)-insertion in words which previously were not themes in \(t\). The most important fact here is that the insertion left traces of the former \(t\)-less stems, which can still be


\(^{19}\) It is represented in Sanskrit in adverbs like \(\text{ta-tāh}\). On the other hand, Greek has the adverbs \(\epsilon\nu\tau\omicron\varsigma\), \(\epsilon\kappa\tau\omicron\varsigma\) of the same origin.
found in certain dialects. For example, a word like κέρας has the “older” genitive κέρας<*κέρασις or even (via contraction) κέρως, which is the normal result of the inflection of a consonantal s-theme, but the “younger” form is κέρατος, which is the genitive of a t-stem κέρατ-. The fact that the original PIE form was without t is shown, for example, by Sanskrit, for which šīras is the word for “horn”. One can view that such an insertion was achieved as means of “regularizing” the paradigms, which tended to show fairly radical paradigm-internal allomorphy because of the various contractions which were taking place between the vowels of the stem and the ones of the endings. The Attic κέρως\footnote{α+ο→ω in Attic as a result of the so called “Attic contraction”.} would be a good example in this respect. Of all the words which this work takes into consideration, κέρας and κρέας = Skt kraviḥ are the only ones for which we can assert with certainty that the PIE form was a t-less one.

Thus, from a modern perspective, in which we have the advantage of knowing what happens not only in Greek, but also in other IE languages, we can assert that the original forms were ones that did not have the t in their stems. This is obvious by comparing the Greek with other IE languages. The IE comparative perspective, however, was not something the ancient grammarians had the advantage of. Thus it is interesting to see what these grammarians believed about this morphological change. The most important information we have about this belongs to the grammarian Aelius Herodianus, in the 2\textsuperscript{nd} century A.D., who asserts in his work Περὶ κλισέως ὄνομάτων that the nouns which end in Greek in –as have t in the paradigms of Attic dialect and no t in Ionic
dialect. From what follows we see that the Greek grammarians had a good knowledge about the dialects of Greek and that they were sensitive to the dialectal differences, but their interpretation of the facts lacked the sense of historicity given by the comparative perspective. Let’s see then what Herodianus has to say [21] about the existence of the *t*-stems:

...  ἰστέον δὲ ὅτι, ὡς εἰρήται, πάντα τὰ εἰς ἀς λήγοντα οὐδέτερα διὰ τοῦ τῶς κλίνεται οἶον γέρας γέρατος, δέρας δέρατος, κέρας κέρατος, κρέας κρέατος. καὶ ἐπειδὴ τὰ εἰς ἀς λήγοντα οὐδέτερα πέφυκε πολλάκις γίνεσθαι καὶ εἰς ὧς οἶον δέρας δέρας, κόσμος κῶς, γήρας γήρος, τὰ δὲ εἰς ὧς οὐδέτερα διὰ καθαροῦ τοῦ ὧς κλίνεται οἶον βέλος βέλεος, τείχος τείχος, εἰκότως καὶ ταῦτα τὰ εἰς ὧς οὐδέτερα ἔσχεν ἀφορμὴν ὡς γινόμενα καὶ εἰς ὧς τοῦ ἔχειν διὰ καθαροῦ τοῦ ὧς τὴν γενικὴν, καὶ τούτου χάριν ἀποβάλλουσι τὸ τὸ Ἰωνα σὸν κρέατος κρέας, γήρατος γήρας, κέρατος κέρας: καὶ λοιπὸν ὥστε Ἀττικοὶ συναιροῦσι τὸ ὁ καὶ ὁ εἰς ὁ καὶ λέγουσι τοῦ κρέας, τοῦ γήρως καὶ δέρως βαρυτόνως.

The translation of this passage is as follows: “...it is to be known that, as they say, all the neuters ending in –*as* are declined with –*tos* like γέρας γέρατος, δέρας δέρατος, κέρας κέρατος, κρέας κρέατος. And since the neuters ending in –*as* often change to –*os* like δέρας δέρος, κόσμος κῶς, γήρας γήρος, and the neuters in

[21] Περὶ κλίσεως ονομάτων, 3.2.772 sqq; the same opinions are found in the 4-5th century A.D. grammarian Choeroboscos (citing Herodianus), Scholia in Theodosii Alexandrini, 1.353sqq.
–os decline through pure –os like βέλος βέλεος, τείχος τείχεος, it is likely that these neuters in –as had their beginning in the ones whose nature is determined by a pure –os, and, because of this the Ionians drop the t like in κρέατος κρεας, γήρατος γήρας, κέρατος κέρας. And the ones in Attica contract the α and{o into ω and pronounce barytonically κρέως, γήρως, δέρως...”22

As we can see, Herodianus sees the order of facts in a reverse way: he believes that, for all the neuters with the nominative in –as, the original stems had t, whereas the Ionic forms without t are due to the dropping of t in their paradigms. Aside from this observation, which may or may be not true23, Herodianus’s account is important for us because he recognizes a very important fact: people from different dialects had different preferences, and they were using different forms in their speech. This sets the tone for the research that follows. I try to see how these different forms coexist with each other, whether different dialects were using only certain forms the way Herodianus accounted for them or whether, at least in some words, the same dialect could use both forms.

The representative words for this part of our classifications are all the words I have enumerated with the exception of the neuters with the nominative singular in –as. Moreover among these there are at least two about which we are sure that they were not t-stems in PIE: κέρος and κρέας.

22 Since I could not find any translation of this work, the translation belongs entirely to me.
23 Our research will answer this question later.
The *t* as an archaism of Proto-Greek

The previous considerations apply to the situation where the *t* is an innovation, in the cases in which the original stems were *t*-less and then, for some reason, the *t* enters the paradigm. The other situation is when the *t* is an archaism and belongs to a very early stage in Greek language\(^\text{24}\), whereas the *t*-less-paradigm is the one which was later created, most likely by analogy. In these cases the strategy I follow is reversed: the “newer” forms are those without *t* and, consequently, my goal is to establish when and in what dialects these forms occurred. Then I examine the way in which these new stems coexist with the “older” *t*-ful stems. The principle, however, is the same: to establish which stems are older and then see the way the various forms coexist throughout centuries.

The fact that the *t* in some of these *t*-stems might be older than other allomorphs was noticed as early as the 2\(^{\text{nd}}\) AD grammarian Herodianus, who believed that the Ionic dialect lost the original *t* in some *s*-stems and the Attic dialect uses the one in which it was original. We will take a closer look at this opinion and see whether we can judge its validity or not.

In the terminology of modern historical linguistics, Herodianus raises a problem which is well known to linguists: given two forms of the same word in the same language, which one of them is an innovation and which an archaism? This formulation is equivalent to seeing which form is older and, consequently, belongs to an older stage of the language. In our case, what Herodianus says is that some of the *t*-forms, namely

\(^{24}\) See note 3.
the neuters with the nominative in –\textit{as}, represent an older aspect of Greek and, therefore, in modern terminology, are archaisms.

If the \textit{t} might be an archaism, then a new legitimate question arises: what is its origin, since there is no conclusive evidence for \textit{t}-stems in PIE? Another important question regards the way Ionic lost the \textit{t}, if this is the case and Herodianus was indeed right.

Benveniste gave a partial answer\textsuperscript{25} to all these issues in his brilliant book, \textit{Origines de la formation des noms en Indo-Européen}\textsuperscript{26}. According to him, the neuter stems ending in –\textit{as} in Greek are former neuter stems ending in –\textit{r}, which displayed in their paradigms the PIE alternation \textit{r/n}. The \textit{n} then is assumed to have vocalized when it was interconsonantal within the paradigm. In Greek we can still see this situation in words like \textit{ʰpʰαρ}, \textit{ʰpʰατος} where the original PIE form is assumed to have been \textit{*yēkʷr} the nominative. The alternation \textit{r/n} then would have worked through the rest of the paradigm: the genitive, for example, would have been \textit{*yakʷn(t)os}>Gk \textit{ʰpʰατος}, Skt. \textit{yaknas}, Lat. \textit{iecinis}, where the \textit{α} in Greek is the result of the vocalization of \textit{*n}. We can also see that Greek displays a \textit{t} in this paradigm; this fact is similar to what we find in the stems in \textit{*–mŋ} of the type \textit{двομα}, \textit{двοματος}. The \textit{t} itself in the paradigm of this latter type is obscure and still remains until today an unsolved problem, with which we will not deal here. What does matter for our purpose is the fact that the inherited PIE alternation

\textsuperscript{25}Schwyzer, \textit{Griechische Grammatik}, 514, n.6, is skeptical about this, considering that Benveniste went too far with his speculations.
\textsuperscript{26}Paris 1935, p.34sqq.
$r/n$ lies in Greek at the heart of the suffix $–at$-, whose $a$ originates in a vocalized $^*{ŋ}$ and ended up being treated as a unit, analogically, as seen in words like γόνυ, γούνατος.

Benveniste’s main argument for such a solution is the existence in Greek of traces of this old alternation between $r$ and $n$. A word like γέρας would have had its original form $^*γέραρ$ and, consequently, its genitive would have been γέρατος, in the same way we saw above that ἱπαρ had the genitive ἱπάτος. The proof for this is the existence in Greek of several words in which the old $r$ still shows up: γεραφός, γεραῖρω $<^*γεραρτω$. On the other hand, traces of the alternation with $–^*n-$ can be seen in words γεραίνω or γέρων. Benveniste considers that all the neuters in $–as$ in Greek are actually the result of this passage from former $–ar$ stems to $–as$ stems, with the exception of κρέας and κέρας, whose IE cognates show that the $a$ is a former PIE laryngeal: Gk κρέας corresponds to Skt kraviḥ; Gk κέρας $<^*κερΗs$, Skt śiras $<^*κτΗos$. There are other words which might display the same alternation. Τέρας has a doublet τέλωρ (presumably a dissimilation from $^*τέρωρ$), which, in turn, might have coexisted with an ablaut variant $^*τέραρ$, in the way Greek has the doublet τέκμωρ-τέκμωρ; τέρας then in the nominative would be the result of a dissimilation process and the genitive τέρατος would be the reflex of the older form which showed the alternation $r/n$. Another word of such sort could be σέβας. There is an adjective in Greek σοβαρός, which suggests a stem $^*σέβαρ$. In this way we can explain the adjective σεμνός $<^*σεβνός$, which, again, reflects the alternation $r/n$. Ψεφας points
to an older *ψεφαρ attested in ψεφαρός. Πείρας, on the other hand, does have a historical variant πείραρ and the alternation is clearly seen in the verb περάινω<

*περανύ. Δέμας must have had a doublet *δέμαρ still recognizable in Germanic: Old Norse timr, Old English timbr(i)an = “construction wood”, etc.; on the other hand, Greek itself has δέμνιον = “bed”, which still displays the n-form alternation.

Benveniste also shows the fact that the themes in –r are not stable because of their irregular paradigm. This fact is shown by examples where Greek has doublets for the themes in –r: μῆχος-μῆχαρ; πῖος-πῖαρ, etc., which are themes in –es- of the type γένος. We also met in our research such variants: τέρεσς, κρέσσς, etc. They are nouns in –as passed to a γένος-type declension.

These are, in short, the considerations Benveniste made about the origins of the neuters in –as, and his arguments are very strong. Nevertheless, he does not go into more detail or offer explanations for the other forms, namely the ones which are not archaisms, but innovations. In other words, he did not answer the question regarding the origins of the declension of the t-less variants in some dialects: τέρας instead of τέρατος, etc.

Herodianus, on the other hand, provides us with a solution here: the t-less stems appeared as a consequence of dropping the t from their paradigms. Is it so? And, if this is the case, what was the mechanism of dropping? When did it happen in the history of Greek and in what dialects?

Our research might be able to provide us with the answer. I think we could choose between several hypotheses here. The first one, the classical, would be that at some
unidentifiable point in time Greek innovated in paradigms of the type τέρας and formed a genitive after the model of the consonantal stems by adding the ending to the theme: *τέραςος became the genitive of these nouns. And then the s dropped in Greek (in all dialects!) and Ionic chose the t-less variant, whereas the other dialects retained the more archaic form. This solution is a handy one, but it has an inconvenient aspect: since the s dropped intervocalically before the split of Ionic and Attic, we have to suppose that at some point in Attic the t-less forms coexisted with the t-variants. This is not impossible, but our research has shown that there is a clear cut between Attic and Ionic in this respect. Moreover, Herodianus confirms this fact, namely that in Attic there was only the form with t. There are some doubts here, however, which are cast by the existence in Attic of forms like (genitive) γήρως or κρέως (with -ως< *-*α-ος), which might be the relics of the time when these forms coexisted. This is as much as we can say right now about this point of view.

The other solution goes along with Herodianus’ assumption: the t was dropped in Ionic. We need then to establish the causes of this process. It would be hard for anyone to hold that this process was a phonological one due to some weakening which led eventually to the total loss of the t given that intervocalic –t- is otherwise maintained in Greek. More likely here it is the fact that the process was a morphological one, i.e., analogical. The only analogy which could have worked here is the one with the stems which did not originally have the t in them, namely with words like κέρας κρέας, etc. These stems have originally the genitive *κρέαςος>κρέαος, *κεραςος>κέραος. It is possible then that things happened the way Herodianus told us to have happened: the
analogy\textsuperscript{27} based on the equation \( \text{τέρας-τέρατος} \) vs. \( \text{κρέας-κρέατος} \) created a new genitive for the type \( \text{τέρας} \), namely \( \text{τέρατος} \) with the dropping of \( t \). The same equation worked in a different way in Attic: it was the archaic type \( \text{τέρατος} \) which prevailed\textsuperscript{28}. This view is also supported by the fact that, at least in the case of \( \text{κρέας} \), the theme in \( t \) appeared very late, which shows a certain resistance of the words that were originally \( s \)-stems. We can see now that Herodianus might have been right in his assumptions: Ionic might have been the dialect which dropped the \( t \) from the paradigm. Nevertheless, as I said above with regard to the first solution, a coexistence of the two variants during the older forms of the language cannot be excluded.

Before getting into the actual analysis of the words mentioned, we need to take up an issue here which is important in general for the neuters ending in the nominative singular in \( -\text{as} \). Although there are many words of this sort in Greek, the reason why we do not take them into account is quite simple: they do not display at any time, in Greek, a \( t \)-stem. These words are: \( \text{δέμας, σέβας, σύδας, κτέρας, σκέπας, ἔρας, ψφος, σφέλας, κώας, βρέτας, λέπας, λιπας, κλέπας, κλέτας} \). It would be interesting to see what forms various dialects use for these words.

- \( \text{Βρέτας} \) “wooden image of a god” appears in more forms, but, again, is declined like an \( -\text{os} \) neuter: the dative \( \betaρέτει \) (A.Eu.259), the nominative/accusative plural

\textsuperscript{27} The Aeolic forms like \( \text{τέρες} \) are not very helpful, because they only show the passage from one type of declension, namely the \( -\text{as} \) type, to that of \( \gammaένος \). This process could be very old since we have it in Ionic as well. On the other hand, even the doublets Benveniste mentioned support this idea.

\textsuperscript{28} Our research shows that this happened relatively late in Attic.
βρέτεα (A.Supp.463), βρέτη (A.Th.95, etc), the genitive plural βρετέων (A.Th.97, Supp.429), the dative plural βρετάσσει (Nic.Fr.74.68).

- Δέμας “body” is found only once in an oblique case, the dative δέμαι (Pi.Pae.6.80), that is to say in an author whose dialect relies on Doric.

- Ερας is a word that does not exist as such, but it can be met in the derivative in –νο- ἐραννός “lovely”.

- Κλέπας “wet” is met in no other forms.

- Κλέτας “slope” displays no other forms as well.

- Κτέρας “funeral gifts” is treated as an –ος neuter as well: κτέρεα is the nominative/accusative plural in Homer (Od.1.291 and 2.222; Il.24.38) and Moschos (Mosch.4.33); the genitive plural is κτερέων (Od.5.311, Epigr.Gr.514), the dative plural κτερέσσι (A.R.1.254).

- Κώας “fleece” is treated like the –ος neuters: κώεα (II.9.661, Od.23.180) is nominative/accusative plural; the dative plural κώεσι (Od.3.38, etc).

- Λέπας “rock” is used only in nominative/accusative singular and, therefore, is not relevant.

- Λίπας “fat” has the genitive singular (Aret29.CA.1.1) λίπως and the dative singular λιπαί (Aret.CA.1.1).

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29 Aretaeus Medicus, the 2nd century AD.
• ὕδας “earth” displays the genitive ὕδεος in Homer (II.12.448, Od.9.242) and the dative ὕδει in Homer (II.24.527; 5.734; 8.385) or ὕδει (II.23.283, h.Merc.284)

• Σέβας “reverence” has the nominative plural σέβη (A.Supp.755) as if it were from σέβος.

• Σκέπας “shelter” has the genitive σκέπαος (Arat.857), the nominative/accusative plural σκέπα (Hes.Op.532).

• Σφέλας “footstool” has the accusative plural σφέλα (Od.17.231), the dative σφέλαι (A.R.3.1159).

• Ψέφας “darkness” has the genitive ψέφαος (Pi.Fr.324).

The conclusion that can be drawn from these words is that they are treated as s-themes (neuters in -as or –os) in most of the dialects.

We can begin now, in the next chapter, our research about the words which present allomorphic variation between s-stems and t-stems. The words are presented alphabetically.
CHAPTER 2

INTRUSIVE T IN GREEK STEMS

1) Ἁλας

Ἀλας, “salt”, is, probably\(^{30}\), formed from the accusative plural of ἄλας, ἄλως.

How old it is we cannot know. It is a neuter noun and displays only the ῥ-stem, but this happens very late, in Bolus Med. Et Phil., in the second century B.C. (ᾦλατι in Ad Leucippem 2.54.24), although Aristotle uses it for the first time as a neuter noun\(^{31}\) (Mir.844\(b\) 16), but not in the oblique cases. This fact shows that, beginning at least with koine, there was a tendency to introduce ῥ in words having –as in the nominative singular.

Conclusions:

This a word which seems to be created late, from the accusative of ἄλας, and its ῥ-stem allomorph shows up first in the 2\(^{nd}\) century B.C.

2) Ἀρτεμις

Ἀρτεμις has stems both in –τι- (SIG 765, Doric in Rhodes; in the 2\(^{nd}\) B.C. at Delphi, SIG 671 A6- Ἀρτέμιτι; in Mycenaean Atemito=Ἀρτέμιτος, dative

\(^{30}\) See Chantraine.

\(^{31}\) ἄλως, ἄλως is masculine.
Atimite=Ἀτήμιτει) and in –ιδα- (SIG VII, 546 in Boeotia; H. Ven.16 has the accusative in-ιδα). Also there is a form Ἀτημινυ for the accusative (H.Ap.15, Pi.frg. Paean 52 d.1, etc.). A dative Ἀτημιτ shows up in Argos (IG 4.577). In Doric there is also a name of a month Ἀτημίτιος (Th.5.19).

Conclusions:

The τ in this word is old, Common Greek, since it shows up in Doric and Mycenaean. The τ-less accusative and dative forms continued to exist.

3) Γέλως

This word appears in Homer only without τ: the dative singular γέλω at σ 100, the accusative singular γέλω at σ 350, ν 8, 346.

In the Homeric hymns we meet the compound form ἡδυγέλωτα, which shows up in the first hymn to Pan (37), but this was composed later, in the 5th century.

The first time the theme in τ shows up is in Aeschylus, (Ch. 447), where we find γέλωτος. Thespis still uses the accusative singular γέλων, which is, probably, a reinforcement of the accusative ending with ν (3.2). Pythagoras has the form γέλωτι.

In the 5th century the forms with τ are more and more numerous: Thucydides

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32 Chantraine, ibidem, inclines to believe that this is a proof for an original τ-stem. Nevertheless things are far from being clear. See below.
33 We deal here with authors living at the end of the 6th century A.D. and the beginning of the 5th.
34 He was an Athenian.
35 The Homeric manuscripts hesitate between γέλω<ν γέλων, γέλων and γέλων. See Chantraine, Morphologie, p.72.
36 We need to be cautious here, because the word is mentioned by D.L. (88.22-4).
(4.28.5.1) has γέλωτος, Euripides (Melanipp.Capt. 492.1, 5) has γέλωτος and γέλωτη, but he also has one instance of γέλων (Med.383). Sophocles generally has the t-stem, but he has γέλων in Aj. 303 and Ant. 647. Aristophanes makes use of both γέλων (Vesp.1260) and γέλωτα (Av. 732), whereas Xenophon and Plato use only the t-stem. In the Ionic dialect Herodotus uses only the theme in $t$, for example, γέλωτα at 2.121, 3.29.7, and Hippocrates does the same. In the 4th century, Apollonius has γέλω at Arg. 4.172, but this probably is due to Homeric influence.

Conclusions:

a) The theme in $t$ is not used in Homer

b) It appears first in Aeschylus and Pythagoras and it is used consistently afterwards in the Attic dialect. In the Ionic dialect it is not so richly represented. Its use in Herodotus could be an Atticism, and it could be so in the case of Hippocrates and Pythagoras too.

c) The only older form which shows up after Homer is the accusative singular γέλων: Thespis, Euripides, Sophocles, Aristophanes and Apollonius (hexameters) are such examples. It seems that this form was the last one to be replaced and, in any case, the most resistant to being removed. It seems, then, that the $t$-theme of this word is an Attic innovation.

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37 Under this name there are works from different centuries and dialects.
38 The case is almost similar with what happens with χαριν.
4) Πέρας

Πέρας has a different story. There are almost no indications$^{39}$ of a theme in $t$.

The only$^{40}$ evidence of a theme in $t$ is its mention in the work of Aelius Herodianus in the 2$^{nd}$ century A.D., cited above.

The forms are given below.

Πέρα, with short α by apocope, is either nominative or accusative plural; it shows up in Homer (B237, I 334= δ 66); in the 6$^{th}$ century in Aeschylus (Pr. 82, 107, 229, 439) and in Heraclitus; in the 5$^{th}$ century in Thucydides (1.25.4.2), Euripides (Ph. 874, where the form is not apocopated, with long α), Sophocles (OC1396), Plato (among others in Resp. 414 a 4) and the list continues until even Philo Judaeus (Mos. 1.321.1) in the 1$^{st}$ B.C. and beyond$^{41}$.

Πέραων appears as early as Hesiod (Th 393, 396) and in the hymn to Demeter (311) and continues in the 4$^{th}$ century with Theocritus (22.223). A contracted form γερων appears in Thucydides (3.58.5.5).

The genitive singular doesn’t show up until Xenophon$^{42}$ and then with its contracted Attic form γέρως (Ages 1.5.8).

The dative plural has several forms: the Aeolic γεράεστι in Hesiod (Th. 449)

$^{39}$ The nominative plural γέρος is still in use today.
$^{40}$ Its occurrence in IG 14.1389 i29, γέραεστι, is based on conjecture, the inscription (2$^{nd}$ century AD) showing clearly γέρας.
$^{41}$ Even Plutarch, in the 1$^{st}$ A.D., uses it extensively (for example in Sert. 14.4.4)
$^{42}$ 5$^{th}$ century BC.
and Theocritus\textsuperscript{43} (Id. 17.109) and γέροςι in Thucydides\textsuperscript{44} (1.13.1.4).

A different form of the root (with “regular” neuter $s$-stem inflection) in oblique cases appears in the Ionic dialect: Herodotus uses the nom/acc. Pl. form γέρεα (2.168, 3.142, etc), which also shows up on a inscription from Miletus dated around 300 BC (SIG 1037); the contracted form γέρη appears in SIG 1025 (Cos) and is dated also around 300 B.C. Menecrates uses γερέων, the genitive plural, and so does Dionysus of Halicarnas in 1 B.C. (AR 1.48.310).

Conclusions:

a) Γέρας appears in the overwhelming majority of occurrences as a theme in $s$ in all dialects, including Attic. This is in contrast with Benveniste’s theory, according to which γέρας is a word that was originally an $r/n$ stem, with $r$ in the nominative.

b) The only reference we have for a theme in $t$ is found in Herodianus, in the 2\textsuperscript{nd} century A.D.

5) Γῆρας

This is a word which, like γέρας, also displays most of the time only the theme in $s$. In Homer we find a dative singular γῆραι (Γ 150, Ε 153, etc) and another one (for

\textsuperscript{43} We can see clearly here the influence of epic poetry.
\textsuperscript{44} This shows the first occurrences of these forms.
which we cannot say whether it was contracted\textsuperscript{45} or not) \(\gamma\eta\rho\varsigma\), about which ancient grammarians said they had \(\tilde{a}\), due, probably, to the contraction of \(\text{–αει}\), where the \(\text{–ει}\) would represent an old dative desinence\textsuperscript{46}. A genitive \(\gamma\eta\rho\rho\omega\varsigma\) appears at \(X\ 60\), \(\Omega\ 137\), etc. and also in Hesiod (Op. 331). The dative \(\gamma\eta\rho\omega\iota\) also appears in Hesiod (Op. 705).

\(\Gamma\epsilon\rho\rho\omega\varsigma\), the genitive singular, shows up throughout the centuries in all dialects. In the 7\textsuperscript{th} century it shows up in Archilochus (Fr.188.2), Mimnermos (Fr.2.6). In the 6\textsuperscript{th} century it occurs in Theognis (1.527) and Pindar (Frg. Oaian. 52a.1). In the 5\textsuperscript{th} century is found in Herodotus (3.14.40) and Plato (Resp. 328 e6); and the list continues in the subsequent centuries. A contracted form \(\gamma\eta\rho\rho\omega\varsigma\textsuperscript{47}\) occurs in many dialects: in Sappho (Fr.S260.1), Theognis (1.174), Anacreon (Epigr.9.716.1), Euripides (Alc.412), Sophocles (Ant 608), Plato (Alc.1.122.b 2), etc. The largest number of examples of the contracted form comes from Attic and, besides, the form is not met in Homer. Probably because of these reasons Chantraine believed that the contraction was Attic. But, as the evidence shows\textsuperscript{48}, the contraction seems to have occurred earlier and has a chance of being at least Ionic-Attic. Homer has only a few examples (4) with the uncontracted genitive, and in all those cases \(\gamma\epsilon\rho\omega\varsigma\) would have fit the meter as well\textsuperscript{49}. But there is also in Homer a

\textsuperscript{45} It could be a scribal preference, especially if the scribes were from Attica; for example in line \(\lambda.136\): \(\gamma\eta\rho\alpha\ ύπω \lambdaίπαρῳ ἀριθμον \alpha\mu\iota\ ν \deltaε\ λαοι, \gamma\eta\rho\alpha\) could be scanned as \(\gamma\epsilon\rho\omega\iota\) with elision before vowel. Nevertheless, there are cases in Homer where \(\sigma\epsilon\lambda\alpha\iota\) is scanned in two syllables, i.e., \(\Theta\ 563\).

\textsuperscript{46} See Chantraine, \textit{Grammaire Homérique}, 50.

\textsuperscript{47} The contraction is considered to be Attic by Chantraine, \textit{Dictionnaire Etymologique}; it seems that the evidence shows something else as will be shown below..

\textsuperscript{48} It is hard to explain how it got into Sappho. See below.

\textsuperscript{49} \(\Omega\delta\ 15.246\ \pi\alpha\nu\tau\sigma\iota\nu\ \phi\iota\lambda\sigma\tau\iota\tau\iota\tau\iota\nu\cdot \sigma\omicron\upsilon\upsilon\ ι\kappa\epsilon\tau\iota\ \gamma\eta\rho\rho\omega\varsigma\ \sigma\iota\upsilon\delta\nu\). As we can see, \(\gamma\epsilon\rho\omega\varsigma\) would have fitted the meter without problems.
contracted adjective in the nominative, ἀγήρως (M 323, P 444, Θ 539, etc.)<*ἀγήρωςος 50 which shows that, perhaps, the forms coexisted after the contraction had taken place 51 in Ionic-Attic. In this case, my supposition is supported by evidence shown in different dialects.

Sappho’s case shows more than this, namely that the contraction in this word could have taken place before the Aeolic and Ionic migrations 52. The dative γήρατι appears as often as the genitive: in the 6th century in Pindar (N7.99) and Ibycus (Fr.6.6); in the 5th century 53 in Sophocles (γήρας in Aj.507), Herodotus (6.24.7), and Plato (γήρας in Resp. 329 c 6); and the list continues in the following centuries.

A special problem is posed by the adjective ἀγήρως, which comes from *ἀγήρωςος, and can be found in Homer in the formula ἀγήρως ἡμάτα (ε 136, η 257, ψ 336). ἀγήρως also appears in Hesiod (Th. 305, 955) and in the Hymn to Demeter (260). It is also found, rarely, in the 7th century in Stesichorus, in the 6th century in Pindar (P2.52), and in the 5th century only in Hellanicus (002 1a.4, F.19b.4) and Antisthenes (002 52b.2). Beginning with the 6th century, a form with τ appears in Simonides of Ceos (Epigr.7.253.4), ἀγηρατω. Then it appears more often in the 5th century in Sophocles (Fr.972.1), Xenophon (Mem 4.3.13.9), Plato (Ax 370d3), Lysias 50 It is unclear what the suffix is in this case: see Chantraine, Grammaire Homérique, p.49. Nevertheless, it is probable that the formation of this adjective belongs to the type of compounds described by Chantraine, La formation, p.13sqq: θρίξ- εὐτριχος, δνυξ- γαμψώνυχος, etc.; γήρας- *ἀγήρωςος would then fit into this category.

51 The claim can be made, of course, that the contracted form in Homer is an Attic feature. Nevertheless, the use of not contracted forms in, for example, Plato shows that it is most likely that we deal here with the coexistence of such forms.

52 Nevertheless, in the case of Sappho, a dialect borrowing cannot be excluded.

53 Sometimes the references are selected among many others as it is the case with Sophocles or Euripides.
(Or 279.5). Aristotle uses it in the 4th century (Cael 270b2). Nevertheless, this kind of adjective in –\textit{to}- may be older than our data lets us see. A parallel example can be seen between \textit{ανιδρωτος} and \textit{ανιδρως}\textsuperscript{54}, with the latter being found late, in the 2nd century A.D., in Ruf. Ren.Ves.6.2 and Aret.SD 1.16, 2.7, whereas the former is found in Xen. Cyr.2.1.29. Other adjectives like Homeric \textit{ανούτητος}, \textit{αβλητος}, etc. are old formations of the same type, so that we cannot tell whether they are derived from themes in \textit{t}, but rather as a very old type, which is found in PIE\textsuperscript{55}: adjectives in \textit{–to–}, the majority being derived from verbs. In this case the verb could have been \textit{γηράςκω}. On the other hand, however, coincidentally or not, the appearance of the \textit{–to–} adjective is paralleled by the insertion of the \textit{t} in the declension of \textit{γηρας}. This happens for the first time in Isocrates (Fr. 21.2, \textit{γηρατι}). After this, the theme in \textit{t} is very rarely found, the theme in \textit{s} appears instead as shown above. The next occurrence of the \textit{t}-theme is only in Aelius Herodianus in the cited context. Consequently, it may be that \textit{αγηρατος} reflects the appearance of the \textit{t}-theme for this word.

Conclusions:

a) \textit{Γηρας} appears as a theme in \textit{t} first in Isocrates, in the 4th century B.C., and thereafter is mentioned only late, in 2nd century A.D., by Herodianus. During all this time the theme in \textit{s} continued to be used, including the Attic dialect.

b) The adjectives \textit{αγηρατος} and \textit{αγηρας} also coexisted. The first time the

\textsuperscript{54} See chapter 3.
\textsuperscript{55} See Chantraine, \textit{La formations des noms en grec ancien}, Paris 1933, p.302 sqq.
theme in \( t \) is used is in Simonides\(^{56} \) of Ceos and then it appears quite often in Attic. The forms without \( t \) appear sporadically in the 5\(^{th} \) century with Hellanicus, who is from Mytilene (Lesbos), and Antisthenes from Athens.

c) \( \Gamma\eta\rho\alpha\zeta \) is a word whose etymology\(^{57} \) is related to \( \gamma\epsilon\rho\alpha\zeta \) and, consequently, may have been an “\( r/n \)” word originally, although there is no certainty about this fact. Thus the only conclusion that can be drawn is that this word displays a situation similar to \( \gamma\epsilon\rho\alpha\zeta \) and, given the etymological relation between them, may have followed the same path. The adjective \( \alpha\gamma\eta\rho\alpha\tau\omicron\zeta \) could be an older type that was probably present in Common Greek. The word \( \gamma\eta\rho\alpha\zeta \) doesn’t say too much about this since the theme in \( s \) was used in all dialects. From Herodianus’ point of view, it seems that by the 2\(^{nd} \) A.D. the theme in \( t \) was predominant in Attic. Nevertheless, our data shows that the themes in \( s \) continued to exist in parallel and, moreover, to be predominant in most dialects, including Attic, at least in the Classical period.

6) \( \Gamma\omicron\nu \)

The word displays two forms in Homer: both the one without \( t \) and the one with \( t \).

The genitive singular \( \gamma\omicron\nu\nu\dot{\omicron}\zeta < \gamma\omicron\nu\Gamma\dot{\omicron}\zeta \) at \( \Lambda \, 547 \) and \( \tau \, 450 \); the form

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\(^{56}\) Simonides is an Ionic writer, but his language is artificial and contains elements from all dialects. The basic features are Doric, the dialect of the choral lyric he writes. In this way, the \( t \) theme may not be only Ionic. In addition to this, the island of Ceos was largely populated by people from Athens; see L. Palmer, *The Greek Language*, p.128 and A. Lesky, *A History of Greek Literature*, New York 1956, p. 184.

\(^{57}\) See Chantraine, *Dictionnaire*. The origins of the long vowel in the stem are still in debate; among the most plausible origins is that it was derived from the old athematic aorist \( \epsilon\gamma\eta\rho\alpha\zeta \). Sanskrit has the short vowel in \( jari-man = \text{“old age”}, \) but long vowel in the Vedic sigmatic aorist \( j\acute{\text{a}}\text{ri}-\text{suh} \) (3\(^{rd} \) pl.).

\(^{58}\) These forms are, of course, the result of compensatory lengthening: \( \omicron\nu \) is a spurious diphthong.
γούνατος, with the –at- extension appears at Φ 591.

Neither the dative singular nor the accusative singular are represented in Homer.

The form γούνα of the nominative and accusative plural appears in Ζ 511, Ξ 468, Ο 268, Υ 93, Φ 611, Χ 204, 452, Ψ 444, ζ 147, τ 266, σ 395, υ 352. Among all these occurrences there is none which could have been replaced in the hexameter with γούνατα. Γούνατα, on the other hand, appears 45 times in Homer, sometimes in well-established formulas like γούνατα καὶ φιλὸν ἡτορ (9 times) or γούνατ’ ἐλύσεν (10 times). It is worth noting that these forms cannot be replaced by those without τ. In many instances the following word begins with a vowel and the α of γούνατα is elided; but so too would be the α of γοῦνα, so that these forms are irreplaceable within the line.

The genitive plural γούνων appears 25 times in Homer (15 times in the Iliad), for example in Α 407, Ζ 45, etc.

The dative plural shows up either as γούνασι (18 times in Homer, 10 times in the Iliad, as in Ε 370, with short α) or as γούνεσσι59, which is met 3 times in the Iliad (I 488, ΠΙ 451, 569). It can be noticed that the two forms occupy different places within the hexameter.

The theme without τ doesn’t seem to have lasted long after Homer. It appears mostly in poetry, in hexameters, which is probably due to Homeric influence: γοῦνα in

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59 Aeolic ending applied to an Ionic stem. This is clear because of the lengthening which occurred in the stem, γοῦν-, and which is Ionic not Aeolic.
Empedocles; γούσις in Homeric hymns (Dem. 263, Herm. 328). In the 7th century we can still find some Aeolic forms, γόνα in Sappho and Alcaus, or γόνων in Alcaeus. Sporadically, the theme without \( t \) continues to appear in the subsequent centuries: in the 4th century in the hexameter of Alexander Lyr., γούσις, in the 3rd century in Apollonius (3.187 and 1384 for example).

The theme in \( t \), however, begins to be predominant after Homer: it appears in Hesiod: γούσιτα in Op. 587, 608, then in Tyrtaeus (Ionic dialect) and Alcman (Doric, but with Ionic and Aeolic influences). Herodotus (Ionic) uses it (γούσιτων in 1.112.4 for example) and also Hippocrates. Theognis in the 6th century (1.978) is another example for Ionic. Euripides and Sophocles use only the \( t \)-stem.

Conclusions:

a) This word displays the \( t \)-stem beginning with Homer, who also makes use of the \( t \)-less stem.

b) The \( t \)-less stem becomes very rare after Homer; it is found only in hexameters to fit the meter or in Aeolian poetry (Sappho and Alcaeus). In Ionic and Attic dialect it seems to be well established in the 5th century BC. There is no compelling evidence for what happens in Doric dialects. The theme in \( t \) seems to have occurred first before the Ionic and Attic split. It could also be that the development of the \( t \)-theme was faster in Attic than in Ionic. On the other hand, the Aeolic seems not to have the theme in \( t \) by the time of Sappho. Nevertheless, the examples in this dialect are very few.

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\(^{60}\) The *Hymn to Demeter* could be composed in the first quarter of the 7th century, the one to Hermes sometime in the middle of the same century.

\(^{61}\) These forms are Aeolic because they are not contracted as in Ionic.
7) Δέος

Δέος is one of the two neuter nouns in -es which get a t in their paradigm. This t shows up twice, in Sophocles (Fr.328) δέατος and in Hecataeus (Fr.364J.) δέατις. Both these fragments are found in Herodianus’ Περὶ μονήροις λέξεως (p.30.18). Herodianus brings these examples up in order to show that certain authors used some of the cases of these nouns analogically to the declension of nominal neuter stems that have -as in the nominative singular. He also says that the analogical use did not affect the nominative singular. In other words, there was no δέας. Whether Hecataeus or Sophocles reflected in their use of this word the way people spoke in the Ionic or Attic dialects we cannot say. If this is really so, then the insertion of t into the paradigm of such words could be Ionic-Attic or even older. There is a similar case with the word for “ear” σύς (< *σύς, a neuter noun), ὀτός, which in Ionic has the genitive singular form σύατος< *σύατος from which a new nominative singular, σύας, was built. The paradigm of this word is very old, predating the split of dialects. In this way, for a word like Δέος we could have the same situation. In any case, aside the two forms from above, this word displays the s-stem all the time: the genitive δέους (Homeric δείους Κ376, O4; Plut.Flam.7), dative δέετ (D.21.124; Th.1.26; Alex.110.6), nominative/accusative

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62 Δέος and σπέος.
63 The type γένος.
64 See for details, Szemerenyi, SMEA 3, po.47sqq.
65 Simon 37.14.
66 Δείους stands for *δεεος before consonants. Therefore, the diphthong ΟΥ is spurious; see Chantraine, Grammaire homérique, p.7.
plural δέη (Lys.6.20, Ael.NA8.10). We can thus see that in later times there were no forms with τ, the noun behaving exactly like an –es stem.

8) Δέπας

This is a word which does not have an IE etymology\textsuperscript{67} and, since there is no PIE r/n alternation in its structure, it does not have an archaic τ in its stem. Δέπας is met extensively in Homer without the τ in the stem. It is also found in Mycenaean as di-pa\textsuperscript{68}, the nominative singular form, and the dual di-pa-e\textsuperscript{69}, which shows that at that time, for that dialect, the τ-stem had not been built yet. This fact is also an indication that the word does not come from a PIE stock where, according to Benveniste, the alternation r/n played such an important role in paradigms.

The dative singular δέπαϊ is found in Ψ 196, Ω 285, γ 41, o 149, σ 121, υ 261. Another dative form, δέπα, appears in κ 316. The dative plural δεπάςσι occurs at Α 471, Γ 295, Θ 162, Ι 176, Μ 311, γ 380, 472, η 137, 183, τ 10, σ 418, φ 272, whereas the form δεπάςσι occurs at Ο 86.

The genitive singular is not met in Homer, only the genitive plural δεπάων, at Η 480. The form of the nominative and accusative plural, δεπα, appears at o 466, Τ 62, υ 153. The genitive singular occurs for the first time only in 3\textsuperscript{rd} century, in Apollonius: δεπας at Arg. 3.10.36.

\textsuperscript{67} See Chantraine, Dictionnaire.
\textsuperscript{68} The form with i displays an alternation i/e which occurs in Mycenaean with words of this kind, which are borrowed presumably from pre-Hellenic speakers; see, Ruijgh, Études, p.71.
\textsuperscript{69} See Ruijgh, Scripta Minora II, p.30.
What is interesting about this word is that it almost always displays only the old stem. Despite the fact that it shows up very seldom, writers use the theme in *s* beginning with Aeschylus in the 6th century until Photius in the 9th century A.D. and even beyond that. The only time when the *t*-form appears is in the work of a grammarian, Theodosius, in the 4th century A.D.: δὲπατος in Περὶ Γραμματικῆς 3.135.20. Theodosius, like Aelius Herodianus, says that Attic speakers used the form with *t*, whereas the Ionians used the one without *t*. Another occurrence could be in an inscription found in Thera (IG 12(3).450a1), the form δὲπατε, but the word is given as dubious by Liddel-Scott. The inscription is dated around 500 B.C. by Jeffery70, but the first two letters from this word are missing.

Conclusions:

Δὲπας is a rare word, which seems to have been used mostly as a theme without *t*. It is not clear whether the Attic dialect used the *t*-form, but it seems that most of the time the *s*-stem was the norm in all dialects.

9) Δὲρας

This word does not seem71 to fit into Benveniste’s theory. Δὲρας is not used in Homer. It is a variant of δὲρος, which is also not found in Homer, and, at the same time, it is considered to be a poetic and Ionic variant of δὲρμα. The reason for mentioning

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71 Despite Benveniste’s claim that all the words in –as except κρέας and κέρας are former representatives of the *r/n* alternation. Although δὲρας is an IE word (see Chantraine), it offers no evidence for having had in its structure the alternation *r/n.*
such a rare word is the fact that it displays both forms: the theme in $s$, which appears only very late, in Diod. Sic. 4.56, in the 1st century B.C., in the contracted genitive, $\delta e'pouj$\textsuperscript{72}, and the theme in $t$ in the genitive, $\delta e'patoj$, which appears late as well, in Aelius Herodianus, in 2nd century A.D. Aelius Herodianus makes the comments we mentioned above about the fact that in the Ionian dialect the nouns ending in -$s$, like $\delta e'paoj$, have the genitive in –$aoj$, and not in - $toj$, so that the word has the form $\delta e'paoj$.

In sum, we can say about this rarely mentioned word that it continued to be an $s$-theme in the Ionic dialect, whereas in Attic it appears attested as a $t$-stem very late, in the 2nd century A.D.

10) $\Delta e'pou$

This word is parallel in many ways to $\gamma'pouj$, the most important being the fact that both the theme in $t$ and the one without it appear in Homer. Nevertheless, Hesiod uses both of them as well, but he uses the theme in $t$ only for $\gamma'pouj$.

The genitive singular $\delta oupouj<\delta op'fouj$ occurs in Homer at $\Gamma$ 61, 78, P 295, etc, in the Iliad, but only at $\tau$ 453 in the Odyssey.

The dative singular $\delta oupi<\delta op'fi$ is found at A 303, O 420, in the Iliad, or in $\theta$ 229, $\pi$ 441, etc. in the Odyssey\textsuperscript{73}. It appears also in Hesiod, Sc 362 and in the Thebais.

The nominative and accusative dual form $\delta oupel$ occurs at $K$ 76= $\sigma$ 377, $\Gamma$ 18, $M$

\textsuperscript{72} This is from $*\delta e'pe$ouj, the type $\gamma'pouj$.

\textsuperscript{73} It appears only 5 times in the Odyssey, without taking into consideration compounds like $\delta oupi$e$'l$e$'pouj$. 34
The dative plural has, as expected, two forms: the Aeolic\textsuperscript{74} \textit{δουρεσσι}, at M 303\(=\) Θ 528 and \textit{δουρασι}\textsuperscript{75} at Φ 162. This latter form appears also in Eumelos’ epic.

The genitive plural \textit{δουρων} is met at X 243\(=\) Ρ 384.

The nominative plural \textit{δουρα} occurs 43 times in Homer and it also occurs in Hesiod, Op. 807 and in the \textit{Homeric Hymn to Apollo}\textsuperscript{76}(403).

These forms continue to appear over many centuries. In the 7\textsuperscript{th} century, Tyrtaeus uses \textit{δουρός} and \textit{δουρασι}. Alcman uses \textit{δουρί}. In the 6\textsuperscript{th} century, Pindar uses \textit{δουρί} (N9.26), but he also uses \textit{δουρατος} (P4.38). Anacreon has \textit{δουρί} and Simonides\textsuperscript{77} both \textit{δουρατί} and \textit{δουρί}. In the 5\textsuperscript{th} century, Sophocles uses in Ph. 723 \textit{δουρατι} and so does Plato in Theaet. 207a 4. But Plato, in the 4\textsuperscript{th} century, also uses \textit{δουρων} in Resp. 389 d 3. Herodotus has only one occurrence of \textit{δουρί} (6.77.14). Theocritus in the late 4\textsuperscript{th} century and the beginning of the 3\textsuperscript{rd} century, i.e., in Hellenistic times\textsuperscript{78}, still uses both forms: \textit{δουρα} (16.78, 22.190), \textit{δουρατος} (22.185), \textit{δουρατι} (24.125). And the examples with this coexistence of both forms continue throughout the following centuries: Apollonius in the 3\textsuperscript{rd} century and Strabo in the 1\textsuperscript{st} century are such examples.

\textsuperscript{74} The ending is Aeolic, but it is attached to the Ionic form, \textit{δουρ}-.

\textsuperscript{75} The forms \textit{δουρατος}, \textit{γούρατος}, \textit{δουρατα}, etc. are the result of the analogy with words like \textit{δονμα}, \textit{δοματα}, namely the \textit{–at} suffix was added to these t-less stems; see Chantraine, \textit{Morphologie historique}, p.80; Sihler, \textit{New Comparative Grammar}, p.302. It is not the case that all the neuters in \textit{–u} got \textit{–at} in their paradigms: \textit{δακρυ} did not get it. Our task would then be to determine when this \textit{–at}-suffix was inserted in the words in question.

\textsuperscript{76} Probably at the end of the 6\textsuperscript{th} century BC.

\textsuperscript{77} Both writing in the Ionic dialect.

\textsuperscript{78} He writes in both the Ionic and the Lesbian dialects. See Lesky, A., \textit{History of Greek Literature}, p. 718.
The theme in Ḟ appears extensively in Homer, especially the genitive singular 
δοὐρατος (22 times in Homer) and the nominative/accusative plural 
δοὐρατα (17 times).

It also appears in the 8th century outside Homer in Hesiod (δοὐρατα in Op. 456
and δοὐρατι in Sc. 462) and Archilochus (δοὐρατα), who also uses the Atticism 
δορί (2.1). These Atticisms, namely the forms without the compensatory lengthening
after the loss of F, appear also in Pindar (δορί in I 8.52), tragic authors (Aeschylus
Supp. 1007 or Sophocles Tr. 478), and even in Hippocrates (in the compound
δορίκτητα). As we can see the forms without compensatory lengthening are not
restricted to Attic. Herodotus has δορατα (9.62.10), whereas Aristophanes has
δορατος (Ach. 1120), Thucydides δορατος (5.10.5.4), Xenophon δορατα (Hell.
2.4.15.4)), etc. Aeschylus uses the form δορος in Supp. 135. The form δορει can be
found in Sophocles (O. C. 620, 1314, 1386), where it is required by the meter. Δορί is
required by the meter in Aeschylus (Th. 347, 456, 958) and in Euripides (Hec. 909).

As we can see, the Attic forms are not restricted to Attic, and conversely the Ionic
forms are used by Attic authors as well.

Conclusions:

a) The word δορυ displays two themes as early as Homer and Hesiod.

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79 We remember that he used other forms of the same cases in the same works; see above.
80 This form in Pindar could also be Doric or even Aeolic.
81 Herodotus spent some years in Athens.
82 Under the influence of the type γενος.
b) Nevertheless, Homer and Hesiod seem to have known only the forms with compensatory lengthening\(^ {83}\).

c) Both themes survived throughout the centuries.

d) There is no clear division between authors who use one or the other dialectal forms.

The Attic authors tend to use the forms without compensatory lengthening more, but there are exceptions. Doric authors like Pindar use sometimes the Ionic forms.

e) The fact that the \( t \) exists in both Ionic and Attic forms shows that it got there by or even before the time of the Ionic-Attic unity, more precisely before the F disappeared. This is because both the forms with compensatory lengthening and the ones without it have the \( t \) in their paradigms.

f) There is no indication of the Aeolic form as was the case with \( γόνυ \).

There is also no indication of the Doric form.

\(11) \ ιϕως\)

This noun doesn’t show up as a theme in \( t \) in Homer. In \( \Gamma \ 442, \ Ξ \ 294 \), we find the nominative form \( ιϕως\)\(^ {84}\) and in \( \Xi \ 315 \) a thematic nominative \( ιϕος\)\(^ {85}\). The thematic form is used far more in the accusative singular, \( ιϕον \) (24 times in Homer, sometimes in fixed formulas at the end of the line, like \( έξις \ ιϕον \ έντο \)), than in the dative singular,

\(^{83}\) But see below, at (c).

\(^{84}\) We cannot tell whether this form is an \( s \)-stem or a \( t \)-stem: it could be either from \( ιϕως \) or \( *ιϕωτς \).

\(^{85}\) The thematic form is considered to be Aeolic; see Wathelet Paul, \textit{Les traits éoliens dans la langue de l’épopée grecque}, Roma 1970, p.255.
The thematic form ἔρων continued to exist after Homer. In the 7th century it is met in Sappho and Alcaeus and in the 6th in Theognis (Eleg1.1064). Even in the 5th century we find it in Euripides (Hipp. 337).

The form ἔρου, the genitive singular, is not found until 5th century, in Hippocrates (Morb. 3.15.24), whereas the dative ἔρω is met in Aeschylus (Supp.1002) for the first time since Homer.

The theme in ῖ appears for the first time with Sappho in the 7th century (23.1): the genitive ἔρωτος. In the 6th century we have in Theognis ῖ (Eleg. 2. 1350) ἔρωτι then we have in Pindar ἔρωτες (P 10.60, N 3.30), ἔρωτων (N 8.5), ἔρωτι (Frg. Encom. 127) in Aeschylus ἔρωτων (Supp. 1042), ἔρωτος (Th. 688, Ag. 743), ἔρωτας (Ch. 597).

Anacreon has the god ἔρωτα (Eleg.5.33.2). Euripides in the 5th century uses the ῖ-forms 44 times. He can use both themes in the same play, as is the case with Hippolytus, where he uses the thematic form (337, as above) and the ῖ-theme (775). But almost all the

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86 Usually believed to have been composed in the 6th century.
87 This hymn is believed to have been composed in the middle of the 7th century.
88 Theognis usually conforms to the Ionic style; nevertheless in his language features of other dialects, like Doric, can be detected. See Palmer, p.112.
89 This does not point necessarily to a Doric fact. It is a fact that Pindar, for example, was influenced by Ionic and even Lesbian.
90 The thematic form Euripides uses the most is the accusative one: he has 5 instances of ἔρων in comparison to 11 cases of ἔρωτα.
forms in Euripides show his preference for the *t*-theme. Even Herodotus in the 5th century uses it (Hist.5.32.11 and 9.113.14).

The theme in *t* can also be seen in derived forms or compounds. There is a verb ἔρωτικόω (for example in Hippocrates Prog 16.11). The adjective ἔρωτικός appears in the 6th century writers like Pythagoras or Epimenides. Anacreon has a name Ἐρωτιδεύς.

Conclusions:

a) Ἐρως is not a theme in *t* in Homer; the first time it shows up as such is in Sappho, in 7th century, in Lesbian. Nevertheless, we cannot draw an *argumentum ex silentio* from this fact: perhaps the theme in *t* couldn’t find a place among the Homeric formulas; the fact that Homer uses only the accusative might suggest such a conclusion. Sappho, on the other hand, in Lesbian, shows that Homer could have known the theme in *t*. In this way, the *t*-theme could go back even before the Ionic-Attic.

b) 5th century evidence (Euripides) shows that the theme in *t* becomes the dominant form at this time, at least in Attic.

12) Ἰδρός

This noun is one of those where there is a clear difference for the hexameter whether the poet uses the *t*-theme or the one without it. Homer uses only the *s*-theme:

a) the dative Ἰδρῶ< *Ἰδρῶστι in P 385, 745

b) the accusative Ἰδρῶ< *Ἰδρῶσα in Δ 27, K 572, 574, Λ 621, Φ 561, X 2.

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91 Ἐρων cannot be a metrical substitute for Ἐρωτα.
There is, however, an instance where Homer makes use of an apparent theme in \( t \): in \( \sigma 228 \) we find the adverb \( \alpha νιν\deltaρωτι \), with a \(-tι\) ending, which may be originally the reflex of a frozen locative\(^{92}\). There is also in Greek an adjective \( \alpha νιν\deltaρωτος\) (used, for example, by Xenophon), which may be or may be not related to the adverbs we are talking about here\(^{93}\). Chantraine seems to lean towards the interpretation that this adverb is ancient and reflects a theme in \( t \). Nevertheless, there are some other adverbs of this type which aren’t originally the reflex of a theme in \( t \), but the result of the reanalysis of the morphemes: \( \epsilonγηγορτι\), \( \alpha νιςτι\), \( \epsilonληνιστι\), etc. The \( t \) in such cases is likely then to have its origin somewhere else. We shall see later\(^{94}\) what this origin might be. In any case, it seems that the \( t \) in \( \alpha νιν\deltaρωτι \) and the \( t \) in the stem of \( \i(\deltaρ\omega)\) have nothing to do with each other.

The conclusion here is that the noun \( \i(\deltaρ\omega)\) is still a theme in \( s \) in Homer and gets its \( t \) only later. But let’s follow how the \( t \) got into the paradigm of this noun. The first time it shows up is in Hesiod, in Op. 289, where we have \( \i(\deltaρ\omega)τα \). After this occurrence we have a gap of two centuries and we find the \( t \)-theme only in the 5th century:

- in Greek tragedy: Sophocles has \( \i(\deltaρ\omega)τι \) in Aj. 10.
- Aristophanes has \( \i(\δρω\τα \) in Ach. 695 and Eccl. 750.
- Xenophon has \( \i(\deltaρ\ωτος \) in Oec. 10.8.5 or \( \i(\δρω\τα \) in Mem. 2.1.20.10.
- Plato has \( \i(\δρω\των \) in Phaedr. 239 c.8.

\(^{92}\) See Chapter 3 about the \(-tι\) adverbs.

\(^{93}\) These verbal adjectives are thematic, having the suffix \(-to\); in other words they are not \( t \)-stems.

\(^{94}\) See Chapter 4.
• Herodotus has ‘ὑδρῶται’ in Hist. 7.140.13.

• Hippocrates makes use of all the cases; nevertheless the latter has also ‘ὑδρῶς’\(^{95}\) (Aph. 3.21), which is a noun in the neuter plural meaning “heat-spots”.

Conclusions:

This noun most likely gets its theme in \(t\) in the Attic dialect and appears for the first time in Hesiod. Nevertheless a caveat here: the reason Homer didn’t make use of it if it existed might be the metrics, namely the fact that a form such as ‘ὑδρῶ’ in the accusative could have been the preferred one in the metrical structure, whereas the \(t\)-theme ‘ὑδρῶτα’, which scans differently, could have been “unfit” for the context in which such a word could have been used. The fact that in Λ 621, Φ 561, Χ 2 Homer could have made use of the \(t\)-theme if it had existed\(^{96}\) but didn’t might be an indication that in the Ionic dialect the \(t\)-theme was not current.

13) Κέρας

Κέρας is a word that was not originally an \(r/n\) stem and, therefore, its \(t\) is treated as a matter of insertion in later times. It doesn’t have a \(t\) stem in Homer or in the 8\(^{th}\) and 7\(^{th}\) century and, as we shall see below, forms with \(t\)-stem and without it continues to coexist from the 6\(^{th}\) century, when the first \(t\)-stem occurs in Pindar (κέρατον in Frg. Incert 166.4, 325.1), and Hecataeus (κέρατα in Fr.1 a, F 328 b, apud Eustath.II Γ6).

\(^{95}\) With variant ‘ὑδρῶς’, which is, probably, the original form.

\(^{96}\) The formula is ‘ὑδρῶ ἀποψυκτεῖς’
Then the theme in \( t \) seems to appear more often than the theme in \( s \).

Some Attic inscriptions from the last third of the 5\(^{th} \) century B.C. have it (dual κέρατε in IG I\(^2\). 301.109 and κέρατα at 237.59) as do Sophocles (Tr. 518), Xenophon (Anab. 3.4.20.3), Plato (Polit. 265d4), etc. As we can see from the above, the vast majority\(^{97} \) of the data belongs to Attic, a fact which could lead to the conclusion that the \( t \) was inserted first in this dialect. Unfortunately, there are few writers in other dialects, which could help us in making this case clearer. What is clear, though, is that writers continue to use both the theme in \( s \) and the one in \( t \) even in Attic. Herodotus, writing in the Ionic dialect, uses another form of the theme in \( s \), the one based on the analogy with nouns of the type γένος: the genitive singular κέρεος (Hist. 6.111.2), the dative singular κέρει (Hist. 9.10.26), the genitive plural κέρεων (Hist. 2.132.3), the nominative/accusative plural κέρεα (Hist.2.38.9). As noted earlier, the use of parallel forms is extended: Thucydides uses the contracted form of the genitive singular κέρως (2.90.2.5) and so does Xenophon (Hell. 1.7.29.7). Plato has χρυσοκέρως (Alc2.149c.2), which is an adjective showing up as a theme in \( t \) in Euripides (Hel. 382, the accusative χρυσοκέρατα), but also as an \( s \)-theme in a Doric accusative from a 3\(^{rd} \) century B.C. inscription in Cos (χρυσοκέρω, SIG 398.24). We can mention here a fact similar to one met above: the adjectives in –το-. We can find for this word, as we found for γήρας, both\(^{98} \) ἀκέρατος (Plt.265c) and ἀκέρως (Plt.265b, etc.)< *ἀκέρως.

In this case, if this adjective in –το- represented an ancient type it would be hard to

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\(^{97}\) The examples from Pindar and Hecataeus are not certain.

\(^{98}\) As we can see both forms were used by Plato.
understand its formation. There is no verb related to this word and we would have a form *άκέραστος, as we have for the Homeric ἀγέραστος = “unrecompensed” (Il.1.119), if it had started indeed from the s-theme. It seems then that what we find in Plato reflects a new formation of the t-theme for κέρας.

The Homeric forms are the dative singular κέρας (Δ.385), the genitive plural κεράων (P.521, etc), the dative plural with two variants, κεράεσσι100 (N.705, etc.) and κέρασι (K.294, γ.384, 426, 437), the nominative/accusative plural κέρα101 (Δ.109, τ.211, φ.395), with short α due probably to the same facts we mentioned for κρέας. As I noted above, these forms continue to exist throughout the centuries, but they are sporadic. The 7th, 6th and 5th centuries, for example, do not show either the genitive singular or the plural, but Callimachus in the 4th century102 uses κεράων (Ap.63) and so does Nicander (Ther.322). Kεράεσσι is used by Euripides (Ion.883), etc.; analogical constructions like κεράετος, κεράωσι, κεράια are used respectively in Aratus (Phaen.1.74), Apollonius (Arg. 4.978), Nicander (Ther. 291). Thucydides himself uses κέρας many times (1.50.2.1, 2.90.2.1, etc).

99 Also in the Homeric Hymn to Hermes (192), which belongs, probably, to the 7th century.
100 Κέρας has short α; whether this form comes from *κεράστι or from the s-theme is matter of conjecture. Besides, both themes would have had the same form in the dative plural. The fact that Homer doesn’t seem to have known the theme in t makes it very probable that the dative belongs to the s theme paradigm. The case is not similar to that of nouns in –μα, where the dative has no reason to derive from a non-t stem (as Chantraine believed) given the facts within the paradigm.
101 See above the similar form for κρέας; also Chantraine, Grammaire homérique, p.209.
102 Probably influenced by Homer. Nevertheless, Theocritus uses the form κεράς, which is not used in Homer, but which was probably the form used in Ionic epic poetry.
Conclusions:

a) Κέρας is a theme in s in Homer.

b) The first time it appears as a theme in t is in Pindar, who writes in the Doric dialect, but who is also influenced by other dialects, especially Attic and Ionic.

c) A Doric inscription shows that in this dialect the theme in s continued to exist in the 4th century.

d) The overwhelming number of examples of the t-theme comes from Attic, a fact which is supported by Herodianus’ testimony.

e) The theme in t must have appeared sometime between the 8th and the 6th centuries in Attic.

14) Κνέφος

Chantraine gives no certain etymology for this word. The word appears in Homer in an oblique case only once, in the genitive: κνέφος τος in σ 370. Another form of the genitive is met in Aristophanes, in Eccl. 291 a: κνέφος τος, which, as we shall see below again with the genitive, is the genitive form of an s-theme, κνέφος in the nominative.

The dative appears for the first time in Xenophon (Hell. 7.1.15.8 and Cyr. 4.2.15.5), κνέφος. Another form of the dative, κνέφης, is found in Crinagoras (AP 7.633), in the 1st century B.C. As we can see both κνέφος τος and κνέφης are words that
have the nominative κνέφος\textsuperscript{103}, a word attested in Suid.\textsuperscript{104}, being analogical forms after the γένος type.

The genitive κνέφοτος appears only once, in Polybius (Hist. 8.26.10.2) in the 2\textsuperscript{nd} century B.C., in Hellenistic times.

Conclusions:

Κνέφος is a rare word in Greek literature. The theme in \( t \) appears very late, in 2 B.C., in koine. It lacks \( t \) in Homer and even in later Attic authors such as Aristophanes or Xenophon.

Homer could have used in the line κνέφοτος, which scans metrically exactly in the same way as κνέφος. The fact that he didn’t presumably means that the \( t \)-theme in Ionic dialect was not yet current by that time\textsuperscript{105}. The most important observation is that the forms without \( t \) seem to have been used by Attic authors until very late.

15) Κρέας

Κρέας is not an original\textsuperscript{106} Greek \( t \)-stem. It is a word which displays predominantly only the theme in \( s \). The first use of a theme in \( t \) is in an Attic inscription from 338 B.C.\textsuperscript{107} Other than this, the \( t \)-theme is found in literature for the first time in

\textsuperscript{103} A caveat here is the case of τέρος above, where no τέρος was attested.

\textsuperscript{104} Suda Lexicon, kappa.1861.1

\textsuperscript{105} We cannot exclude the possibility that, in this case, the epic diction preferred a certain form on the expense of the other.

\textsuperscript{106} See the preliminaries.

\textsuperscript{107} See Schwyzzer, p.515
Phylarchus (κρέατα in FGrH#81 2A, 81, F 9.3)\textsuperscript{108}. Thereafter the occurrences of this theme continue to be scarce: in the 1\textsuperscript{st} century A.D. Cyranides uses κρέατος (1.3.34). In the 2\textsuperscript{nd} A.D. in Athenaeus (e.g., κρέατος in Deipn. 5.20.36)\textsuperscript{109}, in Origenes (12.31.65) and in Aelius Herodianus. Then we find κρέατων in the 1\textsuperscript{st} century A.D. in Testamentum Abrahae (6.10) and the examples seem to increase only a little during the following centuries. Chantraine\textsuperscript{110} believes, however, that the insertion of \textit{t} may be old, in fact as old as Homer, since there are several formulas in the \textit{Odyssey} where κρέα \textit{t} can be read κρέατ’. In fact, the formulas he talks about are only three in number: ἡμεθά δαινύμενοι κρέα \textit{t} ἀσπετα καὶ μέθυ ἡδυ (ι 162, 557, κ 184, 468, 477, μ 30); δαίτ’ ἐντυνύμενοι κρέα \textit{t} ὀπτου ἄλλα \textit{t} ἐπειρον (γ 33); ὦς φάθ’, ὁ δ’ ἐνδυκέως κρέα \textit{t} ἑσθει πινέ τε οίνον (ξ 109). At least one of these, the last one above, shows a chiastic\textsuperscript{111} construction, which makes sense only if κρέα is read as a theme in \textit{s}.

As we can see from the above, the forms in \textit{t} are very rare, and it seems that Chantraine’s claim that the \textit{t} might be very old is not well supported by the evidence. On the contrary, the “old” forms are very well attested, beginning, of course, with Homer and continuing throughout the centuries. Homer has κρετῶν\textsuperscript{112}, which is considered to be a

\textsuperscript{108} 3\textsuperscript{rd} century B.C.
\textsuperscript{109} He also uses the \textit{s} stem, e.g. κρέα (Deipn. 4.35.16).
\textsuperscript{110} Grammaire homérique, I 210.
\textsuperscript{111} Κρέα is before ἑσθει and οίνον after πινέ, a ABBA construction. If we had κρέατα then an asymmetry would be created by the presence of the second \textit{τε} (καὶ would have preserved the symmetry).
\textsuperscript{112} For example at Λ 551. It is believed that it was made after Attic κρετῶν, which is met in Homer at ο 98, but, as Chantraine states (see above), it is not clear at all how the form was in fact formed. Nevertheless, in
substitute for κρέαων. This latter form, on the other hand, appears first in the Homeric hymn to Hermes (130). Homer also uses the dative κρέασιν (Θ 162) and a form κρέα with short α for the nominative/accusative plural, fact which is explained by Chantraine in two ways: either accepting Schwyzer’s hypothesis that it is derived from a root without s- *κρέα- or that it was formed by analogy with the neuters ending in short α in the nominative/accusative plural, such as in the word δῶρα, where the a is short.

The genitive singular κρέως occurs in Sophocles (Fr. 728). In the 7th century Semonides uses κρέα and so do Theognis and Hecataios in the 6th century. In the 5th century Herodotus has κρέα, and so does Aristophanes. Xenophanes and Plato have κρέασιν; Aristotle has both κρέασιν and κρέα.

Other forms are κρίως on a Cretan inscription (GDI 5128 from 6-5th century B.C.) and Doric κρῆς in Sophron Comicus (22) and even in Aristophanes (Ach.795). The analogical datives κρέαςσι and κρέεσσι occur in Epic.in Arch.Pap.7.4 and in Orac.apud Hdt.1.47, respectively.

A word should be said here about the compound words with κρέας: there are none containing the ι-stem and serving as the first term of the compound, e.g.,

the *Dictionnaire Étymologique* Chantraine seems to be favorable to the hypothesis that κρέιων < *κρέεων, which, in turn, should be analogical to the genitive of words like γένος.

113 Normally, it should have been with long a from *κρέα- < *κρέαςα

114 Attic contraction, i.e. α followed by ο get contracted in Attic to ω.
κρεανόμος, κρεανομία, κρεαδοσία, κρεοβόρος, κρεουργός, etc. Modern Greek uses κρέας as a t-stem\textsuperscript{115} and has κρεατινός\textsuperscript{116}.

Conclusions:

a) Κρέας persists as a theme in s long after Homer.

b) There is no clear evidence when the t got into the paradigm. Chantraine’s assertion that it might be Homeric, i.e., Ionic, is not very well supported by the facts. The first time the t is met is in the 4\textsuperscript{th} century B.C. in an Attic inscription and in the 3\textsuperscript{rd} century B.C. in Phylarchus. This could hint at an Attic origin. As we have already seen, Aelius Herodianus supports the idea that the t insertion for this word is Attic.

16) Σέλας

There is only one attestation with t, and this comes very late: σέλατος in Conon\textsuperscript{117} 49.2. All the other forms belong to the s-stem declension: dative singular σέλαϊ (II.17.739), contracted form σέλα (Od.21.246); genitive singular σέλαος (Plot.6.7.33); nominative/accusative plural σέλα (Arist.Mu.395\textsuperscript{a}31, Plu.Caes.63, AP.9.289); genitive plural σελάων (Arist.Mu.395\textsuperscript{a}31 codd).

Conclusions:

Σέλας is in almost all situations and dialects (Attic and Ionic at least, and, perhaps, koine) treated as an s-stem. The t-stem appears only once and very late, in the 1\textsuperscript{st}

\textsuperscript{115} The genitive is κρέατος.
\textsuperscript{116} See Chantraine, Dictionnaire Étymologique.
\textsuperscript{117} Conon Historicus lived in 1\textsuperscript{st} century AD.
The case of σπέος is similar to that of δέος. Xenophanes, in the 6th-5th centuries B.C., uses the form σπεάτεσσι (in hexameter). In all other situations there is no τ-stem: genitive singular σπείους (Od.5.68, al.), dative singular σπή (Il.18.402, Od.2.20, al.) or σπέτ (Opp.C.4.246), dative plural σπήσσι or σπήσσι (Od.1.15, al., 9.400, al.), genitive plural σπείων (h.Ven.263).

Conclusions:

The word seems to have an allomorph in τ and with Aeolic ending early, in the 6th century (in hexameter). An adaptation of the word to the requirement of the meter is not excluded.

18) Τέρας

This is word which is included by Benveniste among those with τ in their stems as archaisms. Nevertheless it doesn’t have a τ-form in Homer; that is to say, it displays only the s-theme. The forms which show up in Homer are the following:

- τέραων, the genitive plural, at M 229.
- τεράςσι, the dative plural, at Δ 398, 408, Ζ 183, M 256.

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118 Many of the forms were created by analogy; see Chantraine, ibidem.
• τέρας\(^{119}\), the accusative plural, at μ. 394.

These forms continued to exist through the centuries. Although they don’t show up in the 7\(^{th}\) and 6\(^{th}\) centuries, they appear in Herodotus: τέρας at 8.37.8 and τέρας at 8.37.9\(^{120}\). Nevertheless, Aeschylus uses (Ag. 125) a denominative verb τεράζω, which, whatever its analogical basis may be, is not derived from the t-theme\(^{121}\). Later on the theme in s is predominant:

a) in the 4\(^{th}\) century we find τεράσω in Callimachus (O 1569).

b) in the 3\(^{rd}\) century τεράσω in Apollonius, Arg. 4.1364 and τέρας in Aristophanes Gramm.

c) In the 4\(^{th}\) century τέρας in Aratus, Phaen. 1.402, Eudoxus, etc. On the other hand, τερέσων is found in Alcaeus ( Lesbian), in the 7\(^{th}\) century, in 1.424.1.

The theme in t appears for the first\(^{122}\) time in the 6\(^{th}\) century in Aeschylus, in the compound τερατολογεῖν (Frg 44 A 603); Hecataeus uses the same word, and Pythagoras has the compounds τερατοποιῶς (6 7.6) or τερατοσκόπος (6 15.2).

\(^{119}\) As we can see, the meter is not affected by the use of the t forms: the poet could have easily used any if he had had them at hand; the t would not have affected the scansion of these words.

\(^{120}\) These (Ionic and Aeolic) forms with e instead of a are explained in two ways: either by analogy with type γένος or phonetically by seeing in them the tendency to avoid the contraction of the vowels αο. See Chantraine or Schwyzer, 1, 242-43. The analysis of this phenomenon goes beyond the purpose of my research. I incline to see them as a result of analogy with the type γένος.

\(^{121}\) The presents ending in –ζω originate in verb roots ending in *g, *gʷ or *d: *ἀρπαγ-ιω>ἀρπάζω, *Ελπίδ-ιω>Ελπίζω, etc; on the other hand, if we had dealt with a t-theme in τέρας this type of verb would have had the form *τερατ-ιω>*τερατσσω. This shows that the form τεράζω is analogical and similar to other such forms, e.g. νόμος/νομίζω, τείχος/τείχιζω, ἁγορά/ἀγοράζω etc. What we are dealing with here is probably an interpretation of τέρας as having the s of the nominative.

\(^{122}\) Nevertheless we cannot rely on them because they show up in Diogenes Laertios, a writer in koine.
The 5th century brings a plethora of occurrences of the theme in \( t \). Even Herodotus uses it alongside the other theme mentioned above: \( \tau\epsilon\rho\alpha\tau\alpha \) (Hist. 2.82.5), \( \tau\epsilon\rho\alpha\tau\omicron\varsigma \) (Hist. 2.82.6). Aristophanes has the derivatives from the \( t \)-theme \( \tau\epsilon\rho\alpha\tau\epsilon\iota\alpha\varsigma \) (Nub. 318), \( \tau\epsilon\rho\alpha\tau\omega\delta\epsilon\varsigma \) (Nub. 364); Xenophon has \( \tau\epsilon\rho\alpha\tau\alpha \) (Mem. 1.4.15.5), Plato uses \( \tau\epsilon\rho\alpha\tau\omicron\varsigma \) Crat. 394 d5), \( \tau\epsilon\rho\alpha\tau\alpha \) (Phileb. 14 e 3, Hp. Ma. 300 e 7), etc.\(^{123}\) The Homeric Hymn to Pan\(^{124}\) (36) has \( \tau\epsilon\rho\alpha\tau\omega\pi\omicron\nu \).

Conclusions:

a) One can see a strong preference for the Attic writers to use the theme in \( t \); this is obvious beginning with the 5th century BC.

b) The theme without \( t \) appears in Homer everywhere and it is not a matter of fitting the form into the meter.

c) The authors who make use of the theme without \( t \) write in the Ionic or Aeolic dialects (Alcaeus, Herodotus) are influenced by Homer (Apollonius, Callimachus) or were born in Asia Minor (Aratus).

d) The first occurrence of the theme in \( t \) is late, in the 5th century, and only in Attic. This \( t \)-stem could be an archaism in the sense of Benveniste.

19) \( \Phi\omega\varsigma \)

The Homeric attestations of this word in the nominative/accusative singular are

\(^{123}\) Isocrates, Democritus, Empedocles, Hippocrates are some of the authors that make use of the theme in \( t \); Philoxenus Lyr. (1 11.1) uses the dative \( \tau\epsilon\rho\alpha\tau\iota \).

φῶς and φῶς. The latter form of the word was explained by Wackernagel\textsuperscript{125} as being a creation of poetic diction, after the Ionic-Attic contraction. This phenomenon bears the name of δικτασίς and consists of repeating a vowel for metrical accommodation. Clear examples are ὀρᾶσθε, μνῶστο, ἣβωντα, which cannot be explained etymologically in any way. A “normal” form like ὀρᾶσθε would have existed in the oldest times of formulas, but, with time, in day-to-day language, would have contracted into ὀρᾶσθε. The forms that resulted artificially would then be due to the effort to maintain the two or three morae in the meter. In our case, φῶς becomes φῶς. We can notice that this form is used only in front of consonants, where the vowel should be long by position and where φῶς would have worked as well. In this way, Wackernagel's assumption gains even more credibility.

Φῶς appears after Homer in the Homeric hymns (Ap. 119\textsuperscript{126}, Herm.12, 141, 184) and in Hesiod (Th.669). A first conclusion which can be drawn is that the contracted form already existed at least in the 8\textsuperscript{th} century, but, for metrical reasons, Homer didn't use it. The data below support this conclusion.

Φῶς continued to exist throughout the centuries and in many dialects: Sappho, Archilochus, Stesichorus, Alcaeus in the 7\textsuperscript{th} century; Theognis, Pindar in the 6\textsuperscript{th} century; the tragic poets, Parmenides, and Aristophanes in the 5\textsuperscript{th} century. This shows that the uncontracted form continued to exist alongside the contracted form. One cannot exclude,

\textsuperscript{125} Bezznergers Beitr.IV259sqq; Sprachliche Untersuchungen zu Homer, 66sqq. See also Chantraine, Grammaire Homérique, 75sqq. My hypothesis is based, of course, on the assumption that Wackernagel's assumption was correct.

\textsuperscript{126} It belongs to the 6\textsuperscript{th} century, but the diction may have been older.
I believe, the possibility that one reason for this was the influence of Homeric poetry, although it is very likely that the form itself continued to be used by the speakers. Φως, the contracted form, appears as such in both Ionic and Attic dialects: Alcman, Anaximander, Theognis, Anaximenes, Anaxagoras, tragic poets, Herodotus, Aristophanes, etc.

The forms met in Homer are: the accusative plural φασα (π 15, ρ 39, τ 417) and the dative singular φαση (Il 17.47, Od. 21.429). The genitive singular φασους shows up in Xenophon (Cyr.4.2.9, 26 and Oec.9.3), and in Aristotle (de An. 429.3); a non-contracted form of the genitive, φασους, appears in Plato (Crat.407 c4) and Parmenides (Frg. 9.6).

Dative plural Φασσι, with an Aeolic ending, occurs first in Hesiod (Fr. 142.4) and thereafter only in Callimachus (Dian.211). The form φασι appears also in Callimachus (Dian.71).

The genitive plural φασων shows up only in Aratus (Phaen. 1.90), i.e. in 4 A.D., which shows that the “original” forms continued to exist long after the introduction of t in the paradigm. Another “strange” form is φως, which is an accusative met in Cyme, in a hymn to Isis (BCH51.380). The n in this form is an addition to mark it overtly as accusative.

The first time we meet t in the paradigm is in a denominative verb: φωτιζεσθαι in Anaximander127 (apud Diog128.Π105) and Thales. In the 6th century we meet this verb

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127 6th century. Thales lived in the same century.
128 This dating makes sense only if knew for sure that the authors are quoted verbatim. Unfortunately we cannot say this.
in Heraclitus. In the 5th century there is a derived adjective φωτεινός in Xenophon (Mem. 4.3.4.2).

The word itself as a t-stem, e.g., the genitive φωτός, appears for the first time in Anaxagoras (apud Diog.II 6.15). The same genitive appears in Plato (Rep. 518 a), whereas the dative φωτί is met for the first time in Aeschylus (Th.435, 470, 671; Ag.1262). Nevertheless, another form, without t, φω is used by Euripides (Fr. 534.1), which in fact might suggest that there was a center of resistance for the old forms in Attic dialect. In this case, what will later become the Ionic dialect might be the center of diffusion for the t insertion.

The genitive plural φώτων in an inscription of Epidaurus (IG IV, 12.110.43 from IV B.C. Φωσί, the dative plural, is used by Ps.-Democr. (Alch. p. 46B)129.

Conclusions:

a) Φως does not appear in Homer; the Homeric text uses instead φάος and φώς; nevertheless the fact that φως exists presupposes a form φω so that it is likely that the contraction is Ionic-Attic130. The t insertion might be Ionic-Attic as well, but we cannot be sure about it. On the other hand, φως appears basically in both Ionic and Attic dialects with 6th century. Whether the center of diffusion was within the later Ionic dialect is a matter of conjecture.

129 5th century.
130 Attic contracts more than Ionic and Homer is relevant for this. Nevertheless, a sequence a o, where a is under accent is very rare and it gets generally, to my knowledge, contracted. A good example of this is μνάομαι, which is contracted in Ionic, for example in Homer and Herodotus.
b) The *t*-stem appears as early as the 6th century (Anaximander, Thales) in Ionic. The Attic dialect uses it for the first time with Aeschylus.

c) The evidence for the Aeolic or Doric dialects is very scarce. Nevertheless, they seem to have avoided the contracted forms or the themes in *t*.

d) From the data above we can infer that the *t*-insertion, which appeared after the Ionic-Attic contraction, occurred in Attic or even before, in Ionic-Attic. Chantraine believes\(^{131}\) that the *t* is an Attic innovation, but an innovation in the Ionic-Attic dialect cannot be excluded.

20) Χάρις

Χάρις is met in Homer in the nominative and accusative singular and in the dative plural as referring to “grace, favor done or returned, etc.” The accusative in Homer is χάριν and the dative plural form is χάρισι, both being derivatives from a Greek root χαρ-, from which we have also the verb χαίρω<χαρ-ω. There is also a theme in *t* of this noun: χαριτ-, which already exists in Homer, but it means the Graces: E 338 (Χαρίτες), Ξ 267 (Χαρίτων), 275 (Χαρίτων), P 51 (Χαριτέσσιν), ζ 18 (Χαρίτων), Θ 364 (Χαρίτες), s 194 (Χαρίτων). The form occurs 4 times in Homeric Hymns: Aphr.61 (Χαρίτες) and 95 (Χαρίτων), Ap.194 (Χαρίτες), Art.15 (Χαρίτων). Hesiod uses the noun 15 times in all the cases of the plural, including the

\(^{131}\) Dictionnaire étymologique de la langue grecque.
accusative plural Χάριτας (Th. 907). Cypria has two occurrences, both Χάριτες (4.1 and 5.4). Hesiod is the first occurrence of this theme in it used as a common noun.

The 7th century evidence shows the theme in it referring only to the Graces. The authors that use it are Sappho, Alcman, Alcaeus and Stesichorus.

In the 6th century Theognis uses the proper name as a *-stem and so does Ibycus (χαριτώσιος, fr.341 Page). This is the first time when the common noun appears as a well established *-stem: in Pindar P 3.72 (χάριτας), P 4.275 (χάριτες), O 7.93 (χαριτέσσιν), I 1.6 (χάριτων), etc.; in Aeschylus Ag. 787 (χάριτος), Ch 320 (χάριτες); in Anacreon (iamb7.142.1, χαριτόεις132); in Simonides 6.212.4 (χαρίτων).

Moreover, we have information in Herodianus that Anacreon was the first to use the word χαρίεις in its full form χαριτόεις133.

From the 5th century onward the examples abound. As we can see from the above Homer uses only the singular as a common noun, whereas he uses the plural when he refers to the goddesses. Also Homer uses χάρις only in the nominative and in the accusative, χάριν, and, from this perspective it would be interesting to see the way the competition between χάριν and χάριτα functions. On the other hand, there are situations in Homer when the poet could have used χάριτα instead of χάριν, because the meter would have allowed elision, as it is the case in E 574 (χάριν ἄνδρεσσιν).

The fact that he didn’t use it seems to show that the form χάριν was, if not the only one,

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132 A derivative from the *-stem.
133 Anacreon fr.487 Loeb.
at least the prevailing one in the Ionic dialect. The same conclusion could be reached about other dialects, since Hesiod, Pindar or Aeschylus could have used in their poetry the elided form χάριτα instead of χάριν. The 7th and 6th centuries know only χάριν, and sometimes the numbers are very relevant: 39 times in Theognis, 29 in Pindar, 26 in Aeschylus, etc.

The first author to use both forms is Euripides, in the 5th century. We can find one example of χάριτα in Helen 1378 and Electra 61, whereas χάριν appears in the rest (TLG lists 163 examples of χάριν in Euripides). Herodotus uses it in his Histories (in 6.41.13 and 9.107.16); otherwise he uses χάριν. This could show the fact that, although χάριτα was present in Herodotus, χάριν was the predominant form. The evidence seems to indicate the fact that the accusative form χάριτα is a later form: χάριν is used instead almost in all the instances.

One should mention here that χάριν is already used as a preposition in Homer, for example in O 744 (χάριν Εκτορος). Hesiod also has it in Op.709 (ψεύδεσθαι γλώσσης χάριν, “lying for the sake of talking”).

One of the most important issues regarding this word, and a puzzling one as well, is the fact that the stem seems to have gotten a t long before Homer, but only when the word meant “Graces”, i.e., the goddesses. It is difficult to see why this happens; the

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134 Some examples: Hesiod, Op.65: χάριν ἀμφιχέω, Pindar, O2.10: χάριν ἄγων, Aeschylus, Ag.1545: χάριν ἀντε ἔργων, etc. We can see that the two forms are metrically interchangeable.

135 Given the fact that we know that the t-stems are later forms, the preference for the t-less form shows the fact that the t-stem had not spread sufficiently by the time we discuss here.

136 The accusative can be used adverbially, so the use of this word in such a way does not necessarily mean that it became a preposition.
etymology which has been proposed\textsuperscript{137} and which links the Greek word to an Armenian
\textit{jir} < *\textit{ghēr-i-} is not very helpful, since it only shows that the original form of the word
was not a dental stem. On the other hand, \textit{χάριν} as a common noun must be clearly
related to the other accusative forms of the themes in \textit{i}, like \textit{πόλις} for example, whose
accusative form is \textit{πόλιν}, with the \textit{v} as in other vowel-stem declensions\textsuperscript{138}. How, then,
did it get the \textit{t} in its paradigm?

Chantraine\textsuperscript{139} subscribes to the opinion that the noun is an ancient theme in \textit{i}. On
the other hand, Benveniste\textsuperscript{140} makes the hypothesis that, in a word like \textit{Θέμις}, similar in
its morphological form to \textit{χάρις}, one can detect an old neuter in \textit{i}, \textit{Θεμίτ-}, which would
have passed to the neuters in \textit{s}. This development would be shown by old phrases like
\textit{Θεμίς εστὶ} = ”it is right, just” (equivalent to Lat. \textit{fas est}) or by old compounds like
\textit{θεμίσκοπος}, \textit{θεμίζενος}\textsuperscript{141}, etc., where we would still see the old theme in \textit{i}.

Benveniste does not explain clearly how this word eventually became feminine. In his
opinion\textsuperscript{142} this happened when its declension got mixed with that one of the feminine
nouns in –\textit{iδ-} and it became \textit{θέμις}, \textit{θεμίδος}. In other words, the passage from neuters
to feminines would have been caused by the confusion between the declension types. As
for the stem in \textit{t}, \textit{θεμιτ-}, this would be the result of the analogy after what is now a
scarce remainder of former \textit{i}-stems: a word like \textit{άλφι}, \textit{άλφιτος} “flour”. Consequently,
we would have the following steps here: θέμις has its genitive θέμιτος, then a new form is produced, θέμις, which would still have the genitive θέμιτος, but which would also create a new genitive, based on the older genitive form and the new nominative, θέμιστος (Od. 2.68). At this point the word would have also become feminine.

Benveniste’s argument, although it refers only to θέμις, is a convincing one. The paradigm with ' then could have its origins in such a neuter noun. What about χάρις, then? On the other hand, it is not clear enough even in Benveniste’s view what was responsible for the change in gender in the case of θέμις. This goes also for χάρις if the assumption that it derives from a neuter *χαρι- is correct\(^{143}\). I would suggest here another hypothesis: in Greek mythology there are several goddesses whose name is a noun ending in –ίς. This is the case with Ἀρτεμίς, Μήτις, Ἰρις, Θέτις, Ερίς, Θέμις and Χάρις. With the exception of Μήτις these names have doubtful etymology\(^{144}\). Μήτις itself is regarded as a nomen actionis\(^{145}\) originally from the PIE root indicating the action of measuring: meH₂. The declension of these nouns varies very much, that is to say they display several themes. Ἀρτεμίς has already been analyzed. Ἰρις has only the theme in –δ- (Ἰρίδος in Thphr.CP6.11.13), but also the accusative in –ὖ (Plu.2.664e) besides Ἰρίδα (Nic.Al.406). Θέτις shows a genitive Θέτιδος (Il.4.512), but also a Doric one Θέτιος (Pi.I.8(7).30); it also has the accusative Θέτιν (Il.13.350, etc).

\(^{143}\) As is the case with θέμις and its compounds there are compounds for χάρις, in which the first part of the compound is χαρι-, e.g. χαριδώτης = “joy-giver”. See also Chantraine for this assumption.

\(^{144}\) See Chantraine, Dictionnaire.

\(^{145}\) Ibidem.
\[\text{M\-tis}^{146}\] has a genitive \[\text{M\-tido}\] (A.Supp.61), but also \[\text{M\-tio}\] (Pi.N.3.9) and an accusative \[\text{M\-tiv}\] (II.2.407). \[\text{E\-tis}\] is a stem in \(-\delta\)-, although Liddell-Scott gives its declension only for the common name ("strife"), not for the goddess.

We can see from the above a fairly complicated picture in respect to the declension of these nouns. Two things, though, are pretty clear: the first is that the themes in \(\delta\) are predominant; the second is that the variety in forms is due to multiple analogies. Thus, the accusative in \(-\nu\) and the genitive in \(-\iota\) would be analogical to the type \(\pi\-\lambda\-\iota\). The theme in \(\delta\) is common for feminine nouns, so it makes sense for it to be used for proper feminine nouns.

We are left with the stems in \(\tau\). The Mycenaean forms for \(\text{A\-t\-e\-mu}\) and the Doric month show that the \(t\) is old. We can always say, of course, that this was a \(t\)-stem originally like Chantraine. But I think there is also the possibility that this noun got its \(t\) from a noun like \(\text{Q\-e\-mu}\), where the \(t\) could be a trace of a neuter noun. We could have then the following process: \(\text{Q\-e\-mu}\) and \(\chi\-\phi\-\iota\) derive from common neuter nouns, which built their stem with \(t\) after the model \(\phi\-\lambda\-\iota\-\iota\-\phi\-\iota\). Then we have the respective goddesses, \(\text{Q\-e\-mu}\) and \(\chi\-\phi\-\iota\), with the \(s\)-ending in the nominative, either because \(s\) was the ending for the animate or because the name of the other goddesses may have had an analogical influence. The stem in \(t\), however, continued to exist for the proper nouns although the neuter common nouns had disappeared completely from the language. From here it was imported to some the names of the goddesses which originally were \(d\)-stems.

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146 The \(-ti\) instead of the assibilation is still unexplained; see Chantraine, ibidem.
In this way, the picture could be completely different from what Chantraine believed, namely that the \( t \), although very old, it was not originally present in the stem of a word like \( \text{Ἀρτὲμις} \). As for \( \text{Χάρις} \) it seems probable that the \( t \) has a very long history in this word.

We can sum up now the situation in the case of \( \text{Χάρις} \) as the following:

a) The theme in \( t \) appears to be established in Homer, but only referring to the Graces; Homer doesn’t use the theme in \( t \) for the common noun meaning “grace, favor”. Nevertheless, we cannot say anything about the common noun, since we have no occurrences of it in oblique cases where the stem is visible.

b) Homer and other poets-both in Ionic and in Attic- could have easily used \( \text{Χάριτα} \) instead of \( \text{Χάριν} \) before vowels (when the elision could have taken place); the fact that he didn’t seems to indicate that the theme in \( t \) had not spread fully in these dialects.

c) The first occurrence of a \( t \)-theme is in Hesiod, and that is in the dative. Hesiod uses mainly the Ionic dialect in his hexameters, but he also uses forms from other dialects, including Attic. In this respect, the theme in \( t \) he uses might be the result of the influence of other dialects, but we cannot tell.

d) In the 5\(^{th} \) century, Euripides, writing in the Attic dialect, and Herodotus, writing chiefly in Ionic\(^{147} \), provide the first evidence of the use of \( \text{Χάριτα} \). The rest of the accusative forms indicate, both in Euripides and in other authors of this century, a clear preference for \( \text{Χάριν} \).

\(^{147}\) Herodotus, however, makes use of Atticisms.
e) The theme in \( t \) seems to be well established beginning with the 6th century, especially in non-Ionic dialects (Pindar, Aeschylus). Nevertheless, its use for the proper name seems to indicate that it occurred first in the Ionic-Attic dialect, or even earlier. Nevertheless, the accusative singular of the theme in \( t \) seems to have occurred first and become predominant in the Attic dialect.

21) \( \chiρ\omegaς \)

This word occurs in most cases in Homer as a theme in \( s \). Nevertheless, the theme in \( t \) exists in Homer and shows up three times, as we can see from the list below:

- \( \chiρ\rho\omicron\sigmaς \quad \) appears 20\(^{148} \) times in Homer
- \( \chiρ\rho\omicron\omicron \quad \) appears 42 times in Homer
- \( \chiρ\rho\omicron\alpha \quad \) appears 32 times in Homer
- \( \chiρ\omegaτ\omicron\omicron \quad \) K575
- \( \chiρ\omegaτ\alpha \quad \sigma172, 179 \)

These forms could be later than the 8th century, since they appear in the *Doloneia* (the 10th book of the *Iliad*) and the *Odyssey*, which may have been composed later, perhaps at the beginning of the 7th century\(^{150} \). Nevertheless, Hesiod uses the form \( \chiρ\omegaτ\alpha \) in Op.556, so it wouldn’t be risky to assume that they already had a place within formulaic epic diction by the 8th century.

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\(^{148}\) Numbers taken from the TLG.

\(^{149}\) All these forms result from the loss of \( s \): \( \chiρ\rho\omicron\omicron\alpha>\chiρ\rho\omicron\alpha \), etc.

\(^{150}\) See, for example, Janko, R, *Homer, Hesiod and the Hymns*, Cambridge 1982, passim.
The different forms represent different options for fitting into the hexameter. For example, the occurrences of the theme in $t$ in the *Odyssey* are at the beginning of the line, a position in which the hexameter began obligatorily with a long syllable. $\chiροκα$ wouldn’t$^{151}$ have worked in this position, so the poet chose another form he had at hand. These forms are usually considered to be Atticisms$^{152}$.

Both the theme in $t$ and the one without it coexist in the centuries after Homer. We find $\chiροκας$ in 6th-century authors like Theognis (Eleg 2.1341) in the compound $\alphaπαλλόχροος$, then in the 5th century, in Euripides (as, for example, in Hipp. 1359). The form continued to exist even later, after the 4th century (in Theocritus, Aristotle, Apollonius, Philo Judaeus, etc).

$\chiροι$ is present in the 6th century in Pindar (N 8.28) and in Aeschylus (Supp 790). In the 5th century we find it in Euripides ( Cyclops 399), in Sophocles (Tr 605) and in Herodotus (Hist. 4.175.5) and the list continues with 4th century authors like Theocritus, Aristotle, etc. Another form of the dative, $\chiρο\tilde{\omega}$, occurs only in the phrase $\varepsilonν \chiρο\tilde{\omega}$= “close to the skin” : Xenophon, HG 1.7.8, Sophocles, Aj.786, Thucydides, 2.84, Pherecrates 30$^{154}$ and in later authors.

$\chiρόκα$ is met in Sappho (Supp. 10.6) and then in Archilochus and Tyrtaeus. In the 6th century we find it in Theognis (1.217) and Meropis(5.1).

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$^{151}$ Od. 18.172: $\chiροτ' \alphaπονιψαμένη$, at the beginning of the hexameter; $\chiρόκα$ would have had the first syllable short and couldn’t have worked as the first syllable of the line.

$^{152}$ See Chantraine, *Dictionnaire étymologique de la langue grecque*

$^{153}$ This form could be the thematic one, i.e. the $t$-less stem: see Chantraine, *Grammaire*, p.211.

$^{154}$ These authors belong to the 5th century BC.
The theme in Τ, on the other hand, is found beginning with 6th century authors. Χρωτί is met in Pindar (P 1.55); χρωτά in Pindar (I3.41) and in Aeschylus (Pers. 317).

The 5th century brings more occurrences of the Τ-stem: it is found 18 times in Euripides, 2 times in Sophocles, 2 times in Aristophanes, etc.

Overall we can see that, especially with the 5th century, the theme in Τ becomes predominant, though the other forms continue to appear, either because of the Homeric influence or they were just competing forms.

Conclusions:

a) Χρωνζ appears in Homer in almost all cases as a theme in σ. Nevertheless,

b) There are three instances in which Τ-stem shows up, two in the Odyssey in the accusative and one in the Iliad in the genitive155.

c) The theme in Τ appears also in Hesiod.

Sometimes the same author uses both forms, as it is the case with Pindar or Euripides and Sophocles; the tragedy authors seem to prefer the theme in Τ. Herodotus doesn’t use156 the theme in Τ, which seems to indicate that it was not very much in use in the Ionic157 dialect. All these facts seem to point to the Attic dialect as the more likely point of diffusion for the theme in Τ, but its appearance during the Ionic-Attic unity is not excluded. The occurrences in Homer and Hesiod can lead to such assumption.

Nevertheless it could be that the center of spreading was what will later become the Attic dialect.

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155 Il.10.575; Od. 18.172,179.
156 There is only one occurrence of this noun in Hist. 4.175.5, but without Τ: χροί.
157 This is supported by the greater number of occurrences in tragic authors.
**General conclusions:**

a) The words analyzed above split into two categories according to the time when the *t* entered their paradigms. One of them, represented by some of the neuters which end in the nominative singular in *–as*, has the *t* inserted in prehistoric times, probably before the splitting of Greek dialects. We called this *t* an “archaic” one; therefore, according to Benveniste’s theory, its presence in some dialects has been seen as an archaism within Greek (though innovation from the perspective of PIE). This archaism is based on the old PIE alternation *r/n*, which is at the origin of *t* as we have it in Greek. Exceptions to this category are κρέας and κέρας, for which the PIE perspective shows that they were neither words in which the *r/n* alternation was present, nor *t*-stems originally. Their analysis therefore starts from the premise that they acquired their *t* later or, as the data shows, after the dialectal split of Greek. There are other words, however, for which we cannot tell whether they were originally stems with *r/n* alternation. Some of them are borrowings, like δέπας. For others there is simply no IE evidence that they were stems with *r/n* alternation. This is the case with δέρας. A word like κέφας, on the other hand, shows no clear etymology and, consequently, we cannot tell whether it had originally a *t* in it.

The other category includes all the words that acquired their *t* after the dialectal split of Greek.

From the analysis we can infer that the theme in *t* did not appear in all words and in all dialects at once. Nevertheless, for some words ending in the nominative in *–as* like
κέρας, κρέας, δέρας κνέφας, δέπας the t-stem showed up first in Attic. This fact goes along, as said above, with the fact that the t in these words might be an innovation within historical Greek, not an archaism, i.e., a carry-over from a Pre-Greek innovative intrusive t. An important observation here is that sometimes this insertion of t is very late as is the case with κέρας and κρέας. On the other hand, the extensive use of the s-stem instead of the t-stem may underline once more the fact that these stems were originally s-stems.

The second category, with words ending in the nominative in -as and having their t as an archaism, includes the following words: τέρας, γέρας, and γήρας.

Nevertheless, even here one cannot be sure, despite Benveniste, that γέρας and γήρας were originally, in Greek, t-stems. Benveniste’s argument that γέρας shows the old r/n alternation in other words like γέρων, γεραφός, γεραιρω is not indisputable. Γέρων, for example, might be an old participle\(^{158}\), whereas the formation of γεραιρω< *γεραριω might be analogical. In fact, a word like πείραρ, πείρατος, which does display a r/n alternation and which should have behaved like γέρας, forms a verb περαίνω< *περγιο\(^{159}\), not *περαίρω. On the other hand, the adjective γεραφός might be not the result of the same alternation, but of the adding of the suffix –ro–\(^{160}\) to a stem *gerH\(^2\) -. We might be left then only with τέρας as a word which follows Benveniste’s

\(^{158}\) Cf. Skt. jarant-; see Beekes, Comparative Indo-European Linguistics, p.109.

\(^{159}\) For the phonological development, see Siehler, op.cit. p. 517.

\(^{160}\) See Chantraire, La formation..., p.226sqq.
theory about their origin in the old PIE r/n alternation. The name Τειρεσίας < *τερετ-* might also be a proof for an original t-stem of this word. Would it be possible then to accept that the analogy in building other t-stems worked from a single word? Although it is very hard to accept, it might, however, be possible since we are talking here about a spread to only 5-6 words. Another important point would be the fact that τέρας is not a marginal word in Greek, but one loaded with religious connotations. In any case, our data supports the fact that only τέρας might have had the original t in it.

One of the most important results of our research is that these words show only in Attic a t-stem, whereas Ionic got rid of the t-stem and replaced it with an s-stem. The problem here is to determine in the first place how and where (in what dialect) there were two allomorphs, the s-stem and the t-stem, for the same word. The fact that we have a form like the genitive singular τέρας in Ionic is explained by the fact that it is the result of an older *τέρας, which lost its intervocalic s. Nevertheless, the intervocalic s was lost before the split of Ionic and Attic. This means that *τέρας was a form found at least as early as Ionic-Attic, quite likely in Pre-Greek times. What happened then in Attic with this form? What happened in Ionic? The conclusion of our research is that the t-less forms and the t-ful ones coexisted in Ionic-Attic. This is clearly shown by words like γέρας and γηράς, for which the t-less forms, namely the s-stems, were extensively used in Attic even in post-Classical period. A word like τέρας shows that it suppressed its s-allomorphs in Attic earlier than the other words. What happened then in Attic is that the declension of the nouns that have an “archaic” t in their stems exerted an analogical
influence on the words that did not have the *t* originally. In Ionic the situation was reversed: the forms which were former *s*-stems won over the others, the *t*-ful ones. The mechanism by which this process was achieved is not entirely transparent, but it is clear that it was the analogy to the “old” *s*-stems that produced the change. Herodianus’ assertion that the Ionic forms lost their *t* may have some truth in it, in the sense that he knew somehow that the “older” Ionic used the *t*-forms as well. The “dropping” of *t* then would be precisely the suppression of the *t* forms in Ionic. Whether this was a socio-linguistic way for the Ionic population to differentiate themselves from their Attic brothers is hard to say. Of crucial importance is the fact that Ionic-Attic used parallel allomorphs for the same words.

b) As for the words in –ως, γέλως and ἴδρως seem to have gotten the *t* in their stem in Attic; χρῶς and ἔρως, on the other hand, probably innovated the *t*-forms in Ionic-Attic (ἔρως even earlier).

c) Γόνυ and δόρυ innovated the *t*-forms in Ionic-Attic or even earlier.

d) Χάρις and φάος seem also to have gotten the *t* during the Ionic-Attic. An earlier *t*-intrusion is also not excluded.

e) We cannot say from the data whether the spreading started off with a single case; first occurrences of *t*-themes can be either accusative (χρῶτα in Homer, ἴδρωτα in Hesiod), dative (γήρατι in Isocrates), or genitive (γέλωτος in Aeschylus). This is not surprising given the fact that we deal here with scattered evidence from literary.

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161 The contracted form γέρως used in Attic is a proof of this.
sources and not with data from real speech.

f) Benveniste’s theory about the origins of this “intrusive” t in the heteroclitic declension can be neither confirmed nor denied entirely.
CHAPTER 3

THE –

We will have to look again now at one of the problems mentioned earlier in this work, namely the issue of the –

We remember that we faced this issue in Chapter 2 with the adverb ἀνιδρωτί, which corresponds to the family of ἵδρως, ἵδρω, “to sweat”, and means “without sweat/work”. The problem lay in the fact the Greek word for “sweat”, ἵδρως, seems not to be a 

A temporary solution we came up with there was the fact that there are other words, like ἐγρηγορτί, from the verb ἐγείρω and meaning “awake”, which do not have a 

Therefore, the –

In other words, our conclusions about the fact that the 

because the presence of the 

stem,
to which a possible locative ending was added, but the effect of the addition of a –\textit{ti} adverbial ending to a non-\textit{t} stem.

There is, however, a major problem with this solution, namely the fact that we need to know exactly what these non-\textit{t} stems were. In particular, in our case, the problem lies in the fact that ‘\textit{.ordinal} is an \textit{s}-stem; therefore, the addition of a –\textit{ti} adverbial ending should have produced a form like *\textit{anidrwst} if in fact the formation of this word had taken place before the word itself became a \textit{t}-stem. On the other hand, even our above argument about the origin of this kind of formation in a frozen locative does not stand to careful scrutiny. This is because the whole argument becomes in this way circular: since there were practically very few genuine \textit{t}-stems in PIE, it would be hard to believe that the only traces they left in any language are in these kinds of Greek adverbs, which, moreover, are \textit{t}-stems neither in Greek nor in PIE.

We can see now therefore how important it is to find out more about these adverbs. This is because even if we came up with the above solution for ανι\textit{drωστ}ι, we would still have to argue about the origin of the \textit{t} in –\textit{ti} and whether it originated or not in a PIE \textit{t}-stem, a possibility which, at first glance, seemed at least somewhat implausible. We will see below that the complications from this problem will be even greater than the ones sketched hastily above.

But what kind of adverbs are we dealing with here?

Greek possesses a series of adverbs, which end in –\textit{ti} or, more generally, in –\textit{i}. They are quite numerous in the Greek lexicon, and the formation seems to be old. A word
like ἄβοητι in the Ionic-Attic dialect\(^{162}\) has its correspondent ἄβοατι\(^{163}\) in Doric, a fact which suggests that the –\

\(\tau\) adverbs may go back as far as Common Greek.

These adverbs have a very interesting property, namely that the majority\(^{164}\) are composed with the privative prefix ἄ- : ἄ- μογητι, ἄ- μαχητι, ἄν- συνητι, ἄν-

\(\ιδρωτι, \ ιν-αμωτι, \ ιν-ωιστι\) (all Homeric), ἄβοατι (Pindar N 8,9), etc.

There are several intriguing\(^{165}\) facts about these adverbs. I list them below:

1) the \(\tau\) does not become \(\varsigma\) before \(i\) in the Ionic-Attic dialect

2) they are both deverbative and denominative

3) the accent falls on –\(i\)

4) the quantity of –\(i\) can be either long or short in these adverbs and, most importantly, sometimes, both in manuscripts and in inscriptions, -\(i\) is represented by –\(\epsilon i\).

The fact that the –\

\(\tau\) adverbial ending does not become –\

\(\varsigma\) in Ionic-Attic is still unexplained. Paul Kretschmer\(^{166}\) as early as 1890 tried to explain the maintenance of \(\tau\) in such cases by arguing that the –\

\(\tau\) represented the desinence of a former locative sg. and, therefore, the paradigm of the noun kept the \(\tau\) intact, by analogy, like in the case of the dative sg. of the themes in \(\tau\), where the other cases did not allow that \(\tau\) turn into \(\varsigma\) (or

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\(^{162}\) The word is not attested as such in Ionic-Attic, although Liddell-Scott gives it in this form. The assumption is based, probably, on the fact that there exists the corresponding adjective in –\

\(\tau\os\), ἄβοητος, for example in Ἐπιγραμματα Graeca 240 (Smyrna). In any case, the long vowel in Doric would have ended as \(\eta\) in Ionic-Attic.

\(^{163}\) With second “\(\alpha\)” long.

\(^{164}\) A list of them can be found as early as Kissling, KZ17/1868, p.213 (\(\text{Die Verwendung der Casus zur Adverbialbildung im Griechischen}\)), who treats the adverbial endings in Greek. A complete list of them is found in F. Bader, “Neutres grecs en –\

\(\tau\): absolutifs et privatifs verbaux”, BSL 65, Paris 1970. Also in Schwyzer, \(\text{Griechische Grammatik}\), Erster Band, p.622sqq)

\(^{165}\) There are, to my knowledge, very few explanations for these facts, especially for 1 and 3.

\(^{166}\) KZ 30/1890, p.565 sqq: “Der Wandel von \(\tau\) vor \(\varsigma\) in \(\sigma\)”. 

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restored an assibilated form to –t-) before the dative ending \textsuperscript{167}. Nevertheless, this explanation doesn’t seem to me very convincing, since the “freezing” of this locative should have taken place in Common Greek; therefore, it is hard to sustain the argumentation that the paradigm could have maintained the \textit{t} in such adverbs in Ionic-Attic, where there was no such paradigm to act analogically on \textit{t}. There are other explanations given by Kretschmer for this anomaly, although they themselves are not very well supported by any phonetic theory: the \textit{ti} was preserved in Greek when it bore the accent or when it was in auslaut\textsuperscript{168}. This is indeed the case here, since the –\textit{ti} is accented in such adverbs and it is also in auslaut, although Kretschmer seems not to care about these facts and sticks with his former opinion that it was the paradigm which determined that the \textit{t} was immune to assibilation.

The most important fact in the case of these adverbs is the variation which both the manuscripts and the inscriptions show with respect to the quantity of the \textit{i}. The most complete study so far can be found in F. Bader\textsuperscript{169}; we shall try here to summarize the relevant data.

a) adverbs with –\textit{ti} attested metrically

\textbf{Composed ones:}

- \textit{ἐγκοννητί} (Pind. N3,36)= “being active”,

\textsuperscript{167} This is the case with the present active participle as well, where the dative ending is –\textit{onti}, not –\textit{ousi} as it should be by \textit{t} becoming an affricate and compensatory lengthening

\textsuperscript{168} Cf. \textit{τικτω, βελτίων, έτι, φρτι}, etc. Some of them could be explained through analogy, like, for example, \textit{τικτω*τικτικω}, where the \textit{t} in the reduplicated syllable was kept because of the following \textit{t}.

\textsuperscript{169} Bader ibidem.
• ἀμαχητή (Φ437) = “without fight”,

• ἀβοστή (Pind.N 8,9) = “without cry”,

• ἀστακτή (Soph.O.C.1251) = “not in drops”,

• ἀμυγητή (Call.H.Art.25) = “without work”,

• ἀπονητή (Eur.Fr.Lyr.3) = “without pain”,

• ἀστενακτή (Eur.Fr.307) = “without sighing”,

• ἀκλητή (Com.ap.Zen.2,46) = “without being called”.

**Simple ones:** most of them are derived from denominative verbs ending in –ζω:

• ὀνομαστή (from ὀνόμαζω) = “by name” (Call. Aet. Oxy. 2080.81),

• ἀνδριστή (from ἀνδρίζω) = “like a man” (Ar.Ec.149; Theocr.18,23),

• ἀνθρωπιστή (from ἀνθρωπίζω) = “in the language of men” (Soph.Fr.827),

• μελείστη (Ω409, i291, s339) = “by members”.

Then we have the adverbs based on denominative verbs which show the ethnicity of a language, way of being, etc:

• Δωριστή (Call.Iamb.1,354, etc) = “in Doric language”,

• Ἰαστή (Com.Adesp.415, Pl.R.398e) = “in Ionic”,

• Ελληνιστή (Pl.Ti.21e) = “in Greek”,

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170 Nevertheless, it is ambiguous because it is at the end of the hexameter. It has the form ἀμαχητεῖ Xen., Cyr.4,2,28 and Hdt.1,174.

171 Also written ὀνομαστεῖ in SIG 355.18(Illion, IV-III BC)

172 The examples are numerous, in general I will give for each word only one or examples in order to make the case clear.
• Λυδιστὶ (Cratin.256)= “in Lydian”,
• Σκυθστὶ (Soph.Fr.473, Hdt.4,27,59)= “in Scythian”,
• Θρακιστὶ (Thcr.14.46)= “in Thracian”,
• Μαιωτιστὶ (Thr.13,56)= “in Maeotian”,
• Πελοποννασιστὶ (Thr.15,92)= “in the Peloponnesian language”, etc.\textsuperscript{173}.

b) formes with –\textit{tī} attested metrically\textsuperscript{174}

Most of these forms are privative and can be found as early as Homer:

a. \textgreek{aνωστὶ} (δ92)= “unlooked for”,

b. \textgreek{aνουτητὶ} (X371)= “without wound”,

c. \textgreek{ανιδρωτὶ} (O228)= “without sweat”,

d. \textgreek{αναμωτὶ} (P363)= “without blood”.

In addition to these forms there is also the adverb \textgreek{γρηγορτὶ}, a Homeric form (K182) built on the perfect stem of the verb \textgreek{γειρω}, from which is also formed the adverb \textgreek{γερτὶ}, with short I, as in Soph.Ant.413 or in Heraclitus 63.

\textsuperscript{173} See Bader, ibidem, p. 91.

\textsuperscript{174} For example X371: Εκτορος, ουδ’αρα οι τις \textgreek{ανουτητὶ} γε παρέστη.

\textsuperscript{175} From \textgreek{οιομαι}.

\textsuperscript{176} Ουταω

\textsuperscript{177} The corresponding verb is \textgreek{ιδρω} (B390, etc); we can see thus once more that the “\textit{t}” in the nominal stem does not presuppose a \textit{t}-stem. This is also the case with the verbs above.

\textsuperscript{178} It is unclear where the \textit{ω} comes from. Homer uses the adjective \textgreek{αναμων}=bloodless (E342). There is also the adjective \textgreek{αναμως} with the same meaning (Pl.Ti.70c). Bader is of the opinion that it is built after \textgreek{ανιδρωτὶ} (Bader, p.93). Nevertheless, there is a gloss \textgreek{αμω}, belonging to Hesychius; the given word, in my opinion, could be built following this verb in its privative form or by simply starting from \textgreek{αμω}; see also Ernst Risch, \textgreek{ουκ \ άθεε}, MH29/72, p.65-73.
The most difficult problem here is that –ιι is not the only form in which this adverbial ending has come to us. The manuscripts and inscriptions present the variants –ιι and –τει, so that, for example, the Homeric adverb ἀνιδρωτι shows also in some manuscripts the variant ἀνιδρωτει. 179

The post-Homeric data show the same variability as well. One most important fact occurs in Sophocles, who uses ἀστακτι in O.C.1251 with short ι, but with long ι in the same text, at 1646. Beside this we have ἄνοιμωκτι, with long ι, in Aj.1227, with a manuscript variant in –τει. 180

Other adverbs of this sort are:

- ἀφρικτι (Call.H.Art.65) = "without shivering",
- ἀκλαυτι (Call.Fr.298.2) = "without crying". 182

There are also ι variants of –ει ending adverbs: ἀκοιςτευ 183 (SIG36B) vs. ἀκοιςτι (SIG36A), which are found at Olympia and Delphi respectively in the first half of the 5th century B.C. 184 and are the oldest evidence of such variation in inscriptions. At

179 Contrary to what Bader believes (Bader, ibidem) there is variation in the manuscript tradition for this kind of adverb. Although the edition of Allen & Monroe does not show the variation, the latest edition of Martin West (Homeri Ilias, Stuttgart-Leipzig-Munchen 1998-2000) reads all the variants with the ending –τει: ἀνιδρωτει, ἀμογητει, ἀμαξητει, ἀνουτητει, etc. We can see that those adverbs, about which we are not sure from the Homeric text whether the final syllable was long or short, e.g. ἀμογητει, are treated this way.

180 We cannot do otherwise but to rely on manuscripts. "Homeric", in this case, cannot be stated for sure as belonging to the eighth century, but to the period to which the manuscripts belong, which is post-Alexandrian in any case. This goes for the "post-Homeric" data as well.

181 From συμωζοω = "to lament".

182 The variant in –ει is rejected by some scholars; see Bader, p.93.

183 The first ι is long, which means that the adverb is not built from the noun κονις, which has ι, but from the verb κονιω, which has a long ι. The manuscripts also hesitate between the two forms: -τει in Dem.19, 77 but –τι in Dem 18,200, and Thc.4,73,2.

184 Dated 480 and 476.
about 450 we can find in Crete an inscription with ἀδαιτη, with graphic –ηι standing for -ει. Other epigraphical evidence shows ὀνομαστεί next to ὀνομαστι, πατριαστεί next to πατριαστι.

To sum up, we can see the following:

1) there is variation, both in inscriptions from as early as 5th century B.C and in manuscripts dating from Middle Ages, between –tei, -tī, -tī. What is strange is that there is no variation between ĭ and ɨ except for the example in Sophocles below. On the other hand, adverbs in -τστί seem to have the final short.

2) the hexameter shows in the places where we can be sure about the length that Homer has either a ĭ or an -ei as the ending for these adverbs. This could be a proof that the original form is the one with either-εi or –ɨ.

3) In Sophocles the same word ἀστακτή has both -î and –i in the same play.

We need now to mention other adverbs, which are similar to these above and which are still an object of dispute in whether they should be categorized as being built in the same way as the adverbs ending in –τεῖ/-τί are.

Other Adverbs:

Greek has another series of adverbs which are similar to the ones analyzed here.

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185 Del. 179 a 13, see Bader, ibidem, and Schwyzer, p.623.
186 SIG 355.13 (Ilion, 4-3 B.C.) and IG I2 57.44 (5 B.C.) respectively.
187 SIG 793.13 (1 A.D.) and, respectively, SIG 1023.32 (3-2 B.C.) both in Cos. The meaning is “with the father’s name”.
188 OC 1251 and 1641.
189 See Jacobson, Hermann, Glotta 16/1928/p.54; Bader, p.86; Risch, Ernst, MH29/1972, believes correctly as we shall see that these adverbs are related, “eng verwandten”.

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Nevertheless, their stem does not end in -τεί/-τι, but in -εί/-ι. A striking fact about these adverbs is that they display the same variation in their ending as the adverbs that have the dental in their stem. There is, however, a difference: this variation does not exist when the stem of the adverb ends in a vowel.

Here are some examples of such adverbs:

- **ασπουδεί** “without effort” in Θ512, O476\(^{190}\), etc; the variation in -ι occurs in the manuscripts;
- **ασπουδεί** “without having a concluded treaty” and **ασυλεί** “inviolably”, in the formula ασυλεί καὶ ασπουδεί, in Attic inscriptions\(^{191}\) and Ionic ones\(^{192}\); the variant in -ι is shown in Rhodos\(^{193}\).
- **αμισθί** “without reward” can be found in a fragment from Archilochos\(^{194}\), where as the -εί variant is shown on a inscription from Eleutherna in Crete from the 5th century\(^{195}\).

There are variants in the manuscripts for **πανδημεί** “with all people”, **αυτονυχεί**\(^{196}\) and **αυθημερεί** “in the same night/day”; **παμμαχί** “in which all fight” is written with –ι in A.D.Conj.234.9, but there is **αμαχεί** “without fight”, with

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\(^{190}\) In the formula, with -εί as the first syllable of the third foot: μὴ μᾶν ἀσπουδεί γε νεῶν ἐπιβάιεν ἔκπλοι.

\(^{191}\) IG I\(^2\) 58, 14 and 133,9; from the second half of the 5th century.

\(^{192}\) Erythrai, from 357/55, Syll.\(^3\) 168, 8f

\(^{193}\) Syll.\(^3\) 110,40, from 410 B.C.

\(^{194}\) Fr. 41B: ἀμισθί γὰρ σε πάμπαν οὐ διάξομεν.

\(^{195}\) Collitz-Bechtel 4957 a 5.

\(^{196}\) Found in II.8.197.
- έι, in Thc.1.143, X.An.1.7.9; αμαξί can also be found in Phot.p.88R.

On the other hand, as I said above, there are at least two adverbs which have a vowel before these endings and which do not show this variation: ἀθεέι$^{197}$ = “without (the help of a) god”, αὐτοβόέι$^{198}$ = “with immediate cry”. The fact can be explained by a tendency to avoid contraction and the ensuing loss of distinction between the root and the ending$^{199}$. Other adverbs of this sort are pretty numerous; some examples can be found both in Bader and Risch$^{200}$. From the data above we can see that the variation is not a matter of dialects$^{201}$; that is to say, all dialects display the same variation, which suggests that the process must be old.

Before trying to explain this “mess” in the various forms, we should mention here an important fact: most of these adverbs have a correspondent adjective in –τος or simply a thematic adjective –ος:

• ἀνιδρωτί- ἀνιδρωτος = “without having sweated”
• ἀμογητί- ἀμόγητος = “unwearied”
• ἀσπονδί- ἀσπονδος = “without drink-offering” or “to whom no drink-offering is poured”$^{202}$

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$^{197}$ σ353.
$^{198}$ Thc.2.81, 3.113, etc.
$^{199}$ For example, to avoid confusion with a form like ἀθεέι.
$^{200}$ Loc.cit. They both make a case of the fact that the - έι ending seems to be older. The evidence from inscriptions is, however, very scanty and, besides, they do not take into account the simple fact that all dialects display the same variations. The inscriptions found in Olympia and Delphi cited above, p. 2, prove also my point. Risch himself is circumspect here, see Risch, p. 68.
$^{201}$ See above the epigraphical evidence for ἀμισθί, ἀσυλεέι.
$^{202}$ The double meaning, passive and active, has probably to do with the reciprocity involved in the process: actually the verb means “to make a treaty”, where the offering involves both the person who is making the offering and the one who is accepting it.
• ὀμαχητή- ὀμαχητος = “without fight”
• ὀωρι— ὀωρος = “untimely”, Lat. intempestivus
• ὀθεει- ὀθεος = “without god”
• ὀνουτητι- ὀνουτητος = “unwounded”
• πανδημι- πανδημος = “belonging to all people”, etc.

Sometimes the corresponding adjective is one in –ēs:
• παμμελει(Porph.Chr.94)- παμμελης(LXXMa.7.16)= “in all kinds of melodies”
• παμπλεθει(Ev.Luc.23.18)- παμπλεθης(X.HG.6.5.26)= “with the whole multitude”
• ἀυτοθελει(AP7.740)- ἀυτοθελης(AP9.79)= “voluntarily”
• ἀυτοετει(204)(Theoc.28.13)- ἀυτοετης(J.AJ3.9.3)= “within the same year”

Some other adverbs are derived from the –si< –ti stems; they display most of the time an –ei ending:
• ἀυτοψει(205)(Jul.Ep.204) - ὑπτις= “with one’s own eyes”
• ἀυτολεξει(Ph.2.597)- λεξις= “in express words”

Others are derived from s-stems and also display both the –ei and the –i ending:
• παγγενει(Xanth.10)= “with the whole race”, from γένος.

203 ὀωρι with short I (Theoc.11.40, with clear locative meaning (νυκτος ὀωρι) = “at the end of the night”, but also ὀωρει (P.Fay 19.2, 2A.D.)
204 In the Odyssey there is an adverb ἀυτοετες=”within the year”(Od.3.322)
205 Given by Liddell-Scott with a - ψι variation
• πανεθνεί (Str.5.4.6) and πανεθνι (LXXWi19.8)= “with the whole nation”, from ἔθνος

Finally, there are adverbs which derive from consonantal stems and which display the same variation, but not always:

• αὐτοχειριτ (Lyc.1.22; Paus.7.16.6) deriving from αὐτόχειρ = “with one’s hand, creative” (S. Ant.900, 1315); without variant.

• αὐτομηνη (Attic.ap.Eus.PE15.4)= “in the very month”; without variant.

• πομπαδι (D.C. 41.19) = “with all the children”; without variant.

• παγγυναικι (Ev.Luc.23.18) = “with all the women”; without variant.

• αὐτοποδι (D.C.50.5)= “with one’s own foot”; without variant.

• αὐτονυχι (- εί) (Il.8.197; Arat.618; A.R.4.1130)= “in the same night”; the corresponding adjective is in –ιος: αὐτονύχιος attested in Hesychius.

• αὐθημερεί(- ί) (Inscr.Prien.28.17/2B.C.)= “in the same day”, etc.

Now, before analyzing the different scholarly opinions on the origin of these adverbs, we shall enumerate the Homeric occurrences of them:

ἀθεί, ἀσπουδι, μεταστοιχι, τριστοιχι, αὐτονυχι, ἀμαχητι, ἀμογητι, ἀνιδρωτι, ἀνούτητι, ἀνωστι, ἀναιμωτι, μελειστι, μεγαλωστι, ἑρημορτι.209

206 Herodotus uses αὐτοχειρίς, with the same meaning(1.140). Callimachus has αὐτοχειρ (Epigr.22).
207 There is also a late (J.AJ17.9.5) αὐτονυκτι
209 Chantraine gives also ἐκτι, ἐκτιτ. Nevertheless, they present a serious problem because they do not have oxytonic accent. Conversely, Bader p.94, thinks that adverbs like ἐθέλουτι, ἐκορτι are casual forms, but she does not say which. It is obvious they are not datives because of the accent. This is a real
We remember also that there are variants in –ei of these adverbs and that the privative ones have a long accented –i where we can tell the length. Nevertheless, we also notice that a word like ἀμοργητή can have the last –i short in Callimachus. This fact shows, in my opinion, that even in Homer the privative adverbs cannot be all considered to have the final –i long. Ἀστακτή in Sophocles shows that the same author could use either variant depending on the necessities of the meter. In fact, a word like ἀνιδρωτή, with the structure ~--~, could not have been used in the hexameter.

These adverbs have presented numerous problems to linguists, precisely because of this variation in the quantity and form of the last syllable, not to mention even the stem ending in t. The issue of these adverbs was taken up as early as Kissling210 and Mahlow211. Kissling believed that there were only adverbs in –ei and ī and passes over the ī in silence. He mentions only the fact they might be former instrumental-locatives212. Mahlow saw that there were adverbs both in –ī and in –ī (-ei). For him the former derived from an ancient locative from the consonantal stems (Adj. αὐτόχειρ- Adv. αὐτόχειρ), whereas the latter type represented a former locative213 of adjectival themes in –i, which, in his opinion, were replaced by themes in –yo214 (type πανδήμιος- πανδημει). The –ī

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210 KZ 17/1868, p.213sqq.
211 Die Langen Vocale A, E, O in den Europaischen Sprachen, Berlin 1879, p.120sqq.
212 He also believed that the adverbs in –ei are denominatives whereas the ones in –i are deverbatives. He also does not care about the variances. It is also not clear how he views this “instrumental-locative” case.
213 The locative was built in this case on the lengthened grade, so it had the form –ei, which gave in Greek – ei.
214 He makes the comparison with Latin where older –os type (sublimes, bicornus, perennus) was replaced by the –īs type (sublimis, etc.)
itself was a former neuter plural, in which a contraction took place that made former –ia into –ī.215

As we can see, Mahlow does not explain the variants of the same words and cannot have a plausible explanation for the –ī. Nevertheless, we should keep in mind at this time his arguments for a locative origin of these adverbs.

Schulze216 analyzes the non-ī adverbs of this sort such ἀσπονδὶ, ἀσυλὶ, etc., and tries to avoid the ī-stem adverbs. His conclusion is based on a comparison with Slavic and Baltic languages, which actually constitute the main object of his study. According to him there is a parallel between the Slavic forms pravī (adv. “rightly”)-pravū (adj. “right”), prēmī (adv. “with justice”)-prēmū (adj. “just”) or the Baltic217 forms pamažī218 (adv.)-māžas (adj. “small”) and the Greek forms ἀμισθὶ-μιθὸς, etc. Other Baltic adverbs such as toli, aršī, or Slavic composites such as udobī, prēprostī are further adduced to illustrate his opinion about the common origin of all these adverbs ending in –ī. In his opinion, these adverbs are former PIE neuter adjectives in –i, whereas the Greek forms in –ei should be former locatives of the –o-stems. This is supported by the fact that various IE languages show a tendency to have composite adjectives in –i:

- Latin exsomnis, imberbis, inermis;

215 He could not know, obviously, the laryngeal theory by his time, since he compares this example with Latin trīgīnta, where indeed the ĭ is due to a laryngeal. In his opinion, this contraction happened in Latin and in our adverbs, but it did not happen in τριάς. In any case his explanation for –ī is not valid anymore.
217 Baltic displays a dative ending in ĭ, which corresponds to the Vedic locative vēdī and to the dative ū. Greek dialects also display a dative in ĭ for the themes in i (πολί), this is perhaps not a Greek phenomenon, but a PIE one, with ĭ taken from the locative; see Gerrulis, G. Archiv für Slavische Philologie, Berlin 1923, p.77sq. with bibliography about Greek: Osthoff, M.U.IV, 385; also Sihler, 316sqq. In other words, Gk. polī would come directly from the locative, not from πολ-ī.
218 “Pa” is a prefix.
• Sanskrit *prayardhi*- = “to whom the half belongs;

• Avestan *avimiθri*- = “Mithra’s enemy”, etc.

In this category Schulze includes τριστοιχί, ὀσυλί, ὀμιστὶ (“without closing the mouth”). There is, however, a big problem with his arguments, namely the fact that a word of the type τριστοιχί, for example, has a correspondent adjective in –ος, which is τριστοιχος. The whole argument then about forming adjectives with themes ending in *i* becomes untenable. Another flaw of his analysis of the Greek case is that he does not take into account the great variability of the Greek data, so that he does not mention in this study219 anything about the fact there is also -ī, not only -ι and –ei. This is left totally unexplained by Schulze. What is worthwhile to notice here is the fact that these adverbs are linked to ancient locatives of the themes in –ο.

We mentioned Kretschmer before. Brugmann also believed220 that some of these adverbs (τριστοιχί, ὀμισθὶ, etc.) are former neuter adjectives in the nominative-accusative. But, like Schulze, he does not take into account the fact that there are already adjectives in –ος221. Wackernagel222 simply believes that the –ei forms are due to a former locative ending, where the ones in –ι are former neuter adjectives used adverbially in the

219 Nevertheless, in *Berl. Phil. Wochenschrift* 1896, p.1330-37, 1362-68 (paper collected in Schulze, Kleine Schriften, Gottingen 1966, p.656-7) he believes that the ι is either an error of the scribes or due to metrical lengthening (“Ικτυςδεννί”). He also states here that the –ιο ending is a result of a locative of a consonantal stem in dental; this takes us again to the circular argument at the beginning of this chapter.

220 KZ 27/1910, p. 233 sqq.

221 See above the argument against Schulze. The claim could be made, of course, that the adjectives in –ος are a recent creation, after the disappearance of the –ι adjectives. This is contrary to what we have established above, namely that the –ι adjectives are more recent.

way Latin has the adverb *impune* from the neuter of the adjective *impunis*.

Wackernagel states very clearly that the thematic adjective is younger than the stems in -i. And, in regard to the –ei ending, Wackernagel simply says that it was taken from the locative without further comment.

Jacobsohn rejects the argument that –τί might represent a locative of a t-stem on grounds pertaining to the fact that the t-stems in Greek function as nomina agentis in compounds: ἀδμης, ἐπιβλής, etc. Consequently, words like ἀμοχητί, ἀμογητί, ἀμαμωτί would not, in his view, belong in this category. On the other hand, Jacobsohn rejects also the opinion that these adverbs could be frozen accusative neuters in –τί, because Homer has nouns in –της, –ςις derived only from primary verbs, which is not the case with the words mentioned above.

Schulze and the others have serious problems indeed in seeing the origin of these adverbs in dental stems. They seem not to have realized that there were no PIE stems in dentals, especially these, which are the basis for our adverbs. Schulze’s position is more interesting, and it makes the whole problem more complicated: these themes in t were the

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223 *Illinis* or *illiberis* in Latin are given as parallel examples for Greek ἀσέληνος, ἀτεκνός.
224 “In Einzelfällen ist das zu –is gehörige adverbiell gebrauchte Neutrum auf –e (aus-i) älter als das durchdeklinierte Adjectiv”; ibidem.
226 *Glotta* 16/1928, p.54.
227 This opinion is found in W.Schulze above, note 57, Kretschmer KZ30,586, Fraenkel, *Nomina Agentis I11*, Debrunner, *Wortbildung* 177,352.
228 When they are the last term of a compound.
229 ἀμαμωτί is, nevertheless, derived from the verb, otherwise it would have shown the old stem in s in ἀδρως. Jacobsohn sees it as “Denominativum”.

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ones which were extended further to the –tā-\textsuperscript{230} stems. This process can still be seen in the etymological relations between words like ἐγερτί and the name of the dog Ἐγερτῆς. In other words, these adverbs would be our sole basis for the reconstruction of a stage in Greek in which there were nouns in a dental\textsuperscript{231}, whose stem was further extended either to –tī- or to –tā-, while they themselves vanished from history, leaving their traces in the adverbs we are dealing with here. Although it is not impossible, this scenario seems very unlikely and, in any case, very hard to prove, if not impossible.

Bader gives the most general picture about these adverbs and, given the desperate situation, she comes up with a most extreme solution: all three variants, -tei, -tī and –tī, are the result of former case endings. She believes that there are actually two series of adverbs, one in –i, -ei (type ἄσωτι, ἄθεει), and the other in –tī, -tī, i.e. the type of adverbs with which we started our discussion. Despite making this dichotomy from the beginning, she focuses only on the second series. In her view, the –tī ending is a former accusative neuter\textsuperscript{232}, which may reflect a stage in PIE (pre-PIE?) where the language was ergative and this ending was the one of an absolutive\textsuperscript{233}. An example of an absolutive could be found in Pindar, N.8,9 with the coordination of ἁβοσάτι and ἐκοντες:

 ámbosátı gάρ ἡρῶν ἁωτοί περιναιετάντων

ἡθελον κείνου γε πείθεσθ' αναξίαις ἐκοντες

\textsuperscript{230} Ionic-Attic nouns in -της, Doric in -τας.
\textsuperscript{231} Only in Greek (Proto-Greek), not in PIE.
\textsuperscript{232} These would be accusatives of neuter nouns ending in –ti.
\textsuperscript{233} In ergative languages, the ergative is the case of the agent who performs the action denoted by a transitive verb (either nominative or instrumental), whereas the absolutive is the case which characterizes the subject of an intransitive verb and object of a transitive verb.
“Since the best of the surrounding heroes wanted to listen to his behest willingly.” Bader picks actually up an idea which belongs to Wackernagel\(^{234}\), who confines himself only to say that “Diese –ti- Bildungen funktionieren nach Art der einst allgemein indogermanischen Absolutiv”.

It may indeed be that in the example above from Pindar \(\alpha\beta\omicron\alpha\tau\omicron\) could be regarded as functioning similarly to an absolutive. The problem is, however, whether what we find in Pindar can be attributed to a PIE or pre-PIE stage. On the other hand, Bader seems to omit the fact that \(\epsilon\kappa\omicron\omicron\nu\tau\epsilon\varsigma\) is in the plural, whereas \(\alpha\beta\omicron\alpha\tau\omicron\) would represent the singular if indeed her assumption about the –ti accusatives were correct. Consequently, I believe that Bader went too far in interpreting \(\alpha\beta\omicron\alpha\tau\omicron\) here as a former absolutive.

Another “absolutive” interpretation is given to words like \(\varepsilon\lambda\lambda\eta\nu\nu\sigma\tau\tau\)ı, \\(\omicron\nu\omicron\mu\alpha\sigma\tau\)ı, etc, where only the short \(i\) is attested and, sometimes, the –ei variant, which Bader considers, perhaps correctly, as analogical to those nouns where it was etymological. In her view, these words are former accusative neuters. Nevertheless she illustrates this with an example which shows exactly the contrary: \(\varepsilon\lambda\lambda\eta\nu\nu\sigma\tau\tau\)ı \\(\xi\nu\nu\epsilon\nu\alpha\alpha\)ı\(^{235}\) is presented incompletely; the whole passage is \(\tau\alpha\ \pi\alpha\nu\tau\alpha\ \varepsilon\lambda\lambda\nu\nu\sigma\tau\tau\)ı \\(\xi\nu\nu\epsilon\nu\alpha\alpha\), “to understand everything \textit{in} Greek”, which obviously sheds a completely different light on the whole syntactic construction and makes these adverbs be exactly


\(^{235}\) “To understand Greek”, Xen.An.7,6,8.
what they are, i.e. adverbs of manner whose origins are not in the –ti nouns, where Bader wants them to be.

The –ti adverbs for Bader have a more “spectacular” origin: they would be former instrumentals of –ti stems, in the way we find in Sanskrit an ī ending in the instrumental of nouns whose theme is in ī236: cittī, ītī, etc. One reason for this would be the syntactic function of these adverbs, especially those privatives, which is indeed instrumental237. In this case a PIE instrumental ending -*iH238 would have given in Greek the long vowel which explains the origin of our adverbs. This assumption, however, has a flaw239, namely the fact that in Greek the result of –*iH# is not ī, but –ia or -ie240, which is shown, for example, by cases like PIE *triH2 “three”> τρῖα, Ved. trī or the dual for “eyes” *H3ekwH1>Hom. ὄσσε, Ved. akṣī.

We see that under these conditions Bader’s arguments, however bold they might be, are very hard to maintain.

A last attempt to solve the problem was made by Risch241. But his article tries to solve only the problem of the –ei ending, which for him is a locative. What is interesting is that the –tei ending is not, in his view, old. Thus, this ending would have its origin either in verbal adjectives like ῥομαχητος or in nouns like ἀδατεί, where the t

237 Bader express doubts whether the ending could be locative, since very few of these adverbs seem to have been locatives in their syntactical function. I do not think this could be a problem: these adverbs could be simply instrumentals which took locative endings.
238 H is a laryngeal.
239 See for this Hajnal Ivo, Sprachschichten des Mykenischen Griechisch, Salamanca 1987, p.84, n.141.
240 See Sihler, p.47
241 See note 17.
belongs etymologically to the theme of the noun. He also believes that words like

\( \delta\mu\alpha\chi\epsilon\tau\iota\) (\(-\epsilon\iota\)) are a blend and a compromise solution between \( \delta\mu\alpha\chi\epsilon\iota\) (since Thuc. and Xen) and \( \delta\mu\alpha\chi\eta\tau\omega\) (bzw. \( \theta\iota\delta\mu\alpha\chi\eta\tau\omega\) is); Risch, p.72.


I previously addressed the assumption that the \(-\iota\) might come from an
instrumental. This is not possible in Greek for phonological reasons. In respect to Risch’s argument that the –tei adverbs are a later analogical formation, this cannot be proved: the adjectives in –to- are old enough, of PIE\textsuperscript{246} date, and they might have had their own locative ending as well.

The existence of long and short \textit{i}’s causes headaches, of course, and the manuscript tradition is not very helpful in this respect. But perhaps the ancient grammarians could be more helpful on this. Herodianus\textsuperscript{247}, in the 2\textsuperscript{nd} century A.D., tries to explain how to use orthographically -\textit{ε}ι and -\textit{i} with different adverbs of this sort. Being concerned with the orthography, Herodianus does not give any indications about the length of \textit{i}\textsuperscript{248}. The first striking thing in his observations is that he links the form of the ending with the segment(s) that precedes it. For example, he believes that the adverbs should be written with –\textit{i}\textsuperscript{249} when preceded by

- \(\beta\) (\(\alpha\tau\iota\beta\iota\), \(\alpha\beta\lambda\alpha\beta\iota\)),
- \(\kappa\) (\(\pi\alpha\nu\iota\iota\kappa\iota\), \(\epsilon\nu\iota\kappa\iota\)),
- \(\gamma\) (\(\alpha\mu\iota\gamma\iota\)),
- \(\pi\) (\(\alpha\tau\rho\epsilon\pi\iota\), \(\alpha\rho\rho\epsilon\pi\iota\)),
- \(\pi\tau\) (\(\alpha\tau\rho\epsilon\pi\tau\iota\)),
- \(\tau\) (\(\alpha\kappa\omicron\nu\iota\iota\), \(\alpha\mu\omicron\gamma\eta\iota\iota\), \(\alpha\nu\iota\delta\omicron\rho\omicron\omicron\iota\iota\)).

\textsuperscript{246} See Chantraine, \textit{La formation des noms en grec ancien}, Paris 1933, p.299.
\textsuperscript{247} Epim.254sqq.
\textsuperscript{248} At this date there was probably, in general, no distinction between short and long vowels. See Meillet, \textit{Aperçu d’une histoire de la langue grecque}, Paris 1965, p.284. Nevertheless, even at this date a grammarian like Herodianus could have known what originally was happening. The fact that he does not say anything about this is due probably to his intention to write only about orthography.
\textsuperscript{249} “\(\Delta\imath\alpha\ \tau\omicron\iota\ \Iso\tau\alpha\ \gamma\rho\alpha\omicron\omicron\tau\iota\alpha\)”
• στ (ὀνομαστί),
• ῥ (ἀμετρί),
• ν (νηποινί, ἄθρηνί),
• κτ (ἀστακτί, ἀστενακτί).

All the rest are written with -εί. Exceptions are given to all these cases. For example, in the case of ν one should have ἀφανεῖ; in the case of ῥ one should write αὐτοχειρί, ἀωρί, αὐτανδρί. Now, it is hard to see any logic for assigning one ending or another in all such cases. For example, what would be the reason for ἀτριβί being written with –ι when its corresponding adjective is ἀτριβής; a similar situation occurs with the adjective ἀφανής, whose corresponding adverb is written with -εί: ἀφανεῖ. Why would one write the adverbs whose theme end in β, γ, etc., with the ending –ι and others, ending in λ, μ with -εί: ὀμελεῖ, ἀτρεμεῖ (with corresponding adjectives ὀμελής, ἀτρεμής)?

I believe that the only conclusion that can be drawn from what Herodianus has to say is that by his time there was no way of predicting whether such an adverb had to be written with –εί or –ι ending. In this way, if the 2nd century A.D. a grammarian was unable to predict logically when one should have used one ending or the other, the legitimate question would be whether there was ever a time in which such a prediction
was possible. The examples found in Sophocles\textsuperscript{250} with the use of short and long \textit{i} for the same adverb, \textit{\v{a}stakti}, and the example in Callimachus of \textit{\v{a}moghti} with short \textit{i}, whereas in Homer similar adverbs are written either with long \textit{i} or \textit{–ei}, show that the confusion was more than a matter of manuscript error; thus it may be that the speakers themselves couldn’t predict what form the endings should have had. I did not discuss here the \textit{ī}. This is a very difficult task, but I think it is quite obvious that phonological grounds prevent us from agreeing with Bader in considering it the result of a former instrumental ending. At the same time, I cannot see a cogent argument for maintaining that the short \textit{i} is due to a former absolutive or accusative neuter case. The origin of our manuscript tradition for long \textit{i} must be sought somewhere else. And I think that Schulze was not far from the truth when he argued for scribal error.

The adverbs ending in \textit{–ei} must have seemed strange to the medieval scribes, especially when they had the short \textit{–i} on hand. They could have made the substitution of \textit{i} for \textit{ei} at the time when vowel length in post-Classical times became irrelevant in Greek or when the \textit{–ei} began to monophthongize. Another possibility besides this would be the influence of deictic adverbs like \textit{\nu\upsilon\sigma\iota}, \textit{\nu\upsilon\eta}, which could have occurred even earlier, especially taking into account the fact that the deictic \textit{–i} was long.

What is left now is to show the origins of the \textit{–ei} and \textit{ī} endings. As for the origin of \textit{t}, this should be connected with the existence of the adjectives in \textit{–to}-, which are of PIE date. Now, as we have seen, there are two relevant series of adjectives, one of them being of the type \textit{\v{a}wro\varsigma}, \textit{\v{a}spondos\varsigma}, i.e. without \textit{t} in their stems, and another one, those

\textsuperscript{250} See above. It may be, however, that in Sophocles one variant was the original one and the other was simply a metrical variant. The case is similar to \textit{\v{a}b\v{a}s\iota} in Pindar, which has the final \textit{i} short, whereas the
suffixed with \(-to\)-, type ανιδρωτος. The \(-tei\) ending then should be the result of the resegmentation of the locative of such adjectives: ανιδρωτ-ει resulted in ανιδρω-τει, and -τει was subsequently taken over to form adverbs like ἀμαχητει. Whether this happened originally with all adjectives ending in \(-os\), including those in \(-tos\), or, as Risch believed, it happened first only to those stems which did not contain \(t\), cannot be shown. I do not think, however, that anything precludes the possibility that the process could have taken place in both series.

The problem of the oxytonic accent, however, cannot be explained easily. The general assumption is that the nouns which are accented in the oblique cases on the last syllables are hysterodynamic\(^{251}\); for example, a word like πατήρ, πατρός enters this category because the accent shifts onto the ending during the inflection. But the situation with the thematic declension cannot be reconstructed easily. Beekes\(^{252}\) believes that the thematic declension has its origin in an ergative system and that it was based on a hysterodynamic declension. In his view, the nominative of the thematic declension has its ending in \(-s\) as the ergative ending of the hysterodynamic inflection. The ergative itself would have originated in a hysterodynamic genitive-ablative in \(-os\)\(^{253}\).

There remains, then, the problem of the \(-ei\) ending, which is unusual for the \(o\)-stems, because one would expect \(-oi\)\(^{254}\), not \(-ei\) in the locative. Beekes does not believe that the

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252 Beekes, ibidem.
253 This is identical to the ending of the consonantal stems; the ablative marks usually the agent, so that it makes sense to consider it as the ergative.
254 Cf. the locative Ἰσθμοι or ὄικοι.
–ei ending was the original one for the thematic stems; his assumption is that this ending was imported from the pronominal stems, which still remain in Greek in some adverbs: ἐκεῖ, πεῖ (Doric for “where”), τούτεῖ (Doric for “here”), διπλεῖ (Doric for “twice”).

Although not impossible, the scenario above seems to me to be very unlikely. The reason for this is that it is hard to see what the analogical mechanism was by which the pronominal ending was imported to the locative of the thematic stems. On the other hand, the accent continues to pose problems, since the adverbs in question here are oxytonic, whereas the pronominal stems are perispomene.

I suggest255 here a simpler solution to the problem, one which does not go back as far as some scholars have gone, to a very early stage of PIE. There are well-known stems256 in –es in Greek, which form adverbs like the one analyzed here: ἀτριβής, ἀμελῆς, ἀφανῆς, παγγενής, etc. The inflection of these adjectives follows the paradigm of, let’s say, ἀληθῆς, and have in the dative the form ἀληθεῖ=, ἀφανεῖ, etc. Now, as we can see, the accent in this dative is perispomene and not oxytonic, a problem we faced above. At the same time this is in perfect accord with what we have in the case of the pronouns of the type ἐκεῖ. There is no satisfactory way to get around the nature of the accent. Nevertheless, Brugmann258 noticed that there is a similarity between the accent of these adverbs and others, which are composed as well; for example, the use

255 This does not mean, of course, that I reject the previous solutions de plano; I simply propose what I think to be a simpler solution.
256 We consider here the adjectives from which the adverbs in question are built.
257 ἀληθεῖ<ἀληθεῖτι. The perispomene accent is the result of a sequence /\-. If the accent had been on the last syllable, then we would have had oxytone directly.
of ἀσπονδεῖ instead of ἀσπονδεῖ is similar to the adverbial use of ἐκποδῶν instead of the original ἐκ ποδῶν or the use of οὐδ-εῖς when the second part of the compound was ἐῖς. Whatever the nature of this might have been, it is clear that the adverbial use of frozen cases changes the nature of the accent from perispomene to oxytonic.

The word ἀτεῖ<*>ατεσι provides, for a good reason, a further proof of this, which has been overlooked by scholars, but which offers a clue to the fact that the adverbial use of former nouns makes them oxytonic rather than perispomene. This word, which is believed\(^{259}\) to be a former locative, is used in Homer with –ei as diphthong. As we can see, it presents exactly the same situation we met in the adverbs we are dealing with here: namely the loss of s results in the sequence –ei, which would have given a perispomene by the Greek rules. The fact, then, that this simple\(^{260}\) adverb has an oxytonic accent shows that the reason for the change from perispomene to oxytonic needs to be explained not by compounding, but by the nature of the morphological change from nouns to adverbs.

Nevertheless, the problem is more complicated than it seems. This is because it is not clear either where the accent stood on *ἀτεσι, or what the origin of the word is. It is usually assumed that *ἀτεσι is the locative of a noun ἀτές<PIE *a-y-w-es, which can still be seen in one variant of this adverb: ἀτές\(^{261}\). In this case the accent would be ἀτεσι, and we would face the problem with the change into an oxytonic accent. There

\(^{259}\) See Chantraine, *Dictionnaire étymologique.*
\(^{260}\) That is to say, it is not a compounded adverb.
\(^{261}\) This is Chantraine’s main assumption.
are other scholars\textsuperscript{262} for whom \(\alpha\iota\varphi\varepsilon\sigma\iota\) is the result of the inflection (in locative as well) of a collective feminine noun \(*\alpha\iota\varphi\varepsilon\sigma\iota\,\omega\), which would still be visible in the Greek \(\alpha\iota\omega<\alpha\iota\sigma\sigma\sigma\alpha\). \(\alpha\iota\varepsilon\iota\) would then be from \(*\alpha\iota\varphi\varepsilon\sigma\iota\), the latter form being the ablaut form (in the locative) from \(*\alpha\iota\varphi\varepsilon\sigma\iota\,\omega\). The problem lies exactly in this ablaut, because this feminine collective is a hysterodynamic form and, consequently, had its accent in the oblique cases on the desinence: nom.\(*\alpha\iota\varphi\varepsilon\sigma\iota\,\omega\), gen. \(*\alpha\iota\sigma\epsilon\sigma\alpha\)\textsuperscript{263}. Unfortunately, the accent of the locative is not easy to determine in PIE. But I do not think this is the issue here: by the time the Greek process of the loss of \(\kappa\) began, the paradigm of \(\alpha\iota\varphi\varepsilon\sigma\iota\) had probably been leveled, and the accent would have been on the \(\varepsilon\)\textsuperscript{264}. In this way, the accent which resulted from the contraction would have been perispomene; consequently, we would have to admit as we just have that in this case the change in morphological categories (noun>adverb) led to a change in the nature of the accent\textsuperscript{265}.

There is one more thing to clarify here: whether we are talking about adverbial use of the dative or of the locative. As I noted at the beginning, the form of these adverbs and their distribution within dialects show that they are of Common Greek date. In respect to what is said above, the \(–\varepsilon\iota\) ending would be the result of the loss of intervocalic \(–\kappa\)-, which is of Proto-Greek age, and whose traces are still felt in Mycenaean\textsuperscript{266}. It is well-


\textsuperscript{263} In Sanscrit we have \(\ddot{\alpha}yus\), \(\ddot{\alpha}yusas\), which is the result of leveling; the \(\ddot{a}\) most likely reflects “Brugmann’s law” (*\(\ddot{\alpha}\)=\(\dddot{\alpha}\)_RV).

\textsuperscript{264} A similar process took place with \(–\ddot{\alpha}\)s nouns: \(\alpha\iota\delta\omega\zeta\) has the dative \(\alpha\iota\delta\omega\zeta<\alpha\iota\delta\sigma\iota\), where the perispomene hints to the fact that the accent was originally paroxytonic.

\textsuperscript{265} In fact, adjectives like \(\alpha\beta\lambda\alpha\beta\bar{h}\zeta\), \(\alpha\tau\rho\beta\bar{h}\zeta\), etc. still have perispomene on the ending in the dative. This is because they are, of course, still adjectives.

\textsuperscript{266} See Sihler, op.cit. 172. Hamp, Glotta 38/1960, p.190sqq believes that the \(\kappa\) had already been lost at the time of the tablets, contrary to the “orthodox” view, for example Ruijgh, Mnemosyne 45/1992, p.434, which considers that examples like \(pa\textsuperscript{-}\textsuperscript{2}we\textsuperscript{-}\textsuperscript{2}a/pa\textsuperscript{-}\textsuperscript{2}we\textsuperscript{-}\textsuperscript{2}a\) show that the ha could be represented either by \(a\) or
known fact that Homeric Greek still preserves the trace of the loss of s in the s-themes: 
\( \varepsilon\iota<*-\varepsilon\iota - \) can be found in hiatus, \( \varepsilon\iota, \) depending on the metrical necessities\(^{267} \), which means that the poets had in their repertoires formulas from an older time, when the effect of the loss of s could still be felt. On the other hand, a word like \( \acute{\alpha}v\iota\delta\omega\tau\varepsilon\iota, \) as seen above, has its last syllable as the first one of a foot, so that it could never be scanned in hiatus. Such cases, in which the diphthong is the first syllable of the foot, occur only seldom\(^{268} \). There are also numerous cases where one can scan either the diphthong or the hiatus: \( \acute{\epsilon}v\ \acute{\alpha}r\gamma\epsilon\iota\ \nu\acute{\alpha}s\theta\eta, \ \acute{\epsilon}l\kappa\epsilon\iota\ \lambda\upsilon\gamma\rho\omega\)\(^{269} \), etc. These facts show that there was a free variation between forms in diphthong and forms in hiatus and that our adverbs were scanned sometimes as having diphthongs.

The question remains whether our adverbs could have originated either in frozen datives or in locatives. I think that there is a greater chance that they originated in the dative because the loss of the s seems to be closer in time to a period when the locative had already disappeared from the paradigm, but I do not think that this can be proved conclusively.

From these stems the –\( \varepsilon\iota \) ending spread to other adverbs: the –\( \varepsilon\iota \) ending became the marker of the instrumental of the privative type. \( \acute{\alpha}r\tau\iota\beta\acute{\eta}c-\acute{\alpha}r\tau\iota\beta\varepsilon\iota \) became the basis for \( \acute{\alpha}v\iota\delta\rho\omega\tau\omicron\zeta-\acute{\alpha}v\iota\delta\rho\omega\tau\varepsilon\iota \) and from here, by resegmentation, it could spread to adverbs like \( \acute{\epsilon}g\rho\iota\gamma\gamma\omicron\rho\omicron\omicron\tau\varepsilon\iota. \)

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\(^{a2} \) Hamp’s argument goes in the opposite direction, considering that precisely the confusion between signs shows that the \( h \) has already been lost by this time.

\(^{267} \) See for a synopsis of this phenomenon, Chantraine, *Grammaire homerique*, p.48sqq.

\(^{268} \) See Chantraine, ibidem.

\(^{269} \) The –\( \varepsilon\iota \) is in the fifth foot; Ξ119, Ο393.
The only thing then, which remains to be clarified, is the origin of ĭ. Once we have dismissed the interpretation that this ending might be a frozen accusative neuter, there are not many possible solutions left. One of them has been already given by Schulze270 and consists of seeing this ending as the locative of a consonantal stem271. Adverbs like αὐτοχειρί, αὐτομήνι, παμπαιδί, αὐτοποδί, which could very well be instrumental datives272, might be at the origin of the ĭ adverbs. The way this ending got mixed in this case with the –ei ending does not seem clear to me. It may be that the above-mentioned adverbs originally ended in the “normal”273 –ei. The fact that the second part of these compounds was a consonantal stem, which itself was about to change the original dative ending in –ei to the –i taken from the locative might have influenced the adverbs to change to the –i ending as well. The reason, then, why we can see variation in this adverbial ending and not in the case of the dative itself might be due to the fact that the adverbs were not within a paradigm in the way the nouns are, so that they were able to get their endings from both the –es stems and from the consonantal stems.

The confusion between –ei and –ĭ in these adverbs might be also due to the general confusion caused by the fusion between the locative and the dative, between the –ei dative ending and the –ĭ locative ending. This confusion can still be seen in Mycenaean274, where the writing with e for the dative suggests the older form of the

270 See above, note 54. Nevertheless, he considers them to be the result of t-stems locatives. This runs again against our argument about the fact that the t-stems were very rare in PIE as far as we know.
271 Schulze speaks only in general and he does not provide us with any examples.
272 Again I do not exclude the locative as the origin of these adverbs. For example, αὐτοχειρ is used as an adjective in Soph.Ant 172, παληγενεῖς αὐτοχειρι σὺν μιᾶσματι, with the accent proparoxytonic, which suggests that the adverb might be originally the locative.
273 Namely, analogical.
274 See a good discussion in Hajnal, Ivo, p. 85sqq. He also does not exclude that the –ei ending in the locative was taken from the –ēs stems.
dative –ei. In this way, the loss of the locative and its merger with the dative of the consonantal stems might have worked together towards the general confusion between –ei and –i and can still be seen in the ending of the adverbs that have been analyzed here.

We have now reached the end of our discussion of the adverbs in –ei, -î and –ī. Recall that we started by trying to show that the adverb ἀνίδρωτεί does not have its origin in a word which is a theme in t. The discussion showed, therefore, that the t in this adverb has a completely different origin from the t we will find later, in post-Homeric times, in the paradigm of the word ἀδρώς. One might wonder further whether it was not the case that the insertion of t in the paradigm of words like ἀδρώς was caused by the existence of such adverbs and their corresponding adjectives in –tos. But this too is speculative, of course. Nevertheless, what still stands as an unresolved problem is the origin of this t-insertion in the nouns we are dealing with here.

CHAPTER 4

THE PERFECT PARTICIPLE ACTIVE

One of the most problematic issues regarding the t stems in Greek is the perfect active participle, the masculine and neuter forms, which display in all roots a theme ending in a dental t in the oblique cases, “intrusively”, since the PIE form of the suffix had no –*t-.

Originally, the Perfect Participle Active was formed in Greek with the suffix -wos-, which shows a PIE ablaut variation –wos/- -us- between masculine and feminine. An example which illustrates this situation is the participle of the verb “to know”, PIE *we/oid- ειδωζ< *weidFos/ιδνια<*widusy2. We remark here that the original ablaut variation takes place both in the stem and in the suffix, which can still be seen in Sanskrit and Greek. Nevertheless, Sanskrit as shown below does not display the same pattern as Greek. Here are the Greek and the Sanskrit paradigms276 of the same word for masculine and neuter:

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276 The m in the Sanskrit paradigm is analogical. The large majority of cases of final n in Sanskrit are for original ns, e.g. the accusative plural devān becomes devānca before the enclitic –ca, which is the result of the preservation of the original ending of the PIE accusative plural in –ns, cf. Gk. θεαξ, Lat. deas. From here the m extended to the places where it didn’t belong originally, as in the case of the participial paradigm. The steps would then be the following: *vidvās>*vidvāns>vidvān; the accusative vidvānsam would be then the normal development from the second stage of the above process.
<table>
<thead>
<tr>
<th>Greek:</th>
<th></th>
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<tbody>
<tr>
<td>N. ἐιδῶς</td>
<td>ἐιδὸς</td>
</tr>
<tr>
<td>G. ἐιδότος</td>
<td>ἐιδότος</td>
</tr>
<tr>
<td>D. ἐιδότι</td>
<td>ἐιδότι</td>
</tr>
<tr>
<td>A. ἐιδότα</td>
<td>ἐιδὸς</td>
</tr>
</tbody>
</table>

| Sanskrit: |  |
|---|---|---|---|
| Singular | Dual | Plural |  |
| m. | n. | m. | n. | m. | n. |  |

N. vidvān | vidvat | vidvāṁsau | viduṣī | vidvāṁsas | vidvāṁsi |  |
A. vidvāṁsam | vidvat | vidvāṁsau | viduṣī | vidusas | vidvāṁsi |  |
V. vidvan | vidvat | vidvāṁsau | viduṣī | vidvāṁsas | vidvāṁsi |  |

I. viduṣā |  |  | vidvadbhis |  |
D. viduṣe |  | vidvadbhyām | vidvadbhyas |  |
Abl. viduṣas |  |  | vidvadbhyas |  |
G. viduṣas |  | viduṣos | viduṣām |  |
L. viduṣi |  |  | vidvatsu |  |
The suffix –\textit{wos}- in Greek seems to alternate with a suffix –\textit{wot}- in the masculine and neuter, in the weak cases (\textit{eisdo\omegaς}, \textit{eisdotoc}, etc.). The feminine clearly did not have such a suffix, because a pre-form *\textit{widutya} in the weak cases would have given –\textit{os\alpha} or -\textit{tt\alpha} in all Greek dialects, which does not happen. Therefore the issue of \textit{t} revolves around masculine and neuter stems.

We can see from the above paradigm that there is no single case-form where Greek and Sanskrit match up in having the same form of the participial case. Sanskrit, unlike Greek, does not have \textit{t} in the masculine paradigm, but it has it only in the dual and plural instr.-dat.-abl, where Greek does not have it\textsuperscript{277}. Sanskrit uses the \textit{t} suffix in the dual gen.-loc, whereas Greek uses \textit{t} in the corresponding dual gen.-loc. Finally, in Greek it cannot be shown that -\textit{oS\alpha}, the ending for dative plural, comes from –\textit{ot-si}, rather than from –\textit{os-si}.

The considerations above make questionable the assumption of a \textit{t} in this category that is of PIE date. Szemerényi argued more than thirty years ago\textsuperscript{278} that all the instances in all PIE languages where there is a \textit{t}-stem are the result of internal developments within each language and not a PIE process. His main argument against positing a \textit{t} that developed within PIE comes from the fact that Iranian languages don’t display the same pattern as their Indic cognates. In contrast to Sanskrit \textit{vidvadhis}, \textit{vidvatsu}, Avestan has \textit{vindo\u0101si\u0101} and \textit{vindo\u0101su}, with no \textit{t} in the paradigm. In other words, there is no basis for positing a \textit{t} even for the Indo-Iranian period, which makes the claim of a common origin

\textsuperscript{277} In Greek the dative endings are taken from the locative.
\textsuperscript{278} \textit{Studi Micenei ed Egeo-Anatolici} II/1967.
of Sanskrit and Greek \( t \) very suspect. The \( t \) in Sanskrit should then be explained on internal grounds. A possibility would be the fact that before endings like –\( su \), –\( bhis \) or \( bhyās/bhyām \), the \( s \) of the weak form of the suffix –\( us \) or even –\( vas \) would have been obscured by phonological processes. This is shown by the Avestan examples above. Sanskrit then innovated and replaced clusters like \( s-s \) and \( s-bh \) with –\( ts \) and –\( dbh \), a fact which is visible not only in this case, but also in others: the word for “month” \( mās \) has forms with \( mād-bh \); \( uṣas \) has a form \( uṣad-bhis \).279

Szemerényi addresses then the most important issue, which also pertains to the topic we deal with here: if \( t \) is not of PIE date, it must have appeared as a result of a process within Greek itself. Can we trace the emergence of this process?

Szemerényi’s conclusion is that we can. His arguments are based entirely on facts from Mycenaean. The evidence we have seems to suggest that in this dialect of Greek the \( t \) was not present in the paradigm of the Perfect Active Participle. The examples given by Szemerényi are only two, because the feminine forms, as we said above, are not relevant. \( Araruwoa \)280 and \( tetukowoa \)281 represent the neuter plural forms respectively of the Perfect Active Participle of the verbs \( ἀραρίσκω \) and \( τεῦχο \). In fact, the two cited forms differ in their endings282, and the tablets which contain them were found in different places: \( araruwoa \) was found in a tablet283 at Knossos; a similar morphological

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279 See, for example, Whitney, Sanskrit Grammar, Delhi 1997, p.145 and 155.
280 \( Araruwoa \) is an epithet of \( pa-ka-na \), which is the Greek word for sword, \( φασγονος \).
281 The writing system in Mycenaean spells clusters like the above one, i.e.–\( CwV-\), either \( CVwV \) or \( Cu-wV \), where \( C, V \) are consonants and vowels respectively. \( a_2 \) represents in Mycenaean aspirated \( a, ha \), in this case the aspiration being the outcome of \( s \) from the suffix \( wos \).
282 As noted above, the suffix –\( woa \) represents \( [wɔa] \), whereas –\( woα \) \([woha]\).
283 KN Ra 1541, 1545, 1550; see Anna Morpurgo, Mycenaean Graecitatis Lexicon, Rome, 1963.
form, *tetukowoa*, appears in a tablet at Knossos\(^{284}\), but *tetukowoa\(_2\)* is found only at Pylos\(^{285}\), presumably the older form, in that it still retains\(^{286}\) the intervocalic *h* representing *s*. These forms correspond to the Homeric ἁρηφωτα, which has *t* in its paradigm, and to an unattested *τετευχφοτα*, from τετευχως\(^{287}\), already present in Homer. In addition to these participles, Szemerényi adds the proper noun *widiwoijo*, to be interpreted as *Widwohios*\(^{288}\), which is derived from *widwos* and another participle, *kekutuwo*, to be interpreted as *kekethwohes*, whose meaning is not clear, but which is believed to derive from κηθειν “help”, itself a gloss met only in Hesychius\(^{289}\). Contrary to what Szemerényi believes, I think that *widwohios* is not very relevant, precisely because it is a name\(^{290}\); consequently, its formation could go back to a time before the *t*-insertion generally affected the participial paradigm. The name, therefore, could have been used in the older shape even after the *t* was inserted into the paradigm. There are no other instances of Perfect Active Participles in Mycenaean texts. Szemerényi’s argument is that the *t* entered the paradigm when the change of *s* to *h* would have obscured\(^{291}\) the

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\(^{284}\) KN Ld 871, ibidem as above.

\(^{285}\) PY Sa682, ibidem as above.

\(^{286}\) What is interesting here is that A. Evans, who discovered the tablets at Knossos, dated them before the ones discovered by C. Blegen at Pylos. In his view, the tablets at Knossos are from 1400 B.C., whereas the ones in Pylos are later, towards 1200 B.C. L.R. Palmer is of another opinion and considers the tablets from Knossos to date from 1150 B.C. It seems then the participles we analyze here support Palmer’s view. One way or another, what it is crucial for our discussion is not this dating, but the fact that these forms don’t show the “normal” participial *t* in their paradigm. For a discussion of the chronology of these tablets see C.J. Ruijgh, *Études sur la grammaire et le vocabulaire du grec mycélien*, p.21, Amsterdam, 1967.

\(^{287}\) This form is different in its ablaut from the Mycenaean one. This fact could lead to another interpretation of facts; see below, where several hypotheses will be taken into account.

\(^{288}\) See also Szemerenyi, op.cit. p. 22.

\(^{289}\) See Liddell-Scott.

\(^{290}\) A patronymic adjective.

\(^{291}\) Szemerényi does not give an explanation for the fact that there are, in fact, paradigms which are “obscure”, for example the Attic κρεας, κρεως, κρεα, etc. The fact that this paradigm was “regularized” only later to κρεας, κρεατος, etc. (in Attic only!) shows that an “irregular” paradigm existed beforehand. By “irregular” I also mean that the desinences might have become obscure.
paradigm. In Attic\textsuperscript{292}, for example, the paradigm for εἰδώς would have been become to the following:

\begin{center}
Masc.sg. *εἰδώς/ *εἰδω<*/εἰδοα/ *εἰδους<*/εἰδος/ *εἰδο

pl. *εἰδους< */εἰδος/ *εἰδων< */εἰδον/< */εἰδοσι
\end{center}

This was, in short, Szemerényi’s demonstration that the τ-insertion into the paradigm of the Perfect Active Participle is of post-Mycenaean date. Some questions should be raised, though. One of them concerns the fact that the entrance of τ into the paradigm nonetheless respected the vowel alternation in the suffix, namely long vowel in the nominative and short vowel elsewhere. The cases we have with τ entering the paradigms of s- stem nouns (χρως, ἵδρως, ἐρως, etc.) show something else, namely that the nominative had a major role in forming the new paradigm\textsuperscript{293}. In order to have this we will have to assume that the neuter played a role in the analogy, so that the τ entered first the neuter paradigm\textsuperscript{294}.

A second question that could be raised concerns the way the τ spread in all dialects. This is the toughest question and there is no clear answer for it, because of the problems raised by the distribution of Greek dialects\textsuperscript{295} and because Mycenaean itself

\textsuperscript{292} In other dialects ο+ο would have given ου, but with the same result of obscuring the inflection. We also remark how freely Szemerenyi uses the dialects in making use of his arguments. It is obvious, I think, that if we follow his argument the τ entered the paradigm in a post-Mycenaean period, when the dialects were differentiated, which would make the process very late and, on the other hand, it wouldn’t explain how all the dialects got it. See Ruijgh’s opinion, below.

\textsuperscript{293} Χρως, χρωτός, etc. has ο generalized through the paradigm, whereas εἰδώς, εἰδότος has the alternation ω/ο in its paradigm for masculine and feminine. Only the neuter has the ο throughout its paradigm.

\textsuperscript{294} Unless we want to say that, in the case of the participle, Greek used a different way of forming a new paradigm. Given the nature of analogy this could be, in principle, possible.

\textsuperscript{295} Various opinions about this distribution can be found among others in Buck, The Greek Dialects, p.8; Porzig, Sprachgeographische Untersuchungen zu den alten griechischen Dialekten, IF 61/1954; Risch,
seems not to have been a single dialect. In fact, the claim has been made that all three major dialects, proto-Ionic, proto-Aeolic and proto-Achean, were already present in Mycenaean times. In the case of the Perfect Active Participle, the data we have are not very convincing. Indeed, Szemerényi was right in pointing out the fact that the \( t \) in the Greek paradigm cannot be of PIE date and his argument about Mycenaean seems to be right, although it is based only on two examples. These two examples are both translatable by “made up”, “built”, “finished”, which means that they have passive meaning, although they are ostensibly, in form, active participles. This is not necessarily a problem, since it has been long recognized that the original role of the perfect was to express the state or the result of the action. In this respect, the perfect opposes itself to the aorist. A well-known example illustrates this with the perfect \( \tau \varepsilon \theta \nu \nu \alpha \sigma \iota \nu \) opposed to the aorist (participle) \( \theta \alpha \nu \nu \nu \tau \epsilon \zeta \):\n
\[ \text{Τεθνάσιν οἱ θαυνυτες} \] ("the ones who died are dead"; Euripides, Alcestis 541).

\[ \text{"Die Gliederung der griechischen Dialekten in neuer Sicht", MH 12/55; R. Coleman, “The dialect geography of Ancient Greece”, TPS 1963, p.58-126, etc. The literature on the topic is, of course, huge.} \]
\[ \text{296 See for a discussion Ruijgh, } \textit{Etudes du grec mycénien}, \text{ Amsterdam 1967, p.38.} \]
\[ \text{297 Ruijgh, } \textit{Scripta Minora}, \text{ v. 2, p.228.} \]
\[ \text{298 More precisely towards the end of Mycenaean era and include proto-Doric. See Ruijgh, ibidem.} \]
\[ \text{299 Chantraine himself is circumspect when he says that “il est donc acquis jusqu’à nouvel ordre que le grec mycénien ne connait qu’un suffixe sigmatique”.} \]
\[ \text{300 Ruijgh, } \textit{Etudes du grec mycénien}, \text{ p.96, Amsterdam 1967, believes that “la valeur spéciale de } \text{te-tu-ko-}w-a_{2}\text{ est inconnue”, although he agrees that the examples show the perfect active participle as having an intransitive and passive (?) meaning.} \]
\[ \text{301 Dionysos Thrax, ed. Uhlig, p.53, characterizes it as “ } \text{το } \upsilon \alpha \nu \alpha \kappa e \iota \mu e \nu \nu \upsilon \nu \text{”; Wackernagel in “Studien zum Griechischen Perfektum”, } \textit{Kleine Schriften}, \text{ Gottingen 1904, brings up lots of examples; see also Chantraine, } \textit{Histoire du parfait grec}, \text{ passim, Paris 1927} \]
\[ \text{302 I.e., this is an aspectual opposition.} \]

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This value of the perfect is an old one\textsuperscript{303}. The participles in our examples may be also very old since they show the achievement of a process, not to mention the fact that they are technical terms and, consequently, could well have been part of Greek for a longer time. They can also be found in Homer\textsuperscript{304} with the same meaning: Βοῦς προστετευχώς “made from the skin of an ox” (m423) or ἔξεινης ποτί τοίχον ἀρηρότες “piled close to the wall” (b 342).

We have seen so far how the scanty evidence we have from Mycenaean can lead to the conclusion that Mycenaean didn’t have a perfect participle active with a -\textit{wot}-suffix. In Mycenaean itself the use of the perfect in general is very limited, not too surprising a situation given the fact that the tablets contain basically just lists of objects. The other dialects don’t display anything else but the theme in \textit{t}. The most interesting fact, however, is what happens in Doric and West Greek dialects. If we were to assume that the participle in Mycenaean didn’t have a theme in \textit{t}\textsuperscript{305} then we would be forced to admit that what we have beginning with Homeric Greek was the result of a post-Mycenaean development. Since the \textit{t} is present across the board in all Greek dialects in post-Mycenaean times, its origin must be looked for either in the descendant(s) of Mycenaean or in the other major dialects and their precursors. For this purpose it would be interesting to see what these latter dialects have to offer. Unfortunately, we don’t have enough data to support a firm conclusion. Nevertheless, in a West Locrian inscription from the beginning of the 5\textsuperscript{th} century, which Buck\textsuperscript{306} describes as being written in a pure

\textsuperscript{303} See Chantraine, op. cit., ch.4.
\textsuperscript{304} With the difference, of course, that the participles have \textit{t} in Homer.
\textsuperscript{305} This would mean, of course, that the theme in \textit{t} coexisted with the theme in \textit{s}.
\textsuperscript{306} Buck, \textit{Greek Dialects}, Chicago1928, p.144; the inscription itself is at p.217.
Locrian dialect\textsuperscript{307}, we meet the term ΦεΦαδηκότα, which is translated as “statute” by Buck, and by “quae placuerunt” by Liddell-Scott. This neuter plural form belongs to the verb ἀνδάνω, which means “to please”, “to delight” and is already met in Homer as a participial form (masc.acc.sg): τοίσι δὲ πᾶσιν ἐάδοτα μὴθον ἔειπε (“he said words pleasing everybody”: I 173). We can see that the participle in Homer doesn’t have the formant \( k \) yet and it has an indirect complement in πᾶσιν. The Homeric form presents some problems, since in the hexameter formula above the first \( a \) in this word is long. The word derives from the PIE root *sweH2d-, which gave in Greek, in Ionic-Attic, ἡδύς, Doric αδύς, Latin suavis, Vedic svādu, OE swéte> English “sweet”, OHG suozi> NHG süss. One explanation for this fact, i.e. the length of the first \( α \), was that it is an Aeolism\textsuperscript{308}. Nevertheless, it hard to see how the long vowel \( α \) has been preserved as such, without turning into \( η \). Leumann had another explanation for this\textsuperscript{309}. According\textsuperscript{310} to him the long vowel is due to the Ionic compensatory lengthening which results from the fall of \( F \): *wewadwōs>* wewādōs. The Locrian participle, on the other hand, has the \( k \) in it and it doesn’t have any complement; moreover, it has actually become a noun meaning “the things that have been decided”, quae placuerunt. Now, this meaning is not confined to Locrian. Homer uses the verb in a similar way in R 647: ἐπεὶ νῦ τοῖς εὐαδεν σύτως (“if you decided this way”=si tibi placuit). And so does Herodotus in

\textsuperscript{307} A West Greek dialect.
\textsuperscript{308} Chantraine, Grammaire Homerique, Paris 1958, p.20
\textsuperscript{309} Celtica 3, 1956.
\textsuperscript{310} Another possibility would be, of course, that the scansion was fixed when the *w was still present.
9.19 when he describes the opinion of a body of people: τοῖς τὰ ἀμείνῳ ἐκάνδανε.

Now, it is clear that if the word in Locrian were a borrowing of some sort, the borrowing should have occurred from a dialect which still had the F at the time of the borrowing. It could be the case with Ionic-Attic, which lost it early, but the Locrian form displays the form with k, which is shown neither by Ionic-Attic nor by any of the other dialects. We know, on the other hand, that Locris was populated by Aeolians before the Doric invasion. But Aeolic has a different way of forming the perfect participle active. It uses the present participle active suffix attached to the perfect stem, so that forms like κατεληλυθώντος, ἐπεστακόντα, καταβεβάων, λελάθων are regular in Lesbian, Thessalian or Boiotian. It is not clear, in my opinion, whether Aeolic innovated here at a time before the introduction of k into the paradigm. Examples like βεβάων, Hom. βεβαός (L 522) do not prove much, since the Homeric form is the regular one in post-Homeric times. There is only the example of ἔστησας in Hesiod, which, in combination with the example above, ἐπεστασκόντα, could show the fact that Aeolic innovated here after the k was introduced into the paradigm. Nevertheless, this is by no means certain, since there were forms with and without k and which were used in parallel. Such an example is provided by the Homeric δεδαός and δεδαηκός. It is also very hard to say whether the Aeolic innovation has something to do with the

312 See Buck, p.110 or Bechtel, *Die Griechischen Dialekte*, vol. 1 for Aeolic, Berlin 1963..
313 Hesiod, Theog. 519. The form is Ionic-Attic because of the η.
314 In Thessalian, see Bechtel, vol.1, p. 194.
315 τ519 and β 61 respectively.
avoidance of hiatus after the loss of s and of the subsequent h. This is as far as we can go with this analysis. The question which arises then is whether the Locrians could have taken the word from the Aeolians. The answer is a clear no. Bechtel actually noticed very well that this form goes hand in hand with the numerous perfect formations in –ηκας, which are found in Arcadian316. We don’t know, of course, the relations between Arcadians and Locrians, but this word could have been a specific term for military and political treaties, so that the Locrians could have borrowed it as such from across the Corinthian gulf either directly from the Arcadians or via the Dorian, who, in turn, borrowed it from the Arcadians. Otherwise it would be hard to explain how West Greeks such as Locrians, who are so close in territory to the Aeolians, came to insert the t into the paradigm of the perfect participle active if they didn’t inherit it from a previous stage of their language or they did not borrow it.

The only other examples317 of a t-stem perfect participle active in West Greek or Doric dialects are in Argolic, βεβλαβότος from the verb βλάπτω, and in Cretan318, where we have a late inscription from the 3rd century with προστακωτος319.

These examples show that the t belongs to all dialects. It becomes clearer now that it is hard to justify the distribution range of the t-stem perfect participle active unless we go back to a very early stage of the dialects, perhaps at a time when their differentiation was not complete. But this itself is a point of dispute in Greek dialectology. The fact that both West Greek and Doric have the t in the participle shows

317 The examples are all drawn from Bechtel.
318 Both of them are Doric dialects.
that the process of its insertion must be old, before the differentiation of these two
dialects. The Mycenaean evidence, on the other hand, shows that in this dialect the \( t \) was
not present. This means that its closely related\(^{320} \) dialects, which include, at least, the
Arcadian and the Cypriot\(^{321} \), developed it in one way or another. On the other hand, both
West Greek and Doric seem to have had it, which makes the picture very complicated.
Szemerényi leaves the problem unsettled and he doesn’t seem to be concerned about it,
nor is he concerned about the \( t \) in West Greek and Doric dialects.

The general picture from above could lead to several hypotheses:

a) the \( t \) developed very late in Mycenaean and then spread through contact to
West Greek and Doric\(^{322} \), on one hand, and then to Ionic-Attic, whatever the position of
this dialect is in respect to Mycenaean.

b) the \( t \) had not developed in Mycenaean, but it developed in West Greek and/or
Doric and then spread through contact in Mycenaean and Ionic-Attic.

c) Mycenaean never had \( t \) in the participial paradigm, but its subsequent dialects,
Arcadian and Cyprian, got it at the time of their unity through contact with other dialects.

d) the Homeric form \( \tau e \tau e \nu \chi \omega \varsigma \) is different in its ablaut\(^{323} \) from what we find in
Mycenaean; we could then imagine a situation in which the Mycenaean form was a

\(^{320} \) The relation between the Arcado-Cypriot dialect and Mycenaean is not very clearly established,
although the claim has been made that the former might be the descendant of the latter. See for this Ruijgh,
_Études du grec micénien_, p.35sqq.

\(^{321} \) These dialects have the \( t \) in their participles. A good example for this is the Arcadian \( \kappa \alpha \tau \eta \rho \theta \kappa o t i \),
from the root \( \epsilon \lambda \theta - \), “to go”, with the Arcadian special treatment of the cluster \(-\lambda \theta -\) as \(-\nu \theta -\); see Bechtel,
vol. 1, p.365.

\(^{322} \) This hypothesis has already been made by Wathelet Paul, _Les traits éoliens dans la langue de l’épopée
grecque_, Roma 1970, p.328. Nevertheless, he does not take into account what happens in Doric and West
Greek.

\(^{323} \) The argument has been made that the zero grade is older than the full grade; see Sihler, p.618sqq;
specialized adjective derived from the “older” $t$-less participle, but not a perfect participle *per se*. Similar situations we can find in other languages, for example in Romance, where Romanian has the adjective *mort*, “dead”, which originated in the Latin perfect passive participle of the verb *morior, iri, mortuus sum* and is used nowadays only as an adjective meaning “dead”; in the place of the former participle Romanian created another (analogical) perfect passive participle, which is seen today in *murit, (am murit = “I have died”). This is similar to what happened in English, where “dead” originates in a former past participle, which has been replaced by the new one, “died”. Other examples are those participles in Latin which have been replaced by the newer ones belonging to the factitive verbs: *meritum* was a former participle of *mereor, merere, merui, meritus sum* and ended up being used as a noun, both in Latin and in Romance languages, whereas in Romance new participles were created\(^{324}\). Romanian has the same situation with the participle *facut* from the verb *a face*, Lat. *facio, ere, feci, factum* = “to make”. The old Latin participle became specialized as a noun, *fapt(a)*, which means “deed”\(^{325}\).

The considerations from above could also apply\(^{326}\) to *araruwoa*, which has a similar meaning with *tetukowoa*. Thus, *τετυχόαςαβαγοα* could mean something like “finished/well-made swords”. In this way, the perfect with $t$ could have appeared in Common Greek and all the dialects would have had it from the beginning.

Now, it seems to me that a) and b) are very hard to maintain, because the spreading of $t$ would have had to occur in many dialects simultaneously. On the other

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\(^{324}\) In French *mérite* = “merit”<Lat. *meritum*, but the participle *mérité* is a new one, belonging to the paradigm of the former factitive verb *meritare*>Fr.*mériter*.

\(^{325}\) Already present in Latin with this meaning: *factum* means “deed”.

\(^{326}\) The other forms mentioned in this chapter are very obscure and one cannot be sure what they represent. *Widiwoijo* is a name and, as I have noted above, could represent the form before the $t$-insertion.
hand, c), although it seems the most plausible, leaves unanswered a crucial question: how is it possible for such different dialects as Ionic-Attic, on one hand, and West Greek and Doric, on the other, to have the $t$ in the participial paradigm and for Achaean, i.e. the ancestor of the Arcado-Cypriot dialect, not to have it? The answer perhaps lies in the similarity between the above dialects in respect to other aspects of the verbal paradigm, namely when it comes to the endings for the middle voice: Mycenaean presents endings of the type $-\text{toi}^{327}$, whereas the other dialects make use of the innovation $-\tau\alpha t^{328}$.

The conclusion which can be drawn from (c) is that, despite the fact that Mycenaean offered only two good and reliable examples for the non-existence of a $t$-stem in the paradigm of the perfect participle active, there is a chance that the $t$ was not present in this dialect.

The last hypothesis (d) is, therefore, the most attractive, because it makes the $t$-insertion a process which would still have taken place in Common Greek. The Mycenaean forms then would be only specialized adjectives derived of course from the “older” $t$-less participles.

The only thing, however, we can be certain about is that, although the conditions which led to the appearance of the $t$-stems in Mycenaean are obscure, this development must be seen as a Greek fact, not a PIE one.

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327 The Arcado-Cypriot dialect also has this feature.
328 See for a discussion of this fact Ruijgh, op.cit, p. 36.
CHAPTER 5

SUMMARY AND CONCLUSIONS

The present work tries to analyze when, where and how some of the nominal stems in Greek became \( t \)-stems. For this purpose, the dissertation splits into four parts.

The first part is introductory and establishes the goal of the research and the methodology. The \( t \)-stems are divided according to whether they are or are not in allomorphic variation with their corresponding \( t \)-less stems. The research is not concerned with those \( t \)-stems which do not display this kind of allomorphic variation. This is because these latter stems do not offer the possibility to see how they coexisted with other forms. They display only one paradigm, showing no fluctuation between different allomorphs. On the other hand, the words with “intrusive” \( t \) which have allomorphic variation show how different allomorphs coexisted with each other and how the \( t \)-stems eventually won over.

An important part of this chapter is dedicated to Benveniste’s theory, according to which in some of these \( t \)-stems, namely the neuter nouns ending in \(-as\) in the nominative singular, the \( t \) belongs to the prehistory of Greek and is the result of a change in the declension type from one which had \(-ar\)\textsuperscript{329} in the nominative singular-type \( \tilde{H}πωρ \),

\textsuperscript{329} Stems with \( r/n \) alternation.
- to one which had –as in the nominative singular and is originally represented by only two words: κέρας and κρέας. The dissertation tries to see whether the data we have can provide us with an answer about the validity of this theory. The results of the research show that the original s-stems (κέρας, κρέας) behave pretty much in the same way as the t-stems derived from the heteroclitic declension. In other words, there is practically no difference in respect to allomorphic variation between the stems which, according to Benveniste, got their t as a result of the heteroclitic declension and those s-stems which must have gotten their t later, probably analogically to the heteroclitic stems. Thus, from this perspective, there is no difference between the allomorphic variation of γέρας and that of κρέας. They both show that the s-stem was initially predominant in historical Greek and that the t-stem won eventually over in Attic. Therefore we cannot know, by simply looking at the data, which of these words was a t-stem resulting from a heteroclitic declension. This fact shows that Benveniste’s theory must be regarded with caution. If we assumed this theory to be correct we would have to admit that the allomorphic variation between these stems had existed beginning with the Proto-Greek stage and continuing through Ionic-Attic. We would also have to admit that Attic was the only dialect that retained this archaism, while preserving the paradigm of a predominant s-stem for a certain period of time. In this view, both the Ionic and Aeolic dialects gave up the t-stems, preserving only the paradigm of the s-stem. These are the reasons why Benveniste’s scenario, although not impossible, is less likely to have happened.

Another view of the facts is the one which considers that not all the words analyzed here belonged to the heteroclitic declension. According to this view, with the
exception, perhaps, of τέρας, these neuters in –as may have been s-stems from the beginning. The t, then, which occurs in Attic would be an innovation within this dialect. The table below shows when this innovative “intrusion” occurred for the first time in the literary and epigraphical sources that we have.

The most important fact that results from this research is that there was not an instantaneous switch from a t-less stem to a t-ful one. These allomorphs continue to exist throughout the centuries and it is only in the 2nd century A.D. when the grammarian Herodianus provides us with the information that there was a clear difference between the Attic speakers and the Ionic ones, in the sense that the Attic forms were with t, whereas the Ionic ones without them.

The facts about this “intrusive” t, besides having great relevance for the history of Greek nominal morphology, also present an interesting case for general historical linguistics. They show that these nouns did not switch to a t-stem declension type overnight and across-the-board. They also make apparent not only that allomorphic variation continued to exist, but also that the t entered (or won over, in Benveniste’s view) the nominal paradigms in a “diffusionary” way, from lexical item to lexical item. Thus, some of these nouns, like τέρας, seem to have decided in favor of a t-paradigm earlier than the others.

An important observation here is that this research is based not on real speech, but on written sources.

The results are synthesized in the synoptic table below. The table shows the dialect in which the t first entered the paradigms and also what happened to the other forms, the t-less ones.
<table>
<thead>
<tr>
<th><strong>t in/ Words</strong></th>
<th><strong>Ionic</strong></th>
<th><strong>Attic</strong></th>
<th><strong>Aeolic</strong></th>
<th><strong>Doric</strong></th>
<th><strong>T appeared in</strong></th>
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<tr>
<td>Αλας</td>
<td>Bolus Med. (Aristotle?)</td>
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<td>Attic D.sg. Άλατι 2(^{nd}) B.C.</td>
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<tr>
<td>Άρτεμις</td>
<td><strong>t-stem</strong></td>
<td><strong>t-stem</strong></td>
<td></td>
<td></td>
<td>Mycenaean; Common Greek</td>
</tr>
</tbody>
</table>
| Γέλως           | Herodotus | Tragic authors;  
|                 |           | **t-less continues to exist** | Thematic Γέλος | Attic or Ionic-Attic G.sg. Γέλατος 5\(^{th}\) B.C. |
| Γέρας           | **t-less** | **t-less, Herodianus** |          |          | Attic G.sg. Γέρατος 2\(^{nd}\) A.D. |
| Γήρας           | **t-less** | **t-less, Isocrates, Herodianus** |          |          | Attic D.sg. Γήρατι 4\(^{th}\) A.D. |
| Γόνυ            | Homer, Homeric Hymns, Tyrtaeus, Herodotus | Tragic authors |          |          | Ionic-Attic |
| Δέος            | **t in Hecataeus** | **t in Sophocles** |          |          | Ionic-Attic or earlier δέατος, δέατα 5\(^{th}\) B.C. |
| Δέπας           | Herodianus |          |          |          | Attic G.sg. Δέπατος 2\(^{nd}\) A.D. |
| Δέρας           | Herodianus |          |          |          | Attic G.sg. Δέρατος 2\(^{nd}\) A.D. |
| Δόρνυ           | Homer, Hesiod;  
<p>|                 |           | Tragic authors, Xenophon, Thucydides; | <strong>t-less in Alcman (?)</strong> | Ionic-Attic |</p>
<table>
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<tr>
<th></th>
<th>Homer, Hesiod, Simonides, etc.</th>
<th>( t )-less forms in Tragic authors, Plato</th>
<th>and Pindar, but Ionic length.</th>
</tr>
</thead>
<tbody>
<tr>
<td>( \text{Ερως} )</td>
<td>( t )-less in Homer; ( t ) in Theognis</td>
<td>Tragic authors (also ( t )-less)</td>
<td>Ionic-Attic and Aeolic; could be older; G.sg. ( \text{ἐρωτὸς} ) 7(^{th}) B.C.</td>
</tr>
<tr>
<td>( \text{Ιδρώς} )</td>
<td>( t )-less in Homer (Aeolic?); Hesiod(?), Herodotus</td>
<td>Tragic authors, Aristophanes, Plato</td>
<td>Attic or Ionic-Attic Acc.sg. ( \text{ίδρωτα} ) 8(^{th}) B.C.</td>
</tr>
<tr>
<td>( \text{Κέρας} )</td>
<td>Anaxagoras(?); Hecataeus(?)</td>
<td>Inscriptions, Tragic authors, Plato; ( t )-less forms continue to exist</td>
<td>Attic N.pl; N.dual ( \text{κέρατα}, \text{κέρατε} ) 5(^{th}) B.C. (6(^{th})?)</td>
</tr>
<tr>
<td>( \text{Κνέφας} )</td>
<td>( t )-less only</td>
<td>( t )-less; only in Polybios</td>
<td>Attic G.sg. ( \text{κνέφατος} ) 2(^{th}) B.C.</td>
</tr>
<tr>
<td>( \text{Κρέας} )</td>
<td>( t )-less in Homer, Theognis, Hecataeus, Herodotus</td>
<td>( t )-less in Tragic authors, Plato, Aristophanes; ( t ) in inscription (4BC), Phylarchus, Athenaeus, Herodianus</td>
<td>Attic G.sg. ( \text{κρέατος} ) 4(^{th}) B.C.</td>
</tr>
<tr>
<td>( \text{Σέλας} )</td>
<td>( t )-less</td>
<td>( t )-less; ( t ) only late in Conon (1AD)</td>
<td>Attic G.sg. ( \text{σέλατος} ) 1(^{st}) A.D.</td>
</tr>
<tr>
<td>( \text{Σπέος} )</td>
<td>( t )-less, Xenophon(?)</td>
<td>Xenophon (?)</td>
<td>artificial? Common Greek? ( \text{σπεά-τεσσι} ) 6(^{th})-5(^{th}) B.C.</td>
</tr>
<tr>
<td>Ancient Greek</td>
<td>Description</td>
<td>Description</td>
<td>Description</td>
</tr>
<tr>
<td>---------------</td>
<td>-------------</td>
<td>-------------</td>
<td>-------------</td>
</tr>
<tr>
<td>Τέρας</td>
<td>$t$-less in Homer (Aeolic?), Herodotus (τέρος); $t$ in Herodotus</td>
<td>$t$-derivative in Aristophanes, $t$ in Xenophon, Plato</td>
<td>$t$-less in Alcaeus (but τέρος)</td>
</tr>
<tr>
<td>Φάος Φως</td>
<td>$t$-less in Homer, Archilocus, Theognis, Hesiod; Φως in Anaximander, Anaximene, Theognis, Herodotus</td>
<td>$t$-less in tragic poets, Aristophanes; $t$ in tragic poets, Aristophanes, Plato, etc.</td>
<td>Φάος in Alcaeus, Sappho, Pindar(?); Φως in Alcman(?)</td>
</tr>
<tr>
<td>Χάρις</td>
<td>$t$-less form only χάριν; $t$ in Homer (Graces), Hesiod, Herodotus</td>
<td>Tragic authors</td>
<td>Pindar</td>
</tr>
<tr>
<td>Χρώς</td>
<td>$t$-less form in Homer, Theognis, Euripides, Pindar, Herodotus, Archilocus; $t$ in Homer(2), Hesiod, Pindar (?)</td>
<td>$t$-less in tragic authors, Aristophanes; $t$ in tragic authors</td>
<td>$t$-less in Sappho, Pindar(?); $t$-form in Pindar (?)</td>
</tr>
</tbody>
</table>

The third chapter of the research deals with the adverbs in $-\tau\iota$, of the type ἀνιδρωτί, ὀμαχεί, etc. Some of these adverbs show a $t$ in their ending, which was seen by some scholars as belonging to former t-stems, as it might be the case with ἴδρως.
and ἀνιδρωτί. These adverbs are also difficult to analyze because they present a variation in their ending between -ӣ, -ӣ̣ and -ei. The study shows that it is more likely that the –ӣ ending is a matter of scribal error and that the other two are the only ones which are genuine. On the other hand, the confusion, which can be found in the manuscripts between these two latter endings, is shown to be the result of the confusion between the –ei dative ending derived from adjectives in -ής and the –ӣ ending of consonantal stems of the type αὐτόχειρ.

The most important conclusion, however, of this chapter is that the t in adverbs like ἀνιδρωτεί is not due to the fact that there was an original t in the stem of the noun ἰδρῶς, but the result of an analogical process, by which the dative (locative) ending from the adjectives in –ής extended to adjectives in –τo- such as ἀνιδρωτός when they became adverbialized.

The last chapter of the dissertation deals with the perfect active participle in Greek. This is because, despite the fact that all dialects in historical Greek show a t in the paradigms of this participle, Mycenaean demonstrates through 2-3 tokens that its participle did not have a t in its paradigm. This strange situation is resolved through two hypotheses. The first one is that the t was imported into Greek by the Doric and West Greek populations, which collided with the Mycenaean one. The other one is that the Mycenaean participles in question are only adjectives derived from former t-less participles. In this way it is possible to view the perfect active participle as still having its t in Common Greek or Proto-Greek, whereas such adjectives as the Mycenaean ones would represent “frozen” former t-less participles.
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