

Compounding in Latin

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Some aspects of Latin compounds which retain a particular interest for the general theory of morphology are discussed. A first problem regards the basic units: this essay proposes as basic the 'theme' of simple words, constituted by root plus thematic vowel and referring to a lexical category. A panoramic view of the main types of Latin compounds is then offered, aiming at singling out the restrictions to the concept of 'possible compound': the order between the lexical category of the first and second member, their semantic relations, the presence of a suffix (especially in the synthetic compounds), and the stylistic value of each type result relevant. The 'head' of the morphological constructions always appears to be the element placed at the extreme right, where both the second member (endocentric compounds) and the suffix (exocentric compounds) are involved. The question regarding exocentric compounds concentrates on the theoretical problems posed by *babwvribi*, an interpretation of which is proposed by means of a process of 'zero derivation'. The interaction between compounding and inflection is then examined, the latter always appearing as 'external to the compound', as well as between compounding and derivation, a phenomenon which results little productive. On a morpho-phonological level three rules of re-adjustment are considered to be necessary. The essay concludes with a discussion on the difference between proper compounds and juxtapositions, the latter mainly appearing as lexicalized phrases, and in general on the relationship between morphology and syntax.

1. *Basic Units.*

The form of a grammar, and therefore the analyses it is able to carry out, largely depend on the basic units and the groups of rules which make up the system, in much the same way as, in mathematics, from certain postulates we derive certain theorems. In this paper we will adopt two work hypotheses: a "Strong Lexicalist Hypothesis" associated with a special version of the "Word-Based Hypothesis".¹

¹ The first hypothesis dates back to Halle (1973), the second to Aronoff (1976), then modified by Scalise (1983: 189 f.).

The first hypothesis holds that the field of morphological theory includes compounding, derivation and inflection. Nowadays it is common opinion that compounding and derivation are phenomena governed by morphological rules: the most controversial question instead regards inflection which, in the Strong Lexicalist Hypothesis, is supposed to occur within the morphological component, whereas in the Weak Lexicalist Hypothesis it is placed elsewhere (in the syntactic or phonological component). Indeed, by its nature, inflection constitutes a morphosyntactic phenomenon: if on the one hand its formal procedures are similar to those of derivation, on the other it deals with informations such as Case, Person and Number which are necessary in order for the words to enter and make up the syntactic structure.²

According to the second hypothesis, the compounds should be studied starting from simple words rather than more abstract morphemes. And it is here that the first hypothesis comes into play, since the elusive concept of 'word' must be formulated in a specific way for the various languages, according to the different ways in which the morphological operations are achieved, inflection in the first place (Scalise 1984/1990: 133 ff.). In English, for example, inflection takes place by adding morphemes to units which are themselves 'words' (e.g. *want*, *want-s*, *want-ed*): it is therefore possible to identify the basic unit for morphology with the quotation form given by an ordinary dictionary (e.g. *want*). In Latin, instead, the cases of mere 'addition' of inflectional morphemes to a basic form, this being itself a word, are very rare (e.g. Nom. *consul* "the consul", Gen. *consulis* "of the consul", Dat. *consul-i* "to the consul", etc.). Usually inflection takes place in a more complex way (e.g. Subjunctive, 3rd pers. sing. *laudet* "that he praises" from the theme **laudā-* "to praise"; Gen. *lupi* "of the wolf" from the theme **lupo-* "the wolf", etc.) and the underlying form cannot appear on its own on the language surface (e.g. **lupo-*). If therefore it is not possible to exploit, as in English, the identity between 'word' as it is concretely observable on the language surface and abstract 'word' — that is the base for an inflection — a choice between the two must be made. The concrete 'word', usually quoted in dictionaries (e.g. *laudo* or *lupus*), offers insufficient information: it is not enough to know the nominative singular of a name (*lupus* "the wolf") or the first singular person of the present indicative of a verb (*laudo* "I praise") to predict what its inflection will be. The inflectional behaviour is however equally difficult to predict if we start from the root. The same root can sometimes appear in verbs, nouns and adjectives: the abstract concept is always the same and what changes is the way in which it is functionalized — its morpho-syntactic category, expressed from

the different thematic vowels — which can form different themes starting from the same root.³

Therefore, as a base for the inflection rules — and consequently, according to the Strong Lexicalist Hypothesis, as a base for all morphological rules — it will be worth assuming a type of unit which is more 'abstract' than the 'word', but also richer than the 'root': precisely that which in traditional grammar is known as 'theme'. This is a complex unit, from the point of view of morphemic analysis, since it is formed by a 'root' (lexical morpheme) plus a 'thematic vowel' (grammatical morpheme), which nevertheless, in the system of morphology, functions as an indivisible unit, a genuine 'abstract word'. Indeed, on its own the root expresses only semantic informations, the root plus thematic vowel expresses also the morpho-syntactic informations associated with the word, indicating its lexical category and inflectional class (e.g., for the verbs, the *-ā-* theme indicates the 1st conjugation, the *-ē-* the 2nd, etc.). In certain cases the thematic vowel can also be zero (for example in the verbs traditionally called 'athematic'): however, the placing into categories through a certain thematic vowel (or even without it), cannot be predicted on the basis of the semantic characteristics of the root (there is no reason, for example, for the root [laud] of *laudo* to have the thematic vowel *-ā-*): the thematic vowel together with the root are therefore to be considered as an intrinsic characteristic of the base.⁴

Numerous advantages come about from considering the thematic vowel as being part of the theme and not of the inflectional desinence. Indeed, in the field of inflection it is possible to achieve a greater economy in the number of desinences (for example a single accusative masculine-feminine desinence *-m* for all the declensions or a single infinitive desinence *-re* for all conjugations). Besides, in the field of derivation, it is possible to deal with suffixes economically (for example a single suffix *-bilis* in *ama-bilis* "lovely", *dele-bilis* "destructible", *conduci-bilis* "useful", *audi-bilis* "hearable"), and to provide an explanation for the behaviour of the prefixes (in the case of the addition of a prefix to a verb, the derivative preserves the same thematic vowel as the base). In the area of compounding, the advantages can appear less immediate since the first member has no inflection and the inflection of the second member is often determined by the presence of a suffix: however, there are cases in which the second member preserves its own inflectional class in the compound (for example *volans* "flying" *altivolans* "high flying"; *dies* "day" → *meridies* "midday";

³ For example, the root [lud] can appear in *ludo* "to play" (theme [lud + e]) and *ludus* "game" (theme [lud + o]_N); the root [grand] in *grandio* "enlarge, get bigger" [grand + i]v and *grandis* "large" ([grand + i]_N); the root [vigil] in *vigilo* "to warden, guard" ([vigil + ā]_N) and *vigil* "warden" ([vigil + o]_{N/A}).

⁴ See Lieber (1981: 24) on the role of the thematic vowel in the morphological theory; in general, see Thornton (1990).

² See Anderson (1982). On the relationships between morphology and syntax, see also Scalise (1984/1990: 28 ff.), Omega (1988: 150 f.) and Spencer (1991: 333 ff.).

cupidus "desiring" → *multicupidus* "desiring many things"). Moreover, as we shall see in the following paragraph, the essential information for establishing whether two words can be part of a compound is their syntactic category, this being the essential information expressed by the theme.

2. Possible Compounds.

Morphological rules are commonly conceived of as working in two directions: the creation of new words by means of already existing words, and the analysis of already existing words through other simple words. In the first case, two themes are combined in order to form a new complex theme; in the second, the presence is recognized, within some words, of not only one theme, but two. The phenomenon of compounding is governed by rules: in order to form a compound it is not sufficient to unite any two themes; certain restrictions must be respected. It is precisely such restrictions which help define the concept of 'possible compound'. It is therefore suitable to use a formally defined scheme, such as:

$$[[a]_X \Phi [b]_Y]_Z$$

This expression indicates in an abstract way that two themes, $[a]$ and $[b]$, respectively belonging to the syntactic categories X and Y, are connected in a complex theme belonging to a Z category, having an inner border Φ . The nature of the border allows two types of compounds to be distinguished. Real compounds are those containing a morpheme border (such as, for instance, *agri + cola*, "field worker", "farmer"); if instead a word border exists ($\#\#$), then one speaks of "juxtapositions" (such as for instance *ius#\#iurandum*, "formula to swear", "oath").⁵ Further, it should be remembered that the second member of a Latin compound quite often turns out to be a derivative (as in the above example *-cola*, deriving from the verb *colere* "cultivate"): if therefore the second member contains a suffix, it will not have the simple $[b]_Y$ form, but the more complex one $[[b]_Y + \text{Suff.}]_Y$.

After introducing this notation, it is now possible to propose a typological classification of the compounds. Each type will be defined by a particular morphological structure associated with a meaning which specifies the relationship between the two members.⁶ The examples will attempt to cover

⁵ The distinction between compounds and juxtapositions will be dealt with in paragraph 7.
⁶ See Oniga (1988) for nominal compounds. Here the study is widened to include verbal compounds, using the contribution of Flobert (1978), and to those with prepositions, using Leumann (1928/2977: 383 ff. and 557 ff.). The abbreviations for the principal lexical categories are N = Noun, A = Adjective, V = Verb, P = Preposition (the adverbs and numerals can be considered subclasses of the "adjective" class). Expressions such as A/N should be considered Noun or Adjective; X and Y are variables which can be achieved from A, N, P, and V irrespectively.

all the variations of each type: they are determined by the different form of the suffix, and the lexical categories of the first and second member.

A) Agentive Nouns

Structure: $[[a]_{A/N/P} + [b]_V + \text{Suff.}]_{A/N}$

Meaning: "subject of the b predicate referred to the a argument"

Suffix	Categ.	Example (in the Accusative singular)
-a] _N	AV	alieni-gen-a-m "foreigner" ("other-beget-Suff.-Des.")
-a] _N	NV	agri-col-a-m "farmer" ("field-cultivate-Suff.-Des.")
-a] _N	PV	in-col-a-m "inhabitant" ("in-cultivate-Suff.-Des.")
-o/u, -a] _A	AV	falsi-dic-u-m "liar" ("false-say-Suff.-Des.")
-o/u] _N	NV	fun-ambul-u-m "tightrope walker" ("tightrope-walk-Suff.-Des.")
-o/u, -a] _A	PV	pro-fug-u-m "fugitive" ("in front-run away-Suff.-Des.")
-Ø] _A	AV	multi-plic-em "manifold" ("much-fold-Des.")
-Ø] _N	NV	arti-fic-em "artist" ("art-do-Des.")
-Ø] _N	PV	prae-sid-em "chief" ("in front-stay sitting-Des.")
-nt] _A	AV	suavi-loque-nt-em "gently-speaking" ("gentle-speak-Suff.-Des.")
-nt] _A	NV	arqui-tene-nt-em "archer" ("arc-hold-Suff.-Des.")
-nt] _A	PV	prae-vale-nt-em "very strong" ("very-be strong-Suff.-Des.")
-t] _N	NV	locu-ple-t-em "land owner" ("place-be full-Suff.-Des.")
-tor] _N	NV	imbri-ci-tor-em "rain bringer" ("rain-call-Suff.-Des.")

B) Action Nouns

Structure: $[[a]_N + [b]_V + \text{Suff.}]_N$

Meaning: "abstract noun corresponding to type A"

Suffix	Category	Example
-io/u] _N	NV	armi-lustr-iu-m "purification of the arms" ("arms-purify- Suff.-Des.")

C) Abstract Nouns

Structure: $[[a]_A + [b]_N + \text{Suff.}]_{N|N}$

Meaning: "abstract noun characterized by *b* specified by *a*"

Suffix	Category	Example
-io u N	AN	aequi-noct-iu-m "equinox" ("equal-night-Suff.-Des.")

D) Babuvrībi Compounds

Structure: $[[a]_{AN|P} + [b]_N + \text{Suff.}]_{A|A}$

Meaning: "he who possesses *b* specified by *a*"

Suffix	Category	Example (in the Nominative singular)
-Ø A	AN	albi-capillus "white haired" ("white-hair")
-Ø A	NN	angui-pes "having serpent's feet" ("serpent-foot")
-Ø A	PN	con-cors "agreeing" ("together-heart")
-i A	AN	citi-rem-i-s "having fast oats" ("fast-oar-Suff.-Des.")
-i A	NN	tauri-form-i-s "having bull form" ("bull-form-Suff.-Des.")
-i A	PN	in-fam-i-s "notorious" ("Negation-fame-Suff.-Des.")

E) Determinative Compounds

Structure: $[[a]_X + [b]_{Y|Z}]_Y$

Meaning: "*b* specified by *a*"

Category	Example
AN	perenni-servus "slave forever" ("perennial-slave")
AA	multi-cupidus "desiring much" ("much-wanting")
NN	capri-ficus "wild fig" ("goat-fig")
PN	sub-custos "second custodian" ("under-custodian")
PA	ad-similis "similar" ("to-similar")
AV	ampli-fic-are "to make large" ("large-make-Des.")
NV	tergi-versari "to hesitate" ("back-turn")
VV	assue-facere "to accustom" ("get used to-do")
PV	sub-trahere "subtract" ("under-pull")
PP	de-sub "underneath" ("from-under")

Let us now focus our attention on the lexical categories. Although it is true that it is possible to find, both as first and second member, all the major lexical categories (N, A, V, P), there are certain limitations as to the ways of their combination. Not all the possible ordered sets of categories can be the first and second member of a compound. Actually the theoretically possible combinations are sixteen, although, as the table below shows, only ten are suitable as first and second member in the above mentioned compounding structures.

Combinations	Types	Example
AA	E	solli-citus "all restless"
AN	C D E	magn-animus "magnanimous"
AP	—	—
AV	A E	dulci-fer "bringing sweetness"
NA	—	—
NN	D E	ali-pes "wing-footed"
NP	—	—
NV	A B E	armi-ger "weapons carrier"
PA	E	prae-maturus "ripe before time"
PN	D E	con-servus "companion of servantry"
PP	E	sub-inde "immediately after"
PV	A E	ex-cedere "go away"
VA	—	—
VN	—	—
VP	—	—
VV	E	cale-facere "make hot"

The compounds characterized by combinations with a final P or an initial V result absent from this list (the exception being the cases of PP and VV): therefore compounds of the AP, NP, VP, VA and VN type do not exist. Further, the compounds of the NA type are absent. The limitations empirically observed find their justification in a theoretical principle of syntactic nature. If we choose any X category for the second member, the first member can only be fulfilled by those categories which are allowed before X in the unmarked order of the syntax: Latin is an SOV language with prepositions, in which precisely the constructions presenting a verb at the beginning, a preposition in the final position or an adjective following the noun do not result "harmonic",⁷ and are therefore marked, while the others are structurally coherent. The order of the members in the compound corresponds exactly to that of the words in the basic order of the syntax. It is also possible to make a more general observation: it is typical of morphology that the order of the elements is rigid, even in those languages

⁷ The term is used here in the sense defined by Elerick (1991), with reference to the previous works of Lehmann, Vennemann and Hawkins.

which, like Latin, although possessing a basic order, enjoy a large freedom of syntax. When later on, in vulgar Latin and especially in the Romance languages, a change from SOV to SVO in the basic order will take place, the compounds too will adapt themselves (in particular the NA and VN type will proliferate), even if the old types will remain productive, due to the influence of the already existing forms.⁸

The parallelism of principles between compounding and syntax results equally evident when the semantic relations of the two members of a compound are examined. It is indeed possible to observe the presence of the relationship Predicate/Argument (A and B types) or Restrictive modifier/Nominal head (for all the others): that is to say the most elementary relations expressed by the syntax in the Object/Verb, Adjective/Noun, Genitive/Noun, Preposition/Noun structures.⁹

If some important restrictions to the concept of 'possible compound' (order and relationships between the constituents) derive from rules shared by morphology and syntax, a further property has a more specifically morphological character: in the second member of a compound a derivation suffix is often present. For instance, in the majority of the compound nouns or verbs whose second member is verbal (A and B types), the presence of a suffix in the second member is obligatory: this is a compound usually called 'synthetic'.¹⁰ The synthetic compounds in Latin display a wide variety of forms, due precisely to the numerous suffixes used: in particular see the multiplicity of subtypes of (A).¹¹ These compounds have also a great productivity in their use: they alone make up more than half of the total compounds in a sample from the archaic and classical ages (Oniga 1988: 259). The presence of suffixes in the second member results particularly widespread also in the case of compounds having a nominal second member (C and D types). The only type of compound without a suffix is that of the determinative compounds (E), where, however, the compounds with a prefix are very frequent.

Let us conclude this brief overview with a mention to a phenomenon which, although concerning style rather than language, plays an essential role in the concept of 'possible compound'. Besides some forms spread in all sectors of the lexicon, the various types of Latin compounds are concentrated at certain stylistic levels: in order for a compound to appear, an adequate stylistic context is necessary. Therefore the value of a compound results in many cases, not only denotative, but much more connotative of

⁸ See Oniga (1988: 162 f.) for the first examples of compounds with inverse order.

⁹ In particular see the principle of "argument linking" formulated by Lieber (1983).

¹⁰ The term was coined by Schroeder (1874: 206) to underline the "double synthesis" which characterizes the compounds of this type, that is "X + Verbalstamm + Subst. - Suff.". Today, see Botha (1984).

¹¹ On "radical" compounds, see Botha (1984), and on Latin in particular Benedetti (1988).

a particular literary genre.¹² It is therefore necessary to distinguish amongst essentially 'poetic', 'prosaic' and 'neutral' types of compounds.¹³ Regarding the compounds with a second deverbal member, in poetry the agentive nouns prevail (A type), and amongst these the adjectives with a *-o/-u-*, or *-a-* suffix and a *-nt-* participial suffix, while in technical prose, in the language of the institutions and crafts, agentive nouns with a zero suffix and action nouns (B type) are preferred. Even amongst the compounds having a second nominal member, the differences are equally significant: the type of the abstract nouns (C) is mostly prosaic, while the *babuvrithi* compounds (D) type are for the most part poetic. The determinative compounds (E) display a slight prevalence in prose, the exception being those formed by two adjectives.

3. Position of the 'head'.

As is generally known, Williams (1981) defined the 'head' as the part having the same semantic and syntactic properties as the whole, and maintained that in English morphological constructions, the 'head' is always the element at the far right. In the case of derivation such a tendency is to be found in many languages: typically the 'head' results as the theme with respect to the prefix and the suffix with respect to the theme.¹⁴ In the case of compounding, instead, the 'head' can have a freer position in the various languages.¹⁵

As far as the Latin compounds are concerned, William's rule remains valid since the 'head' is always the element which holds the position at the extreme right: the lexical category of the whole compound is always the same as that of its second member, which is in the dominant position also from the semantic point of view.¹⁶ The determinative compounds (E) type, illustrated in the preceding paragraph) display this character in an evident way. Also the other types align themselves to this rule, though in a less immediate way, through the suffix contained in the second member.

¹² See Grenier (1912) and Puccioni (1944): in general compounds are more frequently encountered in archaic, legal, religious and poetic language.

¹³ The trends were identified by Oniga (1988: 294 ff.).

¹⁴ It seems instead that the inflectional morphemes are unable to be "heads": see Scalise (1984/1990: 255 ff.). For derivation the only exceptions to the principle enounced by Williams regard diminutives and derivatives with prefixes such as *dis-color* "multi-coloured", but the first can be explained as formations with quasi-inflectional suffixes, the second as formations similar to the *babuvrithi* compounds: see Oniga (1989: 340 f.).

¹⁵ As occurs in Italian, for example, where compounds having their head both at the right (*capostazione* "station master") as well as the left (*altopiano* "highland") are seen: see Scalise (1984/1990: 260 ff.).

¹⁶ For the few exceptions, see above, note 14. Latin compounds satisfy, therefore, the principle «is a», pronounced by Allen (1978: 105): in a compound [X] [Y] Z, Z «is a» Y from the semantic and syntactic points of view.

In the cases of the agentive and action nouns for example (A and B types), neither the first nor the second member could be considered the 'head' of the compound, but the real 'head' would be 'outside' the compound in the position represented by the suffix. However this does not invalidate the rule which holds that the 'head' is the element having its position at the extreme right of the structure: indeed in a certain sense it strengthens it, by showing how the same principle can be applied to both compounding and derivation: the suffix is the head of the derivative which acts as a second member, in the same way as the second member is the head of the compound. In the following paragraph we will see how such an analysis can be put forward also for the *babuwiribi* compounds—the exocentric compounds par excellence: in these cases, one may assume that the head is still positioned at the right of the morphological construction. The most general structure, then, of a Latin compound can be represented by:

$$[[a]_x + [b]_y]_y$$

Therefore the Latin compounds confirm Williams' rule, which states that the head of morphological constructions is the element at the extreme right. The 'Right Head Rule' appears as a constant of Latin morphology, both in compounding and derivation: through the effect of this rule, which confers upon the system a special structural coherence, a certain analogy can be noticed not only among suffixes and second compositional members as mentioned above, but also among prefixes and first compositional members (e.g. *in-* and *agri-* in *incola* and *agricola*): in both these cases the first element finds itself in the 'non head' position and acts therefore as modifier of the second element.

4. *Endocentric and Exocentric Compounds.*

In Latin the most widespread type of compounds formed with a second nominal member is that which comprises the adjectives of the D type defined in paragraph 2, such as *magnanimus* "magnanimous", formed by *magnus* "great" and *animus* "soul", or *auricomus* "having golden hair", formed by *aurum* "gold" and *coma* "hair". The compounds of this type appear to escape every attempt of characterization, so that there is no agreement even at a terminological level.¹⁷

The problem of such compounds is given by the transformation of a nominal theme into an adjectival one accompanied by a semantic transformation, definable by the paraphrase "that possesses something". The only morphological instruments which regularly operate changes of

¹⁷ For the problems raised by such compounds, see in particular Oniga (1988: 116 ff.) and Nadjó (1991).

lexical category and semantic value are suffixes: a rule of suffixation could explain the primary characteristic of these compounds, that is the fact that the semantic and syntactic 'centre' is found 'outside' the compound itself, in the position normally taken up by suffixes.¹⁸ Besides, the comparison offers examples of compounds of this type having a visible suffix, such as, for example, in the German *dunkel-äug-ig* or in the English *lion-heart-ed*.¹⁹ Therefore a way to describe exocentric compounds can be to hypothesize a phenomenon of 'zero derivation', which has the same properties as derivation but which works without inserting suffixes.²⁰ In many languages it is common to see phenomena of passage of themes from one lexical category to another without visible suffixes; for example in English the conversion from noun to verb of the type *water* → (*to*) *water* is frequent, the morphological structure appearing to be $[[x]_N]_V$. We will assume therefore the existence of a special rule of zero derivation which transforms the nominal theme of the second member into an adjective, in so doing making a structure which may be represented as:

$$[[x]_N]_A \quad \text{semantics: "which possesses x"}$$

The use of zero derivation fits in well with the system of Latin compounding. In the compound types A, B and C, defined in paragraph 2, the second member always appears to be characterized by phonetically insignificant suffixes represented by little more than a thematic vowel. Moreover, zero suffix formations are found also within type A, even though they have a different formal characteristic. While the conversion from verb to agentive noun with zero suffix carries with it the necessity of cancelling the thematic vowel of the verbal theme, the conversion from noun to adjective in *babuwiribi*, despite changing the lexical category and semantics, can come about without altering the thematic vowel, given the analogy of the inflectional paradigms. So the derivation with zero suffix, besides solving the problem of the *babuwiribi*, appears as a morphological and semantic mechanism consistent with the formation modalities of the other more diffused types of Latin compounds, both those with second deverbal member and those with second denominal member: indeed, in both cases the phonetic

¹⁸ The terms most used today are *babuwiribi* and exocentric. The former dates back to the ancient Indian grammarians: *babuwiribi* means "(he) who possesses much rice", and is only a concrete example taken on to represent the whole category. The latter term instead dates back to Aleksandrow (1888: 110), and refers to a formal property: the "centre" (today we would say "head") of the compound, from which the meaning "person who possesses something" derives, is not contained in either of the two members.

¹⁹ Indeed in Dutch, as Van Santen (1986: 651) highlighted, forms with suffix and forms without suffix are sometimes both present at the same time as, for example, in the case of the synonyms *stijf-kop* and *stijf-kopp-ig*, "blockhead".

²⁰ The analysis of the *babuwiribi* through zero derivation has been put forward by Marchand (1960/1969: 14), who underlined the value of pure «classifier» or «transposer» which must be attributed to this process.

body of the derivational morphemes tends to be reduced to the point of no value. In certain agentive nouns the suffix *is*, in fact, a zero suffix with an intrinsic thematic vowel (*-a-* and *-a/-o-*, respectively); in certain *babuwiribi* the suffix is still a zero suffix with intrinsic thematic vowel (*-i-*), which forms an adjectival theme in *-i-* starting from a nominal theme in *-a-* and *-o-* (for example *bilinguis* "who possesses two languages" from *lingua* "language" and *multisignis* "endowed with many signs" from *signum* "sign").²¹

To conclude, we can affirm that the most productive types of compounds in Latin, the synthetics and *babuwiribi*, classified in the types from A to D in paragraph 2, in a certain sense are all exocentric compounds, in that the 'centre' of the compounds comes to be 'outside' the two compositional members in the position occupied by the suffix. The endocentric compounds, formed without the intervention of the derivation and therefore with the 'centre' more clearly in the second member (the type called by the Indian grammarians *tatpuruṣa*: type E of paragraph 2), are rarer in Latin, and must have been so already in Indoeuropean times (Delbrück 1893: 207 ff.): in Latin they are generally more recent formations, belonging to a techno-prosaic use (Bader 1962: 328 ff., 420 ff.). The preponderance of the exocentric compounds over the endocentric ones seems to be an inherited phenomenon; only in the more recent phases of the Germanic and Romance languages has the relationship inverted. Even rare are the coordinating or *dwandwa* compounds: compounding in Latin appears above all as a structure of dependence, a feature which shows once again the conservative tendency of this language with respect to other Indoeuropean languages as well as to the subsequent development of the Romance languages.²²

5. *Inflection and Derivation in Compounds.*

With respect to inflection, the compound theme behaves as a simple theme: the inflectional paradigm is added, determined by the thematic vowel present in the second member or in the possible suffix. The inflectional paradigm of compounds is generally regular, that is to say it is not far from that of simple words, apart from two rather marginal cases. Some compounds of the first and second declension (and in particular those with second member *-cola* and *-gena*), can have the plural genitive in *-um* rather than *-arum* or *-orum* (e.g. *caelicolum* genitive plural of *caelicola* "inhabitant of heaven"): it regards an archaism typical of poetic language, not limited to

this type of compounds, and essentially due to metric convenience, apart from the desire to reduce the excessive length of the word.²³ Further, the compounds in *-dicus*, *-ficus*, *-volus* often form the comparative and superlative by borrowing their forms from their corresponding participial compounds. The explanation of the irregularity is to be found in a diachronic phenomenon. In certain cases the participial compounds appear as formations having more frequent use in the archaic age: for example *benevolens* "benevolent" is found twenty-two times in Plautus, twice in Accius and not at all in Cicero; on the other hand *benevolus* "benevolent" is found twice in Plautus not once in Accius and four times in Cicero. The forms in *-volus* tend therefore to supersede those in *-volens*, but the forms of the comparative resist, conserving the memory of the participial theme in the second member and creating for the compounds in *-volus* a paradigm of comparative and superlative in *-entior*, *-entissimus*, destined later on to extend itself to other compounds which, in the archaic period, had their regular comparative and superlative.²⁴ The same paradigm was then inherited by Italian, where the compounds in *-dico*, *-fico*, and *-volo*, generally form their superlative in *-entissimo*.

Apart from the case of the juxtapositions which will be discussed below in paragraph 7, Latin compounds obey the principle according to which inflection is always 'external' to the compound and is therefore applied only to its 'head', which is always in the second member. Inflection is determined therefore by the second member, in the case of endocentric compounds, or by the suffix in the case of exocentric compounds (*semivivus* "partly alive" is declined as *vivus* "alive", *auricomus* "having golden hair" is not declined as *coma* "hair"). In both cases the inflectional morphemes are never found among the members of the compound, nor before derivational suffixes. The first member of a compound always appears as a non-inflected theme, subject not to modifications of an inflectional type, but rather to morpho-phonological readjustment (see the next paragraph).

If inflection appears always peripheral with respect to derivation and compounding, the relationships between the latter two is more complex. Indeed it is important to underline that while one can never have inflection within the compound, derivation may appear both inside and outside, or in both positions. The type of compound which is by far the most widespread in Latin (type A of paragraph 2) contains its derivation within the compound (in the deverbal element which forms the second member: e.g. *frugi-fer-ens* "fruit bringer"). Much rarer instead is the case in which the derivation appears in the first member (*in-curvi-cervicus* "curve-necked", *non-fidentis loquus* "he who speaks impertinently"). The compounded words can be

²³ See Leumann (1928/1977: 428) and Bertini (1984: 290 f.).

²⁴ For example *munificior* "more munificent" Cato or *inc.* fr. 8, p. 72 Jordan; *mirificissimus* "highly esteemed" Ter. *Phorm.* 871: see Leumann (1928/1977: 498).

²¹ In two isolated neologisms, *incurvicervicus* "having a curved neck" (Pacuv. *tr.* 408 R.) and *tripectorius* "who has three chests" (Lucr. 5, 28) the episodic addition of *-o-* / *-a-* in the place of a zero derivation, is to be noted.

²² Discussion and bibliography in Oniga (1988: 131 f.; 164 f.).

then further derived (*aequinoctium* "equinox" → *aequinoctialis* "equinoctial") even though occurrence is somewhat rare. If theoretically there are no restrictions to the use of derivation and compounding, it is nevertheless necessary to bear in mind the poor productivity of the phenomenon. The same applies to the possibility of their iteration: it is possible, even though not particularly frequent, to find the derivation applied more than once, both with prefixes (*re-col-ligo* "put back together again") and suffixes (*festivitas* "happiness"); but it is decidedly rare for a compound to become part of another compound (*tri-furci-fer* "three times a gallows bird").²⁵

The limitation to the productivity of the Latin compounding rules has not been overcome even by the Romance languages. If it is true that in Latin an ever increasing development of compounding can be noted—especially in the more modern phases—it is also evident that certain resistances to the derivation of the compounds persist, and that the formations of the compounds with more than two members are not yet as fully productive as in other languages such as in English and German for example, where, both for the number of forms (each combination of two nouns is virtually able to produce a compound) and for the possibility to produce multi-member compounds, a greater productivity is encountered.

6. Readjustment Rules.

The morphology of Latin compounds presents systematic morphological "readjustments" in the final part of the theme of the first member. In Oniga (1988) three rules of readjustment were put forward: the first rule (a) eliminates the thematic vowel of the first member if the theme of the second member begins with a vowel.

(a)	$V \rightarrow \emptyset / \text{---} + V$	
Examples:	[aqua + agio] _N	→ aquagium ("water pipe")
	[funi + ambulo] _N	→ funambululus ("tightrope walker")
	[magno + animo] _N	→ magnanimus ("magnanimous")

This first rule has a very general validity in Latin morphology: it acts not only in compounds but also in derivatives (e.g. [auro]_N + eus]_A → *aureus* "golden").²⁶

²⁵ Donat. GLK IV 377, 13 f. *providendam est autem ne ea nomina componemus, quae aut composita sunt, aut componi omnino non possunt* "one should be careful not to compound those words which are already compounded, or which cannot definitely be compounded".

²⁶ For derivation, see Piantini (1990: 27). The rule presents some exceptions in the first members formed by themes in *-i-* of numerals: see Oniga (1988: 69).

The second rule (b) of readjustment necessary for compounds provides for the thematic vowel of the first member to become a short *-i-* if the theme of the second member begins with a consonant.

(b)	$V \rightarrow i / \text{---} + C$ [-long]	
Examples:	[bello + potent] _A	→ bellipotens ("powerful in war")
	[cornu + gero] _N	→ corniger ("having horns")
	[silva + cola] _A	→ silvicola ("wood dweller")

If the first member already contains a thematic *-i-* (e.g. *igni-fer* "flaming"), it remains unchanged after the application of rule (b): this demonstrates that the *-i-* is a structural element which must always appear at the end of the theme of the first member, in front of a second member which begins with a consonant.²⁷

The third rule put forward for the readjustment of compounds, rule (c), is a rule of epenthesis which inserts a short *-i-* between the two compositional themes if the first ends with a consonant and the second begins with a consonant.

RR (c)	$\emptyset \rightarrow i / C \text{---} + C$	
Examples:	[carn + fac] _N	→ carnifex ("executioner")
	[patr + cidā] _N	→ patricida ("patricide")
	[ped + sequo] _A	→ pedisequus ("accompanier")

The action of rules (b) and (c) is convergent in a certain sense: in both cases the result is that if the second member begins with a consonant, there is always the vowel *-i-* between the two members of the compound. In the case of a consonant theme, such a vowel evidently serves to prevent the consonant from dropping or being modified, as would happen if it came into direct contact with the consonant beginning the second member.²⁸

Also the second member appears to be affected by two rules of readjustment, which give a formal representation of the so called "Latin

²⁷ See Nadjó (1989: 662). Also in derivation a similar rule exists, formulated by Piantini (1990: 28), who rightly underlined the necessity that the thematic vowel should not be long. Here, we accept the proposal which is necessary for accounting for the verbal compounds of the type (to) *calēfacere* "heat up". For nominal compounds it is not necessary instead because the thematic vowel of the first member is always short: see Oniga (1988: 70 ff.), where certain exceptions to the rule in question are also discussed.

²⁸ Also this rule presents some exceptions, although justifiable: see Oniga (1988: 75).

apophony".²⁹ The rules (d1) and (d2) are two variants of the same process because they both apply to a short vowel after a morpheme boundary. The first (d1) applies if the vowel occurs in a closed syllable, and assigns the feature [-low]: in such a way the vowel *a*, the only one to possess the feature [+low], is changed into *e*. The second (d2) applies instead if the vowel occurs in an open syllable: in such a way the non-posterior vowels *a* and *e* take on the feature [+high] and are transformed into *i*.

RR (d1)	V → [-low] / + (C) (C) — CCV
	[- long]
(d2)	V → [+high] / + (C) (C) — CV
	[- long]
	[- posterior]

Examples: (d1)	[bi + annio] _N	→	biennium
	[ob + sacra] _V	→	("period of two years")
	[[arti + fac] _N + s] _N	→	obsecro
		→	("beseech")
	[in + cade] _V	→	artifex
		→	("artist")
(d2)	[de + preme] _V	→	incido
		→	("fall into")
	[[exti + spec] _N + is] _N	→	deprimo
		→	("push downward")
		→	extispicis
		→	("of the haruspex")

The rules of Latin apophony apply only to the "strict" compounds which are lexicalized with a strong degree of fusion between the two members; they do not apply to the "loose" compounds having a lower degree of amalgam between the two members. The most typical example is given by the compounds of *facio* "to do": beside *con + facio* "bring to an end", where rule (d2) comes into play, *cale#facio* "make hot" is found, where the rule does not apply because of the presence of a stronger boundary.

7. Compounds and Phrases.

In the previous chapter, proper compounds were divided into two groups: strict compounds, characterized by a weak border (+), and loose compounds, characterized by a strong border (#) which does not allow the effect of certain readjustment rules between the two themes. Yet, as mentioned in paragraph 2, there are also groups separated by a word

²⁹ See Oniga (1990: 215 f.) where the morpho-phonological rules of the Latin apophony are formulated and discussed.

boundary (##): groups of this type, such as *res publica* "state", *senatus consultum* "decree of the Senate" are usually called 'juxtapositions' (Darmesteter 1874). Both themes remain unaltered with respect to the form they have when they are not in juxtaposition, so that writing them together or separately is a mere graphic choice; indeed both the first and second member of juxtapositions are inflected forms which can also appear alone at the surface of the language. The fact that juxtapositions are to be considered as one word and not as a mere phrase is borne out not only by reasons of semantic specialization, but also by the fact that it has only one word accent, as unanimously witnessed by grammarians.³⁰

Among the juxtapositions two more common patterns can be singled out. The first is given by a noun accompanied by a determinative adjective (*ros marinus* "rosemary"), by an apposition (*Marspiter* "father Mars"), or by another noun in a fixed case, usually genitive (*pater familias* "family father"): as properly observed by Nadjo (1989a: 323 f.), the genitive appears as the case of nominal dependence par excellence, while the presence of other cases, though possible, is extremely rare.

A second type of pattern is given by juxtapositions having as second member the past participle of a verb, whose inflection also works as such for the whole compound, while the first member is an adverb acting as either modal or instrumental determination, for instance *bene dictum* "well said", *male factum* "badly done". Other juxtapositions are more heterogeneous formations, but they share the common feature that the first member is strictly selected by the syntactic needs of the second as, for instance, *domum ito* "going home" and *veri similis* "verisimilar": in *domum ito* there is a direction accusative selected by the verb, in *veri similis* there is a genitive selected by the adjective.

In all cases, however, the relationship between the two terms within the juxtaposition is the same as in the context of a clause: indeed, the origin of the juxtapositions is evidently to be searched in particular phrases, which, in the course of time, ceased to be generated syntactically and were reanalyzed as simple words. The same process of 'lexicalization' which usually forms juxtapositions can affect also more complex phrases: suffice here to consider the numerals *un-decim* "eleven", *duo-decim* "twelve", *un-de-viginti* "nineteen", the pronouns *qui-vis* "whoever", the adverbial locutions *etiam-si* "even though", *for-sit-an* "perhaps", *nu-dius-tertius* "the day before yesterday", the interjections *me-hercules* "by Hercules", *me-castor* "by Castor", *me-dius-fidius* "by the God of the good faith". Therefore the transition from phrase to juxtaposition is clearly a phenomenon of diachronic character which concerns phrases with a particular frequency

³⁰ Diom. GLK I 433, 30; Donat. GLK IV 371, 22; Prisc. GLK II 177, 18; Serg. GLK IV 483, 25.

of use (Nadjo 1989 a: 325 ff.). The arrival point of this process may be the formation of a proper compound: juxtapositions such as *magno opere* "with much energy" and *multis modis* "in many ways" commonly alternate with the forms which underwent the process of phonological fusion of the two members according to the same rules of readjustment which are valid for the compounds, which are *magnopere* "very much" and *multimodis* "in many ways". In a similar way, from *cavum aedium* "cavity of the building" (Varr. *ling.* 5, 161) *cavaedium* "yard" (Plin. *epist.* 2, 17, 5) has been derived. Even more clearly the *Appendix Probi* shows the taking place of the evolution from juxtaposition to compound, an evolution which the grammarian tries to oppose (GLK IV 197, 26 *aquae ductus, non aquiductus*; 198, 32 *terrae motus, non terrimotium*): in the Romance languages almost every Latin juxtaposition will change into a fully lexicalized compound, as, for instance, in the Italian words *acquedotto* "aqueduct" and *terremoto* "earthquake". The presence of derivation is certainly an important element which can accelerate the transition from juxtaposition to compound.³¹ When added to a juxtaposition, a suffix automatically determines its transformation into a proper compound. For instance *Sacra vienses* "inhabitants of the Sacred Way" (Fest. 190, 15 L.) comes from *Sacra via*; *tertiadecimani* "soldiers of the thirteenth legion" (Tac. *hist.* 3, 27) comes from *tertia decima*. So it is not by chance if, in Latin, the most common types of compounds are those which provide for a second derivative member: this means that the derivational suffix may constitute the primer of the process which leads from the phrase or the juxtaposition to the compound. Therefore compounds, juxtapositions and phrases are phenomena which cohabit within the same system, and indeed the former are continuously fed by the latter.

In conclusion, nominal compounds in Latin provide arguments for backing up the hypothesis that morphology of compounds and syntax are correlated phenomena, since they present analogous constructions of dependency and respect the same order of their constituting elements. The hypothesis that the nominal compound has syntactic foundations is certainly not new and captures a certain amount of truth. However this does not mean that one should necessarily accept the phrasal interpretation of compounds as has been proposed on various occasions in the past. These theories clash against insurmountable theoretical difficulties (overly mechanical transformational processes), not to say practical ones (difficulty in reconstructing a univocal phrasal base for the compounds, in the light of the multiplicity of possible paraphrases for a single compound).³² The possible alternative which we put forward in Oniga (1988) is the one which is currently supported by generative morphology, according to which

³¹ See Oniga (1988: 143) and Nadjo (1989a: 328).

³² For a critical summary of such positions, see Oniga (1988: 150 ff.) and Nadjo (1989: 670).

compounding is governed by specific rules of word formation which act within the morphological component of grammar. Such rules have certain formal properties which are different from transformations, despite them having access to semantic and syntactic information. Indeed, it is probable that the various components of generative grammar (phonology, morphology, syntax, semantics) should not be dogmatically separated but rather considered to be different—complementary and interactive—aspects of the same linguistic competence.

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Bibliography

- Aleksandrow, A. (1888), *Litauische Studien*, I, *Nominalzusammensetzungen*, Inaugural-Dissertation, Dorpat.
- Allen, M. R. (1978), *Morphological Investigations*, Ph.D. Dissertation, Univ. of Connecticut.
- Anderson, S. R. (1982), "Where's Morphology?", *Linguistic Inquiry*, 13: 571-612.
- Aronoff, M. (1976), *Word Formation in Generative Grammar*, Cambridge (Mass.).
- Bader, F. (1962), *La formation des composés nominaux du latin*, Paris.
- Benedetti, M. (1988), *I composti radicali latini. Esame storico e comparativo*, Pisa.
- Bettini, M. (1984), "Arcaismi", in *Enciclopedia virgiliana*, Roma, vol. I: 287-91.
- Botha, R. P. (1984), *Morphological Mechanisms. Lexical Analysis of Synthetic Compounding*, Oxford.
- Darmesteter, A. (1874/1894), *Traité de la formation des mots composés dans la langue française comparée aux autres langues romanes et au latin*, Paris.
- Delbrück, B. (1893), *Vergleichende Syntax der indogermanischen Sprachen*, Teil III 1, in K. Brugmann - B. Delbrück, *Grundriß der vergleichenden Grammatik der indogermanischen Sprachen*, V 3, Straßburg (= Berlin 1967).

- Elerick, C. (1991), *Phenotypic Serialization in Latin, Word Order Universals, and Language Change*, Paper read at the VIth Colloquium on Latin Linguistics, Budapest 23-27.III.1991.
- Flobert, P. (1978), "La composition verbale en latin", in *Melanges Lefevre*, Paris: 85-94.
- Grenier, A. (1912), *Etude sur la formation et l'emploi des composés nominaux dans le latin archaïque*, Paris-Nancy.
- Halle, M. (1973), "Prolegomena to a Theory of Word Formation", *Linguistic Inquiry*, 4: 3-16.
- Leumann, M. (1928/1977), *Lateinische Laut- und Formenlehre*, München.
- Lieber, R. (1981), *On the Organization of the Lexicon*, Bloomington.
- Lieber, R. (1983), "Argument Linking and Compounds in English", *Linguistic Inquiry*, 14: 251-85.
- Marchand, H. (1960/1969), *The Categories and Types of Present-Day English Word-Formation. A Synchronic-Diachronic Approach*, (Wiesbaden) München.
- Nadjo, L. (1989), "Remarques sur la composition nominale en latin", in G. Calboli (ed.), *Subordination and Other Topics in Latin*, Amsterdam-Philadelphia: 655-80.
- Nadjo, L. (1989a), "Composition nominale et cas, en latin", in M. Lavency - D. Longree (eds.), *Actes du Ve Colloque de Linguistique latine*, Cahiers de l'Institut de Linguistique de Louvain n. 15, Leuven: 321-32.
- Nadjo, L. (1991), "Réflexions sur 'magnanimus' et quelques composés de ce type (structure, sens, portée stylistique)", in R. Coleman (ed.), *New Studies in Latin Linguistics*, Amsterdam-Philadelphia: 151-62.
- Oniga, R. (1988), *I composti nominali latini. Una morfologia generativa*, Bologna.
- Oniga, R. (1989), "Morphological Theory and Latin Morphology", in M. Lavency - D. Longree (eds.), *Actes du Ve Colloque de Linguistique latine*, Cahiers de l'Institut de Linguistique de Louvain n. 15, Leuven: 333-44.
- Oniga, R. (1990), "L'apofonia nei composti e l'ipotesi dell' 'intensità iniziale' in latino", in R. Danese, F. Gori, C. Questa (a cura di), *Mettrica classica e linguistica*, Urbino: 195-236.
- Piantini, G. (1990), *Per una morfologia lessicale del latino*, Tesi di laurea non pubblicata, Università di Venezia.
- Puccioni, G. (1944), "L'uso stilistico dei composti nominali latini", *Atti dell'Accademia d'Italia*, ser. VII, vol. IV, fasc. 10: 371-481.
- Sealise, S. (1983), *Morfologia lessicale*, Padova.
- Sealise, S. (1984/1990), *Generative Morphology*, Dordrecht-Cinnaminson; tr. it. *Morfologia e lessico*, Bologna.
- Schroeder, L. (1874), *Ueber die formelle Unterscheidung der Redetheile im Griechischen und Lateinischen, mit besonderer Berücksichtigung der Nominalcomposita*, Leipzig.
- Spencer, A. (1991), *Morphological Theory*, Oxford.
- Thornton, A. (1990), "Vocali tematiche, suffissi zero e 'cani senza coda' nella morfologia dell'italiano contemporaneo", in M. Beretta et al. (eds.), *Parallela 4*, Tübingen: 43-52.
- Van Santen, A. (1986), "Synthetic Compounds: Syntax or Semantics?", *Linguistics*, 24: 645-60.
- Williams, E. (1981), "On the Notions «Lexically Related» and «Head of a Word»", *Linguistic Inquiry*, 12, 2: 254-74.