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“Le verbe indo-européen avait une structure bien différente de celle qu’a le verbe dans la plupart des langues attestées du groupe, même dans celles dont il subsiste les textes les plus anciens. Pourtant, si on examine un groupe verbal indo-iranien, on voit que de chaque racine apparaissent des formations multiples, toutes indépendantes les unes des autres, et dont aucune ne permet de prévoir au juste ce que sera telle ou telle autre” (Meillet 1917, 121). C’est en effet le verbe indo-iranien qui à beaucoup d’égards nous donne l’image la moins infidèle de ce qu’a dû être le verbe indo-européen. Mais de nombreux restes de l’état ancien s’observent aussi en grec. Chaque thème verbal a son individualité et son rôle propre” (Chantraine 1927, 1, citing Meillet).

Latin and most of the other IE languages have a so-called conjugational system. On the basis of an infinitive laudāre a student of Latin learns to make the different tempus stems (lauda-, laudāv-, laudātus), he learns the different paradigms, and most of these forms are likely to be attested in the Latin corpus. In grammar school practice the Greek verb is generally taught in the same way: take a verb παίδευω and make all paradigms. For classical or post-classical Greek this might very often be close to reality, but for primary verbs in older Greek this is certainly not so: a present does not presuppose the existence of an aorist stem and vice versa. The same situation is found in Sanskrit.

This is exactly the point Schwyzer makes in his Griechische Grammatik (1939) I, 816: “Abgesehen davon, daß infolge besonderer Verhältnisse nicht bei jedem Verbum alle Formen in gleicher Weise gebraucht werden, einzelne überhaupt fehlen können, ist die durch die Praxis der Schulgrammatik veranlaßte Vorstellung, daß sich jedes Verb durchflektieren lassen müsse, irrig; viele Verba beschränken sich im Gebrauch auf bestimmte Formen. Sehr häufig erscheinen auch, abgesehen von den besondern Präsensbildungen, nur Präsens und Imperfekt, teilweise (fast) nur ein Partizip (έκον, σφηγγόν, κελανινόων). Es gibt isolierte Aoriste (z. B. τέμμε, ἐπέτοσας, auch εἰδον gegenüber εἰδομαι, οἶδα) und Futura (ἔρωτα, δήμω, οἴσω) und Perfekta (ἀνοώσα, γέγονοσ).”

Another characteristic is the existence of several types of present formations in Greek: sk-presents (βά-σκ-ω), ye/o-presents (βοίν-ω < *γάσκυ-ω), nasal presents (κάμ-ν-ω,
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πν-θ-άν-ο-μα), reduplicated presents (δί-δο-μι), thematic presents (φέρ-ω), root
presents (ελ-μι), and others, as well as various combinations of the above.

We see that several roots have more than one stem in the same category but with other
suffices and/or reduplication, e.g.:

\[ *\text{men}- \quad \text{present µέν-ω} \quad \text{alongside} \quad *\text{mi-mn}- \quad \text{present µί-µν-ω} \]

\[ *\text{seg}^h \quad \text{present ἔχ-ω} \quad \text{alongside} \quad *\text{si-sg}^h \quad \text{present ἴ-σχ-ω} \]

\[ *\text{gwm}-j \quad \text{present βαίν-ω} \quad \text{alongside} \quad *\text{gwm}-sk \quad \text{present βά-σκ-ω}. \]

There are also different types of aorists in Greek, such as thematic aorists (ἐ-φαν-ο-ν),
root aorists (ἐ-γνώ-ν), kappa aorists (ἐ-δο-κ-α), ἑτα aorists (ἐ-χάρ-η), and several types
of perfect: reduplicated without a suffix (λε-λοιπ-α), with a suffix -κ (ἐ-στιν-κ-α, τε-
τίμη-κ-α), and one example of a perfect without reduplication: οἶδα (= Skt. véda, thus of
PIE date).

The same situation can be seen in (Vedic) Sanskrit\(^3\). There, too, a verbal root can
appear in a number of different present classes, again an indication that PIE must have
had many variations in stem formation. e.g. ἵσyat (class IV) ‘in Bewegung setzen’,
alongside ἵσνατι (class IX); ῥδνοτ (class V) ‘fördern’, alongside ῥνάδατ (class VII), ap-
parently without any difference in meaning; but ταπ:- ταπατ ‘heat’ versus ταύπατ ‘becomes
hot’; ἱπ:- ἱπατι ‘cook (tr.)’ vs. ἱπάγατ ‘ripen (intr.’), both with a transitive-intransitive
opposition (Joachim 1978; Burrow 1973, 30 ff. but not all his examples are reliable).

Thus far we have seen two specific features of the verbal system which are common to
Greek and Sanskrit: 1. not all roots appear in both present, aorist and perfect, and 2. a
root can form more than one present or aorist, by means of derivation. It is generally
accepted that this is a continuation of the PIE situation: other IE languages show relics of
this situation, but their verbal systems have to a large extent been reorganised.

According to the classical model, Proto-Indo-European (PIE) probably had the
following verbal categories, in addition to person and number:

- **genus:** active and middle;
- **Aktionsart:** present (with imperfect), aorist, perfect (perhaps with pluperfect);
- **mode:**indicative, injunctive, subjunctive, optative, imperative.

The Aktionsarten present, aorist and perfect indicated the so-called aspect: the way in
which the action of the verb is viewed by the speaker: the action expressed by the verb
was seen, roughly speaking, as a process in the present, a process sec or a process that
finds it end, or beginning, in the aorist, a description of a situation that is the result of a
process in the perfect. An example from Greek: present θνη-σκ-ει ‘he is dying’, ἐ-θαν-
ον ‘he died’, perfect τε-θνη-κ-ε ‘he is dead’; pr. βάλλω ‘I throw’, aor. ἐβάλλον ‘I hit’.

Apparently a bare verbal root - without suffixes - appeared only in one of the tempora,
while the others - if they existed at all - were derived by means of suffixes, which

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\(^3\) Ulrike Joachim (1978) has described the Mehrfachpräsentien in the Rig Veda.
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modified the meaning of the root. This classical reconstruction of the PIE verbal system appears to be a reconstruction on the basis of a combination of the Greek and Sanskrit verbal systems, which are quite similar.

A new model has recently been developed by Kortlandt (1983), who assumes two groups of inflexion: one with dynamic accent, the other with the accent on the root, the stative inflexion. The dynamic inflexion was subdivided into two types: the first has athematic endings and the meaning of the verb may be intransitive or transitive; this is called the subjective inflexion. The second type is the objective inflexion, which has thematic endings, while the meaning of the verb is transitive. The thematic vowel -e/o­ may have referred to a direct object. See Knobloch (1953), who compares the PIE situation to the Circassian verbal system and syntax, and Kortlandt (1983) 310-2 and passim, who adduces Hungarian parallels.

Each of these three types - subjective, objective and stative - has two inflexions: imperfective and perfective. This provides us with six inflexions which, having undergone various degrees of modification, all appear in the classical model and, not surprisingly, in ancient Greek. The inflexions are numbered I-VI and names which are customary in the scholarly literature have been added:

<table>
<thead>
<tr>
<th>imperfective</th>
<th>perfective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ithematic</td>
<td>Ithematic aor.</td>
</tr>
<tr>
<td>1s. -mi</td>
<td>1s. -m</td>
</tr>
<tr>
<td>etc.</td>
<td>etc.</td>
</tr>
<tr>
<td>Them.</td>
<td>IV. thematic aor.</td>
</tr>
<tr>
<td>1s. -oH</td>
<td>1s. -om</td>
</tr>
<tr>
<td>Stative</td>
<td>VI. perfect</td>
</tr>
<tr>
<td>1s. -h2</td>
<td>1s. -h2e</td>
</tr>
</tbody>
</table>

Alongside these six main inflexion types, two others developed: the athematic and the thematic middle, which are contaminations of II plus V and IV plus V respectively.

It was possible for these endings to be added directly to the root: they constituted the primary inflexion. In addition to this system, there was the possibility of derivation by means of various suffixes, such as- *-ye/o-, *-s-, *-eu-, *-n- (as an infix, placed before the last consonant of the root), *-dh-, *-ehj-, etc.

In all likelihood, each verbal root exclusively occurred in one of these six categories; the others could be derived by the addition of a suffix or by reduplication. The category to which a root belonged was determined largely by its meaning. The root *h1es- ‘to be’ (durative) is an example of a subjective verb with imperfective meaning; in other words, it

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4 This diagram is taken from Beekes (1990) 299. The imperative endings have been omitted. The various endings are in any case beyond the scope of the present study. I refer the reader to Beekes for a short account of these and to Kortlandt’s research.

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takes the endings of inflexion I: *h₁es-mi (Gr. εἰμί, Skt. āsmi, Hitt. esmi, OCS jesmi).
As far as the Greek evidence is concerned, the root *temh₁- 'to cut' seems originally to
have had the objective inflexion with perfective endings: 3s. *(h₁e-)tmh₁-et > ἔτεμεν. The
present inflexion τάμων (sec. τέμων with -en from the aorist, probably influenced by fut.
τεμόω as well) originated in a derived inflexion with a nasal infix *tm-n-(e)h₁-, which —
probably secondarily — took the endings from inflexion III: *tm-n-(e)h₁-oH. This nasal
inflexion can also be found in OR τίνυ, tjati 'to knock', Lit. tinū, tinti 'to torture' (both
thematic), and Olr. tamnaid (possibly secondarily athematic?). Apparently the nasal infix
'modifies' the perfective meaning of the root *temh₁- 'to cut' in such a way that it can
adopt the imperfective endings. Greek also has a derivation with *-g-: *tmh₁-g-oH >
τμήγο (Dor. τμῆγο poses a problem).

Thus in both the old and the new model a verbal root could figure in only one category
(dependent on its meaning); other stems could be formed by means of derivation. So, the
Greek and the Sanskrit situation can be explained directly from the PIE.

Although these phenomena were discovered long ago, they have received relatively
little attention from a historical perspective. Many studies have been published on separate
parts of the Greek and PIE verbal system (Chantaine 1927, Strunk 1967, Hoffmann
1970, and many others), a complete inventory of the relevant Greek material has never
been provided.

To get a better overview of the PIE verbal system, a description of the verbal systems
in the relevant languages is needed. The earliest attested IE language, Hittite, has a verbal
system that deviates in many respects from the other early languages. In the end, Hittite
may play a role of major importance in the study of this issue. But first we need a full
inventory of those languages where these phenomena can be best observed: for Sanskrit
we have the 19th-century study by Whitney (1885), for Greek there is still a gap. We
have Veitch (1887), but this work is dated and, for our purposes, inconveniently
arranged. The same goes for the Verbalverzeichniss in Kühner-Blaß (1892). Rix's
lexicon (1998) on the PIE verb appeared too late to be used in this study.

COMPOSITION OF THIS WORK

In this study I shall give a description of the inflexions found for each verb inherited
from PIE. Jamison (1983) 10n7 introduced the term 'individual verbal system (IVS)' for
such a system.

In Chapter One I shall define my corpus: which verbs have been considered as
inherited from PIE (which ones have a PIE etymology, or are otherwise likely to be of
PIE origin on the basis of a typical root structure or typical IVS). Greek systems that are
clearly innovations will not be taken into account. I have also opted for a date criterion
within the Greek material: the limit will be around 500 BC for literary sources, IV BC for
epigraphical material. A classification of present and aorist types has been appended to the list of abbreviations.

In section 1.10 a framework will be designed, in which all IVSs are given, and the procedure I followed in finding the verbal forms is described. In the IVS I shall give all forms occurring within the time range. Each form will be accompanied by the first attestation, together with any restrictions. These descriptions will be given in Chapter Two, the main part of this study.

It is beyond the scope of this study to discuss every single verb in detail. The aim is to give a survey of all the forms which occur within the time range. For the interpretation, I rely on my main sources: the etymological dictionaries of Frisk and Chantraine. The first goal of this study is to give a description of the IVSs.

A second issue in Chapter Two is concerned with the RIVS, the "reduced individual verbal system". All forms that are probably innovations within Greek or proto-Greek will be removed, in order to arrive at an RIVS that is a little closer to the PIE situation.

Having given the IVS and RIVS of each verb, I shall present a survey of the combinations. I have chosen to study the present-aorist combinations because these categories have the richest variety in classes; but even then we shall see that the number of occurrences within a combination is often too small to draw any conclusions. Chapter Three will deal with the present-aorist combinations, while in Chapter Four I shall present the same combination from the aorist point of view. Chapter Five contains a list of the perfects from the RIVS. A statistical table has been added at the end of Chapter Five.

The original aim of the research project was twofold: to draw up an inventory of the IVSs of the relevant Greek material and to study the variety of combinations of the verbal categories within Greek and proto-Greek. First, this entails a selection of the material, and second, an inventory of all the Individual Verbal Systems of the relevant material. The study of the different combinations must be based on such a description. Unfortunately, the descriptive part of the study proved so time-consuming that very little time was left for a thorough analysis of the combinations. It is for this reason that I can make only brief remarks in Chapters Three and Four, while Chapter Five comprises only an inventory of the material on the perfect.

Nonetheless, I hope that the present study will make a contribution not only to the further study of the history and prehistory of the Greek verbal system, but also to the study of the PIE verbal system and that of other IE languages.