INTERGLOSSA

A DRAFT OF AN AUXILIARY FOR A DEMOCRATIC WORLD ORDER, BEING AN ATTEMPT TO APPLY SEMANTIC PRINCIPLES TO LANGUAGE DESIGN

LANCELOT HOGBEN
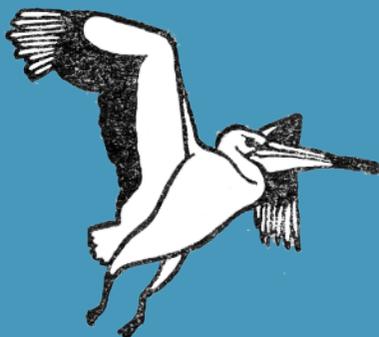
PELICAN BOOKS

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INTERGLOSSA

BY LANCELOT HOGBEN

THE AUTHOR

LANCELOT HOGBEN was born at Southsea in 1895. He became a scholar of Trinity College, Cambridge, in 1912. By profession he is a biologist; and has been a professor at universities in South Africa, the United States, London and Aberdeen. He has travelled far afield on four continents, having visited Japan and Hawaii. He is the author of a monumental work of popularization, *Science for the Citizen,* and of several volumes of essays on educational topics, notably *Dangerous Thoughts.* He is married to Enid Charles, the well-known population statistician, and has four children.

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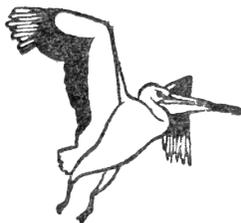
Czech or Chinese
Learn it with ease,
Basque or Bantu
Can too.

Burnet Woolf

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FOREWORD

Some people may ask why a scientific worker should devote empty hours of fire-watching in Aberdeen to a task which professional linguists might more properly undertake. There is one sufficient answer to this question. Just because they are professional linguists, professional linguists are apt to underrate the linguistic difficulties of ordinary people, and hence to underrate the social importance of the language issue *vis-a-vis* world peace and world-wide human co-operation. Because natural science is the *only* existing form of human co-operation on a planetary scale, men of science, who have to turn to journals published in many languages for necessary information, are acutely aware that the babel of tongues is a social problem of the first magnitude. Men of science* more than others, have at their finger-tips an international vocabulary which is already in existence ; and a biologist who looks forward to a health-conscious future cannot fail to recognize how popularization of new health standards is daily adding to the stock-in-trade of internationally current words in daily use.

Curiously enough, the first person to devise an interlanguage was an Aberdonian, George Dalgarno. His *Ars Signorum* came out in 1651. Its successor, the *Real Character* of Bishop Wilkins, appeared in 1678, issued at the expense and at the request of the Royal Society. From that day to this scientific workers have been prominent in the movement for promoting a world-auxiliary. The world-famed scientist Wilhelm Ost-wald was in the forefront of the interlinguistic renaissance during the latter half of the nineteenth century ; and Peano, the mathematician, is the author of one of the best recent projects.   So there is no lack of good precedent.

More than three hundred pioneers have already put forward projects such as this. The author of *Interglossa* does not flatter himself with the hope that it will ever become the common language of international communication. A good enough reason for publishing this draft is that the post-war world may be ripe, as never before, for recognition of need for a remedy which so many others have sought. When need becomes articulate, it will be relatively simple for an international committee to draw on a common pool of effort, seemingly spent with little result. To

that common pool the author modestly consigns this first draft in the hope that readers will make suggestions and offer constructive criticisms as a basis for something better.   It is not a primer for the

beginner. Were it so, the arrangement would be totally different, and it would be set out with sufficient showmanship to win the confidence of the beginner. Its aim is to enlist interest among those already familiar with the controversies * which Basic English and other recent projects for an international auxiliary have excited. Consequently it touches on many issues which are not necessarily relevant to the task of learning it. Above all, it is a draft to stimulate fresh thinking. As such it invites constructive criticism from those who are not zealots of a particular faction. The pages which follow are *the agenda for a discussion.* The author wishes to express gratitude first to Mrs. Dorothy Baker, M.A., for assistance in preparing the final script and the 8,000-word *English-Inter-glossa* dictionary to follow this volume in the same series, also to Miss Dorothy Whitson who typed successive drafts with unfailing patience and accuracy.

Lancelot Hogben.

December, 1942.

PART I
THE DESIGN OF INTERGLOSSA

I. INTERGLOSSA AND ITS PREDECESSORS

What follows is the outline of a project for a new constructed *auxiliary*. The writer believes that the alternative to barbarism is repudiation of national sovereignties in greater units of democratic co-operation, and that day-to-day co-operation of ordinary human beings on a planetary scale will not be possible unless educational authorities of different nations agree to adopt *one and the same* second language. The hope that it will be possible to induce educational authorities to do so is not Utopian. In many countries, some instruction in a *second* language is already part of the school curriculum for all children.

To fulfil the purpose stated above, a universal second language must be one in which children can progress towards proficiency more rapidly than they usually do. If it is to be a natural language, some simplified form of English, such as Ogden's *Basic,* has no serious competitor. What is not so certain is that it would be wise to choose a *natural* language. There is much force in the contention that adoption of a natural language as an auxiliary would give those who habitually use it as a mother-tongue a position of undue cultural privilege, that this in its turn would breed resentment against them as a linguistic *Herrenvolk,* and that such resentment would eventually defeat the end in view. *A satisfactory auxiliary must be everybody's language because it is also nobody's language.*

Whether such arguments do, or do not, prevail, one thing is clear. In assuming the task of making it easy for others to learn English, Ogden's pioneer labours have brought into glaring relief defects of previous projects for a constructed auxiliary. If the considerations stated above turn the scales in favour of a constructed auxiliary, Ogden will not have laboured in vain. By ingenious manipulation of essentially English syntax, he has pointed to possibilities which none of the pioneers of the International Auxiliary Language movement had taken into account. Proposals put forward so far have one or other of certain drawbacks which have been clarified by criticisms bestowed on them by partisans of others. **If** *Interglossa* does nothing more than stimulate criticism by its novel features, it will serve the useful purpose of clarifying a task for others to carry out with greater success.

It is therefore pertinent to specify some outstanding defects of artificial languages which have had a vogue in the past, more especially *Volapük* (V), *Esperanto* (E), *Idiom Neutral* (I.N.), *Ido* (I), Peano's *Interlingua* (P),1 and *Novial* (N). We can best do so, if we recognize what characteristics make a language difficult to learn. Three major difficulties are: *(a)* surfeit of grammatical rules, *(b)* excessive number of essential words which the beginner has to memorize, *(c)* intrinsic unfamiliarity of the words themselves. Let us compare Basic with its competitors *vis-a-vis* each of these difficulties.

International Grammar

All artificial language projects so far devised have either *(a)* too much grammar of the wrong sort, or *(b)* not enough of the right. Of those mentioned, V, E and I retain flexions which English, Dutch, Scandinavian, Romance languages, and even German, have long since discarded. N, which is latest in the field, has more dead derivative apparatus than English. P alone follows the maxim : *the best grammar is no grammar.* Like Chinese, a totally flexionless language, it has gone further than English along the same road. From this point of view it might seem to be a simpler task to learn P than to learn English. The conclusion is dubious if we give due weight to what has been a powerful motive militating against Peano's radical attitude to superfluous flexions of the type characteristic of Aryan languages. To do it justice a digression is here necessary.

Though it is not true to say that all nouns are concrete things or that all words which stand for processes or states are verbs, the converse of the first statement is correct, and it is generally2 true that the verb complex of a sentence is the part which predicates process or state. In a rough and ready way the fact that nouns and verbs have characteristic terminals does mean that we can more easily pick out what is thing, what is state or process—in short, that we can get some sort of picture of the *sentence-landscape.* This helps the beginner to translate a passage which contains unfamiliar words, and

1 Peano is the Italian pioneer of mathematical logic. His work was the starting-point of Bertrand Russell's. Some of it he published in his own auxiliary.

2 Not so the verb *be,* except when it predicates real existence.

by doing so increases confidence in the prospect of further progress.

To say this does not mean that the existence of such terminals or the acceptance of morphological categories characteristic of the Aryan and Finno-Ugrian families is the only or the best way of achieving the same result. There are other devices. Two are : (i) a fixed pattern of *word-order;* (ii) the existence of *empty* words, such as the French article which sticks to the noun with the same Romantic fidelity as the substantive suffix of E, and is therefore a signpost pointing to an oncoming substantive.

Because P is the isolating offspring of its highly flexional parent, Latin, it has a poor equipment of empty words, and an aristocratic indifference to the necessity for simple rules of sentence-construction. The fact is that no pioneer of language-planning—least of all Peano—has undertaken the task of investigating what rules of word-order contribute most to intrinsic clarity of meaning and ease of recognition. Like Jespersen, and like his predecessors, all of whom had adopted a much more con-servative attitude to structural grammar, Peano never got to grips with the essentials of syntax. The essentials of international syntax include : *(a)* a sentence-landscape designed in conformity with straightforward rules ; (6) elimination of different word-forms with the same semantic content, and other redundant modes of expression.

Word-economy

Authors of all projects mentioned above underestimated the difficulty of mastering an unnecessarily *large* vocabulary, and failed to understand the need for semantic spring-cleaning as a prelude to any effective policy for mitigating it. None of them attempted analysis of the irreducible minimum of vocables essential for self-expression. The fact that Ogden has done so, rather than any intrinsic merit of English itself, is one sufficient reason for the popularity of Basic and for its appeal to those who regard projects for an artificial auxiliary with little favour. Peano, who was mainly concerned with the needs of science and technology, made no attempt to keep an essential word-list within the limits of what ordinary people without a large vocabulary of technical terms can easily learn. The authors of V, E, I.N., I and N made a half-hearted attempt which has justly earned the vigorous criticism of Ogden and of some of his supporters.

What word-economy recent designers of< constructed auxiliaries have aimed at achieving is of one sort only. On what seem to be purely *a priori* grounds, they have chosen batteries of affixes to multiply word-forms

with the same recognizable root. Some of these affixes merely trail in the peculiar grammatical traditions of Aryan languages. Some have absolutely no semantic content at. all (cf. E *um* for indefinite relationship). Others (e.g. E *bo-* for *in-law* as.in *mother-in-law)* are merely shorthand for trivial types of relationship sufficiently expressed by other and necessary formal elements already part of the verbal stock-in-trade. The authors of E, I, I.N. and N tried to establish order where chaos existed (cf. *-ship, -dom, -head, -hood, -ity* in English) without probing into the intrinsic value of what they were salvaging. When we look at the result as a whole, their choice of derivative affixes reflects the same preoccupation which motivated the prevailing attitude to flexion.

The only satisfactory way of dealing with the problem of word-economy is Ogden's way ; to start with words as experimental material and analyse what semantic elements enter into large classes. It may well, and in fact does, happen that these elements have little relation to the pattern of derivative affixes or of flexions in languages which have grown in the haphazard manner common to all existing natural ones. This very fact, as Ogden's work so richly illustrates, has a corollary which enthusiasts for auxiliary language proposals have been slow to recognize. If Ogden has achieved such outstanding success within the strait-jacket of acceptable English usage, what economies might be possible if someone undertook the task with complete freedom to prescribe an idiom best suited to maximate word-economy ?

International Word-material

When all is said and done, learning a language involves memorizing a large number of new words. When we have reduced the number as far as we can without prejudice to the end in view, the beginner has to commit to memory what remains. Ease of doing so depends largely *on familiarity* with the material, i.e. on what *associations we can make when first confronted with any single vocable.* It is passible to reduce to negligible dimensions the load of new words with no helpful associations for the beginner, if we take stock of three facts :

(i) During the past two centuries, science has created a *world-wide technical vocabulary;* " v

(ii) As modern technology transforms everyday life, what was once the vocabulary of the laboratory becomes the *vocabulary of the street-corner.*

(iii) Scientific terms such as *stratosphere, aeroplane, heteror dyne, panchromatic, telephone, phonograph, gramophone,* and hundreds of others on the lips of every schoolchild to-day come almost exclusively from Latin or Greek, more especially from Greek. .

To the extent that Latin roots predominate in all the projects mentioned, all of them, like English itself, have a large stock-in-trade of *truly international roots for which the beginner can readily make associations.* The fact remains that most artificial languages have a large stock of national words presumably included to propitiate national sentiment of one sort or another. Thus Novial, the latest arrival, is essentially —like English—a Latin-Teutonic hybrid, and the Teutonic ingredients are sheer dead-weight to anyone who does not speak German,v Dutch or a Scandinavian dialect. The same criticism does not apply to the flexionless, but otherwise scholarly, Latin of Peano. With due regard to the number of borrowed Greek words in classical Latin, P is open to a criticism applicable to every constructed language yet devised. None of them contains as high a proportion of Greek roots as English itself.

A truly international vocabulary must be the offspring of technology, and technology increasingly turns to Greek rather than to Latin for new material. Of the many who know that *micro-* means *small,* few know that *parvus* means the same. Current articles on nutrition and psychology in any woman's journal, or on photography and radio in any schoolboy's magazine, illustrate the daily invasion of everyday speech by Greek roots. Peano apart, authors who have put forward plans for constructed auxiliaries lived at a time—or like Jespersen formed their views at a time—when few scientists and technicians, still fewer linguists, anticipated the present tempo of infiltration of Greek roots into everyday life. Consequently artificial languages so far proposed scarcely touch the fringe of the problem of *word-familiarity.* In the simplest possible terms, our task is to assemble a vocabulary based on internationally current roots of which the semantic content is as transparent as that of *geo-, aer-, tele-, phon-, graph-, micro-, phot-* and the like. The possibility of achieving this result gives the problem of word-economy a new impetus. The success of our efforts in part depends on keeping the number of words required within the limits of equipment at our disposal.

The mere fact that there is already an international vocabulary of medicine, of agriculture, of horticulture, of navigation, of mensuration,

of astronomy, of chemical manufacture, of engineering, of cartography and of mathematics, or that the number of such terms in everyday speech has increased by leaps and bounds since the time of Zamenhof, are not the only facts about the impact of Science on speech relevant to choice of satisfactory word-material for a properly constructed auxiliary. Equally important is the fact that this existing international vocabulary rings the changes on certain roots which have established firm claims to further use. Consequently we know which way the cat will jump. We can forecast with some assurance *what roots of given meaning can or cannot come into general use through the increasing infiltration of new technical terms into daily speech.* If need arises to adopt anew technical term to label waterproof autograph forms for water-polo champions, it is highly likely to contain necto, which turns up in many biological names for swimming organisms. If a special root for swimming appliances invades daily speech on a world-wide scale, it is not likely to recall the French word *nager* or its Esperanto equivalent.

Essential Features of Interglossa

From this brief commentary upon the defects of artificial languages exposed by contrast with the considerable merits of Basic English, we now turn to a brief summary of the essential features of *Interglossa.*

(i) *Interglossa* is a purely *isolating* language. It admits many compounds built from bricks which are independent elements, but it has no dead affixes prescribed in accordance with *a priori* considerations. In so far as it is a flexionless language, it resembles Chinese (or Peanese), but it differs from P because it has a large stock-in-trade of compounds sufficiently explicit in an appropriate context to anyone who knows or can recognize their parts. It also differs from P with respect to the remaining characteristics specified below.

The reader may here ask whether an isolating language has any advantage over a language of the agglutinative type, i.e. a flexional language like Esperanto with no irregularities. There are three sufficient reasons for preferring the former :

(a) Mass production in language tuition calls for maximum division of labour in the plant. That is to say, maximum word-economy in the sense defined above implies maximum mobility of all the elements of meaning.

(b) Familiarity breeds contempt. That is to say, flexion, however regular, forces units of meaning into situations where they are irrelevant and therefore more liable to semantic erosion.

(c) The grammar of an *isolating* (analytical) language is the highest common factor of *all* grammar.   It is the native idiom of China, and does not confront the Japanese or the Bantu with the arbitrary difficulties inherent in any agglutinative language based on Aryan models. In short, any language designed like V or E imposes the grammatical idiosyncrasies of a particular language family on everybody who uses it. Unlike its predecessors, designed exclusively, and admittedly,[1] to meet the taste of *Western* Europe and the English-speaking peoples, *Interglossa* is for a world in which China, Japan, and eventually the peoples of Africa, will march in step with the U.S.S.R. and with western civilization.[2]

(ii) *Interglossa* has a very rigid and straightforward word-order, with features designed to limit recourse to congested expressions. The pattern is the same for statements, questions, requests, commands, and for all

 classes of subordinate (including *relative)* clauses. The verbal stock-in-trade of *Interglossa* includes a small battery of *empty* words to act as signposts of sentence-landscape. For the same reason, certain classes of words have a characteristic final syllable, but these classes do not correspond to arbitrary non-semantic categories *(parts of speech)* defined by flexions. *Interglossa* has no flexions.

(iii) *Interglossa* has a vocabulary based on internationally current roots. It therefore has a Greek content enormous in comparison with that of earlier projects. Its very name symbolizes the fact that it is a Latin-Greek hybrid, as Novial is a Latin-Teutonic hybrid. Since we have many Latin-Greek alternatives in current international technical terms, it is possible to combine the claims of word-economy *vis-a-vis* self-expression (see p. 22)with the advantages of a residual battery of *synonyms* for stylistic purposes.

[1] See Jespersen*, An International Language,* p. 53 and elsewhere.

[2] An isolating language has a further advantage. It is easy to make every element explicit through visual aids. Thus freedom from lifeless affixes simplifies the task of instruction through the medium of the universal picture-language **isotype** without recourse to exposition in the home vernacular. We can therefore contemplate production of manuals for a world-wide market. The history of Japanese writing sufficiently shows the difficulties which beset the attempt to adapt a pictographic script to a language of the agglutinative type.

Each word has a number, and if *Interglossa* sufficiently interests the public it will be easy to test out the claims to priority of two or more synonyms for each numbered pigeon-hole in the semantic schema which follows. Designing all the details of a fully-fledged interlanguage is not a one-man job. Mass observation on the basis of questionnaires sent out to different groups of people of different nationalities would settle which words in each pigeon-hole are entitled to *first rank.* Readers may suggest alternatives, and an international committee could submit the result to ballot.

The use of *psychologically live word-material* necessarily limits an ideal solution of the *phonetic* difficulties of learning languages. Fortunately the Mediterranean vowel battery is small, but Greek abounds in consonant-clusters which offer great difficulties to people who speak Japanese, Chinese, Bantu or Polynesian dialects. Where equivalent Greek and Latin roots are internationally current, this fact should guide the choice of the designer and that of the beginner (see p.). We can take advantage of Latin and Greek alternatives to exclude homophones (cf. the root homophones *sol* in *solar* and *solitary).* The root *xero* in many botanical and horticultural terms (e.g. *xerophyte)* would be a near-homophone to *zero,* because many people find it difficult to pronounce an initial *x* as *ks* Or *z* as *ts.* So it cannot have first choice as the equivalent word for *dry.*

If we aim at easy recognition and easy association, it is fatal to maltreat roots for the sake of uniform spelling. *Uniformity is less important than consistency.* It does not matter whether one sound always has one symbol. What does matter is whether the same symbol stands for only one sound (cf. the vagaries of G and J, S and Z in English). The main difficulty about the spelling conventions of a Latin-Greek stock-in-trade of words is that different nations do not follow the same plan with respect to Romanization of Greek roots, e.g. French, German and English have PH where Scandinavians and Italians use the F. Since the international binomial nomenclature of systematic biology, and that of anatomy and chemistry, stick to the older forms, *Interglossa provisionally adopts them.* As Ogden has emphasized, spelling is a secondary issue, if a language has great potential word-economy[1]

(iv) *Interglossa* has a system of word-economy which takes full advantage of its analytical grammar, and hence combines features

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[1] And we may leave the details to an international committee.

characteristic of Basic English and of Chinese. To clarify the principles involved, two terms are useful. As we call identical vocables which mean different things *homophones,* we may call different vocables with the same semantic content *homosemes.* Likewise we may call words with a common element of meaning *coenosemes.* Thus *ascend* (go up) and *descend* (go down) are coenosemes, as are *study* (work-room) and *worker* (work-man). The word *homoseme* does not mean quite the same as *synonym. Big, large* and *great* are synonyms in the most everyday sense of the term ; but the homosemes *much* and *great* are not. The reason why most of us hesitate to call them synonyms is that they are not always interchangeable. The rules of grammar prescribe a definite context for each. *Much* predicating *largeness* may be the qualifier of a verb or another epithet, *great* can predicate *largeness* of nouns alone.

As Chinese is handicapped with an overgrowth of homophones, Aryan languages are overloaded with *homosemes,* which produce difficulties of the opposite sort when a person new to their idiosyncrasies tries to learn them. In contact-vernaculars such as *Beach-la-Mar* or *Pidgin-English,* we get a practical demonstration of what happens when a multiplicity of semantically redundant word-forms defeats the comprehension of the newcomer ; and we can apply the lesson to the design of a constructed language. Relatively little economy by reduction of homosemes is possible within the framework of acceptable English idiom ; but the only limit to doing so in an artificial language is the need to keep a clear prospect of " sentence-landscape " in view. The author of Basic English has made the very best of a bad job by pruning the luxuriant overgrowth of English coenosemes to the limit consistent with educated speech.

The combination of both principles, i.e. reduction of *homosemes* as in Chinese and of *coenosemes* as in Basic, is a distinctive feature of *interglossa* among artificial languages put forward to date. The outstanding characteristic of word-economy in Basic is the reduction of *verb* coenosemes by recourse to *verbal operators.* In combination with other words these eighteen   operators do all the work of four thousand verbs in a French dictionary, and far more in an English one. In a constructed language we can do the same with noun coenosemes. Within the framework of English usage we can make *postman, hangman, milkman, dustman* with the common seme *man; playhouse, bakehouse, alehouse* with the common seme *house ; footwear, handwear, headwear* with the common seme *wear.* In the design of a constructed language with a rich assortment of

generic terms we are free to build up a host of other domestic and occupational compounds without adding new elements to our word-stock. By the use of the negative particle as a qualifier equivalent to the affixes *un-* or *in-* of *untrue, unclean, incompatible,* we can also eliminate the need for many "opposites" for which natural languages prescribe separate words.

At this point partisans of Basic English may ask why it is necessary to list 880 vocables in place of the 850 essential items on the Basic English word-list .[1] The answer is that the figures are not comparable. *Interglossa* and Basic English start from different assumptions about how much work a single word can profitably do. If the end in view is to make things easy for the beginner we have to bear in mind two considerations :

(a) Suitable *definition* of familiar objects often calls for more effort than learning a new label;

(b) When no common thread of meaning connects one use with another, an additional label is not necessarily more difficult to learn than an *additional use* of the same vocable.

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[1] The list of essential vocables on pp. 249-256 contains 880 numbered items and an additional 74 of which the internationally current form is consonant with the phonetic pattern of *Interglossa.* Actually our list of 880 numbered items contains at least twenty words which are internationally current in the form prescribed, e.g. : **agenda** (809) **; bureau** (816) **; cardo** (740) **; coxa** (533) **; data** (827) ; **fenestra** (714) **; flora** (581) **; lamina** (757) **; libido** (284) r **major** (45) **; minor** (46) **; minus** (115) **; plus** (118) **; propaganda** (846) **; radio** (386) **; spatula** (775) **; telefon** (855) ; **telegram** (856) **; zero** (26). The names of the metals are simply the plural forms of the corresponding items in the international periodic table. Plural forms which are also internationally current include **spectra** (662) and **entera** (502). It is therefore fair to say that our list of *essential* vocables Other than words which we can adopt from the international vocabulary of technics or commerce without any change of form contains less than 860 *constructed* elements in all. In reality the 850 word-list printed on a folded slip in the primers of Basic omits 17 necessary pronouns and possessives, 32 numerals and 56 flexional forms of the operative verbs. If we charitably overlook the fact that Basic operates at large with the *-ing* and *-ed* terminals without a general rule about what class of words invariably take them or about how they affect the meaning of the end-product, it is fair to say that Basic demands mastery of at least 950 distinct vocables, not counting calendrical items.

In its choice of abstract terms Basic English takes a highly indulgent attitude to what constitutes a common thread of meaning. When we apply one word *sharp* to a remark, to a tooth, and to a pain, the only thread of meaning common to all three situations is a vague value judgment; and if we let metaphor have full rein in this way it is easy to keep down the number of items on our word-list. Indeed, there is only one limit to the process of reduction. In the end we are left with two vocables, one for approval, the other for disapproval. Admittedly, we cannot set a limit to suggestive use of metaphor in daily life.   Nor can we draw a clear-cut boundary between metaphorical and generic usage of words. Still, we can provide a sufficient number of specific terms for qualities with no very obvious connexion ; and this has been the aim of the author.

A constructed language cannot admit words of so diverse semantic content as **order,** listed in the miniature *Basic Dictionary* as meaning: *arrangement,, sequence, class, command, religious body, decoration.*[1] It cannot admit such definitions as *(ibid.)* "undertaking" for **enterprise** and

"(statement of) undertaking " for **promise.** Above all, we cannot play ducks and drakes with a native battery of idiom which prescribes such egregious collocations of vocables as the Basic *put up with* for *tolerate* or *put at a loss* for *bewilder.* In what follows the aim has been to keep sharpness of definition within the limits set by two dispensations :

(a) Since action and its product are necessarily co-existent, the same word (e.g. *writing* in English) can suffice for both in a given context;

(b) Where a metaphorical usage is common to equivalent words of different origin and unrelated language families (cf. *tongue-language*

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[1] This is especially true of the hundred items (" Operations "), which make up the grammatical matrix of Basic. Laying aside the eighteen verbs—not one of which has an absolutely clear-cut terrain —the remaining words (82) include such obvious pitfalls for the unwary as *any, some, that, ever, well, still, even, only, all.* The prepositions, on the use of which Basic relies so much, are by no means above reproach. Those that have a single characteristic meaning (e.g. *in)* enter into innumerable and inescapable idiomatic combinations. Several (e.g. *against, with, by)* have more than one characteristic meaning. Others *(of, for)* are as empty as the " essential " articles *a* and *the.* All in all, at least a third of the words listed as operations are so polyvalent as to claim front rank among the booby traps for the beginner who is learning English.

for the organ of that name and for a local variety of speech) it is permissible to conclude that the link between the two is substantial.[1]

The *numerical* word-economy of Basic English owes much to two circumstances which are not propitious to the needs of the beginner. It includes abstract words with wide diversifications of meaning by meta-phorical extension ; and it has a very small number of names for common objects. In conformity with the principle stated above, *Interglossa* does not aim at economy of either sort. Where self-explicit compounds involving generic terms are not available as names for common things, it is far better to provide a new one than to leave the learner to fish for a periphrastic definition. Consequently, our list of picturable names is almost twice as large as that of Basic English. Basic offers 25 botanical or zoological and 34 anatomical words. Chapter IX of this draft lists 80 botanical or zoological and 68 anatomical terms as numbered items, in addition to 60 plant, animal or medical names not numbered because assimilated without change of the internationally current form.

Choice of words in Ogden's Basic list depends on the exigencies of accepted English usage. So also choice of words in a language designed in accordance with the principles stated above depends less on abstract logical principles than on what internationally current root material is to hand. The system of word-economy implicit in the design of *Interglossa* makes it possible to do with less than 750 words what Basic does with 850 ; but it would be absurd to restrict the vocabulary within such limits, if only because Basic has a ready-made residual stock-in-trade on which to draw. In a certain sense this is true of *Interglossa,* since *Interglossa* permits coining of new amplifiers or substantives from internationally current roots in accordance with rules prescribed for terminals. None the less, the English dictionary is more accessible than those technical works in which internationally current roots abound.

Common nouns come last in the classes of words arranged in what follows. It is necessarily arbitrary to fix the number of *essential* common nouns, because every occupation and social group within a speech-community has its own peculiar ones. Even novels abound in technical terms which are mere expletives to most readers. One thing which simplifies our task is the fact that an interlanguage word-list need contain

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[1] Unfortunately, there is no source to which one can turn for a world survey of metaphorical extensions such as the example cited.

no national names, i.e. words for specifically local institutions *(casino, bazaar),* officials *(kaiser, concierge),* proper names *(Stalin, Leningrad),* or implements *(samovar, sjambok).* It will tolerate such words automatically, as so often happens in the history of natural languages. This means that people of any speech-community have the last word about how to spell their own towns *(Wien, Kebenhavn),* or countries *(Deutschland, Suomi) ;* and the same words serve as adjectives (e.g. *Scotch tweed* = **Scotland texti).** Another class of words calls for similar treatment. Few people talk about *gills* and *fins,* unless they have some technical interest in comparative anatomy. Those who have, will know the internationally current terms **(branchia** and **pterygia)** for them.

At this point, a necessary qualification to preceding remarks will forestall misunderstanding at a later stage. Semantic rectitude does not prescribe that juxtaposition of two vocables in a particular order must have the same singularity of meaning as have two ordered symbols of a non-commutative algebra. Everyday discourse has functions other than those of mathematical symbolism, if only because it has to engage the interest of an audience. If the fact receives tardy recognition in elementary teaching of highly flexional languages, the study of completely isolating ones, e.g. of the Chinese group, or of an almost completely isolating language such as Anglo-American, forces us to recognize how extensively we rely on *context* to convey meaning without multiplication of verbal counters or of grammatical devices to complicate the rules of the game. Divorced from its context, we are free to interpret the couplet *religious worker* as : *(a)* any member of the working class with religious convictions or professions; *(b)* a person who does regular voluntary or paid work for a religious organization. In an actual slab of sustained discourse its organic relation to the semantic *gestalt* would rarely if ever give rise to misunderstanding between English-speaking people; and the disadvantages of sacrificing word-economy or economy of space and effort to legislate for so few occasions would outweigh the benefits.

To some extent, mathematics also relies on context to supply the necessary clue to correct interpretation. For instance, we interpret the cluster *d2x* both as a differential of the second order in the domain of the infinitesimal calculus and as the product of *x* and the square of *d* in the domain of elementary algebra. If we speak here or elsewhere of a couplet or compound as *self-explicit,* the epithet is therefore shorthand for *sufficiently explicit in a context where it will commonly crop up.*

Context, and context alone, dictates how we interpret the vagaries of the allegedly " possessive " terminal *'s* in *father's debts, father's death* and *father's dress-shirt.* Context, and context alone, endorses the relationship implicit in *churchyard, brickyard, backyard.* A little reflection on such illustrations of its role should encourage the fastidious reader to take a tolerant view about the need for hard and fast rules for framing compounds whose meaning is sufficiently suggestive in an appropriate situation. Words are not mere *atoms.* They are *organs* of communication. As such, their functions inescapably depend on the whole body of discourse.

Reading and Self-expression

Three classes of difficulties discussed in what has gone before do not exhaust those which confront a person who is learning a language. Language-learning involves four skills as different as arithmetic, algebra, geometry, and trigonometry.

The skills necessary for complete mastery are : *(a)* auditory recognition; *(b)* pronunciation and intonation; *(c)* self-expression in writing; *(d)* recognition of the written word. Whether one of them is more or less difficult to acquire than another depends partly on personal gifts, such as visual memory and mimetic aptitude. Opportunities for use by reading, by travel or by correspondence play a part, as also intrinsic characteristics of the language itself.

Languages which are relatively *holophrastic,* such as French, offer greater difficulties for auditory recognition than more *staccato* languages like German. The syntax of German makes reading difficult, and Hottentot clicks or Chinese tones are hard to mimic without special phonetic training. With due allowance to these considerations, one thing stands out clear. On the whole, .most people master reading knowledge with least difficulty, and acquire the trick of auditory recognition last of all. With constant use, the latter comes easily to anyone who has acquired the knack of self-expression in writing. So auditory recognition is of minor interest, if the end in view is to make things easy for the beginner.

What is more important is the difficulty of reading relative to the difficulty of self-expression. A difference between the skill required for reading knowledge and the skill required for self-expression is relevant to a criticism unj ustly levelled against Basic English. All of us know the meaning of many native words which we never use in speech or

writing, and the gap between the vocabulary of reading and that of self-expression is inevitably greater when our means of communication is "a foreign language. To read a language we need to be able to recognize a relatively *large number of words when memory (and ingenuity) is prompted by context.* Self-expression involves very ready recollection of a relatively *small number of words without extrinsic help.* So part of the art of mastering a language is to get a thorough knowledge of a small battery of *essential* words for self-expression, and a nodding acquaintance with a much larger *residual* stock for reading.

Since it is much harder to remember words without help from the context than to remember them when the context prompts us, the desirability of designing a language with great *potential* word-economy is not incompatible with the stylistic advantage of having a copious vocabulary. Ogden has shown us that English has astonishing possibilities of word-economy, and we all know that it has a richer residual battery of synonyms than any other language. This is partly due to its hybrid structure, and *Interglossa* is also a hybrid. If we want to combine potential word-economy for ready self expression with what versatility of expression safeguards style against monotony, we can take advantage of this fact.

Different roots of international technical terms may have the same semantic content. Hence the problem of choosing word-material is not as difficult as it might seem. We are not forced to undertake a statistical word-count of internationally current roots. Part of our essential word-list offers the beginner a choice of two words. For purposes of self-expression the beginner will naturally choose the one to which he (or she) associates most readily, or can most easily pronounce. For purposes of reading, or communication with others who associate more readily to the alternative form, a cursory study of the word-list will usually suffice.

In this context it is *fitting to* forestall the intelligible criticism that a page of *Inter glossa* does not look easier than a page of *Novial.* Anyone who has had a good secondary school education in Britain or America can guess his or her way through a passage of *Novial* (or other interlanguage of the same type) without the preliminary precaution of consulting a grammar or dictionary. This fact gives anyone who has not thought much about interlinguistic problems an unduly favourable impression of the ease with which it is possible to master *Novial.* It would not be difficult to construct a highly latinized strip of English through which an otherwise

well-educated Frenchman with no knowledge of our language could also guess his way. English of this type would certainly [1] be more difficult to learn thoroughly than is Ogden's Basic.

To an English reader *Novial* looks more easy than it is for two reasons. It takes over the grammatical pattern common to Aryan languages (with the semantic inconsistencies inherent in it), and it has a large hybrid stock-in-trade of words from the two major sources of our own. One has less formal grammar to learn than one would have if one set out to learn French or German ; but, having traversed the first few milestones, one has still to grapple with the semantic difficulties inherent in the pattern of the Aryan group. One has to go on piling up a word-list without information concerning which words are most essential. The fact that *Novial* looks so easy to read is a feature of high publicity value. It does not signify that it is also easy to master the art of self-expression in *Novial*.

To cut down the difficulties by judicious word-economy we have to delve more deeply into semantic issues which Jespersen and his predecessors side-stepped. Inevitably, we find ourselves gravitating away from the grammatical pattern of the Aryan family to a more universal idiom with features common to Chinese. The result is that learning a language so designed is a lively training in clear thinking of a kind which anyone can usefully undertake. In fact, the grammar of *Interglossa,* as is largely true of Basic, is semantics. Its author does not claim that it is easy to read a page of *Interglossa* at sight without previous information concerning its structure. It is designed with the aim of reducing to a minimum time and effort necessary for *complete mastery of self-expression.* From that point of view, all that the average intelligent person can achieve by months devoted to the study of E, I, I.N., P or N should be over in the same number of days devoted to *Interglossa.*

Here, as elsewhere, word-economy means *numerical limitation of vocables necessary for unaffected discourse about matter's of common interest between people of different nationalities.* A stock-in-trade of word-material limited in this way will not necessarily offer a *compact* means of expressing every fine distinction found in a lexicon. To avoid misunderstanding about claims put forward for our *essential* word-list, it is well to remind ourselves of what Ogden has stressed in the exposition

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[1] If only because the acceptable operative constructions on which Basic word-economy'depends are Teutonic in origin.

of his own method for adapting English to international use. Dictionary definitions give a false impression of what precision even well-educated people do—or can—achieve when they discuss matters outside a common domain of specialist knowledge. Part of the job of a dictionary is to divulge what limitations the specialist as such imposes on familiar words in a particular field of technical discourse. Such limitations do not and cannot impose a censorship on everyday speech, English-speaking people who are not biologists use and will go on using the term *bug* without concern for what limitations biologists impose on it in a discussion at the Royal Society. They use and will continue to use the term *adultery* with little, if any, regard for its unilateral definition in canon law. Where precision is essential at this level of communication, *Interglossa* prescribes international technical terms if such are available, local terms for local occurrences, or failing either, small *residual* batteries drawn up by specialists concerned by use of internationally current roots in accordance with rules for expansion of vocabulary in Chapter X. Professor Edgar de Wahl, author of a project which he has called *Occidental,* and Lott, the inventor of *Mundolingue,* have dene the necessary spade work.

Teaching Interglossa

Some linguists will protest that I flatter the public by assuming the widespread existence of a large technical vocabulary. In fact, those who are hostile to plans for a constructed language expect to have it both ways. They underestimate the difficulties which natural languages put in the way of collaboration between ordinary men and women who are not gifted linguists, and they overestimate the difficulties of learning an artificial language, because they are not *en rapport* with the cultural realities of the modern world. Professors of Greek who do not know what a heterodyne set is would be surprised at the number of such words in any hobbies magazine for schoolboys. It is therefore pertinent to add two comments upon objections of this kind :

(a) The intrusion of international technical terms into daily speech is daily gathering momentum, especially in countries where there is public encouragement for scientific research and its application, or good popular scientific journalism. The spectacular infiltration of such terms into the Russian language since the Revolution is sufficiently evident in place-names alone.[1] Because the tempo of infiltration is increasing we can prospect

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[1] 1 If pushed to define what is an international root in an age of potential plenty, I

with tolerable confidence what roots are likely to come into daily speech in the near future.

(b) It is not likely that any considerable group of speech-communities will adopt an interlingua unless the forces working for international co-operation are stronger than those which are also working to perpetuate militarism and racialism. To put forward a plan of this sort therefore presupposes confidence in the possibility of a more enlightened world in which the disposition to spread scientific knowledge as a basis of social prosperity and a high standard of communal health prevails. In short, *Interglossa,* or any other artificial language, is a project for a civilization in which education will deal far more with the realities of health and the productive forces of everyday life, than with the dreary superstitions of the past. Biology is already taking the place of the classics in the school curriculum. A world which can be induced to adopt an auxiliary will be a techno-conscious and a health-conscious world, a world with a much larger common stock of everyday words derived from roots current in modern technology.

Since the word-material of *Interglossa* is based on roots internationally current in science, every vocable can form the basis of association with familiar words or with new and interesting information about the world we live in. The process of learning the vocabulary can therefore have the excitement of the chase. Thus we track down **poly** *(many)* from what is common to *polygon* and *polygamy.* From *polygon* and *pentagon* the pupil would track down **gono** *(angle),* from *pentagon* and *pentameter* through *gasometer* we get **penta** (five) and **metro** *(measure),* thence *via cyclometer* and *bicycle* through cycli *(circle) via bigamy,* giving bi *(two)* back through *polygamy* to **gameo** *(marriage).* From this we can start in various directions. Anyone who has taken a school course in elementary biology will recognize the last word as the root in *gametes (sperm* and *egg),* whose marriage gives rise to the embryo. It turns up again in *Phanerogams* (conifers and flowering plants) so called because their marital arrangements are *manifest* **(phanero)** or *clear* to the eye in contradistinction to *Cryptogams* (ferns, mosses, seaweeds and fungi),

would say I mean a root which occurs in : *(a)* any-technical term in a League of Nations Report on agriculture, malnutrition, public health or the drug traffic ; *(b)* any proper name printed with a capital letter in a gardener's catalogue; *(c)* most words printed in italics in the index of *The Science of Life, Science for the Citizen, The Outline of the Universe* or other book of the same *genre.*

whose sexual processes are *cryptic,* i.e. hidden **(crypto).** Though they are common in international scientific terms, some of the roots employed in what follows are not yet in everyday speech or in school science instruction. Admittedly, **copa** *(oar),* which occurs in international zoological names for many swimming animals with oar-like limbs, is not an ingredient of daily conversation ; but since the *Copepoda* (a tribe of small shrimps so called for the reason stated) constitute the majority of animal species in the surface layers of the sea and are the chief food of herrings, the act of learning the meaning of copa need not be as lifeless as that of learning the equivalent Finnish word *airo.*

With the help of the teacher the beginner should thus be able to associate the meaning of each new vocable with a word already familiar or with some new and arresting piece of information about the modern world. Since this draft is for the English-speaking reader, it is sufficient to show how to do so if the beginner speaks English. Chapter IV and the mnemotechnic notes on pp. 256-282, give appropriate examples for *every* vocable listed. The claim of *Interglossa* is that it contains *no psychologically inert word-material* such as *lapin* or *Knabe.* At the school stage learning *Interglossa* would be learning semantics, everyday science and comparative etymology hand-in-hand.

APPENDIX TO CHAPTER I

word-material of esperanto and interglossa

Many readers may be unfamiliar with Esperanto except by hearsay. So it is pertinent to set forth, in tabular form, representative specimens of its word-material side by side with the *Interglossa* equivalents. It would obviously be easy to exaggerate the shortcomings of Esperanto by choosing a small battery of samples from a large class of vocables

such as nouns or adjectives. Since space does not permit the author to give the Esperanto equivalent of every vocable of *Interglossa,* the only just way of bringing out the eclecticism of Esperanto and the international currency of the word-stock of the present project is to give a fairly complete exposition of certain small classes of words which are of particular interest from the standpoint of syntax. We shall therefore list side by side the personal pronouns, numerals, chief prepositions and conjunctions of Esperanto with their *Interglossa* substitutes. The right-hand column gives an Anglo-American key-word to aid recognition of the *Interglossa* equivalent; and the reader who has any doubts about the *mnemotechnic* credentials of the latter can refer to the notes in Chapter XI, where each vocable has a reference number, indicated in parenthesis.

(a) Prepositions

Esperanto	Interglossa	.	Meaning	Anglo-American Key Word
al	a(d)	(76)	to	*afferent*
anstatau	vice	(127)	instead of	*viceroy*
antau	pre	(73)	before(time)	*predate*
antau	antero	(77)	in front of	*anterior*
apud	proximo	(121)	beside	*proximity*
ce	topo	(101)	at	*topography*
circau	peri	(96)	around	*perimeter*
de, da	de	(109)	in relation to	*DE mortuis nil nisi bonum*
je, pri	de	(109)	of, concerning	
dum	tem	(75)	during	*temporary*
ekster	extra	(84)	outside	*extradite*
et	e(x)	(83)	out of	*efferent*
en	in	(86)	in	*insert*
inter	inter	(87)	between	*interface*
kontraü	anti	(103)	against	*anti-fascist*
kun	syn	(123)	with	*syndrome*
laü	harmono	(112)	according to	*harmonious*
per	per	(117)	by means of	*per post*
po	ratio	(388)	at the rate of	*rate*
por	functio	(111)	for (the use of)	*function*
por	tendo	(125)	in order to	*tendentious*
post	post	(72)	after (time)	*postdate*
post	retro	(97	behind	*retrogression*
preter	tele	(39)	beyond	*telescope*
pro	causo	(104)	because of	*cause*

Esperanto	Interglossa	No.	Meaning	Anglo American Key-word
sen	minus	(115)	without	minus
sub	hypo	(85)	under, below	hypodermic
super	supero	(98)	over, above	superior
sur	epi	(82)	on (the surface of)	epidermis
trans	trans	(101)	across	transatlantic

<div align="center">(b) Conjunctions</div>

alle	hetero	(258)	otherwise	heterogenous
aü	allo	(102)	or	allotropic
car	causo	(104)	because	causality
dum	tem	(75)	while	temporary
kiel eksem-ple	specio	(423)	for example	specimen
por ke	tendo	(125)	in order that	tendentious
same kiel	homo	(113)	just as	homology
kaj	plus	(118)	and	plus
se	conditio	(107)	if (real)	condition
se	postulo	(119)	if (hypothetical)	postulate
sed	anti re	(103)	but	antithesis

<div align="center">(b) Comparison</div>

pli	major	(45)	more	Ursa Major
malpli	minor	(46)	less	Ursa Minor
tiel	iso	(44)	equally (as)	isosceles

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Esperanto	Interglossa	No.	Meaning	Anglo American Key-word
		(d) Articles)		
la	uN	(12)	the *(singular)*	*unity*
la	plu	(13)	the *(plural)*	*plurality*
malmultaj	oligo	(14)	few	*oligarchy*
ĉiuj	pan	(15)	all	*pan-American*
multaj	poly	(16)	*many*	*polygon*
multe da	mega	(22)	much	*megaphone*
malmulte da	micro	(23)	little	*micrometer*
sufiće da	satio	(25)	enough	*satiety*

		(e) Numerals		
nul	zero	(26)	zero	*zero*
unu	mono	(27)	one	*monogamy*
du	bi	(28)	two	*biped*
tri	tri	(29)	*three*	*tricycle*
kvar	tetra	(30)	*four*	*tetrahedron*
kvin	penta	(31)	five	*pentagon*
ses	hexa	(32)	six	*hexameter*
sep	hepta	(33)	*seven*	*heptamerous*
ok	octa	(34)	eight	*octagon*
naü	nonnea	(35)	nine	*nonagenarian*
dek	deca	(36)	ten	*decalogue*
cent	centi	(37)	hundred	*century*
mil	kilo	(38)	thousand	*kilometre*
milion	million	(390	million	*million*
duon	hemi	(40)	half	*hemisphere*

Esperanto	Interglossa	No.	Meaning	Anglo American Key-word
		(f) *Personal Pronouns*		
mi	mi	(1)	I, me	*Mine*
ci *(sing.)*	tu	(2)	you	*et TU brute*
vi (plu)		(3)		
ni	na	(4)	we, us	*Pater Nostra*
li	an	(5)	he, him	*polyandry*
ŝi	fe	(6)	she, her	*Feminism*
ĝi	re	(7)	it	*de re metallica*[1]
oni	pe	(8)	one	*Person*
ili	mu	(9)	they, them	*multilocular*
si	auto	(10)	oneself, etc.	*auto-suggestion*

[1] Famous mediaeval work on mining technology translated into Anglo-American by Hoover.

II. THE ESSENTIAL GRAMMAR OF INTERGLOSSA

Since *Interglossa* is an isolating (analytical) language, learning *Interglossa* involves learning merely : *(a)* its *etymology,* i.e. mnemonic association of each vocable to an internationally current root (Chapter XI) ; *(b)* its *semantics,* i.e. analysis of the meaningful content of the vocables ; *(c)* its *word-order ; (d)* its *phonetics* and *typography.* Some preliminary, and at this stage very tentative, remarks about phonetics and typography, together with a fuller discussion of the word-order pattern, are the topic of what follows :

(a) Phonetics

The vowel symbols have the following values: a as in *father* ; e *or* ae as *in fête* ; i as in *élite* ; o as in *open ;* and u as in *rule* : y is equivalent to i. With the following exceptions, consonant symbols have their characteristic values in accordance with those of the international phonetic symbols;

c, ch and **q** have the value *k*

ph has the value *f*

th has the value *t*

Initial x is *z,* otherwise *ks.*

In the following *initial* consonant combinations the first element is silent: **ct-, gn-, mn-, pn-, ps-, pt-.** Thus ps- in **pseudo** is equivalent to s, as in Anglo-American. The **h** in the combination **rh** is also silent. These rules admit of no inconsistencies. The inconvenience of having a few anomalies which go into a dozen lines of print is far less than the disadvantage which would result from mutilating roots beyond visual recognition. Non-Aryan-speaking people who find difficulty with *compound* consonants and *closed* syllables (as in *Minding* or *trumpet)* will find that some pigeon-holes of the semantic schema offer alternatives of the **Yo-ko-ha-ma** or **To-ky-o** type (cf. **itinero** *travel,* **nesia** *island).* All polysyllables end with a vowel. Unless the last two syllables,are both vowels **(-id, -ia,** etc.), the stress is on the *penultimate* one, e.g. **billEta, permIto.** If the word ends with two vowels, the stress is on the antepenultimate» syllable, e.g. **nEsia** and **orientAtio.**

(b) Word-material

With a few exceptions the vocables of *Interglossa* are based on *unmutilated* roots of words which now belong to the vocabulary of *all* countries where modern technology and hygiene" have penetrated. The meaning ascribed to any one of them does not necessarily tally with the one given in a Latin or a Greek lexicon. It is the *meaning suggested by the internationally current words in which it occurs.* Less than a dozen are abbreviations. The origin of abbreviated ones comes in the text to assist the beginner to memorize them, i Partly for the reason stated in the last paragraph, and partly

because of the principle of word-economy inherent in its design, *Interglossa* has a peculiarity which distinguishes it from other constructed languages and from many natural ones. Because they are explicit in the sense defined above, particles are relatively long words, while nouns and verbs, relieved of their former flexional accretions, are relatively short ones.[1] Strictly speaking, the terms *noun, adjective* and *verb* are not

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[1] In natural languages, which are not highly inflected, prepositional and conjunctive particles, denoting relations for which clear reasoning prescribes clear-cut fields of reference, are peculiarly liable to semantic erosion ; and the same is true, perhaps even more true, of the flexional appendages to which grammatical paradigms ascribe their functions. This is an inescapable limitation of Basic, or of any other form of simplified, English consonant with accepted | standards. As an analytical language Basic English has to exploit the use of such particles to the utmost. Hence the words on which it relies so much for sharpness of logical definition are the words most prone to idiomatic use. Peano's *Interlingua* suffers from a further defect. Though an isolating language, it derives its battery Of directives from Latin, a language somewhat poor in its native outfit of such vocables. A constructed language of the isolating type should be especially richly equipped with directives ; and its design should discourage degradation of meaning through overwork of words belonging to this class. Possibly one of several reasons for , the degradation of meaning mentioned above as a universal feature of natural languages is that conjunctive and prepositional particles are usually short words. Because they are short, like flexions, we easily slur them in speech. Hence we are apt to rely on context to do their work ; and by doing so, become careless about their use. If there is a grain of truth in this

applicable to any words of *Interglossa.* It is a completely isolating language. So no words have flexions characteristic of such classes in Aryan languages. If we apply the epithet *verb or adjective* to a word in *Interglossa,* we mean an *invariant* word (i.e. particle) which corresponds *in a particular context* to a particular verb or adjective in French, German or Russian. With few exceptions the same vocable also corresponds to several grammatical homosemes of any Aryan language.

(c) Parts of Speech

In all this there is nothing new to the Chinese nor to the Malay speech-community. There is scarcely anything new to anyone who speaks the Anglo-American language. A classification of *parts of speech* relevant to an isolating language will not follow the categories appropriate to the flexional system of the Aryan group. It will reflect the function of individual vocables in the sentence-landscape. From that point of view we can classify the vocables of *Interglossa* as follows :

(a) Pseudonyms (11). Four of these (**mi, tu, na, mu**) are *pure* pronoun-equivalents divested of any flexions. The remaining seven are of wider range *vis-a-vis* the practice of Aryan languages. They function both as pronouns and as equivalents for nouns or for corresponding adjectives. This will offer no difficulty to Scandinavians (see p.), nor to English-speaking people who customarily refer to a *he-goat,* and do not hesitate to answer the question : *is it a he or a she ?*

(b) Interrogative, Imperative, Negative and Comparative Particles (6), two of which allow for question, request or command without deviation from the invariant word-pattern. Such particles are common to many languages, and we can find many corresponding periphrases in the Aryan group (e.g. French *n'est-ce pas ?* and Swedish *eller hur ?)*

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supposition, the moral is clear. Such words should stand out boldly in the sentence-matrix. Each Should be a challenge to the choice of the speaker and to the attention of the audience. Thus the feature mentioned above is beneficial. A long word with rich associations in a domain of exact discourse, as has (119) **postulo** for the *if* of the rejected condition, fulfils the r desideratum stated. A short word, like the equivalent *se* of Esperanto, does not do so.   It has no associations of this sort.

(c) Substantives[1] 396). These are names for concrete things or classes of concrete things. As is increasingly true of Anglo-American *(queen mother, water power, trade cycle),* any one of them can replace an adjectival word-form.

(d) Verboids (20). These are names of processes and states. Like many so-called English verbs, any one verboid may replace a finite verb form, the corresponding abstract noun, and the appropriate epithet, i.e. adjective (cf. *we love, the love of God, a love story.)* This class is small. Needless to say, all verboids are invariant, but this need not surprise an Anglo-American. Our own verb *must* is as inflexible as a Chinese verb-equivalent.

(e) Articles (29). These are general words and numerals which have the function of predicating plurality or otherwise in relation to noun-equivalents, all of which are invariant like *sheep.*

(J) Amplifiers (417). The largest single class of words are abstractions, any one of which can take the place of a noun, adjective or corresponding adverb. They form natural combinations with operative verboids analogous to such Basic constructions as *make clean your hearts, get wise to this, make trouble for them, give attention to me.* The corresponding English word may be : *(a)* a *directive* (preposition) such as *up* in *he went up the hill — he ascended the hill; (b)* an *adjectival complement,* such as *clean* in *make clean (= purify) your hearts ; (c)* an *abstract noun,* such as *trouble* in *make trouble for others = pester* or *interfere with others.* The student of Basic will be familiar with this class, and will not ask why some of them are equally appropriate as substitutes for abstract nouns, adverbial particles, prepositions or adjectives.

The increasing use of the rhetorical *present* is common to many Aryan languages, when the context or an accompanying adverb suffices to date the occurrence; and a considerable class of English verbs such, as *hurt, shut, put,* have no past flexion. So there should be no inherent difficulty connected with an idiom in which appropriate adverb-equivalents replace the entire flexional system of. the verb. As adverb-equivalents, abstract words which are also amplifiers do : *(a)* all the work of the verb flexions classified as *tense, aspect* or *mood ; (b)* all the work of *modal auxiliaries.*

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[1] 1 Jespersen uses the term *substantive* in this sense for noun-adjective.

There are seventeen amplifiers which do the work of Anglo-American auxiliaries (verboid qualifiers) and as such come before the verboid.

Interglossa has no special class of prepositions. The equivalent for a preposition is an amplifier which can also do the work of an adjective, adverb and, sometimes also, of an abstract noun. The justification for the large-scale word-economy which this makes possible will come up for later discussion. A separate chapter (Chapter VI) deals with those amplifiers which can do the work of link-words *(conjunctions)* or *preposition*-equivalents if they have the appropriate (p. 109) locus in the sentence-matrix.

(d) Word-order

Word-order circumscribes the essential syntax of an isolating language such as *Interglossa.* The following English sentence will provide a pattern to prepare the way for what follows, and to clarify the terms used, viz., *verboid, verboid qualifier, amplifier,* and *substantive cluster.* Items (3), (4), (5), together make up the *verboid cluster :*" The retiring president of the society will make clear to us his reasons for resignation."

The parts are :

(1) *Subject substantive cluster* .   The retiring president

(2) *Substantive cluster qualifying the subject* . . .   of the society

(3) *Verboid qualifier*   will

(4) *Key verboid*   make

(5) *Amplifier*   clear

(6) *Indirect Object substantive cluster*   to us

(7) *Direct Object substantive cluster*   his reasons

(8) *Substantive cluster qualifying the*   for resigna-
tion   direct object

This paradigm illustrates Anglo-American word-order in an *affirmative* simple statement or principal clause. It also reproduces the essential pattern of *Interglossa* in any sentence or clause. The word-order of *Inter glossa* does not change in questions, requests, commands and relative clauses.. For adequate instruction concerning its word-order we have

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therefore to be more explicit about class *(b)* in the preceding section, and to say something about the relative clause.

In spoken English we often express interrogation, without change of word-order, by tone of voice or by tacking on *eh ?* In some languages the use of an interrogative particle (e.g. Finnish *ko)* is the ordinary method of indicating interrogation, in writing as well as in speech. The English modal auxiliaries *do {do you think so?)* or *will (will you give me some more?)* respectively, have the same function in a *question* or in a *request.* In the same way, *initial* interrogative or imperative particles of *Inter glossa* indicate that what follows is a question, request, or command, without change of the invariable word-pattern. This fixed pattern is equally characteristic of subordinate clauses and simple sentences, whether affirmative, interrogative or imperative.

The beginner has to get accustomed to the trick of preserving the word-order of an equivalent simple sentence in a *relative* clause. This will offer no difficulty to anyone who is familiar with colloquial Anglo-American. There is a single relative pronoun su for the *subject.* Like the English *that* it can stand for person or thing, singular or plural:

U domi ; su pre gene gravito ; habe mega paleo
The house that fell down was very old
Un anthropi ; su pre dicte re ; non habe bio
The man who said so is dead

The relative pronoun **su** cannot be the object of the verb, nor can it follow a preposition equivalent. When the relative pronoun is *not* the subject, no equivalent takes its place. We proceed precisely as in conversational English ;

Un anthropi ; mi pre vise ; non habe bio
The man I saw is dead

Un anthropi ; na pre dicte re ; non habe bio
The man we were talking about is dead

A general formula for all types of sentence or clause is as follows :

(1) Vocative cluster *(if present)* followed by a colon, e.g. :

Na parenta in urani: = *Our father (which art) in heaven*
Pan proletari de geo : = *Workers of the world*
(2) Interrogative particle *or* imperative particle *or* link-word *(if present).*

(3) Subject cluster.

(4) Verboid cluster.

(5) Direct and Indirect Object clusters with accompanying qualifying clusters.

The rule of precedence with reference to the Direct **and** Indirect or Instrumental Object clusters is **that** the *shorter* of the two (with due regard to accompanying qualifying clusters) comes *first,* e.g.: -

<div align="center">

Fe pre dicte a mi mega longo historo
She told (to) me a very long story

Mi date credito de bibli pan amico-pe de mi
I am lending the book to all (of) my friends

</div>

The formula given above takes no stock of the internal pattern of the clusters specified, or of qualifying expressions. The rule for *phrases* which qualify a substantive, whether themselves substantive clusters beginning with a preposition or clusters equivalent to a participial phrase, is the same as in Anglo-American. Unlike single *words* which do so, each *follows* the substantive it qualifies; e.g. :

<div align="center">

U palaeo gyna in horta
The old woman in the garden

U gyna, mega tem apo auto anthropi
A woman, separated a long while from her hus-
band

</div>

A substantive cluster may be made up of the following elements in the order stated, only (2) being an obligatory . constituent common to all clusters :

(1) *Directive* (i.e. preposition-equivalent).

(2) One of the following: *(a) pronoun-equivalent; (b) general article ; (c) numeral.*

(3) A *qualifier* of (4), i.e. an adverb-equivalent.

(4) A *qualifier* of (5), i.e. an adjective-equivalent.

(5) A *noun-equivalent,'* usually a substantive as denned above.

There is no formal distinction between adjective and adverb or adjective and abstract noun. Nearly all epithets (i.e. words which can replace an Aryan, adjective) can also serve as qualifiers of other epithets *(ci.fast* in English), or as verbal qualifiers, and as the nominal equivalent of the attribute (cf. the *True* and the *Beautiful*; but no epithet can be a pronoun, as in the construction : *the good (—good people) die young.* The epithet as qualifier of another epithet *precedes* the word it qualifies as the epithet which qualifies the noun precedes the final substantive of the subject cluster. Where ambiguity might arise owing to absence of formal distinction between adverb and adjective, we resort to the use of **plus** or **syn** (*and*) as in the English model *(fast and sinking ship)*. Here the link *and* shows that the two adjectives qualify *ship.* We thus get the following rule. If two epithets occur in juxtaposition the first is the qualifier of the second (cf. *a fast sinking* ship = *a ship fast sinking) ;* but if two epithets independently qualify the same noun-equivalent, **syn** (123) separates them. The verboid qualifier may consist of three elements : *(a)* the negative particle **non ;** *(b)* one of the three temporal particles **pre, nun, post;** *(c)* an amplifier which does the work of a modal auxiliary. The last *(c)* comes next to the key verboid, the first next to the subject cluster, e.g. :

Mi no pre poto acte-re = *I could not do so*

The general rule that any single qualifying word must immediately precede the word it qualifies admits of one exception to allow for *afterthought.* Words or expressions which qualify a sentence or clause *as a whole* may come at the beginning of it *or* at the end, as do *surely* and *a long while* in the English sentences : *(a) surely you don't mean that; (b) he has been staying there a long while.* The rules for clause-order are as in English, viz. :

(a) A noun clause follows the principal *without* a conjunction equivalent to *that;*

(b) An adverbial clause preferably precedes the principal;

(c) A relative clause immediately follows the substantive which it qualifies.

Since there is no flexion of the verboid, there is no need for special rules about the use of the verb-equivalent in *or allo obliqua.* There is no periphrastic passive—except in so far as verboid clusters formed with the operator **gene** *{become, get)* and an amplifier (e.g. **gene thermo =** *become hot = get heat)* are passive equivalents of verbs formed in the

same way with **date** *{give, confer)* and are therefore causative (e.g. **date thermo** = *confer heat* or *heat)*. The only permissible impersonal expressions are those in which *it* **(re)** refers to the whole situation (e.g. **re habe thermo** = *it is hot,* or literally *it has heat).*

(e) **Sentence-landscape**

For ready recognition of the written word a language purged of flexional impedimenta **can** still benefit from two devices which bring into relief the component clusters of the fixed word-order pattern of *Interglossa.* These signposts of sentence-landscape are : *(a) articles* (p. 33) ; *(b) terminals.* The system of terminals is as follows :

(a) All *verboids* end in **-e.** The only other words that do so **are** the pseudonyms **fe, pe** and **re** (p. 82), the interrogative particle **que** (42) **and** the four prepositional amplifiers **pre** (72), **tele** (99), **de** (109) **and vice** (127).

(b) . Substantives *(as defined above)* end in **-a** or **-iv** Exceptions are : **geo** (645) for *earth ;* **cardo** (740) the international term for a *hinge ;* **acu** (733) for *nail* or *pin ;* **occlu** (765) for *bolt* or *nut,* and **bureau** (816) for a *public office.*

(c) Amplifiers end in **-o.** Among vocables given first choice, the exceptions to this rule are the time units **(anni, di, hora,** etc.) and some amplifiers with prepositional values, viz. : **post** (71), **pre** (72), **tem** (74), **ad** (75), **contra** (78), **epi** (81), **ex** (82), **extra** (83), **in** (85), **inter** (86), **para** (94), **littora** (95), **peri** (96), **tele** (99), **trans** (101), **anti** (103), **de** (109), **minus** (115),**'per** (117), **plus** (118), **syn** (123), **vice** (127). As with **geo,** etc. above, the disadvantage of mutilating a familiar international stem or of unduly lengthening the word outweighs the objection to 32 exceptions in all out of a total of 404.

Both *amplifiers* and *verboids* may be elements of a substantive cluster equivalent to an adjective or to an abstract noun. We then recognize them as such by the possessive pseudonym or the article which labels the substantive cluster as such. In accordance with the word-order rules, we have

> **U phobo de theo** = *(The) fear of God*
> **U tene de infanti** = ***The custody of the child***

Here the empty singular article **u** or **un** (before a vowel) shows that **phobo** is not the complement of **a** verb, and that **tene** is not equivalent

to **a** verb finite. On the other hand, the combination **stimule phobo** could only mean *terrify* or *frighten.* In ninety-nine out **of** a hundred situations, a construction in which **an -e** word immediately precedes an **-o word** is an operative construction. These hints illustrate one class of safeguards which make it possible to *slide the same semantic element from one grammatical category to another* without undue embarrassment to the learner who is steeped in the morphological pattern of a particular language group.

Thus the word-order pattern leaves no room for doubt about whether the word **mi** means *I, me, my.* If it replaces *I* it must come near and *before* the key verboid, i.e. an -e word. The only words which can separate it from the latter are verboid qualifiers. If it means *me* it must come after the key verboid, and since most verb-equivalents involve an amplifier it will generally follow an **-o** word. If it means *my* it will replace the article **of** a substantive cluster of which one element is nearly always a common name, i.e. an **-a** or **-i** word.

The presence of an **-o** word next to the verboid (i.e. a combination of an **-e** word with an **-o** word which follows immediately after it) makes explicit the literal and metaphorical meaning of the latter. For illustrative purposes it suffices to take the triad **habe, date** and **gene. Habe** means *have* of *possess* something tangible **(habe u domi** = *have a house)* or some abstract property **(habe credito ex** = *have credit from* or *owe).* **Date** means *confer* or *give* something tangible **(date u bibli** = *give the book)* or some abstract property, in which capacity it does most of the work of the Basic operator *make* as well as that of *give.* Thus **date masso** = *load* is equivalent to *confer weight* or *make heavy,* and **date digito** = *imply* is equivalent to *give indication of..* Gene means *get* or *acquire* something tangible **(gene n gyna** = *get a wife* or *marry)* or an abstract property, hence to *become* **(gene melano** = *get blackness,* i.e. *blacken* or *become black).* The *article* of the direct object substantive cluster following one of these three operative verboids shows that we must interpret it in the literal sense.

(*f*) Alternative Words

The amplifiers make up the largest class of words in the essential vocabulary. For some of them and for some substantives alternative international roots are available, and the beginner can choose the one

more familiar or more easy to pronounce.   The word-list of succeeding chapters offers no

alternatives for pronoun-equivalents *(pseudonyms)* or for certain common words which most conspicuously cut across .the-Aryan *parts of speech.* The total number of these is about a hundred, and it should be the business of the beginner to memorize them first. A few, namely **uN, aD, noN, nuN eX,** drop the final consonant if the next word begins with one.

(g) Punctuation and Typography

In continuous prose;—though not in our short examples cited for illustration—the substantive element of a substantive cluster begins with a capital letter, as in Danish and German print. So does **a** pronoun subject (e.g. **mi** = I), or the pronoun object **of a** verb or prepositional equivalent (e.g. **mi** = *me). A* pronoun used in its possessive (e.g. **mi** = *my)* sense without **de (cf. de mi** = *my)* does not begin with **a** capital letter. In relation to sentence structure, conventions of punctuation are specially important. The full-stop and inverted commas conform to the usual conventions. The comma marks of items of a catalogue, or participial expressions. The colon introduces **a** catalogue coming at the end of a sentence, or an introductory vocative expression (see p.). The two outstanding idio-syncrasies of *Interglossa* punctuation are :

(a) The end of every clause, with its own subject-"verb " complex, whether principal, subordinate **or** co-ordinate, is marked off from a succeeding clause of the same sentence by a semi-colon. In script the semi-colon takes the place of a conjunction equivalent to *that* at the beginning of a *noun clause.*

Causo mi volo date prospecto u gene logo de interglossa pro tu; mi pre acte grapho u bibli; plus mi esthe espero; plu pe acte lecto re.

Because I want to show you the way to learn Interglossa, I have written this book, and I hope (that) some people will read it.

(b) The hyphen binds together as units certain compounds made up of independent particles.

International Shorthand

From the time of Dalgarno and Wilkins in the seventeenth century, pioneers of language-planning have paid attention to the need for rapid transcription, and have taken a hand in *shorthand* projects of one sort or another. This is as it should be. Rapid transcription and economy of space or type are admittedly desiderata of an ideally designed language, though of secondary importance *vis-a-vis* ease of learning. It is therefore fitting to add a few words on devices which make for economical typography and copying.

Critics of Basic English make much of the fact that it is long-winded. The criticism has a measure of truth, but much less than appears from illustrations divorced from a real context. The fact is that any analytical language designed like Basic (or *Interglossa)* eliminates redundancies of language which do not show up in a dictionary definition. A dictionary definition of the verb *swim* in Basic or *Interglossa* has to specify the fact that the activity takes place in water. Since the *Channel* is a stretch of water, this part of the definition disappears when we translate the sentence : *he swam the Channel yesterday.* Consequently a dictionary gives a quite distorted idea of the space which a *Basic* or *Interglossa* translation takes up. By comparing the translations in Chapter XI, with the originals, the reader can verify the claim that *Inter-glossa* is not more space-consuming than everyday English.

The inherent antinomy between word-economy in the interests of the beginner and space-economy in the interests of those who pay for the cost of printing prompts a suggestion that those who write *Interglossa* should freely use internationally current ideograms, such as £, $, +**(plus),** **-** (without), ♀ *(female* or *Venus)* for *she, her,* ♂*(male* or *Mars)* for *he, him, his,* ☿ *hermaphrodite* or *Mercury)* for *one,* one's, ☽ *(moon)*,? put at the beginning of a sentence or clause for the interrogative particle **que, & (syn),** etc. (see p.), as also all international abbreviations, e.g. *g (gram), I (litre), m (metre),* etc. We can also economize space by breaking away from the humanistic tradition which prescribes the formula *one hundred and sixty-three thousand nine hundred and seventy-two* for the compact ideogram 163972, and by using o and 1 respectively for the articles **zero** *(no)* and **un** *(a, the).*

One advantage of a language designed to achieve maximum word-economy in Ogden's sense recalls R. J. G. Dutton's *Speedwords,* an ingenious system of international shorthand which makes use of mono-syllables in Roman script, thus cutting out the effort of learning a new and esoteric system of symbols. With 5 vowel and 20 consonant symbols we can build 100 open syllables Tike *to* or *be,* and 100 open monosyllables like *at* or *up,* making 205 pronounceable elements, if we add simple vowels to the list. Closed monosyllables like *pat* or *top* containing no consonant clusters add another 2,000 possibilities. Since Basic English gets along with a word-list of 850 essential items, it is clearly possible to design a language of which *all* the root words would be monosyllabic, like the root words of a Chinese language. A language so designed need not be compromised by a superfoetation of homophones, as in Chinese ; but it could not be a language based exclusively on current international roots, many of which are polysyllables.

It follows that a language designed on the *speedword* principle-would not be as easy to learn for purposes of reading, writing or speaking as a language built up of *unmutilated* internationally current word-material. For that reason *Interglossa* eschews contracted forms except for 5 essential pronouns, the 2 interrogative and imperative particles, and a special class of 13 generic substantives or amplifiers (pp. 97-105) which enter into large groups of compounds. The last-named have alternative full forms. At the same time, a language of which all the essential vocables do not exceed 900 is well adapted to make use of the *Button principle* for note-taking and other purposes for which economy of space and speed of transcription are specially important. It is possible to represent each vocable of *Interglossa* by a distinct monosyllable based on the initial letters or bisyllable made up of not more than* four letters, keeping the average length of a word to 2-6 letters. It would not be possible to do the same thing with a natural language—other than Basic English—because too many of the combinations of less than 4 initial letters would have to be the same. A casual glance at any page of a dictionary suffices to prove this.

Since each pigeon-hole in the 880-item semantic schema has its appropriate number, it is possible to communicate with a code of ten symbols, i.e. the Arabic numerals, without using more than three consecutive symbols for each word. Thus, *dispatched fifty kilograms wheat last month*

is : 464. 31.26.38. 717. 625. 72. 68. This involves recourse to half as many symbols from a keyboard with less than half as many items.

III. THE SYSTEM OF OPERATORS

Subject and Object

To define rules of word-order (p. 34) we need reference points: Two reference points in what has. gone before have been *subject* and *object*. The use of these terms calls for comment to forestall a charge of inconsistency. Some people still cherish the delusion that *subject* and *object* are categories of semantic relations in contradistinction to categories of flexional change. For instance, Esperantists1 tell us that we need an accusative terminal to distinguish the object, as if a generic conception of *object* could arise in a language free from case-flexion or case-postpositions like those of Japanese. This is a legacy of classical misconceptions concerning the semantic credentials of grammatical habits of particular— more especially Aryan— speech-communities. What *state* we can legitimately predicate as a property of a given subject and what *process* can have a given substantive as its proper agent or as its rightful goal depend on the particular state or process under discussion. In other words, what we calf subject and what we call object depend on the meaning of the particular verb with which two given substantives (or their pronoun substitutes) labelled as such are associated. The highest common factor of semantic content in appropriate subjects of *all* verbs is zero ; and the same is true of all objects of all verbs.

Partisans assert that the flexions of Esperanto permit members of different speech-communities to communicate without departure from native word-order.   It is difficult to reconcile this pretension with the difficulties of translating a long German sentence when the meaning of the words is apparent. German should be an easy language for an 1 The resistance some people put up against lucid discussion concerning the semantic credentials of nineteenth-century grammatical "rules" is hardly surprising, when we recall how many generations of schoolboys have been caned into acquiescence with their patent absurdities. It is a little humiliating for, people past forty to discover in later life that the rigours of the school climate have left them with a weakened constitution. Modern educational practice has abandoned the pretence that the grammar of the grammar school has much "relevance to English in its present form, still less to international syntax ; and Esperantists are now among

the last supporters of pedagogic superstitions which still flourished in the naughty 'nineties.

Englishman or American to learn, because of the large stock of roots it shares with our own language. The fact is that English-speaking people learn German with difficulty. Its wealth of flexions certainly does not make the task of the beginner easier; but the most formidable obstacle is unfamiliarity with the *arrangement* of words.

If anyone who reads these pages is not clear about the issue stated in the preceding paragraphs, a few examples should suffice to dispel the belief that any common thread of meaning runs through the subject-object distinction. That nothing of the sort exists is sufficiently evident if we consider verb-couplets which have a reciprocal relation, e.g. *stimulate* and *respond.* Thus X (subject) *reacts to* Y, means the same as Y (subject) *stimulates* X. In fact the logical, as distinct from the grammatical, status of the *subject* depends on the progress of knowledge. If the eye emits light, as Plato taught, the logical relations of subject and object are the same in the two following statements : *(a) I see the flash, (b) I strike the table.* In both of them the speaker-subject is the Platonic agent, and the so-called object is the goal or victim of the process. The fact that photography is possible shows that Plato was wrong. So it is clear that the *flash* (grammatical object) is the agent (logical subject) of the first statement. This is not an isolated case. Whether we identify the grammatical subject of affective verbs such as *love* or *wish* with the agent of the process described by these words depends on whether we cling to traditional idealistic views about cognition and sentiment or whether we prefer to anticipate a more strictly behaviourist attitude. If we define the logical subject as the *agent* of a process, a solipsist view of the world prescribes that the logical is also the grammatical subject of : *I remember, I remember the house where I was born*. The behaviourist view, which is also that of the practical man or woman, prescribes that the *house* is the agent which initiates the type of cerebral activity called *memory.*

What we choose to call subject and object from a grammatical point of view thus depends on the grammatical apparatus of the language under discussion. In our own, we can use *they* and *them as* litmus paper. That is to say, the category of words which *they* can replace defines the subject class. In the sentence *they respond to them, they* can refer only to the things or persons stimulated, never to the stimulus. We have thus a class

of verbs in which the grammatical subject of a *process or action* is what gets the stimulus. We also have a class of verbs (e.g. *excite, stimulate)* of which the grammatical subject is the stimulus itself, a class of verbs of which the grammatical subject is the person who applies the stimulus *(whip, cut),* and a class of verbs of which the grammatical subject may be either stimulus or person who applies it (*prick, -sting)*. Such verbs stand for *processes* ; and if we include verbs which stand for *states* we can distinguish many other categories by what classes of substantives can play the role of grammatical subject.

It is not justifiable to use the terms *subject* and *object* as reference points of international syntax unless we can define them without recourse to grammatical tricks peculiar to particular languages. Happily, as Ogden has seen, we can sidestep the difficulty by keeping down the number of verb-equivalents; and **it** is the object of this chapter to clarify the rules of word-order given on p. 35 by making the meaning of subject and object explicit with reference to each verboid. *Interglossa* has 20 verboids of which one, **ge,** is an operative particle based on **gene** (473), and one **eque** (469) stands for the **so-**called verb *be* when *be* links what follows **with the** subject **and an** identity **or a** specification **of the** class to which it belongs (Roosevelt *is* **the** right man; Victoria *was* then Queen of England; elephants *are* mammals). Otherwise **habe** *(have)* does the work of *be ;* and is the universal copula connecting subject (i.e. topic) and its attribute (he *has* strength = he *is* strong).

We have already examined the meaning of **habe** (474), **gene** (473) and **date** (466) **in** outline. Two operators, (477) (481) **perde** *(lose)* and **tracte . . . apo** *(take . . . away),* in combination with an amplifier respectively **do** the work of **gene** and **date** in combination with its *opposite.* We have seen that **date thermo** and **gene thermo** respectively mean **to** *heat* or *warm* in a transitive *(confer heat on)* and intransitive **or** reflexive *(get heat)* sense. Similarly **tracte thermo apo** *(take heat away from)* and **perde thermo** *(lose heat)* respectively mean to *cool* in a transitive or intransitive (reflexive) sense. Negative ppposites such as **no-thermo** also have their own type of comparison. Thus we have **thermo—major thermo** *(hot—hotter)* and **no-thermo—minor thermo** *(cool —cooler).* From one amplifier we can thus build up a double series of verbal and adjectival forms ; such as :

sclero	*=hard*	**no-sclero**	*soft*
major sclero	*=harder*	**minor sclero**	*=softer*
habe sclero	*=be hard*	**non habe sclero**	*be soft*
date sclero X	*harden X*	**tracte scclero apo X**	*soften X*
gene sclero	*harden, set (intrans.)*	**perde sclero**	*soften, melt (intrans.)*
1.e. get hardened	*(passive)*	i.e. get softened	*(passive)*

Thus **gene** and **perde** form with amplifiers intransitive equivalents of *causative* verbs based on **date** and **tracte . apo.**   The intransitive equivalent may correspond to a single English verb form, or merely to a passive construction. Thus with **rugo** *(rough, coarse)* we have :

> **date rugo X**   = *roughen X, coarsen X* **(tr.)**
> **tracte rugo apo X** = *smooth X*
> **gene rugo**   = *get rough, coarsen* **(intr.)**
> **perde rugo** = *get smooth*

When we resolve the verbal system of an Aryan language into a system of operators and complementary abstractions, as in Basic English, the conventional distinction between *transitive* and *intransitive* wears thin. According to text-book definitions, *the room* is the object of the " transitive " verb *leave* in *he leaves the room,* but the object of the preposition *outside* when we substitute the " intransitive " verb *go* in the semantic identity *he goes outside the room.* Thus what we call transitive or intransitive merely depends on whether we have to insert a preposition between a verb and a substantive cluster which follows it. By this token we can speak of the construction *make clean* in *make clean your hearts* as transitive, and *give trouble* in *give trouble to others* as intransitive. In what follows we shall speak of : *(a) a transitive verboid,* if it does not require an amplifier equivalent to a preposition to link it to a substantive cluster which comes *immediately* after it; *(b) a transitive operator* when the combination of verboid and postposited amplifier does not require the insertion of a preposition-equivalent in the same position. In this sense **perde** and **gene** are transitive verboids but intransitive operators. They cannot take an object without intervention of a preposition-equivalent ; but the triple combination may do the work of a simple English verb form.   Thus from **credito** *(loan)* we have :

> **date credito Y de Z** = *lend Y (some) Z*

habe credito ex Y   = *owe Y (— have a loan from Y)*
gene credito ex Y   = *borrow (= get a loan from Y)*

To state that date is a transitive operator is therefore another way of saying that we do not translate *on* in the construction : *the subject (X) confers the abstract property denoted by the amplifier on the object (Y),* i.e. we interpret **date thermo** X as *confer heat on X.* The territory of **date** as an operator is reserved for verb-equivalents which signify conferring a *state* or passive attribute. When an amplifier implies execution of a *process,* including performance of a human action, **acte** *(do, perform, carry out)* usually takes its place as a *transitive* operator; and either **gene** or **habe** do for the passive construction. Thus with **scholo** *{instruction)* we have :

acte scholo Y de Z = *teach Y about Z*
gene scholo de Z = *learn Z, study Z (= get instruction about Z)*
gene scholo ex Y = *be taught by Y (=get instruction from Y)*

Thus the formula for acte couplets is : *X performs the action on Y.* If an amplifier stands for an action (33) and its product, we can use either date or acte; e.g. with vesto *(covering)* we can use:

acte vesto Y = *cover Y*   **date vesto Y = *cover Y***

For the special class of verbs which signify acts of human *communication,* we can always replace (464) **acte** by (468) **dicte** *(say, tell, express)* as a transitive operator in the sense define^ above. The formula is : *X communicates the message to Y.*

Thus with **monito** *(counsel, advice, warning)* we have :

dicte monito Y   = *warn Y, advise Y*
habe *(or* gene) monito ex Y = *be warned by Y, be advised by Y*

In conformity with the rule of priority (p. 36) the analytical resolution of verbs prescribed above involves a departure from the customary English word-order, as illustrated by the use of the qualifier **mega** *(much, big) :*

**gene mega credito exY = *borrow heavily from Y* (i.e. *get a big
    loan from Y)***
date mega credito Y   = *lend Y a lot*

In the last it would be equally consistent with the transitive use of **date** as an operator—though longer—to say :

date credito Y de mega re — *give a loan of much to Y*

This would be the normal construction when there are two objects :

<div align="center">**date credito YdeZ = *lend Z to Y***</div>

In an operative construction (480) **tene** *(keep, conserve)* is also transitive, i.e. a **tene** amplifier couplet signifies *conserving the state specified by the amplifier on behalf of Y* (the object which follows) :

<div align="center">**tene immunoY = *guard Y, protect Y (keep Y safe)***</div>

The domain of the transitive operator **detecte** *(find, discover)* is *investigatory* operations. If A stands for an abstract noun-equivalent of an amplifier, a (467) **detecte** couplet has the meaning : *discover the A of Y* (the object), e.g. :

<div align="center">**detecte fabrico Y = *analyse Y (find the composition of Y)***
detecte sequo Y   = *deduce from Y (find the result of Y)*</div>

The formula for the transitive operator (479) stimule *(excite, evoke, stimulate, call forth)* is : *evoke the reaction A from Y.*   Thus with **philo** *(love)* and **cholo** *(anger)* we have :

<div align="center">**stimule philo Y = *endear oneself to Y***
stimule mega cholo Y = *infuriate Y*</div>

When the accompanying amplifier signifies a physical process or reaction, the corresponding *intransitive* construction is an **acte** couplet. The transitive operator (470) **esthe** *(feel, experience)* combines with amplifiers which signify *sentiment* or *personal states,* and the appropriate formula is *feel A towards Y,* e.g. :

<div align="center">**esthe philo Y   = *love Y***
esthe penito Y = *regret Y*
esthe cholo Y = *be .angry with Y*</div>

The operator (478) **reacte** *(react to, respond to)* forms transitive couplets for which the formula is *respond to the A of Y,* e.g. :

<div align="center">**reacte flavoro Y = *taste Y***
reacte impero Y = *obey Y*
reacte odoro Y   = *smell Y*
reacte questio Y = *answer Y*</div>

Three motive operators, with **tracte,** form a class apart. **Kine** (475), which is intransitive, means *move, go, come,* and is the basis of a large class of verbs such as *ascend, enter, mount, depart.* **Mote** (476) is its transitive counterpart signifying *shift, move* and *put.* **Balle** (465) signifies *dispatch, send, cast, throw.* All these are verb coenosemes of which the complementary coenosemes are equivalent to adverbial prepositions. Thus with extra *(outside)* and apo *(away)* we get:

<div align="center">**balle Y extra   = *eject Y, extrude Y***</div>

<div align="center">

mote Y in = *insert Y*

tracte Y apo Z = *extract Y from Z*

</div>

The remaining verboids (471) **facte** *(make, construct)* ; {463} **acouste** *(hear)* ; (482) **vise** *(see)* form only a few-amplifier couplets. Facte requires a material thing or collective as its object and is not at all comparable to the Basic English operator *make*. Constructions with **facte** and its material object do, however, cover the meaning of many Aryan verbs':

<div align="center">

facte u texti = *weave (make a fabric)*

facte u domi = *build (make a house)*

</div>

From what has gone before it follows that the meaning we give the terms *direct* and *indirect* object depends on whether we are using a verboid *literally* (without an amplifier) or *operatively* (with a postposited amplifier). As used literally, we may summarise our use of the terms *subject* and *object* as in the table below. The particle **a(d)** always precedes the *indirect* object.

Verboid	*Subject*	*Direct Object*	*Indirect Object (preceded by* **a(d)***)*
acouste	hearer	stimulus	—
acte	performer	performance	victim
balle	motive agent-sender	what is moved	destination
date	giver	what is given	recipient
detecte	finder	what is found	—
dicte	speaker	what is said	audience
esthe	person	—	—
facte	maker	product	—
gene	receiver	acquisition	—
habe	possessor	what is possessed	—
kine	mover	—	—
mote	motive agent-mover	what is moved	destination
perde	loser	what is lost	—
reacte	what reacts	stimulus	—
stimule	exciting agent	response	—
tene	keeper	what is kept	—
tracte	motive agent-remover	what is removed	—
vise	seer	stimulus	—

Operative couplets as listed below do not take an indirect object preceded by **a(d)**. The indirect object of the equivalent Aryan verb is a word preceded by **pro** *(on behalf of),* **anti** *(against),* or the empty particle **de** *(with respect to).* The following table, in which X is *subject* and Y *object* summarizes operative constructions with amplifiers.

Xacte AY	X performs the action **A** *on Y*
X date A Y	X confers the attribute **A** *on* Y
X detecte AY	X discovers the property **A** *of* Y
XdicteAY	X conveys the communication **A** *to* Y
X esthe A Y	X experiences the sentiment A *towards* Y
X gene A EX Y	X acquires the attribute A *from Y*
X habe A DE Y .	X has the attribute A *in relation to Y*
X perde A CAUSO Y	X loses the attribute A *because of Y*
X reacte A Y	X responds to the stimulus A *applied by Y*
X stimule A Y	X evokes the response A *from Y*
X tene A Y	X conserves the attribute A *on behalf of* Y
X tracte A apo Y	X withdraws the attribute *A from* Y

This pattern is generally applicable, but **gene** may take **anti** for **ex** before the object, e.g. :

gene victo anti Y = *conquer* Y, *vanquish Y (get victory against Y)*

Tense

Like other words of *Interglossa,* verboids have no flexions. Independently mobile vocables do the work of tense flexion, where necessary. The equivalence of temporal auxiliaries and adverbial particles is evident if we compare the English sentences : (i) *I have hurt myself;* (ii) *I did hurt myself;* (iii) *I previously hurt myself.* The usage of *Interglossa* follows the last plan.   The essential rules are as follows :

(i) If the context does *not* sufficiently date the occurrence or condition as *before* (pre), *now* **(nun),** or *afterwards* **(post),** the particles **pre, nu(n),** and **post,** placed immediately *in front of* the key verboid, label the time as past, present, or future respectively, e.g. :

Mi no nun acte re	= *I am not doing so* (at present)
Mi no pre acte re	= *I did not do so, I have not done so*
Mi no post acte re	= *I shall not do so*
	I am not going to do so

(ii) If the context sufficiently dates the occurrence or state,, ho preposited particle is necessary. Any other time-indicator takes up the usual position of a particle which qualifies the sentence or clause as a whole, i.e. at the beginning or end of it,

eg. :

Mi non acte re post-di — *I shall not do so to-morrow*
Mi non acte re pre-mensi— *I did not do so last month*

(iii) If we want to indicate what was over at some *past* date (perfected action or state), we use pre before the key verboid in addition to the other temporal qualifier, e.g. :

Mi no pre acte re pre-di = *I had not done so yesterday*

(iv) If we want to indicate action or state completed before some future date, we put **pre** in front of the qualifier : **Mi non acte re pre post-di** = *I shall not have, done so to-morrow* (i.e. I *do not do so before to-morrow)*

Thus **post** (72) *before* the key verboid does the work of *shall, will, be going to.* **Pre** (73) does the work of *have* or *did* (or of the simple past flexion) when the sentence contains no other qualifier to date the occurrence as past. If such a qualifier is present, it has the force of *had.* Either way, its presence in front of the key verboid makes the action or state antecedent to the implicit present or explicit past.

Constructions Equivalent to the Infinitive

Since all verboids of *Interglossa* are also abstract nouns, all infinitive constructions other than those which involve an *auxiliary* (e.g. *shall, will, should, would, let, may, must, can)* are *nominal* constructions, and the *accompanying article* labels them as such.   Three situations arise :

(i) The *simple gerund* or *verb-noun* is straightforward because the infinitive (or the *-ing* derivative) of the English verb is always a homoseme of the corresponding noun-abstract. Accordingly its equivalent has the

article **u(n) or** the empty associative particle **de** as signpost **of** sentence-landscape :

> **U facte u satio eu inter-natio glossa non habe facilo**
> *It is not easy to construct a satisfactory international language*
> **Mi esthe espero de vise tu**
> *I hope to see you*

(ii) The *purposive infinitive,* i.e. when *to* signifies in order to, involves **tendo u(n)** *(with a view to a),* for *to* in this context, e.g. :

> **Mi pre kine topo tendo un acte re**
> I went there in order to do so

(in) Either tendo u**(n)** alone or (**u methodo**) **de** *(a method for)* may mean the same as *how to,* and we have the analogous constructions chron **u** *when to,* and **loco u** *or* **topo u** *where to :*

> **An dicte a mi u methodo de facte re**
> *He told me how to make it An* **dicte a mi** chron u facte **re** *He told me when to make it*

(iv) The so-called *accusative-infinitive* construction means the same as **a** construction involving the possessive pronoun and the gerund *(-ing* form). The pronoun-equivalent replaces the article of (i) and (ii) above and is " possessive "by juxtaposition ;

> **Mi dicte petitio an acte re**
> I asked him to do it (I requested his doing it)

Briefly, the rule is that **u(n)** *or* **de** before an operator is equivalent to the empty word *to* (German *zu* Swedish *att,* French *a),* and **tendo u** is equivalent to *in order to* (German *urn zu,* Swedish *for att).* As above, a pronoun in its possessive sense may replace the article **u(n).** Hence the possessive gerund construction and the accusative-infinitive are both indistinguishable from a noun clause, as when we say in English :

> I saw he did it *I saw him doing it*
>
> I know he is right = *I know him to be right*

Participial Usage

Since **a** verboid has no flexion, **date** means *give, gives or giving,* and we can use it (or any other verboid) as an adjective- equivalent, i.e. as the present active participle.

<div align="center">

U geo, kine peri heli
The earth, moving round the sun1

</div>

In contradistinction to participial expressions, including operative constructions with an amplifier, the simple verboid as epithet takes the usual position :

<div align="center">

U kine dactyli acte grapho
The moving finger writes

</div>

Unlike Russian and the Scandinavian languages, English, German and French have no separate active and *passive* participial forms for the past. As *adjectives,* the present and past participles are respectively *active* and *passive.* In fact, the so-called *past* (more properly, *passive)* participle need not

1 Without a pause in speech or a comma to mark it in print, **un avi, kine in aero** might mean *a bird, moving in air* (a bird in flight) -or *bird motion in air* (the flight of a bird). We can sharpen the distinction beyond possibility of doubt. Thus **un avi; su kine** in aero (a bird which is moving in air) can mean only *a bird in flight;* and **u kine de avi in aero** (motion of a bird in air) can mean only *the flight of a bird.* have **a** past meaning (cf. *it is easily broken).* Thus pre date *(mve)* does not mean *given.* As a postposited epithet pre **date** could mean *having given,* which is the correct equivalent of a true active past participle, e.g. :

<div align="center">

Un avi, pre kine apo
The bird, having moved away

</div>

Passive constructions of *Interglossa* involve the operator **gene** *(get, tfecome),* and the literal equivalent of an English past participle used as an adjective is usually the combination **pre gene** with an amplifier. **Pre date thermo** means *has heated, having heated,* or simply *heated* as finite verb-equivalent; and **pre gene thermo** means *was heated, has been heated,* or simply *heated* as a postposited adjectival participle equivalent to a relative clause beginning with **su (su pre gene thermo** = *that was heated).* To avoid periphrasis and to provide for occasional constructions involving a simple verboid as a passive participle, *Interglossa* has a *passive* particle : (472) **ge** = *that has got.*

Ge is equivalent to **su pre gene.** Placed in front of an amplifier, the couplet has the force of a passive participle or equivalent relative clause. Being relatively short, a **ge-**couplet can take the initial position ;

<div align="center">

u ge baro gasi   = *a compressed gas*
u ge stereo haema = *clotted blood*
u ge dicte verba   = *the spoken word*

</div>

The first two have the same meaning as :

u gasi, (su) pre gene baro
un haema, (su) pre gene stereo

Comparison of Basic and Interglossa Operators

The range **and** use of some of the operators of *Basic* and *Interglossa* agree closely. **Acte, gene, tene,** correspond to *do, get, keep.* The transitive **mote** is roughly the same as *put.* The English verb *take* can mean to *carry* **(acte** phoro), but otherwise corresponds closely to **tracte.** The idiomatic vagaries of *give* and *make* as alternative *causative* operators (cf. *give X trouble* and *make X cold)* disappear, because facte mea^is *make* only when equivalent to *construct* or *manufacture.* Similarly, the redundant or meaningless distinction between *come* and *go* disappears. Both merge in kine. The inconsistencies due to overlap of the territories of *have* and *be* do not crop up, because **eque** expresses nothing more than *identity* or *class membership* in contradistinction to *existence* **(habe accido),** *living* **(habe bio)** or the possession of any other abstract property (e.g. **habe thermo).**

Of operators which have no prototype in Basic, **esthe,** stimule, **reacte** and **perde** correspond closely to the usage of English verbs *(experience, evoke, heed, lose)* with extensive operative value. Thus *dying* is *losing one's life; fading* is *losing colour; wilting* is *losing moisture; leaking* (of a tyre) is *losing air, being discouraged* is *losing hope.* In short, the idiom of the operative system, while free from inevitable ambiguities and redundancies of accepted English usage, is in step with the evolution of the Aryan verb pattern.

The Next Step.

By now the reader has all rules essential for writing and speaking *Interglossa,* or for translating *Interglossa* into the home language. If prepared to make the effort of being quite clear about the meaning of

what he or she has to say, all that remains for the beginner is to master the list of essential vocables alphabetically arranged on pp. 249-256. Our next chapter is a heuristic intermission. It will show how anyone who has reached the Higher School certificate level in England, or has graduated from a junior college in America, can get over this hurdle in a few days, or at worst a fortnight. In an explanatory context, a single continuous narrative introduces Anglo-American or internationally current words containing one or other of each root used as a basis for word-material, with an appropriate reference number directing the reader to the corresponding vocable in Part II.[1]

The qualification in the last paragraph calls for comment as a prelude to later chapters. In America, where Ogden's work has borne abundant fruit, the culture value of semantics is widely recognized. That one might be clear about what one , means before one says or writes it, is a suggestion which will not necessarily offend the susceptibilities of the American reader. Before a British audience, an author needs to be more wary. Those who advocate linguistic education as a training for the mind have taken every possible precaution to prevent their pupils from thinking about what they do. A tradition of language-teaching which derives from medieval primers of Latin and Greek has perfected a system which every well-bred Briton expects to do its duty in a language text-book for which he pays cash down on the counter.

It first presents the purchaser with a prospectus of grammatical paradigms as a prophylactic against the shock which the nervous system would sustain if we had to face at the outset the all-pervading verbal irregularities and ubiquitous semantic inconsistencies inherent in the structure of any natural language. After a protracted period of immunization by this technique, we are permitted to learn that there are regrettable anomalies in the otherwise orderly pattern of natural discourse. We are then invited to commit to memory a prescribed number of admittedly untidy odds and ends, called idioms. We note with a little pang that we cannot pair off all the bits and pieces in the semantic and morphological rag-bag called the verb *to be* with all the bits and pieces in the morphological and semantic rag-bag spelt as *etre*. Happily, the discovery does not

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[1] Twenty supplementary items (861-880), added during completion of the last draft of the 8,000-word dictionary to avoid recourse to long-winded constructions, do not appear in this chapter; but relevant associations occur in the mnemotechnic notes on pp. 256-282.

undermine the discipline of our sturdy island race. Having learned to label tricks of discourse with ' unitary epithets, such as the *subjunctive* mood or the *accusative* case, we are confirmed in the delusion that verbal collocations so described necessarily have a one-to-one congruence of meaning in two different languages. The naked truth is that .one and the same interjection of this species may describe a dozen or more semantic entities in either of them.

Once indoctrinated with this nonsense; we cannot hope to learn any language designed in conformity with consistent semantic principles, unless we are willing to relearn the language or languages we already speak, and to unlearn everything that the old-school-tie masters have taught us. At some stage or other most potential readers of this book have been more or less permanently disabled by the nonsense taught as grammar in all British schools and many American ones. So it is not possible to justify the credentials of *Interglossa* to any considerable public without filling up many pages with an autopsy on grammatical misconceptions we embraced in our youth or adolescence. That is why Part II has to be long. That is why it is inevitably a little forbidding. An author who hopes to win recognition for new principles of language design has to overcome the superstitions of the sophisticated before he can hope to cash in on the common-sense of the common man.

That the treatment of the semantics of the vocables in Part II has to be long, and has to be a little forbidding, does not mean that *Interglossa* demands intellectual exploits of which only highly educated people are capable. The very opposite is true. Simple people who have never been initiated into the idiocies of grammatical classifications current in college textbooks have nothing to unlearn. If this book were written for children, or exclusively for adults who have never studied a foreign language in the usual way, the plan of it would be entirely different. As it is, the author has to state his case to an audience with preconceptions that few adults have yet outgrown. It is true that Jespersen's teaching and Ogden's writings have begun to bear fruit in a younger generation fresh from English and American, though not as yet from Scottish, schools and colleges. It is true' that some schools have replaced a method of language-teaching which led to confused thinking by the direct method which prohibits any sort of thinking whatever. Still, people under thirty years of age who have not grown up to identify the Aryan tenses with scientific chronometiy are not so numerous as to encourage a businesslike publisher

to put a popular price on a brochure for their benefit. The fanaticism with which Esperantists cling to grammatical thaumaturgies, of which the semantic pretensions were long ago debunked by comparatively conservative philologists, shows that few, even among those in the forefront of the international auxiliary language movement, are yet abreast of the new semantic ideas which Ogden and others have contributed to contemporary enlightenment.

THE DESIGN OF INTERGLOSSA

IV. HEURISTIC INTERMISSION

Interglossa $7) (509) is not -for *misanthropes* (306) (810) and *misogynists* (306) (834), nor for *plutocrats* (367) (826) and *zoophilists* (630) (355), who have more concern for the comfort *oi marsupials* (684) than for *mortality* (312) *among miners'* (651) babies. Its *function* (111) is to *lubricate* (166) (340) *intercourse* (87) (204) between *democratic* (19s) (826) *nations* (317), to *catalyse* (166) and *stimulate* (479) *communal* (180) acfiow (464) for a higher warm (325) of *sanitation* (405), to arm (811) us for *^militant* (303) and *energetic* (214) campaign against pauperism in an age of *potential* (137) *plenitude* (365). Its use would help to *immunise* (264) us against that unnatural fear of a/iens (149) which Mr. Wells calls *xenophobia (149)* (356) ; and to *canalise* (636) the impulse to *persecute* (332) into *planning* (303) *plenty* (365) on a planetary scale.

Assuredly (155), we must first remove the *causes* (104) of war. We have to put human need above the claims of *capitalistic* (817) *investment* (270) and in front of the *pecuniary* (348) *privileges* (372) of particular *persons* (7) or *classes* (821) of persons. Along with the old *system* (433) of private *profit* (374), *imperial* (836) *arrogance* (154) must make way for more *liberal* (282) esteem of the *potentialities* (137) of *oppressed* (332) *colonial* (822) peoples. Freely tf/ected (210) assemblies will take over the *authority* (153) of *viceroys* (127) (849), and *monopolistic* (27) *companies*(825) will make way for *public* (380) *committees'* (824) with *commissaries* (823) responsible to the people. When we are *morally* (132) *mature* (299) enough to adopt or to (108) Interglossa to this end, free *insurance*

(269) *premiums* (371) will be the birthright of every (835). There will be no *rentier* (850) and no *proletariat* (845). *University* (858) education

will be free to all. An *international* (87) (317) *police* (843) *system* (433) will seem as natural- as our international £ostaZ (844) service with its world-wide distribution of *telegrams* (856) and *trans-maritime* (101) (650) *telephone* (855) connexions. A world ripe for use of a constructed auxiliary would regard *cleptomania* (176) as a *euphemism* (218) for the *banking*(813) system of to-day ; and would *tolerate* (438) any (187) which is not *antagonistic* (103) to *amicable* (151) relations between world citizens.

   Propaganda (846) against the credit (186) system as it now is has *certainly* (155) no connexion with our main task. The latter is no *sinecure* (193). Let us forget the *turbulent* {443) times ahead, and stick to our *agenda* (809). A *satisfactory* (25) (471) world-auxiliary cannot limit (286) its appeal to the confines of *Christendom* (820). It must not *frustrate* (241) the hopes of *myriads* (39) in the *Orient* (94) by perpetuating *local*(53) and *unnecessary* (133) intricacies of *Occidental* (93) accidence. *More reciprocity* (10) between east and west is *imperative.* (266), So the grammar of *Interglossa* is as *elementary* (212) as *possible* (136). Separate words mark what many languages express by a *multitude* (8) of *final*(229) syllables. Thus no endings distinguish the *noun-equivalent* (469) (449) as *subject* (11), accusative *or dative* (466) case-forms, nor the verb as past or present. We distinguish *unity*(12) and *plurality* (13) of the former or the *temporal* (75) relations—*predated* (73) or *post*dated (72)—of the latter by words which, like all words of *Interglossa* (87) (509), are *immutable* (314) and *invariant* (314). Thus learning Interglossa is merely learning the use of each item of its *verbal* (860) stock-in-trade.

   What most *facilitates* (224) learning is the source of its word-*material* (54). Interglossa *profits* (374) by the *impact* (265) of science on daily speech during the *hdli-century* (37) since Zamenhof put forward *Esperanto* (130). Every *vocable* (459) of Interglossa is a brick taken from some *internationally* current word such as *periscope* (96) (411), *chronometer* (62) (114), *megaphone* (22) (357), *telegram* (99) (833), *micrometer \ (23) (114), *ballistics* (465), *autocracy* (9) (826), *kinema* (475) or (359). Thus the meanings of *microscope* (23) (411), *micrometer* (23) (114), *microphone* (23) (357) and *microbe* (23) tell us that **micro** means small(ness). So learning Interglossa is learning *semantics* (412) and *etymology* (289) hand-in -hand. Where the beginner cannot *detect* (467) the *semantic* (412) (449) of an item, the *pedagogue* (349) can bring *school* (409) *biology* (161) (289), *geography* (645) (250), *geometry* (645)

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(114) and chemistry or names of inventions and *proprietary* (847) products to his aid. In this way, learning its *vocabulary* (459) is getting more familiar with an existing international language of *navigation* (764), *horticulture* (647) (192), *agriculture*(631) (192), *astronomy* (633) (324), *meteorology* (638) (289), and *manufacture* (471).

The source of these words makes things as easy for an older generation with a classical *orientation* (334) as for the adolescent *imbibing* (160) the scientific *attitude* (334). The *nonagenarian* (35) has the *consolation* (184) of knowing that he was *flagellated* (233) through the mazes of Mediterranean grammar to some purpose ; and the modern child with no pretensions to *humane* (262) learning will be none the worse for meeting a few old tags such as *quo vadis?* (24), *pro bono publico* (120) (380), *mutatis mutandis* (314), *in camera* (86) (47), *habeas corpus* (474) (440), *vice versa* (127) (126), *in vino Veritas* (702) (452), *lapsus linguae* (276) and *per ardua ad astra* (117) (76) (633). The claim that it is *possible* (136) *to plan* (363) a language of which we do not need to learn the *vocabulary* (459) has the *flavour* (234) of *thaumaturgy* (305) (214) ; and would have provoked the *derision* (400) of Zamenhof's first *disciples* (828), at a time when *Esperanto* (130) was a truly hopeful venture. Yet *cursory* (206) perusal of these pages furnishes *satisfactory* (25) (471) and *ocular* (526) *evidence* (158) for its *verity* (452) at the risk of a little *reiteration* (272). The author *petitions* (41) the reader to be his *jury* (275), and to award a verdict after *critical* (188) *examination* (219) of the *data* (827).

On pp. 56-62 italics distinguish words built out of good *international* (87) (317) bricks. By *comparison* (106) of words which share the same international roots, we can *detect* (467) the *semantic* (413) *value* (449) of the *vocables* (459) of Interglossa ; and every *necessary* (133) vocable of Interglossa comes in some word included within .the *limits* (286) of this *chapter* (818). If you take the trouble to *dissect* (412) them, you will make a more noteworthy discovery than that of the Bourgeois Gentil-*homme* (589). You have been talking good *Interglossa* (87) (509) *prose* (848) since you reached years of *maturity* (299). With a *little cerebration* (492) you may even become one of the pioneer *poets* (841) of the new language. Still, you need not *dissipate* (202) effort on mere *artistry* (812), if your aim is to be *expert* (222) in a *communal* (181) medium for *technical* (222) or *political* (842) *communication* (181). You can get an easy *victory* (454) over all too *frequent* (238) *inhibitions* (268) by sticking to the

elementary (212) *formula* (831) which follows. With the help of Webster's or the Concise Oxford *Dictionary* (468) and some technical glossary such as Beadnall's *Dictionary of Scientific Terms* in the Thinker's Library, fill up the *fugitive* (242) moments of your leisure by tracking down the source and meaning of every italicized word in this *chapter* (818). You can get as much *sport* (425) out of a *dictionary* (468) as you can *extract* (83) (480) from fiction about *espionage* (217) in the dark epochs of *military* (303) *violence* (455) before *instruments* (51) of *pacific* (340) *intercourse* (87) (206) paved the way for an *international* (87) (317) auxiliary.

This is the *strategy* (430). From what is common to *communal* (181) and *communication* (181) in the last *paragraph* (94) (250), you get the notion of *community* (181) of *intercourse,* sentiment or *property* (847) in the word communo with the terminal **-O** common to all abstract words of Interglossa.

But if you can do this with *communication* or *communal,* you can do the same with *aerodrome* (146) (206), *dromedary* (206) and *hippodrome* (206). The first is the house and runway of an *aeroplane* (146) or *dirigible* (185), i.e. *controlled* (185) airship with *gas* (796) bag, usually filled with *helium* (646), an element first known to exist because of its lines in the sun's **spectrum** (662). A *dromedary*(206) is a first-rate runner. A *hippo-drome* is a place where horses run around for the diversion of harassed *hedonists* (131). *Hippo-* is not on the word-list. We use the Latin root of the *zoological* (630) (289) *genus* (18) present in *equine* (578), or (even worse) *equitation* (578) ; but since we have now tamed *hippo-* we may as well use it for the next stage of our *itinerary* (273). This is a *visit* (457) to *Mesopotamia* (92) (659) by way of *Hippopotamus* (659). Thence we can proceed with a *confessedly* (183) *anterior* (77) motive, but *retrogressive* (97) *motion* (476), to the *Mesozoic* (92) (630) age. Our *course* (206) is then clear. Here are *specimens* (424) to *demonstrate* (199) how we can pair off words with common international roots :

protozoa (139) (650), protogynous (139) (834), misogynist (306) (834), misanthrope (306) (810), philanthropy (355) (810), anemo-philous (152) (355), anemometer (152) (114), hydrometer (263) (114), hydrography (203) (250), photography (359) (250), photometer (359) (114), cyclometer (712) (114), bicycle (28) (712), bigamy (28) (244), monogamy (27) (244), monogram (27) (833), telegram (99) (833), telescope (99) (411), periscope

(96) (411), perimeter (96) (114), micrometer (23) (114), microphone (23) (357)»megaphone (22) (357), megalith (22) (52-), palaeolithic (341) (52), palaeography (341) (250)^ heliography (646) (250), heliotropism (646) (442), geotropism (645) (442), geometry (645) (114), octameter (34) (114), octagon (34) (248), pentagon (31) (248), orthogonal (336) (248), orthography (336) (250), lithography (52) (250), neolithic (321) (52), neophyte (321) (604), zoophyte (630) (604), zoophilist (630) (355), bibliophile (814) (355), bibliography (814) (250), demography (198) (250), democratic (198) (826), autocratic (9) (826), autarchy (9) (153), oligarchy (14) (153), oligophrenia (14) (360), schizophrenia (408) (360), schizocarpous (408) (566), syncarpous (123) (566), syndactylism,(123) (500), Polydactyly (16) (500), Polynesia (16) (654), Micronesia (23) (654), microscope (23) (411), bioscope (161) (411), biology (161) (289), cytology (499) (289), phagocyte (353) (499), phytophagous (604) (353), epiphyte (82) (604), epigynous (82) (834), polygyny (16) (834), polymerism (16) (19), isomerism (44) (19), stereoisomerism (428) (44) (19), stereoscopic (427) (411) . . .

To get the best out of the *detective* (467) *method* (302), we can put everyday words in *contraposition* (80) to more exotic ones with a common root, e.g. *neuralgia* (525) (148) and *analgesic* (525). Among everyday words which are self-explicit, we have : *solitude* (20), *zero* (26), *question* (42 and 24), *non-aggression* (43) (455), *textile* (57), *vase* (58), *vesture* or *divest* (59) *duration* (64), *extradition* (81), *condition* (107), *indicate* (110), *harmony* (112), *plus* (118) and *minus* (115), *proximity* (121), *contact* and *tactile* (124), *invert* and *reversal* (126), *volition* (128), *debit* (129), *permit* (134), *preparedness* (138), *tentative* (140), *accident* (141), *acute* (144 and 733), *adhesive* (145), *attendant* (156), 6a^os (159), *explosion* (163), *captive* (165), *cavity* (167), *certificate* (170), *Choleric or irate* (172), ckws (173) girls, *incline* (177), *defective* (197) *disputatious* (201), *residence* (208), excess *(220), fame (225), feral* (227) swans and *fiscal* (230) policy, *fissure* (231), *fixed* (232), *fortune* and *fortuitous* (236), *fracture* (237), *friction* (239), *fumes* (243), *gratitude* (251), grave and *gravamen* (253), *gregarious* insects and *party* (254) politicians, *sacred* (256), *spiral* (257), *horizontal* (261), *inflation* and *deflation* (267), *judicial, judiciary* and *adjudicate* (274), *applaud* and *laudatory* (277), *lave* and *lavatory* (278), *lecture* and *lectern* (279), *legal* (280), *liberate* (283), *libidinous* (284), *ligate* and *ligature* (285), *liquid* (288), *long* and *longitude* (290), magic (294), *dilute* (297), *commerce* and *mercantile* (301), *miracle*

(305), *mix* (307), *admonition* and *monitory* (309), *mordant* (310), *narcotic* (316), *negotiations* (320), *innocuous* and *nocuous (322), nomination* (323), *nullify* and *acquit, quittance* (326), *odour* and *aromatic (329), offer* (330), *ordinal* .rank (333), *papilla* and *projection* (342), *parallel* (343), *paralyse* (344), *penitence* (350), *penal* (351), *pneumonia, pneumatic* and *respiration* (369), *proposal* (376), *protes*t (378), *perforate* (383), *quality* (385), *rape* and *rapacious* (386), *razor*, *erase* and *talon* (388), *reflect* (391), *religion* (392), *reparations* and repair (393)> *idolatry* and *mariolatry* (396), which we can pair off with *hagiolatry* (256) (396) and *hagiography* (256) (250) to break the *monotony* (27) {439} of so many commonplace words in a *line* (287), *rigidity* and rigor *mortis (399), sadism* (402), *salutation* (404), *serial* and series (415), severe (4l6), *signify* (417), *society* and *social* (419), *solemn* (422), *sophistication, sophistry* and *philosophy* (422) (355), *soporific* and *insomnia* (423), *symptomatic* (432), *testimony* (435), *sepsis, septicaemia* and *antiseptic* (440), *antitoxin* (103) (440), *typography* and *typewriter* (444), *umbrage* and *penumbra* (445), *uniformity* (446), *reunion* (447), *vacuum* and *vacant* (448), *vapour (450), vendor* (451), *virus* and *virulent* (456), *vivacious* and *vivisection* (458) (412), *vulnerable* (461), *anaesthesia* and *aesthete* (470), *genesis* (472 and 473), *perdition* (477), t*enure* and *tenacious* (479), *proprietor* and *proprioceptive* (847).

It would be an *error* (215) of teaching technique to concentrate on easy words. A little *excogitation* (178) is an aid to *memory* (308), and our job will be less dreary if we tempt *fortune* (236) by deliberate *divination* (203). So the reader should not *protest* (378) if some of our italicized words are unusual, like *cynosure* (548) or *callisthenics* (196), archaic like *clavichord* (742), or *technical* (222) like the *cleidoic ovum* (743) (532). The quaint connexion between the *caudal* (548), appendage of the constellation and the *cynosure* (548) of every eye in the theatre firmly *fixes* (232) **ura** (547) for future reference. The link between the verb *to be* as *copula* (746) and the process of *coitus*(179) will be self-evident when **sex** education is more general. The new book of *genesis* (473) *inverts* (126) the story of the Fall. When land began to rise, a *cleidoic* (743) egg was necessary to forestall *desiccation* (200). *Fertilization* (228) had to *predate* (73) deposition of a protective shell. External insemination was no longer possible, and **sex** *dimorphism* (311) became a *necessary* (133) *precondition* (73) (107) of *parental* (840) recognition.

The discussion of such *themes* (857) is still apt to evoke generalized *cyanosis* (195) among our male Blimps, and *facial* (504) *erythaema* (216) among our more elderly *female* (5) relatives ; but we shall soon learn to talk about the inconvenience of the *menses* (67), the problems of the *menopause,* and the secretion of the *luteal* (292) cells of the *ovary* (533), as we now talk about any other *sanitary* (405) issue. **Coito** (179) and **feci** (505) are essential words of *Interglossa,* because *coitus* (179) and *defecation* (505) are inescapable events of human existence. Oddly enough, we can discuss the totally unnecessary diversion of *osculation* (337) without *traumatic* (441) *consequences* (122) to our neighbours. We can expel *mucus* (653) from the *nares* (522) without offence, if we produce the prescribed scrap of *nasal (522) linen* (595). With or without a pocket handkerchief, *lacrimal* (516) secretion is *permissible* (134), alike in the pulpit and in the boudoir.

The *technician* (222) will have the key to most essential words; but *politics* (842) contributes to the common pool. When the *Duce* (207) chose the Roman *fasces* (49) as *ensign* (774) of the *fascist* (49) movement, his followers stood self-*confessed* (183) as a bunch of thugs. Goebbel's gangsters and Mussolini's *gladiators* (755) first familiarized decent people with the meaning of *coprophilia* (505) (355). Travelling has its own repertoire—via (668), Cook's *wagons lits* (781), *taxis* (779), *museums* (838), *helicopters* (755) (537), and *valuta* (859) are words in world-wide use. The same is very nearly true of *billet (815),* the French word for ticket. *Commerce* (301) has distributed *cigars* (789), *cigarettes* (790), *petroleum* (801), razor *blades* (738), *bombs (739), spirits* (692), canned *soups* (694), *coffee* (674), *cacao* beans (673), *coconuts* (572), *herrings* (588), *sardines* (615), *tobacco* (623), daffodil *bulbs* (560), *leguminous* (592) crops and *apiary* (555) appliances on all five *continents* (639). From *music* (313) we get *fortissimo* (235) as a signal of intensity; from the stage *proscenium* (724) and *recess* (727) ; from poetry the *lyric* (759)—no longer for the harp—and *Hesper* (66) for the evening star; from the modern novel *ectogenesis* (81) (473) or *extra-uterine* (81) (473) development of the **embryo**; from sculpture the Roman *toga* (699) and the *crucifixion* (710), from military jargon the *pontoon* (721)*;* from *architecture* (731) *we get portals* (722), *balconies* (705), *columns* (708), *Acropolis* (142) and *viaduct* (668); from shop windows *tunics* (701) and *lamps* (718); from engineering, *tubes* (732), *piston* (768), and *axis* (736); from hospital reports we get *dental* (501) caries, *clinicians* (679) with

the bedside manner, and *cranial* (497) surgery. From almost any newspaper we can cull something about *pulmonary* (538) tuberculosis, *secretarial* (853) appointments and other jobs for *sedentary* (691) workers.

It would be a *facile* (224) task to design a game like dominoes, each counter a keyword, having two internationally current roots. We can make a start by assembling a battery of *vocables* (459) in groups which share one or other of certain highly *fertile* (228) roots, e.g.

theology (436) (289), geology (645) (289), pathology (347) (289), .aetiology (147) (289), zoology (630) (289), ecology (209) (289), limnology (626) (289), chronology (62) (28*9), helminthology (626) (289), parasitology (345) (289), palaeontology (341) (289), toxicology (440) (289), neurology (525) (289), cytology (499) (289), gynaecology (834) (289), anthropology (810) (289), osteology (529) (2894, meteorology (638) (289), climatology (638) (289).

geography (645) (250), cosmography (640) (250), bibliography (814) (250), demography (198) (250), cartography (637) (250), telegraphy (99) (250), hydrography (263) (250), palaeography (341) (250), photography (359) (250), lithography (52) (250), oceanography, (657) (250), graphite (250).

megaphone (22) (357), microphone (23) (357), telephone (99) (357); gramophone (833) {357) *or* phonograph (357) (250 , dictaphone (468) (357), homophone (113) (357), phonetics (357).

photometer (359) (114), stalagmometer (426) (114), micrometer (23) (114), manometer (297) (114), gasometer (786) (114), cyclometer 0 (712) (114), bathometer (159) (114), anemometer (152) (114), nephelometer (656) (114), chronometer (62) (114).

hydrophobia (263) (356), claustrophobia (175) (356), xenophobia (149) (356)/ photophobia (359) (356).

polygamy (16) (244), bigamy (28) (244), monogamy (27) (244), cleistogamy (105) (244), gamete (244).

autocratic (9) (826), democratic (198) (826), plutocratic (367) (826), bureaucratic (816) (826).

telescope (99) (411), microscope (23) (411), periscope (96) (411), bioscope (161) (411).

monarchy (27) (153), heptarchy (33) (153), autarchy (9) (153), oligarchy (14) (153), tetrarch (30) (153).

telegram (99) (833), pictogram (362) (833), cryptogram (190) (833), phonogram (357) (833), epigram (822) (833).

agronomy (631) (324), bionomics (161)' (324), astronomy (633) (324), antinomy (103) (324), antinomian (103) (324), economics (204) (324)-

polygon (16) (248), pentagon (31) (248), hexagon (32) (248), heptagon (33) (248), octagon (34) (248).

anemophilous (152) (355), zoophilist (630) (355), philanthropist (355) (810), hydrophilous (263) *(355)*.

gastritis (506), nephritis (524), neuritis (525), otitis (531), enteritis (503), dermatitis (502), cystitis (498), arthritis (484).

trimerous (29) (19), tetramerous (30) (19), pentamerous (31) (19), hexamerous (32) (19), isomerism (44) (19), polymerism (16) (19).

Memorizing (308) derivations of disconnected words is not a *stimulating* (478) pursuit. We can break down a *pardonable* (346) *resistance* (395) to any such *prospect* (377) by *capitalizing* (817) the *residues* (394) of our *scholastic* (409) exploits. Here are a few *specimens* (424) of the way in which we can, make *mnemonics* (308), i.e. aids to *memory* (308). From school -mathematics we have all learned the meaning of **plus** (118) and **minus** (115), of *summation* (431) and *division* (204), of *product* (373) and *ratio* (389), of *minutes* (69) and *seconds* (74) of a degree. We get our *numerals* (327) from *bisection* (28) (412), *triangle* (29), *tetrahedron* (30), *pentagon* (31) (248), *hexagon* (32) (248), *heptagon* (33) (248), *octagon* (34) (248), *decametre* (36) (791), *centimetre* (37) (719), *kilometre* (38) (719). We have all learned to balance *equations* (212). We have all met *pyramids* (725), *cylinders* (713), *cones* (709), *prisms* (723); *cubes* (711), *quadrilaterals* (726) (89), *trapezia* (700), and other *solid* (429) or plane, *curvilinear* (193) (287) or *rectilinear* (390) (287) figures. We have all traced the *locus* (53) of a point *rotating* (770) about a *centre* (706) like a speck on the *periphery* (96) of a wheel. We all know that *equiangular* (468) *triangles* (29) are not *necessarily* (133) *congruent* (108). If We have gone a little way with co-ordinate geometry, we know that the *catenary* (741) is the curve of a chain attached loosely by each end at the same level.

High-school (409) chemistry introduces us to *crystalline* (793) and *amorphous* (703) (311) types of *materials* (54), to *isomorphic* (44) (311) and to *heteromorphic* (259) (311) *crystals* (793). We learn that the *graphite* (250) of our pencils and diamonds of our cutting tools are *allotropic* (101) (442) forms of the same *element* (212), *carbon* (788). We get a nodding acquaintance with *hydrogen* (263), *oxygen* (144), with the *halogens* (797), *chlorine* (171) and *iodine* (271), with the *metallic* (799) *elements* (212) whose symbols *Ag* (786), *Au* (787), (806), *Pb* (803), are speedwords for their Interglossa *equivalents* (469) (450). We meet a host of *pure* (382) compounds, **alkalis,** *acids* (784), and such salts as *cupric sulphate* (794) (807), sodium *citrate* (570), which stops the curdling of milk, and prussian blue which is a *ferricyanide* (795) (195). As we all know, rust is simply formation of *ferric* (795) *oxide* (338). Another *oxidation* (338) compound is *silica* (661). The last named has a *crystalline* (793) *allotrope* (102) (442) abundant in nature as quartz, the chief ingredient of sand. Its natural *amorphous* (703) *allotrope* (102) (442) is opal. When heated to a suitable temperature, which we can measure with a *pyrometer* (384) (114)', silica undergoes *vitrification* (808), *Vitreous* (808) silica is the quartz glass used for *manufacture* (471) of lenses. *Silicates* (661), such as water glass, yield a *colloidal* (791) *solution* (421) of silicic *acid* (784), when treated with stronger acids, and subsequently separated from the latter *by dialysis* (293). If sufficiently concentrated, the *dialysed* (293) solution is *liable* (332) to turn into a *gel* (683).

Dialysis (293), which means separation by diffusion through a membrane, recalls *hydrolysis* (263) (293) or separation of parts by *action* (464) of water in presence of a *catalyst* (166) to *lubricate* (166) or assist the *reaction* (478). Hydrolysis itself recalls *dehydration* (263) or chemical *desiccation* (200). If we do not go deeply into *physical* (361) chemistry, which deals with states of matter, we shall give the *cryohydric* (189) (263) point the go-by. Even so, we come across the snow-white mineral *cryolite* (189) in connexion with *the manufacture* (471) of aluminium.. In any high-school course, we are also sure to get the low-down on soft and hard water. That means getting to know a little about *saponification* (804)—a long word for soap-making—and hence about such soap fats as *stearin* (520) of lard or *olein* (686) of olive oil.

The odds are we pick up a few crumbs about optically *active* (143) substances such as sugars, e.g. *dextrose* (81) or *glucose* (247), the *laevose* (88) in honey and the *lactose* (517) in milk. The principle of the *saccha-*
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rimeter (690) (114) depends on the *rotation* (770) of polarized light rightwards by *dextro-rotary* (81) (770) or leftwards by *laevo-rotary* (88) (770) sugars. If we get so far with the study of *stereoisomerism* (428) (44) (19) we cannot miss a few words about Pasteur's pioneer work on *sarcolactic* (539) (517) *acid* (784). Pasteur also elucidated the work of the *saprophytic* (407) (604) yeast **fungi** and the role of the *vinegar* (702) **bacillus** (737). Production of *butyric* (672) *acid* (784) in rancid butter is also due to **bacteria** or, as some *biologists* (161**)** (289) call them, **schizomycetes** (408). The *lipoid* (520) *butyrin* (672) and the protein *caseinogen* (677) are the two chief *solid* (428) constituents of milk. *Casein* (677) derived from the second is now the basis of a well-known plastic (802), but most plastics are *polymers* (16) (19) of much simpler ingredients such as *urea* (549) present in *urine* (549).

We now meet such words as *lipoids* (520) in articles about *dietetics* (354) in. women's *gazettes* (832) and housekeeping *journals* (832). Even the *culinary* (191) art has taken the same road as chemistry. The modern kitchen has *thermostatic* (437) (427) *controls* (185) ; and we make our *confectionery* (680) in vessels of aluminium or *pyrex* (384), i.e. fireproof, glass. We cook to the *music* (313) of the *radio* (386), or to its *meteorological* (638) (289) forecasts which have tuned our ears to *cyclones* (712) and *anticyclones* (103) (712). *Isotherms* (44) (437) and *isobars* (44) (157) are no longer formidable names for lines joining places with the same *thermometer* (437) (114) and *barometer* (157) (114) readings. *Television* (99) (482) sets will soon be as commonplace in the kitchen as *cauliflowers* (567), *potatoes* (608), *tomatoes* (624), *oranges* (598) and *tea* (696) caddies. More *science* (852) rightly applied means less *fatigue* (226) for the *domestic* (48) worker.

In short, *machinery* (760) leaves more time for *philoprogenitive* (120) (355) (245) pursuits. To be forewarned against *poliomyelitis* (246) is to be forearmed ; but *infant* (835) welfare *now* (71) embraces more than *pediatrics* (349). The *new* (321) *parent* (840) will welcome the *hour* (67) of homework as an *occasion* (328) for self-improvement by co-operation with the *family* (829). If the *theme* (857) is *physics* (361), there are many *verbal* (860) pitfalls to avoid. We have to be clear about what is grocer's weight or *mass* (297) as opposed to the pull of a weight on an *elastic* (751) *filament* (50), such as the *helicoid* (258) spring of a spring balance, because of the *tension* (434) exerted by bodies falling under *gravity* (252), the earth's *attraction* (481). Another *semantic* (413) source of trouble is

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the distinction between displacement speed or *velocity* (169) and ordinary speed relative to the path traversed. *Acceleration* (169) is increased *velocity* (169).

With *Science for the Citizen* as her ally, the *history* conscious (260) *parent* (840) can help the child to *picture* (362) the beginnings of *kinematics* (475) by lively illustrations from *ballistics* (464) when *artillery* (735) was in its *infancy* (835), or from *horology* (67) (289) when the *pendulum* (116) was a novelty. From school physics, our *international* (87) (317) *units* (12) of work, the *erg* (214) ; of force, the *dyne* (208) ; of *volume* (460) or *capacity* (460), the *litre* (718); of length, the *metre* (719); and of *mass* (298), the gram (716), help us out with some more items of our word-list. In *hydro-mechanics* (263) (55) we learn about the *siphon* (418) and about the *manometer* (297) (114) or pressure-gauge for measuring the rarefaction of *gases* (796). In *acoustics* (463) we hear about *audible* (463) *vibrations* (453} and pure *tones* (439). In optics we use the *photometer* (359) (114). We meet *photosensitive* (359) (414) substances for the *manufacture* (471) of *panchromatic* (15) (174) plates. We learn about the *infra-red* (85) and *ultra-violet* (99) *radiations* (386) beyond the *visible* (482) *spectrum* (662). In *electromagnetism* (211) (295) we use the *rheostat* (397) (427) to *stabilize* (232) the *resistance* (395) of a circuit and condensers to produce *oscillatory* (453) discharges.

Electrical discharge recalls the *Aurora Borealis* (787) (79), or northern lights. *Geography* (645) (250) is the softest job for the *normal* (325) *parent* (840) who wishes to *stimulate* (478) (830) *reverence* (396). *Valley* (667), *tunnel* (664), *channel* (636), *plateau* (364), *continent* (639) and 6«y (635) are words of daily speech, like the less *translucently* (101) (291) *international* (87) (317) couplet *mountain* (652)—*fountain* (644) ; and a harbour is an *asylum* (634) for ships. No one forgets the *frigid* (240) and the torrid *zones* (60) of the *hemispheres* (40) (730) ; nor that *Micronesia* {23) (654), *Melanesia* (300) (654), *Polynesia* (16) (654) are island groups in the *ocean* (657) *comically* (180) miscalled *Pacific* (340). And here we may remind ourselves that punning is the *art* (812) oi *extracting* (83) (481) humour from *homophones* (113) (357). But we have not finished with *geography* (645) (250) if we leave out *climate* (638) and *instruments* (51) for measuring it, *thermometer* (437) (114) or heat-gauge, *barometer* (157) (114) or pressure-gauge, and *nephelometer* (656) (114) or cloud-gauge, *bathometer* (159) or oceanic *bathos* (159) gauge, *pluviometer* (368) (114) or rain-gauge, and *anemometer* (152)

(114) or wind-gauge. Nor should we neglect *demography* (198) (250) in these days of declining *fertility* (228) in *rural* (660) as well as *urban* (666) *localities* (53).

Geography (645) (250) is not mere *topography* (100) (250). It is the offspring of *cartography* (637) (250) and *geodesy* (645). These in turn are children of *astronomy* (633) (324)-The zodiacal constellations which lie about the plane of the **ecliptic** *inclined* (177) at about 23½° to that of the *equinoctial* (469) (70) are a happy hunting-ground for our *tendentious* (125) narrative. We take over **Gemini, Scorpio, Leo, Virgo** and **Libra** as they stand, and *adapt* (108) *Pisces* (605), *Cancer* (562), *Sagittarius* (771) in conformity with our rules. The constellations of **URSA** *Major* (45) and **URSA** *Minor* (46) also come in handy for grammatical *comparison* (106). We get our latitude from the *altitude* (150) of a star at what the *mariner* (650) calls its southing, i.e. *transit* (101) across the *celestial meridian* (91). We are all familiar with the Galilean *drama* (205) of the *competing* (182) *geocentric* (645) (706) and *heliocentric* (646) (706) *cosmogonies* (640). So the modern *parent* (840) knows that the earth is supposed to be a *gyroscope* (255) (411) with a *diurnal* (63) *cycle* (712), flattened at the poles by its own *centrifugal* (706) (242) *action* (463). Too many of us are a little *nebulous* (655) about the *pros* (120) and cons for our *credo* (187) ; and far too few of us know how Huygens first inferred it from the *retardation* (156) of the *pendulum* (116), as set forth in his *famous* (225) book, the *Horologium oscillatorium* (67) (453).

Publication of the last named antedated by nearly two Centuries *detection* (467) of the *annual* (61) *parallax* (95) of any star, and hence also the (229) *demonstration (199)* of the second Copernican *postulate* (119). At this point, the *bibliophile*(814) (355) has a look in. Such landmarks of the *history* (259) of *science* (852) as Huygens' book are *vocal* (459). *De Re Metallica* (109) (6) (799) of Agricola, *De Revolutionibus* (109) of Copernicus, *De Fabrica Humani Corporis* (109 (223) (540) of Vesalius, *Motibus Stella Martis* (109) of Kepler, furnish us with an arsenal of *verbal* (860) *missiles* (763).

The *pacifically* (340) minded *parent* (840) will not treat homework on *history* (260) as a *national* (317) affair. We have to teach our children to *envisage* (482) history as a *cosmic* (640) *sequence* (122), the (729) *naturae* or ladder of nature.

Like Mr. Wells, we should therefore begin with the *strata* (693) which form successive shelves of the earth's *laminated* (757) crust. The beginning is then a story (260) of erosion and flooding, of banked-up *detritus* (642) and *alluvial* (632) deposits. We see life emerging on land in the steaming swamps of the *Carboniferous* (788), leaving its indelible footprints on the *anthracite* (785) slabs we burn for fuel. Reptiles such as the wedge-toothed lizard *Sphenodon* (776), now the lone New Zealand survivor of its group, supplant the salamanders. In the *Cretaceous* (792) or chalk age, life takes to the air. Already there are creatures of a truly *Avine* (557) pattern alongside the *Pterodactyls* (537) (500). *Contemporary* (75) with them are small *plantigrade* (249) mammals ; but the great *bipedal* (28) (533) reptiles still held *hegemony* (206) on the dry surface of the earth, when the thunder lizard *Brontosaurus* (163) was alive, Came the *Eocene* (65), dawn of modern mammals : small *pachyderms* (339) (502), *digitigrade* (110) *ungulates* (547), tree-shrew forbears of our *Simian* (618) grandparents. The Pliocene *signalizes* (774) the arrival of the ape-man *Pithecanthropus* (810) and *Sinanthropus* (819). True *Hominidae* (600), including *Eoan-thropus* (65) (810), the Piltdown Man, are a Pleistocene by-product. Human beings emerge, talkative creatures with tools ; but there is little *promise* (375) of *machinery* (760) in their first *instruments* (51), the *eoliths* (65) (52).

Palaeolithic (341) (52) man is already an *artist* (812). He has left behind the *orifice* (528) of his cave *residences* (205) immortal *mural* (721) pictures, mostly of animals, his *ovine* (599), *bovine* (558), *feline* (580) and *canine* (564) victims and friends ; but he has not turned his back on food-gathering and hunting. *Cultivation* (192) of *arable* (734) areas is the achievement of the *Neolithic* (321) (52) revolution. The woman now plasters a *reticulum* (769) of sticks with clay. She shapes a vessel. She fashions bricks and weaves fabrics. The *ceramic* (707) and *textile* (57) *industries* (837) have begun. *Homo sapiens* (590) (406) is no more a migrant, but a creature with *a, fixed* (232) *domicile* (48), master *species* (424) of an *ecological* (205) (289) *system* (433) unique in the record of living beings. With more *stabilized* (232) seasonal *mores* (132), grain-growing man *adapts* (108) a makeshift calendar of *lunations* (649) to the exigencies of settled *agriculture* (631) (192). He has to record events. Out of a medley of calendrical *logograms* (289) (833) and *pictograms* (362) (833) the craft of writing comes to birth. The *natal* (318) hour of human *history* (260) is the beginning of an *annual* (61)

timetable *based* (158) on the *heliacal* (646) rising of the dog star. It is *now* (71) a short step to the sun calendar of the *heliolithic* (646) (52) *culture* (192) and the *ceremonial* (168) *incantations* (164) with which its priestly custodians drill the *cultivators* (192) of the soil into acquiescence.

The *Megaliths* (22) (52) were observation posts of the priestly *astrologers* (633) (289) and monuments of tribal *celebration* (168). Then as now, my-making (315) and *praxis* (370) strove for mastery ; as strive they must till *experiment* (219) becomes the *arbiter* (274) of *fantasy* (314) and *its minister* (304). The myth-makers (315) made themselves a *hierarchy* (153), the *bureaucrats* (816) (826) of a *theocracy* (436) (826), which reduced their fellows to *servitude* (258) ; and *helots* (258) toil in the sun to fashion the ornate (335) *sarcophagus* (539) (353) of a *regal* (849) corpse or to *decorate* (193) the limbs of his *uranian* (665) consort. While the medicine men *trepanned* (749) the skull to make a port-hole for the spirits and embalmed the body in a futile attempt to forestall *necrosis* (319), *myriads* (39) of common people rotted with *parasitic* (345) diseases which modern *science* (852) has eliminated.

We need not traverse a dreary record of *coronations* (681) inscribed on tombstones and *papyri* (800). Let us cull some items from school *biology* (161) (289). From what we learn about the circulation of the blood, we know that the *venous* (p. 219) flow from the lungs enters the left auricle and passes out by the great *arterial* (p. 219) trunk called the **aorta,** to the rest of the body. To do so, it has to traverse the two flaps of the ventricular *septum* (721), called the *mitral* (685) valve on account of their likeness to a bishop's hat. We also learn that the blood is not a *homogeneous* (113) (18) fluid. It contains red corpuscles, the *erythrocytes (216)* (499) which hold the *haemoglobin* (512), in contradistinction to the white corpuscles or *leucocytes* (281) (499). Some of the latter, the *phagocytes* (353) (499) can eat up **bacteria.** They grasp them by means of *pseudopodia* (379) (435), like the pond animalcule Amoeba.

The. human ear is a gold *mine* (651). In part, it is a *geotactic* (645), in part an *acoustical* (463) *receptor* (414). The former consists of the utriculus with its three semicircular canals at right angles, each with a flask-like *ampulla* (669) at one end. The utricular sac contains a calcareous *statolith* (427) (52), the displacement of which from its position of rest *stimulates* (479) different *receptive* (414) cells, and *semaphores* (413) (358) our space relations to the brain. The essential part of the *auditory*

(463) organ is the *sacculus* (671). The sacculus of mammals has a coiled portion, the *cochlea.* (570)*,* reminiscent of a snail's shell. It contains a membrane sensitive to *acoustic* (463) *oscillations* (453). The auditory and utricular *sacs* (671) are embedded in a bony *capsule* (819), the *periotic* (96) (531). The fluid of its *cavity* (167) has two membranous windows, the **fenestra rotunda** (714) and the **fenestra ovale** (714). Into the latter fits the stirrup bone or **stapes** (777), innermost of three ear ossicles which *transmit* (101) to it vibrations (452) from the ear-drum or **tympanum** (780), when sounds impinge on the latter. The other two ear ossicles are the median anvil bone or **incus** (756) and the outermost hammer-bone, or **malleus** (761).

Elementary (212) study of heredity introduces us to *phenotypes* (135) or genetically different individuals which seem alike, as opposed to *genotypes* (18) which are *genetically* (215) similar, i.e. have the same hereditary make-up. From elementary *genetics* (215) we learn that *gametes* (244) have the *haploid* (212) as opposed to the diploid number of chromosomes in the *fertilized* (228) egg or *zygote* (462) formed from their union. In genetics we meet *homozygotes* (113) (462), or pure-bred individuals formed from union of like gametes, and *heterozygotes* (259) (462), or hybrids formed from union of dissimilar ones. The old Teutonic word *sib* (854) is now the *international* term for brothers or sisters without discrimination with respect to **sex.** Plants and some animals which can propagate by *gemmation* (162) or budding are not dependent on sexual reproduction. The other root for a bud comes into many embryological terms, e.g. the *blastoderm* (162) (502) or plate-like embryonic area we see as a pink spot on the yolk of a fertile egg, when we crack one for frying.

Most terms for parts of the body correspond to adjectival forms we meet in any elementary text-book of human anatomy or animal biology, e.g. *abdominal* (483), *brachial* (485), *buccal* (486) , *epicanthial* (488)—see p. *cardiac* (489), *carpal* (490), *cephalic* (491), *costal* (496), *cervical* (493), *glandular* (496), *gastric* (506), *glenoid* (508), *gluteal* or *pygeal* (510), *haemal* (511), *hepatic* (513), *labial* (515), *renal* (524), *oesophageal* (527), *pelvic* or *coxal* (534), *sudorific* (542), *tarsal* (543), *thoracic* (545), *villi* (544). Two names are based on corresponding bones, the *calcaneum* (487) or heel-bone, and the *scapula.* (535) or shoulder-blade. One occurs in the *myoneural* (539) (525) junction, where the terminal *dendrites* (576) of the nerve *axon* (736) branch like a tree trunk in the muscle fibre.

The old term **vermes** for worm-like animals contributes a root to the *vermiform* (626) appendix, more shortly (and usually) the appendix of appendicitis. The *capillomotor* (546) (476) nerves to the muscle fibres of a cat's hair come into action when there is a dog about. *Capillomotor* shares the same root as *capillary* (546) tubes with a hair-like bore. *Somatic* (541) is the technical equivalent of bodily, and turns up in *chromosome* (174) (541), the name for cell bodies which stain deeply with basic dyes. *Keratin* (514) or horn protein is present in the *epidermal* (82) (502) cells of our own skin, and forms a waterproof layer, like the waxy substance *suberin* (620) of cork and of the epidermal cells of leaves. After removal of the natural fat *lanolin* (518), sheep's wool is almost pure *keratin* (514). *Trichina* (546), the hair-like thread-worm which produces muscle *trichinosis,* shares the same root as *atrichous* (545), i.e. bald. The **chondrocranium** (495) (497) is the cartilaginous skull of the **embryo** or new-born babe. **Thelin** (544) is the name of the female hormone which brings about growth of the nipples ; and a *bicornuate* (28) (514) *uterus* (550) is a two-horned womb, such as that of a cow, a cat or a cart-horse.

Both plant and animal anatomy introduce us to many descriptive epithets for shapes and textures. Such are: *glaucous* (250) for stem or leaf surfaces with a greyish bloom, *eriophyllous* (518) (603) and *laniferous* (518) for woolliness of leaf or stem, *rugose* (401) for roughness or coarseness to the touch, *campanulate* (676) for bell-shaped petals, *plicate* (366) for folded parts, *pinnate* (535) or feathety leaves like those of the **mimosa,** *lanceolate* (758) or spear-like ones, *spatulate* (775) like a spoon or **spatula** of the chemical balance, and *sagittate* (771) like an arrow. We meet *falciform* (752) processes, hook-shaped like a *falcon's* beak, and *pyriform* (610) *projections* (342), shaped like a pear.

The flower with its *calyx* (675), often cup-like, its **corolla,** its *andrecium* (4) or male parts and *its gynecium* (834) (205), i.e. pistil or *female* (5) *residence* (205), furnish a fresh set. The *ovule* (532) has a minute hole, the *micropyle* (23) (383), in its seed-coat or **testa** (697). Through it the pollen tube makes its way to the **ovum** (532) contained in the *megaspore* (22). Some ovules are *orthotropous* (336) (442), with the *micropyle* (23) (383) turned vertically above the stalk. More usually they are *anatropous* (442), with the *micropyle* (23) (383) beside the stalk. Some flowers, like the lily, are *hypogynous* (85) (834), with the **corolla** below the womanly part. Others, like the daffodil, are *epigynous* (82) (834), having the petals on and apparently supported by the ovary. Some flowers, like delphiniums,

have *apocarpous* (78) (566) pistils with *carpals* (566) apart from one another. Others, like the narcissus, are *syncarpous* (123) (566),. having the fruit parts fused together. Of such, some may be *schizocarpous* (408) (566), like the geranium, of which the *carpals* split apart when the fruit is *mature* (299).

Nutrition may be *holozoic* (21) (630) if wholly dependent on fresh organic material, *saprophytic* (407) (604) if the diet is decaying organic'matter, and *holophytic* (21) (604) if wholly peculiar to green plants, which alone are capable of *photosynthesis* (359). Mosses absorb water necessary for *photosynthesis* (359) by means of their *rhizoids* (613), i.e. rootlets. *Photosynthesis* depends on the absorption of light by the green leaf pigment *chlorophyll* (171) (603) which occurs along with a yellow colouring matter, *xanthophyll* (292) (603), mainly in the middle part of the leaf, or *mesophyll* (91) (603). *Chlorophyll* uses light to manufacture *carbohydrate* (788) (262) from water and *carbon dioxide* in the air. In daylight the *mesophyll* (91) (603) is rich in starch grains, broken down into sugar during darkness by an enzyme called *amylase.* Saliva also contains an *amylolytic* (670) (293) enzyme, i.e. one separating starch into sugar.   The insalivated and juicy food in the stomach itself is called *chyme* (569), based on a root which occurs in *parenchyma,* the juicy pith of a plant. Animals have no pigments which they can use, as plants use *chlorophyll* (171) (603) for *photosynthesis* (359); but many animals have pigment cells with *ramifying* (611) processes in the skin, and the migration of colouring matter in these branching processes brings about the colour changes for which the chameleon is proverbial. Such pigment cells may carry black pigment, as do the *melanophores* (300) (358), yellow pigment as do the *xanthophores* (292) (358), and red pigments as do the *erythrophores* (216) (358).

We can work in a host of items by means of a short synopsis of living creatures containing no terms outside a high-school biology syllabus. Before we put the modern *systerna* (434) naturae on the *tapis* (695) or *magic* (294) carpet of our *mnemo-technic* (308) (222) ingenuity, let us sidestep any *occasion* (328) for *disputatious* (201) *persons* (7) to *question* (42 and 24) the *credibility* (187) of our claims or to charge us with a *pseudo-simplicity* (379) which would leave a *stigma* (429) on an otherwise spotless record. The *onus* (331) of convincing *critics* (188) is on ourselves, and we concede a few items, admittedly based on association. Thus a doll is a three-dimensional example of *mimicry* (762) ; and the words

"each" and "every" are *singular* (17) substitutes for "all." A saw has teeth but needs no *dentist* (cf. 749 and 501) to extract them. The business of a burr (Amer.) or nut (Brit.) is to get its hole *occluded* (765) by the screw it *fixes* (232) ; and a bill is a *note* (839) our *computed* (839) expenses. Plates are usually *disc-like* (750). An oath in court is a legal *sacrament* (851) ; and the *skeleton* (729) is the framework which gives the body of a *vertebrate* its characteristic form. When man first dug ditches to drain the fields, he became a *fossorial* (715) mammal, but by that time he had learned two tricks no other mammals can perform. He could cover the *pudenda* (381) with a loin-cloth, and could construct the sort of *mobile* (22) property we call furniture.

Our pronouns **mi** (1), **tu** (2) and **na** (3) are frankly based on Aryan models (pp. 81-82); but the first two will offer no difficulty to a Finn, and the third will get by with anyone who speaks Tamil. **Mi** (1) also happens to mean *me* and *my* in the Yoruba language of Western Nigeria, where the preposited present particle *n'* does the same job as our own *pan*-Aryan (15) word *now* (71) and its *Interglossa* equivalent. Our *pen* (767) or *pencil* has next to cope with an unlucky thirteen based on *international* roots outside the scope of high-school teaching ; and the author would accept any *offers* (330) of substitutes with *gratitude* (251).

Fortunately three of the thirteen have synonyms with which the Anglo-American will find no difficulty. We have no good international roots for bread or cake. Though the *placenta* (688) or *afterbirth* comes from the Latin word for a cake, its associations are not tasty ; and though the Concise Oxford and Webster's both give *panification* (687) for bread-making, no *normally* (322) constituted person uses such a word. Only a pedant would say *veliferous* (783) for sail-bearing; but this root is common in names for floating animals with sail-like devices, e.g. the widely distributed pelagic *hydrozoon* (263) (630) *velella* (783), and the *veliger* **larva** of many molluscs. The word for a well is based on a root which occurs in names of animals which live in wells, e.g. the aberrant shrimp **phreatocus** (658), but few of them get into school text-books. The word for a club comes from a root present in names of animals with club-like tentacles, including a family of polyps, the **Corynidae** (747) with many genera whose names, e.g. **Syncoryne** (123) (747), also share it. *Psammophilous* (661) (355) plants prefer sandy soil, and the root occurs in names of denizens of the sand dunes. *Tyroglyphe* (664) is the generic name for the mites which *tunnel* (664) in cheese. It has a root

common to the *siphonoglyph* (418) (664), or ciliated tunnel on either side of the gullet of a sea-anemone or coral.

An adolescent who has made a hobby of entomology will have met *scute* (772) as the name for the dorsal shield of chitin on the segments of an insect's body, and **furca** (753) for the forked tails of some insects, e.g. earwigs. In medical terminology a **bursa** (671) is a little purse of liquid under the skin and **capsella bursa pastoris** (671) is the international name for shepherd's purse. *Rhabdites* (612), *rhabdoliths* (612) (52) and *rhabdoms* (612) are names for little glassy sticks in the *epidermal* (82) (502) cells of free-living **Platyhelminthes** (364) (626), i.e. flat worms, or the outer wall of sponges. *Thecodont* (619) teeth are teeth, like our own, with roots in a bony box or socket. *Thecate* (620) is a descriptive term for animals with a box-like covering, and the *hydrotheca* (263) (620) is the little box which protects the aquatic *zooid* (630) of a colonial polyp. A **pulvillus** or **pulvinus** (689) is a little cushion often found at the base of the leaf stalk of plants. **Vecti** (782) is the least happy choice in our word-list; and the best *mnemonic* (308) the author can offer is that a lever is a device for *getting* displacement differences through the same *vectorial* (7S2) angle.

We shall now show where **Homo sapiens** (590) (406) stands in the *scala naturae* (729) by finishing a *discursive* (206) narrative with a table of *international technical* terms for the common *classes* (821) and orders of living creatures. All these terms, being truly international, are assimilable with or without change in conformity with the rules given on pp. 238-241.

A. Protista—*micro-organisms* (23),

    I. CYANOphycea (194), (blue algae).

    II. SCHIZOmycetes (410), (bacteria or *microbes).*

    III. SporoZOA (630), parasitic forms including the

        malarial organism.

    IV. Ciliata *or* Infusoria, ciliated motile forms—the

        largest micro-organisms, e.g. *Paramoecium.*

    V. FLAGELLata (233), so-called because they move by a whip-like

        flagellum* (233), includes the sleeping-sickness parasite *Trypano-

soma, and the free-living CHOANOflagellata (678) with collar of cuticle round base of flagellum.

VI. **RHIZOPODA (613) (536), moving by root-like processes of body, e.g.** *Amoeba.*

Note.—-The usual name for III-VI inclusive is : Protozoa (139) (630).

B. **Plants or PHYTA** (604).

(i) **CRYPTOGAMS** (190) (244), flowerless plants.

I. **ALGAe—seaweeds.**

(a) **CHLOROphyceae** (171), green algae of pond water.

(b) **RHODOphyceae** (398), pink algae.

(c) **PHAEOphyceae** (352) brown algae, e.g.bladder wrack.

II. **Fungi.**

(a) **ASCOmycetes** (669), with flask-like spore vessels, e.g. witches' broom and ergot or rye.

(b) **Phycomycetes,** moulds.

(c) **Basidiomycetes,** mushrooms.

III. **BRYOPHYTA (559) (604), mosses and liverworts.**

IV. **PteridoPHYTA, (604).**

(a) **EQUIsetales** (578), horsetails.

(b) **FILICales** (579), ferns.

(c) **Lycopodiales,** club mosses.

(ii) **PHANEROGAMS** (354) .{244) or **SPER-MAPHYTA** (619)   (604)—seed-bearing plants with manifest sexual process.

V. **GymnoSPERMS** (619), cycads and *conifers* (573).

VI, **ANGIOSPERMS** (175) (619), flowering plants with closed seed vessels.

Note.—All our edible plants, as also *Nicotiana* (623) the tobacco plant, are *Angiosperms.* Flowering plants are likewise the source of our

plant foods and plant *filaments* (50) used for textiles (57). Thus the *Graminaceae* (587) or grass family includes all our cereals, **the** names of which are based on the international *generic* (18) terms, **e**.g. **zea** (maize), **oryza** (rice), *hordeum* (591), *triticum* (625), *secale* (616), *panica* (600}, and **avena** (oats). After separation of the seed from the *glume* (585) by winnowing, we grind the grain to make the flour of *our farinaceous* (645) foods. Our legumes, based either on the generic name as with **pisum** (605) or on the full binomial epithet as with **vicia faha** (579). The squash family *Cucurbitaceae* (574) is the basis of another item. The names of the three filaments of importance are based on the generic terms *gossypium* (586), *linum* (595) and *cannabis* (562). The *pome* (607) is the botanical name for an apple-like fruit. Other fruit names depend on generic or binomial epithets : to be found in the international *flora* (582). *Amyg dolus* (552) is the almond genus, and Amygdalus *persica* is the specific name of the peach (601) assigned to this genus. *Phoenix* (602), *Prunus* (609) and *Pyrus* (610) are generic names, as are *vitis* (629) and *ficus* (622). The synonym of the last name is (622) based on the Greek root in *sycophant* (see p.).

C. Animals or **Zoa** (630). I. **Porifera,** sponges.

II. Coelenterata (167) (503), so-called because the , single body cavity is also the gut.

(a) **HYDROZOA** (263) (630), polyps, hydroids,

zoophytes (630) (604).

(b) **ScyphoZOA,** jelly fishes.

(c) **ActinoZOA, sea**-anemones, corals.

(d) **CTENOPHORA** (748) (358), comb jellies, so-called from comb-like bands of ciliated cells they carry.

III. Echinodermata (551) (502).

(a) **ASTEROIDEA** (633), star fishes. *(h)* **ECHINOidea** (551), sea-urchins, so-called because of their spines.

IV. ROTIfera (770), wheel animalcules of pond-water.

V. NematHELMINTHES (626).

(a) **Nematoda,** thread-worms.

(b) **Acaiathocephala** (551) (491), hook-headed

parasitic (345) worms.

VI. PLATYHELMINTHES (364) (626).

(a) **Turbellaria,** *non-parasitic* (43) (345)/ flat worms.

(b) **Trematoda,** flukes.

(c) **Cestoda,** tape-worms.

VII. Molluscoidea.

(a) **POLYZOA** (16) (630), or **BRYOZOA** (559) (630), sea-mats, called the first because colonial, the second because the colonies may look moss-like.

(b) **BRACHIOPODA** (485) (536), lamp shells.

VIII. Annelida.

(a) **OLIGOchaeta** (14), earthworms—with few bristles of *setae* (773).

(b) **Hirudinea,** leeches, segmented worms with no *setae* (773).

(c) **POLYchaeta** (16), marine bristle-worms with brush-like tufts of *setae* (773) for swimming.

IX. Mollusca.

(a) **CEPHALOPODA** (491)(536),with limb around the head, e.g. *Octopus* (34) (536), and the cuttlefish *Sepia* (805), which   shoots out ink when disturbed.

(b) **GASTROPODA** (506) (536), *littoral* (95) forms such as limpets or whelks, and *terrestrial* forms such as snails and slugs.

(c) **PELECYPODA** (766) (536), clams, so-called because of the axe-like shape of the "foot." Here,come the pearl oyster, **ostrea margarifera** (798), and the scallop **pecten**   (748),   so-called because of the comb-like ridges on its shell. All Pelecypods are *bivalves.* The two parts of the shell have   a leathery hinge called the **cardo** (740).

X. ARTHROPODA (483) (536).

(a) **MYRIAPODA** (39) (536), *centipedes* (37)

(533) and *millipedes* (533), so-cafled because of their many feet.

(b) **Arachnida:**

  (i) **ARANEIDA,** spiders.
  (ii) **SCORPIONIDA,** scorpions,
  (iii) **ACARINA*** ticks and mites.

(c) **HEXAPODA** (32) (536) or **INSECTA,** insects.

  (i) **ORTHOPTERA** (336) (537), cockroach, locust, cricket, grasshopper.
  (ii) **DIPTERA** (537), flies, mosquitoes,
  (iii) **LEPIDOPTERA** (519) (537), moths and butterflies, whose wings have coloured scales, hence so-called.
  (iv) **PEDICULINA,** lice.
  (v) **SIPHONAPTERA** (418) (537), fleas—literally, wingless suckers.
  (vi) **COLEOPTERA** (744) (537), beetles-so-called because of their wing sheaths.
  (vii) **HymenoPTERA** (537), including thebees or *Apidae* (554), the wasp family or *Vespidae* (627) and the ants, of   which one genus, *Formica* (582), furnishes the painful root in *formic* acid, and hence *formaldehyde* of plastics.

(d) **Crustacea,** the shrimp tribe.

  (i) **CONCHOSTRACA** (530), Daphnids and other pond-water shrimps with a bivalve shell.
  (ii) **OSTRACoda** (530), Cyprids, so-called
  for same reason,

(iii) **CirriPEDIA** (533), barnacles, (iv) **COPEPODA**   (745) (536), see note on p.<u>29</u>*(e)* **PeraCARIDA** (565), wood-lice and sand-hoppers.

(f) **DECAPODA** (32) (536), lobsters of which one much-eaten genus is *Homarus* (589), and crabs of which the chief edible genus is *Cancer* (563). XI. **Prochordata*** near-vertebrates with a skeletal axis corresponding to the embryonic backbone (noto-chord) of vertebrates, and gill slits.   In general the gill slits do not open directly to the exterior. They extrude

water into a sort of courtyard or **atrium** (704), which opens to the exterior by the *atriopore* (704).

XI Prochordata, near-vertebrates with a skeletal axis corresponding to the embryonic backbone (notochord) of vertebrates, and gill slits. In general the gill slits do not open to the exterior. They extrude water into a sort of courtyard or **atrium**(704), which opens to the exterior by the *atriopore* (704)

(a) **HEMIchorda** (40), acorn worms.

(b) **TUNICAta** (701)   or UROCHORDA(548), sea squirts, with a gelatinous tunic and a tadpole-like larva with notochord confined to tail.

(c) **CEPHALOchorda** (491) or **ACRANIA** (497), *Amphioxus* (144), so-called because pointed at both ends, the most fish-like of the prochordates. The notochord is continuous in the head region, hence first name, and it has no skull like a true vertebrate, hence the alternative.

XII. Vertebrata.

(a) **CYCLOSTOMATA** (712) (528), lampreys and hags, with round suctorial jawless mouths, and no paired fins, are survivors of the most ancient group of Vertebrates, represented in the rocks by such fossils as **CEPHALASPIS** (491) (773), so-called because of its broad head-shield.

In contradistinction, the remaining forms with mouths furnished with jaws are **GNATHOSTOMATA** (511) (528) :

(b) **PISCES** (605), fishes with paired fins.

(i) **Selachii** (617), sharks and skates.
(ii) **Teleostei** (529), fishes with true bone,
(c) **AmphiBIA** (161).

(i) URODELA (548), tailed amphibians such as newts and salamanders.
(ii) ANURA (548), tailless forms with saltatory (403) hind limbs, frogs and toads.
(d) REPTILIA, unlike foregoing, have a*cleidoic* (743) egg, and no aquatic larva,

(i) CHELONIA, tortoises, turtles.
(ii) OPHIDIA, snakes.
(iii) LACERTILIA, lizards.
(iv) CROCODILIA, crocodiles and alligators.

(e) **AVES** (555), birds, including the Jurassic bird lizard *Archae-opteryx* (537).

(i) **RATITAE**, flat-breasted running birds such as ostrich, with a reptilian type of palate called dromeognathous (206) (510), because the sort of jaws running-birds have.

(ii) **CARINATAE**, flying birds with fluted palate, breast-bone with deep keel or carina for attachment of wing muscles.

Many sing by means of reed-like voice-box, the *syrinx* (778), where the **trachea** (wind-pipe) divides to form the **bronchi.** Here comes the swan genus *Cygnus,* which we recognize in *cygnet* (575), the duck family **or** *Anatidae* (553), of which the geese form the sub-family *Anserinae* (554). The most useful bird is *Gallus* (584) *domesticus,* the domestic fowl.

*(f)***Mammalia.**

(i) **MARSUPIalia** (684), kangaroos and other mammals with pocket for young,

(ii) **XENARTHRA** (149) (484), sloths, armadillos and ant-eaters, so-called because of unusual joints of **vertebrae.**

(iii) **RODENTIA,** including the mouse and

rat family *Muridae* (597), the *Leporidae* (594) or rabbits and hares, also squirrels.

(iv) **CHIROPTERA** (594) (537), bats, so-

called because the hand modified to form a wing.

(v) **CETACEA,** whales, dolphins.

(vi) **PINNIPEDIA,** seals, walruses.

(vii) **CARNIvora** (682), the flesh-eating mammals such as bears or *Ursidae,* the cat family or *Felidae* (580), which includes *Felis tigris,* and the dogs or *Canidae* (564), including the wolf, *Canis lupus* (596), and *Canis vulpus* (629), the fox. Their immediate ancestors were the *Creodonts* (682), such as the sabre-toothed tiger. The root *crea-* occurs in various

compounds extracted from meat, e.g. *creatine,* excreted in the urine if the diet is meaty.

(viii) **PROBOSCIDEA** or **PACHYDERMATA** (339) (502), the *Elephantidae* or *elephants* (577).

(ix) **UNGULATA** (547), hoofed mammals, including the *Equidae* or horse family, to which belongs *Equus asinus* (557), the donkey; *theBovidae* (557) or cattle; *Ovidae* (601), or sheep family, which also includes the goat genus **capra**; the *Cervidae* (567) or deer, the *Camelidae* (561), including *camels* and *dromedaries* (206), and the *Suidae* (621) or pigs. With the exception of the pig tribe, ungulates are herbivorous, and like rodents have crested or *lophodont* (420) molar teeth with which to crush J;heir food.

(x) **PRIMATES,** monkeys, *Simiidae* (618), or apes, and *Hominidae* (590), human beings.

MONO MELANO ANTHROPI

MONO MELANO GYNA

BI MELANO ANTHROPI

BI MELANO HOMINI

MONO MELANO ANTHROPI
PLUS
MONO MELANO GYNA

BI ERYTHRO ANTHROPI

BI ANTHROPI

MONO MELANO ANTHROPI
PLUS
MONO ERYTHRO ANTHROPI

BI ANTHROPI PLUS MONO GYNA
TR'I HOMINI

MONO MELANO ANTHROPI
PLUS
MONO ERYTHRO ANTHROPI
PLUS
MONO MELANO GYNA

TRI MELANO GYNA

TETRA MELANO ANTHROPI
PLUS
BI ERYTHRO ANTHROPI
PLUS
TRI MELANO GYNA
PLUS
BI ERYTHRO GYNA
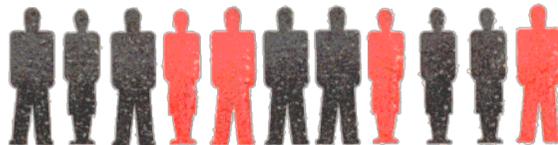
MONO MONO HOMINI
HEPTA MELANO HOMINI PLUS TETRA ERYTHRO HOMINI
HEXA ANTHROPI PLUS PENTA GYNA

ISOTYPE

LEARNING BY ISOTYPE
Because INTERGLOSSA is a purely isolating language like
Chinese, it is possible to teach it by means of the universal picture language ISOTYPE.

91

OVA

LARVA

PUPA

IMAGO

OVA
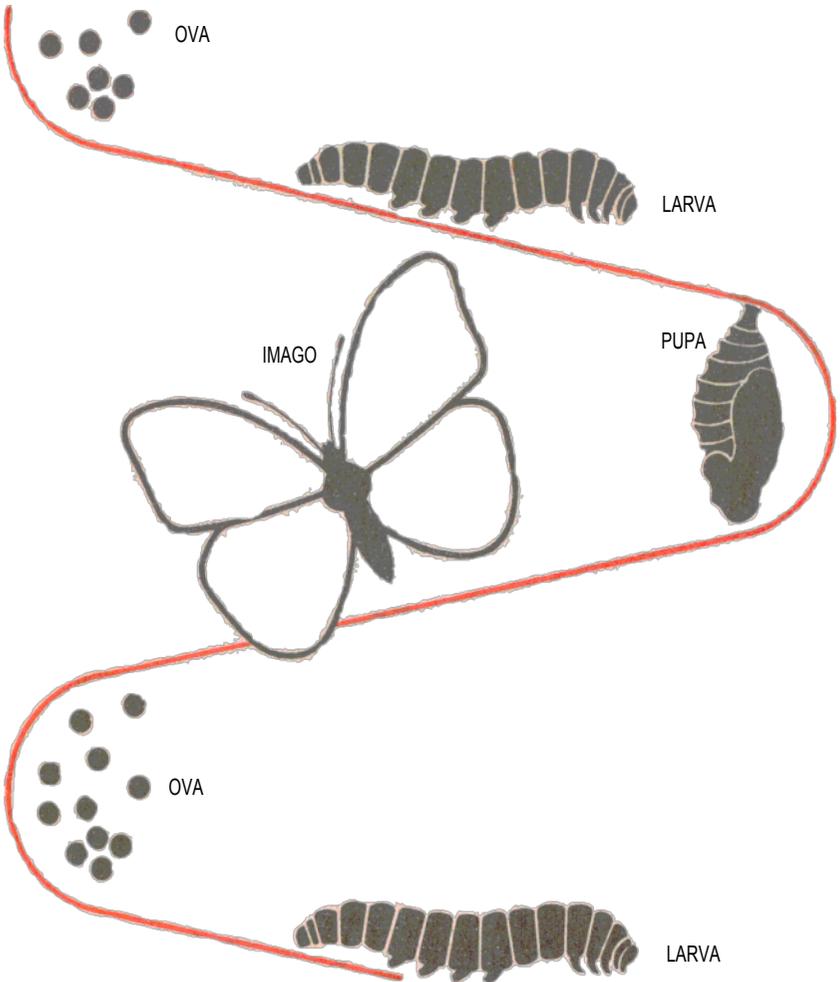
LARVA

NU LARVA
LARVA POST OVA = OVA PRE LARVA
OVA POST IMAGO = IMAGO PRE OVA
IMAGO POST PUPA = PUPA PRE IMAGO
PUPA POST LARVA = LARVA PRE PUPA

ISOTYPE

BOTANY BRINGS HELP TO THE BEGINNER

The complete flower (top left) with its *cup-like* CALYX (675), COROLLA and ANDROECIUM (4) (209) inserted *below* the FEMALE (5) *residence* or GYNAECEUM (834) (209) is HYPO. GYNOUS (85) (834). It is also SYNPETALOUS (123) and SYNCARPOUS (123) (566) because the parts of the corolla and fruit are fused *together.* The OVARY (532) is MONO-SPERMOUS (27) (619) *i.e.* has one seed. The OVULE (532) or immature seed is ORTHOTROPOUS (336) (442), having its MICROPYLE (23) (383) of *little perforation* for the pollen tube *turned* vertically upwards. On the right is the ovule with the MEGASPORE (22) and TESTA (697) *i.e.* seed coat. Below are different arrangements of FLORAL (582) parts in flowers of various sorts.

Essential FLORAL Organs
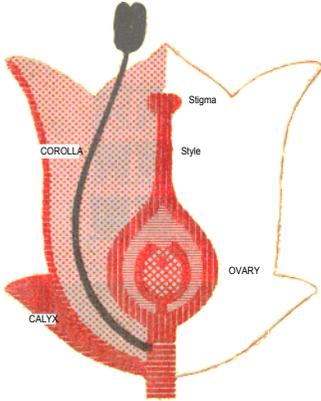
GYNECIUM; Stigma, Sty|e/ OVARY
PERIANTH: COROLLA, CALYX
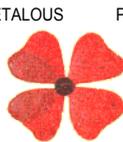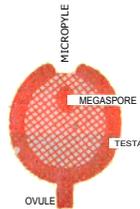
AN   (4)   GYNA (834)   MONO   (27)   PYLO   (38
CALYCI (675)   HEX A (32)   ORTHO (336)   SPERMA (619)
GARPA (566)   HYPO   (85)   OVA   (532)   SYN   (123)
ECO   (209)   MEGA   (22)   PENTA (31)   TESTA   (697)
FE   (5)   MERO   (19)   PERI   (96)   TETRA (30)
FLORA (582)   MICRO (23)   POLY   (16)   TROPO (442)

93
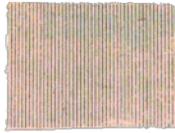
OLIGO HOMONO IN KINEMA
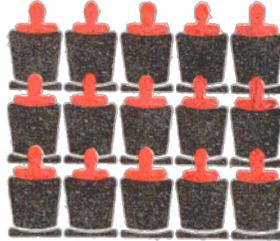
POLY HOMONO IN KINEMA

OLIGO ASTRA IN URANI

POLY ASTRA IN URANI

BI ERYTHRO ANTHROPI IN KINEMA
OLIGO HOMINI IN KINEMA
PRE 8 HORI
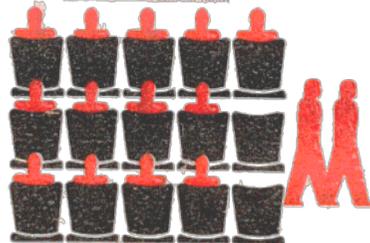
BI ERYTHRO ANTHROPI KINE APO KINEMA
POLY HOMINI IN KINEMA
POST 8 HORA

7 HORA
(PRE 8 HORA)

8 HORA

9 HORA
(POST 8 HORA)

ISOTYPE

PART II

The next five chapters set forth the use of all the essential vocables of *Interglossa* with special reference to the semantic obscurities of English usage. Their completion awaited the preparation of a glossary of *Interglossa* equivalents for 10,000 most common Anglo-American words with their several meanings and idioms in which they occur. The English-*Interglossa* dictionary, compiled by Mrs. Dorothy Baker in consultation with the writer, appears as a companion volume. What follows does not attempt to duplicate its entire contents. We here confine ourselves to constructions likely to make demands on the ingenuity of the reader, especially the reader who is not as yet alert to the semantic pitfalls of the English— including and more especially Basic English—language.

The reader who is accustomed to the method of teaching a language by pairing off each of its vocables with that of' another may be at first surprised by the number of equivalent Anglo-American words cited against each of the items which v follow ; and may get the impression that the meaning of an *Interglossa* vocable is proportionately diffuse. This is the reverse of the truth. The diffuseness of meaning which almost any Anglo-American vocable has acquired by metaphor, transferred epithet (e.g. *fortunate),* metonymy, synecdoche, litotes, or even oxymoron *(condescend),* makes it impossible to render the exact delimitation of a well-delimited vocable without the device of listing a constellation of near-synonyms and leaving the reader to extract its essential meaning from what is common to all of them.

V. PSEUDONYMS (PRONOUNS), ARTICLES AND INTERROGATIVE OR IMPERATIVE PARTICLES (60)

Class I.   The Eleven Pseudonyms

Of the eleven items in this class, five are contractions of international roots. The first three are not truly international in the sense defined on p. 13, but they have a wide range. The Gaelic mi is the universal Aryan first person pronoun (French *me,* Russian dative *nine,* Swedish *mig,* Persian *man,*etc.), and outside the Aryan group we have the Finnish **mina. Tu** is Persian in form and range, and is the universal Aryan singular form (French *tu,* English *thou,* Russian *te).* It also recalls the Finnish plural **te.** A satisfactory choice for the first person plural is more difficult, Aryan languages offer alternative forms (M-form *plural,* and N-form primitively *dual).* The Greek dual which recalls the N-form of Romance languages, suggests **nam** of Tamil. The Russian dative is also **nam.** Admittedly an N-form is confusing for the Chinese or for Swedes. Alternatives worth considering for (i) and (2) are : (1) **wo** (Pekingese *wo,* Cantonese *go,* Ital. *io,* Span, *yo),* (2) **ni** (Pekingese *ni,* Cantonese *ne,* Swedish *Ni),*

> (1) **mi,** *I, me, my*
> (2) **tu,** *thou, thee, you, thy, your*
> (3) **na,** *we, us, our*

Members of this class, other than (8), can be substantive- or adjective-equivalents :

> (4) **an,** *he, him,*

for male human beings is for mnemotechnic purposes chosen as abbreviation for *andros* (in *polyandry, gynandromorph)* and can mean *male(s)* as noun or adjective (cf. Scand. *hanlig)* if preceded by an article :

> **an pre date re a mi** = *he gave it to me*
> **poly an**   = *many males*
> **un an persona**   = *a male individual*

> (5) **fe,** *she, her,*

for female human being (short for *femina* in*feminism),* can also *mean female(s)* after an article.

> (6) **re,** *it, its, something, anything,*

is short for *res* (see p. 256 ???). With an article it can mean *thing(s)* in the most general sense (topic).

(7) **pe,** *one, one's,* is an abbreviation of :*(7a)* **persona.** It stands for a human being of indefinite sex when we should say " *he or she,' " him or her," " his or hers,"* one, someone, anyone. The full form means *person(-al), (s),* if preceded by an article. **Pe** is analogous to the Scandinavian common gender pronoun *den.*

(8) **mu,** *they, them,* is the plural pronoun of the third person, short for the internationally current root multi- of *multitude, multiply,* etc., and has no other use except in so far as it appropriately takes the place of the pronouns *these* and *those:*

mu habe eu = *those (they) are good*

(9) **auto** is the *reflexive* pronoun equivalent to *myself, yourself, ourselves, himself, itself, herself, oneself,* **and** *themselves.*

As such it takes its proper place as direct object after the verb. Its compounds with the above (mi-auto etc.) are corresponding emphatic pronouns. Like (1-3) and (8), it is possessive by juxtaposition and as such refers back to the subject like the Danish sin, sit, sine

It is then equivalent to *my own, your own,* etc. Its ad jectival value is *sejf* or *personal* (private), and with this meaning occurs in compounds, e.g. auto-aetio *(shame* = self-blame) :

Mi-auto pre dicte re = *I myself said so*
Mi acte lavo auto = *I am washing myself*
Mi acte phoro auto bibli para = *I am bringing my book here*
Mi acte phoro plu auto bibli = *I am bringing my books*
Un auto negotio = *A private affair*
(10) **recipro means** *one another or each other,* and as adjective or noun it is equivalent to *reciprocal* and *reciprocity* respectively. As adverb-equivalent, it means *each to each :*

Plu micro pedio-pe : esthe philo recipro = *Little children, love one another i*
Mu habe iso recipro = *They are equal each to each*

(11) **su,** short for *subject* (French *sujet,* Swedish *subjekt*

Spanish *sujeto),* is the *relative pronoun subject* corresponding to the single English *that* for *who* or *which* (see p. 40). Like other pseudonyms (see below), it is possessive (= *whose)* by juxtaposition, provided that it goes with the *subject* of the relative clause :

> **U gyna; su fili perde bio pre-di** = *A woman whose child died yesterday*

The following rules are essential :

> *(a)* **Mu** is, like the French *on,* Teutonic *man,* useful to short circuit passive expression :
> **mu dicte** = *it is said* (they say)

> *(b)* The possessive construction for *substantives* (p. 120) ??? also holds good for pseudonyms, i.e. we express *my, her,* etc., by the postposited constructions de mi, de fe, etc. Thus we have: -
> **u domi de fe** = *her house* **de domi de fe** = *of her house*

Recourse to the shorter device of. mere juxtaposition *ii* a legitimate way of expressing *my, your, our* or *their,* but *only* when the possessive replaces the empty singular article **u(n)** or when **the** latter is unnecessary (see below). The roundabout construction is the only one appropriate when there is **an** accompanying plural article :

> **tu bibli** = *your book*

> **pan bibli de tu** = *all your boohs*

For *his* or *her* before a *substantive* in contradistinction to a verboid (p. 51), we must always use **de an** or **de fe** because the preposited pseudonym signifies *male* or *female :*

> **u fe parenta**   = the mother
>
> **u parenta de fe** = her parent
>
> **un an ovi**   = a ram
>
> **un ovi de an**   = his sheep

> *(c)* **Pe** is the common element of occupational compounds analogous *toman* in *postman, hangman,* etc., e.g. **scholo-pe** = *teacher* (pp. 98-99). It is therefore equivalent to the agent

suffix *-er.* Where necessary, we can use **-fe** in the same way, **e**.g. **dramo-fe** = *actress.*

(d) In the same way - **re** makes compounds which signify the material thing associated with an abstract property. Thus with the amplifier **clepto** *(theft)* we can make **clepto-re** *(booty, spoils)* ; or with the verboid **tene** *(hold, keep)* we have **tene-re** = *prop, holder, support.*

(e) All pronoun-equivalents other than those mentioned are constructions involving **pe, re** or **mil,** e.g. :

satio mu = *enough* (of them) **mero re** = *a bit* (of it)

Class II,   The Fourteen General Articles

A group of fourteen words has the double function of *(a)* indicating number *(sing.-plur.)* ; *(b)* acting as signposts of sentence-landscape by labelling a noun cluster as such. With two classes of exceptions, every substantive which does not follow one of the pronouns **mi, tu, na, mu** and **su** in its *possessive* sense must accompany one of these fourteen articles *or* a numeral. The exceptions are : *(a)* names of *places, folk* and *persons ; (b) singular* substantive clusters introduced by the place markers **in, extra,** etc. (76-99) and (101), and associative particles **anti** (103), **de** (109), **homo** (113), **minus** (115), **per** (117), **plus** (118), **post** (72), **pre** (73), **pro** (120), **syn** (123), which have no nominal equivalents listed below.

Singular Plural (12) **u(n)** (13) **plu**

These are *empty* words with no function other than as number-markers. The corresponding pronouns are **pe or re** for **u(n)** (short for Lat. *unus* in *unify),* and **mu** for **plu** (short for Lat. *plures* in *plural).* The singular empty article can replace *a, an.* Either of them can replace the non-demonstrative articles *the, some, any.* **U(n)** is the usual article for use with an abstract or group **(un espero** = *hope),* **plu** marks the plurality of a noun which need have no article in English **(plu gyna** = *women, some women, the women).* The corresponding demonstratives are formed with (95) **para** *(here),* and (78) **apo** *(away),* cf. Swedish *del hdr* and *del ddr) :*

u para = *this* **plu para** = *these*
un apo = *that* **plu apo** = *those*
The corresponding pronouns are :

u para pe = *this (one)* **(person)**   **plu para pe** = *these (ones)* **(persons)**
u para re = *this (one)* **(thing) plu para re** = *these (ones)* **(things)**
un apo pe = *thai (one)* **(person)**   **plu apo pe** = *those (ones)* **(persons)**
un apo re = *that (one)* **(thing) plu apo re** = *those (ones)***(things)**

The objection that the demonstrative articles and corresponding pronouns are unwieldy is not a formidable one. The history of language shows the constant degradation of demonstratives through overwork. Long ones are less likely to obtrude into situations where the context is sufficiently demonstrative.

Note.—**U(n)** means *any* unless we want to emphasize a choice of possibilities, i.e. unless *any* means *each*. We then use **singulo** (17). **Plu** means *some* unless we want to emphasize its partitive meaning. We can then use **u** mero **de plu** (19).

The next three are purely plural:

(14) **oligo,** *few, a few* Corresponding pronouns :

oligo pe = *few, few of them* (persons) **oligo re** = *few, few of them* (things)

(15) pan, all

Note.—**Pan** does not mean *each* (17) or *the whole of* (21) Corresponding pronouns with **pe** and re as above.

(16) **poly,** *many, numerous*

Corresponding pronouns with **pe** and **re** as above.

The next three are purely singular and, like the remainder, have substantival equivalents given in parenthesis :

(17) **singulo,** *each, every*

Means the same as *all* with the additional qualification that any statement made about the group applies to the individual members separately, and not to the group as a whole. It may precede a numeral, if what follows is a single group within a larger group :

singulo bi poda = *each pair of legs*

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The pronouns are :

singulo-pe = *everybody, everyone, each* (person) **singulo-re** = *everything, each* (thing)

(18) **geno,** *a sort of, the kind of, such a (kind, sort, class)* As article it is short for **u geno de :**

geno gyna = *the sort of woman, such a woman* **geno avi** = *a kind of bird, some birds*

As substantive :

de homo geno =. *of the same sort, kindred*

We can often render *such* more appropriately by **un homo** or **plu homo** (113) = *the like, (a) similar,*

(19) **mero,** *a bit of, a piece of, a part of (part), partly* As article it is short for **u mero de :**

mero pani = *a piece of bread, some bread*

The substantive construction **u mero de plu** does for *some (of the) :*

u mero de plu gyna — *some (of the) women*

The corresponding pronouns are :

mero re = *some* (of it) **mero mu** =y *some* (of them)

The compounds u **mero-pe** *(person) or* **u mero-re** *(thing)* mean *a member* (of a group).

(20) **solo,** *the sole, a solitary, singly, exclusively one, alone* This means *only* or *single* when *only* and *single* are interchangeable, and is equivalent to *only* in *two* situations: *(a)* when it follows *a* or *the ;* (b) when it precedes a *pronoun.* It is *not* equivalent to *only* as qualifier of an attribute or numeral (p. 119) :

solo domi = *the only house, a single house* **solo fe** = *only she, she alone*

When *only* follows the article *the* and precedes a **plural** noun it is equivalent to *the only sort of* **(solo geno) :**

solo geno equi; su acte re = *the only horses which do so*

To preserve the word-order of *Interglossa* we may have to use the corresponding pseudonym :

Plu neo domi eque solo geno re ; mi esthe philo

The only houses I like are new ones (New houses are the only sort I like)

The next four are singular articles, but can qualify a plural noun if preceded by **plu, oligo, pan** or **poly:**

> (21) **nolo,** *the whole, complete, completely (completeness)* As an article, adjective-equivalent and substantive in :

holo historo = *the whole story, a complete story*

plu holo domi = *complete houses*

un holo de historo = *the completeness of the narrative*

Corresponding pronoun **holo re** = *the whole* (of it) or *all.*

> (22) **mega,** *much, a big, large, great(ness)* The following are illustrative:

mega hydro = *much water* **mega domi** = *a big house* **mega espero** = *much hope* **plu mega domi** = *(the) large houses* **mega re** = *much* (of it)

Before an amplifier **mega** can have the force of *very,* for which it is better to use (233) **forto** *(intensely),* especially before **mega, micro, major, minor,** e.g. :

forto micro pani = *very little bread*

> (23) **micro,** *a little, small(ness)*

micro hydro = *little water* **micro domi** = *a small house* **micro espero** = *little hope* **plu micro gyna** = *(the) small women* **micro re** = *a little* **(of** it)

Note that **micro re** is not *partitive.* We often say *a little,* where mero is more appropriate.

(24) **quo,** *which? what?*

quo domi = *which house ?* **plu quo domi** = *which houses ?*

Quo is purely interrogative, *never relative* (see pp. 39-<u>40</u>. **The** corresponding pronouns are :

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quo pe *who, which of them ?* (persons) **quo re** = *what? which of them?* (things) **quo mu** = *which ones ?*

(25) **satio,** *enough, sufficiently), (sufficiency)*

This article is singular or plural as the context dictates. It appears as an article because it qualifies the substantive cluster as a unit.

Satio pani = *enough bread*

satio ovi = *enough sheep*

satio re *(or* **mu)** = *enough* (of it *or* them) **un auto-satio** =. *self-sufficiency*

Unlike its equivalent *sufficiently,* the English *enough* follows an adjective it qualifies. **Satio** takes up the usual position :

u satio mega domi = *a large enough house* **re habe satio tbermo** = *it is hot enough*

The following couplet is useful:

satio eu = *adequate, good enough*

All the preceding form demonstratives with **para** and **apo:**

mero para re = *a bit of this* **quo para pe** = *which of these people ?*

satio apo domi = *enough of these houses* **singulo para gyna** = *each of these women* **pan apo re** = *all of those*

Class III.   Numeral Articles

A *cardinal* numeral of *Interglossa* is an article, i.e. if it stands for a number alone it requires no article of Class II. The numeral vocabulary of natural languages antedates either : *(a)* the principle of arithmetical position, *(b)* the algebraic conventions for multiplication (a *beside* b = a *times* b), and division (a *over* b = a *divided by* b). In view of *(a)* we need only nine ordinary numerals, supplemented by **zero :**

It is also the *emphatic negative particle (by no means, certainly not),* and as such can replace **no** or **non** (96) before the verb or in answer to a question :

An zero pre date re a mi
He certainly did not give me it

The couplets **zero pe-** and **zero re** stand for *nobody, none, not . . . anybody,* and *nothing, no one, not . , . anything.*

Never use **no . . . pe, no . . . re** for *not . , . anyone, not . . . anything* (see note after (7)).

Zero pe *(or* **re) de bi** X means *neither X,* if we need to be explicit, but **zero** does for *neither* as adjective or (with **pe** *or* **re**) as pronoun.

    (26) **zero** *zero, no*

    (27) **mono** *one*   (28) **bi** *two, both*

    (29) **tri** *three*   (30) **tetra** *four*

    (31) **penta** *five*   (32) **hexa** *six*

    (33) **hepta** *seven*   (34) **octa** *eight*

    (13) **nonea** *nine*

Four other cardinals are useful to specify decimal *magnitudes :*

    (36) **deca** *ten*   (37) **centi** *hundred*

    (38) **kilo** *thousand*   (39) **myria** or **million** *million*

The following fraction is useful:

(40) **hemi,** *half* Enumeration follows mathematical usage :

            Mono bi hexa tri zero penta

One hundred and twenty-six thousand three hundred and five

Each of the above forms pronouns and demonstratives of the type prescribed :

        bi para domi = *these two houses*

        penta pe = *five of them* (persons)

        tetra apo re = *those four* (things)

        tri re de plu apo re   = *three of those* (things)

        hemi re = *half* (of it)

For numeral multiples and fractions we follow algebraic conventions, using **latero** (89) and **supero** (98), **i.e.** *X times Y* is *X beside Y* (X **latero Y)** and *X/Yths of Z* is *X over Y beside Z* (X **supero Y latero Z) :**

> **hexa latero deci** = *six times ten*

> **tri supero tetra** latero **bi mono** = *three quarters of twenty-one*

By analogy we may legitimately extend the same practice to *metrical* multiples :

> **penta latero mono masso (de)** = *five times as heavy (as)*

> **tri supero penta masso (de)**   = *three-fifths as heavy (as)*

For *ordinal* relations we may take advantage of a trick of wide currency, illustrated in English by *psalm twenty-three, room number four, part III, chapter 6.* That is to say, we post-posit the numeral, e.g. :

tri gyna de an = *his three wives*
gyna tri de an = *his third wife hi*
tri canto   = *twenty-three songs*
  u canto bi tri = *the twenty-third psalm*

For *so many times* in a temporal sense, and for *so many apiece,* we use respectively **chron** (62) meaning *occasion* (definite time), and **singulo pe** *(or* **re),** *each :*

Accordingly we have :

mono chron = *once*   **bi** chron = *twice*   **tri chron** = *three times* **Mi pre dicte re tri chron**   = *I said so three times* **Singulo pe** *(or* **re) habe tri re** = *They have three apiece* (each has three things)

Class IV. Interrogative, Imperative, Negative and Comparative Particles

As stated (p. 34), the word-order of statements, questions and commands is unchangeable in *Interglossa.* Appropriate particles at the *beginning* of a statement give it the sense of a request, a command or **a** question.

(41) **peti** for *polite* imperative is short for :

(41a) **petitio** = *request,* e.g. :

Tu kine topo = *You are going there*
Peti tu kine topo = *Go there, please,* **or** *please go there*
Peti mi permito gene u cafa = *Can I have some coffee ?*

By itself **peti** does service for *please.* For *no thanks* use **peti no.** The full form **petitio** is an amplifier. Thus we have :

Mi dicte petitio   = *I request (I express a request)*
Mi pre gene petitio = *I was requested (I got a request)*

Like all amplifiers it may slide into a substantive cluster, and we recognize it as a noun-equivalent by the accompanying article, e.g. **plu proximo peti(tio)** = *some recent requests.*

For the impolite imperative we can simply drop out **peti tu** without change of word-order. We may then say :

Kine antero = *Go in front*

The need for the strong imperative will be rare, except in history books. An international auxiliary of peaceful communication is not for generals or for conversation with the cat.

Note.—Needless to say, the peti construction, and the contracted form given above, is not co-extensive with all situations involving the so-called imperative of an Aryan verb. The Aryan imperative may merely express a pious hope, aspiration, yearning or desire, which we make explicit as such, e.g. :

Na uranl parenta : na. dicte volo; tu nomino gene revero

Our Father which art in heaven, hallowed be thy name (i.e. Our heavenly parent, we express the wish (that) thy name gets worship)

Semantics of Interrogation

We may regard any question as a statement accompanied by a request to elicit either :

(a) Confirmation or denial of the statement as a whole, e.g. :

Is this your book ? = This is your book : state if true or false

(b) Additional information not explicitly contained in the statement itself, e.g. :

Whose book is this ?   = This is someone's book : state owner's . *name*

When did you do this ? = You did this : state *time*

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For *simple* questions, i.e. for questions of class *(a)* above, we have recourse to the preposited interrogative particle :

(42) que, short for :
(42a) questio = *interrogative or question*

Que takes the *initial* position like **peti; The** full form *(42a),* like **petitio,** is an amplifier :

Mi pre dicte questio mu de re = *I asked them about it*

Mi pre gene questio e mu de re = *I was asked by them about it*

As an amplifier it may take the place of an epithet or noun-equivalent in a substantive cluster :

u nu questio = *the present problem*
u questio moro = *the interrogative habit* (i.e. *curiosity*)

The following illustrate the use of **que** as signpost of the simple question:

Que tu pre date re a mu = Did you give it to them?
Que tu habe poly re = *Have you many of them ?*
Que re habe thermo = Is it hot ?

The second class **of** questions, i.e. *(b)* above, includes those which begin with *who, whom, whose, which, what, where, when, why, how.* The equivalent for all of these involves **quo** (24).

For questions Involving *who, which, what,* as subject, the word-order of English and *Interglossa* is the same, e.g. :

Quo pe habe re = *Who has it?*

When the topic of interrogation is *not* the subject, the word-order of *Interglossa* remains as in the equivalent affirmative statement:

Tu esthe volo quo re = *What do you want ?*
Tu pre date re a quo pe = *To whom did you give it?*
Fe eque u gyna de quo pe = Whose wife is she?

Questions which begin with an interrogative adverb reduce to the same general type. Thus :

where ? = at what place ? or *in what position ?*
when? — at what time? on what occasion? or *during what interval?*
why? — to what end ? with what aim ? or *for what reason ?*

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The prepositions in the equivalent English substantival phrases are redundant.   Accordingly we have :

where? = **quo loco** (53) *or* **quo topo** (100) *when?* — **quo chron** (62) *or* **quo tem** (75) *why?*   = **quo causo** (104) *or* **quo tendo** (125)

Such expressions as the above are interrogative qualifiers of what would otherwise be a plain statement. As such they may come at the beginning or at the end (p. 36) of it:

Fe habe eco quo loco = *Where is she living ?*
Quo chron re pre habe accido = *When did it happen ?*
Quo tendo tu kine apo = *Why are you going away ?*
Quo causo re habe thermo   = *Why is it hot?*

The uses of *how* are various. For *how soon ?* or *how recently ?* we can use **quo chron** or **quo proximo** (121) to elicit the appropriate response. Otherwise we may distinguish between the following situations :

(i) When *how,* signifies *by what means ?* the appropriate construction is **que methodo** (302) :

Quo methodo tu acte re = *How do you do it ?*

(ii) When *how* precedes a *metrical* abstract it is equivalent to **quo** alone :

Re habe quo metro de alto = *How high is it?* (what height

has it ?)

Re habe quo masso = *How heavy is it ?* (what weight

has it ?)

(iii) *How often?* is **quo frequo** (238) = *with what frequency ?* e.g. :

Tu pre acte re quo frequo = *How often did you do so?*

(iv) When *how* precedes a numeral qualifier such as *few many,* or when it precedes *much* and *little* applied to enumerable objects, we use **quo numero** (327), e.g. :

Tu habe quo numero ova = *How many eggs have you?*
An habe quo numero valuta = *How much money has he ?*

(v) When *how* precedes *much, little,* or any abstract which i; *implicitly* metrical, it is equivalent to *in what measure ? o\ to what extent?* For this we have **quo metro** (114) :

Quo metro re habe malo = *Just how bad is it ?*
Quo metro tu habe u texti = *How much cloth have you got ?*

The periphrastic interrogative adverbs **quo loco, que causo,** etc., can introduce either a rioun-clause or a phrase involving an English infinitive-equivalent with an interrogative flavour :

Mi non esthe sapio; quo causo tu pre kine apo
I don't know why you went away

Mi non esthe sapio; quo methodo de gene re
I don't know how to get it

What, which, or *whom* may also introduce a noun-clause with an interrogative flavour, e.g. :

Mi pre dicte questio; tu esthe volo quo re
I asked what you wanted

Mi dicte questio : tu esthe volo quo pe
I am asking whom you want

The interrogative article is *not* redundant in the preceding examples. Thus:

Mi pre dicte questio; que tu esthe volo re
I asked whether you wanted it

As the object of a noun-clause *whom, which, what* may mean *the person* or *the thing* which is the *implicit object* of the principal, and it is sometimes more appropriate to translate it by means of a *relative* construction :

Mi esthe sapio re; tu esthe volo = */ know what you want*
Mi esthe sapio pe; tu dicte tendo = *I know whom you mean*
An esthe sapio re; auto debito acte = *He knows what to do*
Fe no poto acte re; an acte = *She cannot do what he* does

Negation

The negative particle is : (43) **no(n),** not *or* noi
The exclamation mark after *no* signifies that **no(n)** corresponds to *no* when the latter is the answer to a question or a signal of denial. It is not

the negative article (see zero). It cannot precede a substantive cluster ; but it may precede an adverbial particle like the English *no* in *no more than* (no **major de)** or *no less than* **(no minor de).** In compounds it is equivalent to *in-* of *incomplete* **(non-holo),** etc., or *un-* of *unequal* **(non-iso),** etc. No**(n)** can combine with any amplifier to form negative compounds of this type, e.g. **no-preparo** = *unready* (138), **no-volo** = *unwilling* (128), etc. ; and this is the general recipe for making *opposites.* Admittedly a negative is not necessarily an opposite ; but it is the idiom of *Interglossa* to leave as much as possible to context. If we call a *shallow hole* a hole that is *not deep* **(no-batho),** the assumption is that we should not go out of our way to deny its depth for any other reason. We can always indicate that it is neither one nor the other by saying that it is *not very deep* **(no mega batho).**

No uncertainty arises when the notion involved is purely qualitative, e.g. **puro—no-puro** *(clean—dirty),* and we can make medium intensity of a metrical amplifier explicit by recourse to **meso** (91), e.g. :

thermo = *hot, heat*
meso-thermo = *warm(th)*

The usual rule that an amplifier is both an abstract noun and an adjective-equivalent does not hold for the metrical amplifiers **alto** (150), **batho** (159) and **longo** (290), meaning respectively *high, deep* and *long.* The corresponding nouns *height* or *level, depth* and *length* or *distance* convey no information about whether the dimension specified is great or small. Accordingly, we express them by recourse to the construction metro **de** *(extent* of), e.g. **u metro de alto de Y** = *the height of Y;* **u metro de longo trans Y** = *the width of Y, the breadth of* Y.

The idiom of *Interglossa* prescribes **zero** constructions *wherever* the implication is a comprehensive or exclusive negative. Hence the rule : never use **no(n)** to translate *not . . . one, not . . . a single, not . . .anything, not...*

either. Adherence to this rule prevents ambiguities that constantly arise in English, **e**.g. :

(a) Does *I have not a single thing* mean *I have more than one thing* **(mi** habe **majqr** de mono **re),** or *I have none* (mi habe **zero re) ?**

(b) What does *I don't want either a book or a pen* mean ? If the function of *either. . . or,* like that of **allo** in *Interglossa,* is to prescribe
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the acceptance of one alternative and the rejection of the other, the statement is consistent with the meaning of *I want both a book and a pen or nothing at all.*

Interglossa prohibits **allo** in a negative statement involving *not,* and **the** correct translation for *neither . . . nor* is **zero . . . zero,** e.g. **mi esthe volo zero bibli zero penna.**

From a semantic point of view it might seem an advantage **to** have one form of negative construction (i.e. **to** use **no(n)** alone), because *no X* **(zero X)** cannot have a logical predicate A logically self-denying ordinance to prohibit the use of *nothing, nobody,* etc., would admittedly be a safeguard against such traps as : *nothing is better than wisdom; dry bread is better than nothing; therefore dry bread is better than wisdom.* Still, syllogistic reasoning is equally inappropriate to other situations involving metrical comparison, e.g. *a young elephant is a small elephant; an elephant is an animal; therefore a young elephant is a small animal.* We do not deprive ourselves of the immense economy of operating with **0** as a number, because **0** has peculiar logical properties, such as the fact that **the** ratio of two zeros is not necessarily unity. It would be just as foolish to rule out the highly economical use of *nothing* and *nobody* as to put the clock back to the time before arithmetic took advantage of operations with the number 0**.**

Comparison

There are three comparative articles :

(44) **iso,** *equal(ly); equality ; identically) ; identity*

We use this with the empty particle of general relationship (109) **de** (= *in relation to, with reference to)* for the construction *so . . . as* or *as . . .as (= equally . . . in relation to),* e.g. :

iso poly domi de — *as many houses as*

When the word which follows *as* or *so* in a construction of this sort is not *explicitly* metrical, we can also use (113) **homo** . . . **de** (— *similarly . . . in relation to),* e.g. : **homo chloro de =** *as green as*

Homo is the usual equivalent of *as* or *like,* but if *like* has the force of *equally* or *just as much as,* we can use **iso,** e.g. :

epi geo iso in urani — *on earth as it is in heaven*

The usual meaning of *even* is *including* (see 105) when it precedes a qualitative *attribute ;* but when *even* precedes an *enumerative,* it .signifies an *equality (as many as)* for which we can put **iso poly de :**

Mi non habe iso poly de tri re — / *have not even three (of them)*

From **iso** we have the couplets :

(62) **iso chron** = *synchronous, synchronism, simultaneous, simultaneity*
(100) **iso** topo   = *coincident* (in space)
(75) **iso tem**   = *synchronous (= coextension), contemporaneous, contemporary*

(89) **iso latero** = *symmetrical, symmetry*
(45) **major,** *more; greater; bigger; larger*
          major de = *bigger than; larger than; more than*
(46) **minor,** *less; smaller*
          minor de = *smaller than; less than*

Major and **minor** are comparative particles. They are not articles, nor pronouns. As they stand they do not therefore tally with the various elliptical uses of *more* and *less* ; nor do they necessarily occupy the same position in the sentence matrix. *More* may mean *extra-* or *additional, an extra number of them,* or *an additional quantity of it* (see 118 below). We rely on context to supply the standard of comparison. Similar remarks apply *mutatis mutandis* to *less.* In *Interglossa* we can make *quantity* and *number* explicit by recourse to **metro** (114) and **numero** (327). The following paradigms illustrate different types of comparison,:

u major domi   =*a larger house ; a bigger house*
u minor domi   =*a smaller house*
u major re *(or* **pe)** =*a bigger one; a larger one*
u minor re *(or* **pe)** =*a smaller one*
mono domi major de Y habe =*one more house than Y have*
            (or *has*)
mono re *(or* **pe)** minor **de Y habe** =*one less than Y have* (or *has*)
mono domi major de pre =*one house more than before; an*
      extra house
mono domi minor de pre   =*one house less than before*
mono re *(or* **pe) minor de pre** =*one less of them than before*
mono domi major de satio =*one house too many*
mono re *(or* **pe) minor de satio** =*one too few*

u major numero de domi = *more houses*
u minor numero = *less of them*
u numero de domi minor de pre =*less houses than previously*
u numero major de pre = *more than before*
u minor metro de terra = l*ess land*
u major metro = *more of it*
u metro de terra major de pre = *more land than before; extra land*
u metro minor de **pre** = *less than before*

The combinations **major de** and **minor de** can qualify an article or numeral, as in ;

major de penta domi = *more than five houses*
minor de mono litri = *less than a litre*
major de satio domi = *more than enough houses*
minor de satio terra = *less than enough (too little) land*

minor de holo re = *less than the whole (of it)*

The following illustrate the uses of **major** and **minor** as qualifiers of an adjective-equivalent :

u major deeoro domi (de) = *a more beautiful house (than)*
u minor resisto domi (de) = *a less robust house (than)*

No special form is necessary to do the work of *most,* nor one for *least.* We can make the superlative explicit by making the standard of comparison exclusive with **residuo** (394), i.e. :

u major . . . de pan residuo re *(or* **pe)** = *most* (greater than all others)
u minor . . . de pan residuo re *(or* **pe)**= *least* (less than all others)

We have also at our disposal two equivalent vocables of wide international currency both in statistics and in physical science. Their plural forms are consonant, with the phonetic pattern **of** *Interglossa* without change ; and we may assimilate them, as we can assimilate (p. 239) without change the plural form **of** any internationally current technical term of which the singular has the ending -*um.* It is therefore unnecessary to list them by number as items of our essential list of *constructed* vocables. They appear in the supplementary list of 68 international words taken over as they stand (p. 256), *viz. :*

maxima = *maximum; maximal; most*

minima = *minimum; minimal; least*

An important function of **minor** is that it provides a convenient form of comparison for opposites, already illustrated on p. 44. Thus with (395) **resisto** *(strong, strength,* of materials or aim as Opposed to bodily power or intensity) we have :

resisto = *strong*	**major resisto de**	= *stronger than*
no-resisto = *weak*	**minor resisto de**	= *weaker than*

Class V.   Generic Substantives

A limitation to word-economy in most natural languages is paucity of generic terms from which it is possible to build up self-explicit compounds of the type mentioned on p. 17. A constructed language is free from this limitation. We can therefore extend our battery of common nouns beyond the narrow scope of the Basic English equipment without adding to our stock of *essential* vocables. Many common nouns are word-forms differentiated from others in virtue of human associations which always or almost always appear sufficiently in the context. Though we make a distinction between *sheep* in the field and *sheep* on the table by having a separate word *mutton,* we do not repine lack of a separate word *for fish* in the sea and *fish* on the plate.[1] We have separate words for *flax, thread* and *linen,* though the single vocable *cotton* suffices for the plant, the spun filament and the material woven from it. The context sufficiently indicates the distinction between *beef* and *cattle* or between *flax* and *linen* without recourse to separate words. In the same way many class words used in technical discussion sufficiently indicate an object in the context in which it occurs. The single word *filament* for *thread, cotton, string, rope, cord, wire, fishing-line,* is explicit enough in most ordinary situations. The fact that we can always use the generic name unless the context fails to divulge the specification, overrides the objection that more explicit compounds may be unwieldy.

Interglossa has no lifeless affixes. With few exceptions the vocables are based on intact roots, but four foregoing words **(an, fe, pe, mu)** are truncated, and two **(peti, que)** are *optional* truncatea forms. For equivalents of many substantives we can rely extensively on compounds involving one or other *generic* terms,, which have alternative truncated forms for

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[1] For *cattle ,*English has in all ten words—*ox* for transport, *cow* for milk, *bull* for breeding, *bullock* for fattening, *calf* new-born, *heifer* yoyng cow, *steer* young bull, *beef* cooked adult, *veal* cooked young.

optional use to short-circuit prolixity. One of these is the *44 occupational
"* class (p. 84) based on **-pe.** This is much more comprehensive than the
corresponding *-man* class of English, including all *occupational* and
personal terms except discipuli (828) *(scholar, pupil, student),* **polizi**
(843) and **secretari** (853). Thus we have *{inter alia) :*

aero-pe	*airman* (146).
agri-pe	*farmer* (631)
alieno-pe	*stranger* (149)
amico-pe	*friend* (151)
anti-pe	*enemy, foe* (103)
archo-pe	*officer, manager, director*(153)
arma-pe ,	*soldier, warrior* (811)
bibli-pe	*publisher* (814)
billeta-pe	*ticket collector* (815)
cataiyso-pe	*helper, assistant* (166)
commisari-pe	*minister of state* (823)
duco commisari-pe	*prime minister* (207)
commuao-pe	*partner, comrade* (181)
controlo-pe	*driver, pilot* (185)
culino-pe	*cook* (191)
duco-pe	*head, chief, boss* (207)
crati duco-pe	*governor, prefect* (826),
electio-pe	*delegate, representative* (211)
equi-pe	*horseman, cavalry* (578)
ergo-pe	*worker* (214)
duco ergo-pe	*foreman* (207)
patho-do ergo-pe	*nurse* (348)
espio-pe	*spy* (217)
experto-pe	*expert, technician* (222)
nato experto-pe	*obstetrician* (318)
sano expertb-pe	*physician, doctor* (406)
extra-pe	*foreigner, alien* (84)
helo-pe	*slave, serf* (258)
in-pe	*inhabitant* (86)
judico-pe	*judge, umpire, referee* (274)
Jacti-pe	*milkman* (517)
lego-pe	*lawyer* (280)

maturo-pe	*adult* (299)
ministro-pe	*servant* (304)
crati ministro-pe	*civil servant* (826)
monito-pe	*guide, adviser* (309)
myria-pe	*millionaire* (39)
nato-pe	*native* (318)
navi-pe	*sailor, mariner* (764)
negotio-pe	*agent, negotiator* (320)
onero-pe	*official* (332)
ovi-pe	*shepherd* (599)
pattio-pe	*invalid* (347)
pedio-pe	*child* (349)
philo-pe	*lover* (355)
pro-pe	*ally, supporter* (120)
sapio-pe	*sage, scholar, savant* (406)
scholo-pe	*teacher,instructor,professor*(407)
syn-pe	*associate, colleague (*123)
religio-pe	*minister,priest, parson,clergyman* (392)
tene-pe	*keeper, curator* (480)
typo-pe	*printer* (444)
valuta-pe	*cashier* (859)
vendo-pe	*shopkeeper, tradesman* (451)
itinero vendo-pe	*salesman;commercial traveller* (273)
bibli vendo-pe	*bookseller* (814)
phago-ma vendo-pe	*grocer* (353)
eco vendo-pe	*boarding-house keeper, landlord, landlady(209*)

The reader may ask how we distinguish such a spoken couplet from the corresponding compound, labelled in print as such by a hyphen. The following comments should suffice to dispel this difficulty :

(i) Juxtaposition of an adjective and a noun in an Aryan language is not, as school text-books lead us to believe, fhe logical operation of limiting a class of things, notions or persons sufficiently labelled by the latter to those of its members who share the common property uniquely specified by the former. An adjective-noun couplet is a *semantic unit* which we have to interpret in the light of custom and context as we interpret the meaning of a compound. Without the clue which one or the other supplies, what precise meaning we attach to the couplet *social worker* has as much and as little to do with dictionary definitions of

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social and *worker* as has the meaning of *brickyard* with dictionary definitions of *brick* and *yard.*

(ii) Where confusion might arise, we can fall back on any one of three devices :

(a) Since it is always redundant'to use the word *person* in a *predicative* expression, we need not, and should not, use **pe** in this situation. We do not say : **fe eque u forto religio pe** *(she is a deeply religious person).* We say : **fe habe mega religio** *(she is very religious)*

(b) Otherwise we can make use of the full form **persona** *{individual),* as in: **u forto religio persona habe eco proximo** *(a very religious, person lives hard by)*

(c) A high proportion of occupational terms have a special local flavour. For all such, *Interglossa* prescribes (p. 20) the *local* name. This is *en rapport* with educated speech everywhere. Thus the English translation of a French novel takes over *cure,* which has no precise equivalent within the framework of Anglo-American social custom, without mutilating its meaning by recourse to the equivalent word listed in a pocket dictionary. Since the word *religion* refers to a great diversity of social habits, and the word *priest* to officials with a great variety of social functions, we can always sidestep any ambiguity arising from use of the compound **religio-**pe by using the correct local term.

As stated on p. 84, we can make an analogous class of -re compounds, e.g. :

        claustro-re *button, fastener* (232)
        ferra-re   *ironware* (795)
        inhibito-re *brake* (268)
        pendo-re   *braces, suspenders* (116)
        pedi-re   *step, stair* (533)
        pyro-re -   *lighter* (384)
        reflecto-re *mirror* (391)
        reslduo-re *remains, fossil* (394)
        tene-re *holder, prop, buttress, support* (480)
        vendo-re *goods, ware, merchandise* (451)

The following generic substantives or amplifiers likewise form compounds. They come at the head of our list partly for this reason, and

partly because they are based on *truncated* roots or have shortened forms for use in compounds :

(47) **cameri** *or* **-ca,** *room, chamber; cabin, hall compartment*

All names of rooms are **-ca** compounds. With the excej **tion of** the first, the antecedent element of such compounds an amplifier signifying the function or situation of the room

billeta-ca	*ticket-office* (815)	**pedio-ca** *nursery* {349}	
culino-ca	*kitchen* (191)	**peno-ca** *cell, dungeon* (351)	
dissipo-ca	*W.C.* (202)	**phago-ca** *dining-room* (353)	
ergo-ca *study, workroom, workshop* (214)		**puro-ca** *scullery* (382)	
		sedi-ca *sitting-room*(691)	
hospito-ca	*guest-room* (262)	**soporo-ca** *bedroom* (423)	
ijypo-ca	*cellar, basement* (85)	**tecti-ca** *garret* (731)	
lavo-ca	*bathroom, lavatory*(278)	**tene-ca** *storeroom,built-in*	

cup

board (479)

  navi-ca   *ship's cabin* (764)

{48} domi *or* **-do,** *building; house; erection*

As all names of rooms are **-ca** compounds, all names c man-made buildings are **-do** compounds, of which the ant< cedent points to the function or to the location, e.g.:

avi-do	*aviary* (557)	**hospito-do** *hotel* (262)	
agri-do	*farmhouse* (631)	**hypo-do** *foundations* (85)	
api-do	*apiary, beehive* (555)	**negotio-do** *business house,*	
arma-do	*barracks* (811)	*office* (320)	
bibli-do	*library* (814)	**ovi-do** *sheep-pen* (599)	
bibo-do	*tavern, inn, pub,*	**patho-do** *h o s p i t a l*	
(348)	*saloon, speakeasy,*	**peno-do** *prison,penitentiary*	
	alehouse (160)	(352}	
bovi-do *ox-byre, cattle-shed*(558)		**phago-do** *restaurant* (354)	
religio-do	*church, chapel*	**dendra-do** *woodshed* (576)	
	temple (393)		
dramo-do	*theatre* (205)	**scholo-do** *school* (410)	
eco-do	*boarding-house* (209)	**sperma-do** *granary* (619)	
sporto-do	*gymnasium, stadium*(426)	**equi-do** *stable* (578)	

ergo-do	*works, factory* (214)	**sui-do**	*pigsty* (621) **v**
extra-do	*outhouse* (84)	**taxi-do**	*garage,*(779)
galli-do	*fowlhouse (584)*	**vendo-do**	*shop, store* (451**)**

Since **-do** compounds *are man-made* erections, and the antecedent *never* specifies the *material* used for making it, we have the full forms :

u dendra domi., *a wooden building* (576) **u texti domi**   *a tent* (57)

(49) **fascio** or **-fa,** *group, set, bunch, batch, heap, collection*
No special rule is necessary for such self-explicit compounds as :

camerai-fa	flat, apartment	**radio-fa**	*radio set* (387)
caula-fa	sheaf *(567)*	**rhabdi-fa**	*faggot {612)*
dendra-fa	grove, thicket *(576)*	**tea-fa**	*tea service* (696)
dissipo-fa	rubbish heap *(202)*	**tricha-fa**	*lock, tress (546)*
fi-fa wick *(50)*		**vasa-fa**	*dinner service* {58)
flora-fa	bouquet *(582)*	**vesto-fa**	*suit of clothes, dress(59*)

(50) **fi**, *cord, filament, line, rope, string, thread, wire*

This is a contraction of the international root *fila-* of *filament.* The full form would be a homophone of **phylla** (602), and is therefore unsuitable. In 'most situations its generic meaning sufficiently distinguishes the mere specific terms listed above, but we can make such distinctions explicit by compounds or couplets, as under. We list those with a *material* antecedent with a hyphen, e.g. :

cannabi-fi *string, rope* (562)	**lina-fi**	*thread* {595)
dermi-fi *strap* (502)	**metalli-fi**	*wire* (799)
gossypi-fi *cotton* (586)	**cupra-fi**	*copper wire* (794)
lana-11 *wool, yarn* (518)	**ferra-fi**	*iron wire* (795)
larva-ft *silk* (p. 256)		

We drop the hyphen in functional couplets such as :

morto ft *(hangman's) noose* (312)	**pisci fi**	*fishline* (606)
vesto ft *clothes-line* (59)	**pedi ft**	*shoelace* (533)

(51) **instrumenti** or**.-ru,** *tool*, *instrument*
The antecedent of a **-ru** compound always points to its *function :*

denti-ru *dental instrument* (501)	**occlu-ru** *spanner* (765)
plato-ru *plane* (364)	**fi-ru** *needle* (50)

pylo-ru   dn//, *auger, gimlet,awl* (383)   **frictio-ru** *file* (237)
inflatio-ru (pneumatic) (267)   **secto-ru**   *cutting   tool, chisel*(413)

lineo-ru *ruler* f*or drawing lines* (287)**siphono-ru** *pump(water)* (419)
suberi-ru *corkscrew* (620)   **metro-ru** *ruler, gauge* (114)
tropo-ru *screwdriver* (442)   **musico-ru** *musical instrument* (313)

(52) lithi or **-li**, *stone, rock*

There are four basic compounds of -li other than precious stones, as below:

lamina-li   *slate* (757)   **orno-li** *precious stonesjewels* (335)
mica-li   *granite* (p. 232)   **silica-li** *quartz* (p. 232)

Since the popular names of jewels have little relation their chemical composition, great precision is not essent: We use -li compounds for all translucent jewels :

chloro-li *emerald, beryl* (171) **erythro-li** *ruby, garnet* (216)
iodeo-li *amethyst* (271)   **chromo-li** *opal*(174)
leuco-li *diamond* (281)   **cyano-li** *sapphire* (195)
luteo-li **.** *topaz (292)*   **mari cyano-li** *aquamarine* (650)
melano-li *jet*(300)   **phaeo-li** *amber* (352)

For non-translucent, ornamental stones we use the full form: **lithi**, e.g. :**chloro lithi**, *jade, malachite, chrysoprase* **cyano lithi**, *lapis lazuli*

(53) **loco** or **-lo**, *place, region, territory, domain, locality* Important compounds are :

auto-lo *home, at home* (9)   **pan-lo** *everywhere* (15)
u cavito-lo *cave (167)*   **u pedi-lo** *floor* (533)
u dendra-lo *forest,wood,coppice* (576) **u peri-lo** *surroundings, environment,neighbourhood,*(96)
un electio-lo *constituency, ward* (210)
          u gono-lo *cape*(248)
u plato-lo *plain, plateau (3?*   **hetero-lo** *elsewhere* (259)
u vacuo-lo *clearing, glade(*448)
u natio-lo   *country* (317)   **zero-lo** *nowhere* (26)
un ortho-lo *cliff, escarpment(*336) **u stato-lo***station,halt,pier* (427)

(54)**materia** or **-ma**, *material, stuff, substance*

The antecedent of **-ma** compounds is an amplifier which denotes its characteristic property, e.g. :

bibo-ma *beverage,drink* (160) **phoro-ma** *conductor (of heat or electricity)*(358)

chromo-ma *dye* (174) **geo-ma** *mineral* (645)

proto-ma *material resource,raw material*(139)

hypo-ma *dregs,sediment*(85) **mature-ma** *fertilizer* (299)

residue-ma *residue* (394)

mero-ma *ingredient, component* (19) **supero-ma** *scum* (98)

zygo-ma *chemical compound*(462) **narco-ma** *drug* (316)

phago-ma *food* (353)

(55) **mechani** *or* **-me,** *machine, apparatus, device, engine, mechanism* The antecedent points to the function or the source of power :

grapho-me *typewriter* (250) **sperma-me** *threshing machine*(619)

bora-me *clock, watch, timepiece* (67) **supero-me** *elevator,lift*(98)

electro-me *electric motor*(211) **tracte-me** *tractor* (481)

petrolea-me *internal - combus-* **a-supero tracte-me** *crane*{98)

tion engine(802) **typo-me** *printing-press,* (444)

puro-me *vacuum cleaner*(382) **vaporo-me** *steam engine*(450)

(56) **mobili** or **-mo,** *furniture, movables* From this we can get *functional* compounds, such as :

bibli-mo *bookcase* (814) **phoro-mo** *dumb waiter* (358)

grapho-mo *writing-desk* (250) **tene-mo** *movable cupboard* (480)

lavo-mo *washstand* (278)

lecto-mo *reading desk, lectern* (279)**vesto-mo** *w a r d r o b e* {59)

(57) **texti** or **-te,** *fabric, cloth, textile, woven material, tissue, canvas, muslin,* etc. Like others of this class, **texti** usually suffices for any of the more specific words listed above unless the context demands a more explicit term. We can then make compounds based on *(a) material source ; (b) usage ; (c) any characteristic quality,* e.g. :

(a)

gossypi-te *muslin* (586) **larva-te** *silk* (p. 222)

lana-te *woollen   wear, tweed, hose*(518)   **lina-te**   *linen* (595)

(b)

dessico-te *towel* (200)   **puro-te** *duster* (382)
phago-te   *napkin, serviette*(352)

(c)

pendo-te *curtains, draperies(*116)   **reti-te**   *lace* (769)
lana reti-te *knitted work*   (517)   **vela-te**   *canvas,   sailcloth* (783)

(58) **vasa** or **-va,** *vessel, container, jug, mug, cup, bowl, pitcher,* etc.

We can make the meaning of **vasa** more explicit by use of an antecedent pointing to a sufficiently suggestive characteristic, other than the material of which it is composed :

cbiri-va *bucket, pail*(493)   **lavo-va** *wash-basin* (278)
ora-va *mug, glass, cup* (528)   **culino-va**   *kitchen utensil*(191)
phoro-va   *jug, pitcher* (358)   **lipi culino-va** *frying pan*(519)
soma-va   *bath* (541)   **tea-va**   *teapot* (696)
lacti-va   *milk-jug* (517)   **vaporo-va** *kettle* (450)

We can use **va-** for *tinned, canned* or *bottled* fruit, etc., e.g. :

va-carpa *bottled* or *tinned fruit* (566) **va-crea** *canned meat* (682)

(59) **vesto** *or* **-ve,** *covering, clothes, vesture, costume, -wear, suit, dress*

As an amplifier **vesto** means the *act of covering* or the result of the act, in accordance with remarks on p. 19.

brachi-ve *sleeve. (485)* **mamma-ve** *brassiere* (see p.)
ceptiali-ve   *headwear* (491)
cervica-ve   *neckwear, scarf* (493) **nocti-ve** *nightwear, pyjamas*(70)
chiri-ve *glove* (494)   **pedi-ve** *boots, shoes, footwear* (533)
clinica-ve *bedclothes* (679)   **in pedi-ve** *socks, stockings* (86)

lana clinica-ve *blanket* (518)   **poda-ye** *trousers, pants*
clinica-ve   *sheet* (595)   *(Amer.), legwear {536)*
ergo-ve *overalls, apron* (214) **in poda-ve** *: panties, knickers, pants*
extra-ve *outer clothing* (84)   **in-ve**   *underwear* (86)

(60) **zona** or **-zo,** *ring, belt, hoop, zone, band*

Where the context supplies no clue to a more precise meaning, we can make such compounds as :

brachi-zo	*armlet* (485)	**dactyli-zo** (finger) *ring*(500)	
carpi-zo	*bracelet* (490)	**gameo-zo** *wedding ring* (244)	
cervica-zo	*necktie, halter*(493)	**meso-zo** *girdle, belt* (91)	
poda-zo	*garter* (Brit.) (536)	**orno cervica-zo** *necklace* (335)	

Note on SOME, ANY and WHATEVER

We have had occasion (pp. 18-19 *and footnote* on p. 31) to note that the small number of items essential to acceptable discourse in the Basic English word-list depends far more than most enthusiasts realize on inclusion of highly *polyvalent* words comparable to the Chinese homophones.   This is conspicuously true of prepositions and of other particles which make up the grammatical matrix. Four small words which are pitfalls to the beginner call for special treatment. These are : *any, some, only* and *even* together with the periphrasis *at all (=whatever). Only* and *even,* come up for discussion under (105) on p. 119.

That the use of *some* **and** *any* causes difficulties to **a** Frenchman or a German is not surprising when we look at the way in which we use them. For our present purpose we may distinguish the following :

(i) . In *negative* statements or questions involving *not . . , any* (or more rarely *not , . . some)* the combination does the work of *no* (German *kein,* Swedish *ingen),* for which our equivalent is **zero,** e.g. :

      An habe zero valuta = *He hasn't any money*

(ii) In *positive questions* either *any* or *some* may be replaceable by *a bit of* or *a section of* and are then partitive, on all *1* fours with the French *de.*   **We** can then translate them by **mero** (or by the corresponding pronouns **mero re** and **mero** mil), e.g. :

    Que tu habe mero pani = *Have you any bread?*

(iii) In positive questions either *any* or *some* may be empty words, replaceable by *a* or *one* before a singular noun or unnecessary before a plural one. We can then translate them by **un** or **plu :**

Que tu habe u negotio-pe in Paris = *Have you any agent in Paris ?*

Que tu pre vise plu equi = *Did you see some horses?*

(iv) In positive statements *any* and *some* are not interchangeable. *Some* may be partitive **(mero).** It may be empty **(un** or **plu).** It may imply a contrast *(some . . . others).* When it implies a contrast between *one sort of* or *one class of* in contradistinction to *all* we can translate it by **geno,** which is roughly equivalent to the French *quelque.* Thus we have :

> **Fe pre habe mero pani** = *She had some bread*
> **Fe habe plu equi**　　　= *She has some horses*
> **Geno pani habe leuco**　= *Some bread is white*

(v) In positive statements *any* is usually replaceable by *any ... whatever,* which may have the same meaning as *any ... at all* in a positive question. This implies the removal of a limitation equivalent to *a single* **(mono) . . .***without restriction of choice* **(minus electio limito)** or *even a = everyone including* **(pan pe cleisto u** or **pan re cleisto u).** As such its range extends to all **(pan).**　So we have :

Tu posso **acte electio mono billeta minus limito** = *You may choose any card* (whatever) **Pan cani poto acte re** = *Any dog can do so*

(vii) In a positive question the removal of restriction implicit in anywhere replaceable by *any . . . whatever (=any . . . at all) may* mean the same as *even a little* **(iso mega de micro)** or *even a single* **(iso mega de mono),** fading into *a little* **(micro)** or *a few* **(oligo).** In general the context makes the qualification sufficiently explicit, and we can then translate *any* or *some* by **un** or **plu.** What applies to the articles *any* or *some* as articles applies to the pronouns. Thus *anyone* or *anything* may mean *all persons* or *all*

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things in one context and *at least one person* or *at least one thing* in another. As a pronoun, the meaning of *any* or of *some* is often partitive **(mero re** or **mero mu)** ; but *something* or *somebody* may mean respectively *a class of things* **(geno re)** or *a single person* **(pe** alone *or* **mono pe).**

Whatever is equally troublesome. It may have the following meanings :

(i) As adjective or pronoun it may be merely an emphatic *interrogative* like *whoever* and *whichever* in analogous situations; and as such is equivalent to **quo** *or* **quo re,** e.g. :

Quo re eque u para re = *Whatever is this?*

(ii) As adjective or pronoun it may replace *each* **(singulo)** or *all* **(pan),** as may *whoever* or *whichever,* e.g. :

Singulo re; an dicte; habe erro = *Whatever he says is wrong*

(iii) As an adverbial qualifier of *any,* its function is purely emphatic in negative statements; and **zero X** covers the meaning of *no X whatever, no X at all, not . . . any X whatever, not . . . any X at all.*

(iv) As an adverbial qualifier of *any* in positive statements or in questions of either sort, it has the same force as *at all.* Either combination *(any . . .whatever* or *any . . . at all)* implies the removal of some limitation ; but no single formula conveys what sort of restriction they remove. Usually we can leave the qualification to the context.

The difficulty of finding a suitable equivalent for such words as *any, some* or *whatever* is not a difficulty inherent in *Inter-glossa, it* is a difficulty inherent in English itself.

CHAPTER VI

Class VI: **Amplifiers with Preposition- and Conjunction-equivalents : Time and Place Markers; and Auxiliaries** (80)

The reason for separating words listed in this chapter from those listed in Chapter VII is that the latter do not transgress the threefold limits: *(a)* abstract noun, *(b)* adjective, *(c)* qualitative adverb. Amplifiers listed here slide into other grammatical niches. They may do the work of *prepositions, conjunctions,* or *verbal auxiliaries*.

In comparison with other artificial languages, the most peculiar feature of *Interglossa* is in line with recent evolution of Anglo-American and with the idiom of Chinese. *Interglossa* achieves a high grade of word-economy by combining two principles:

(i) Any adverb-preposition is one unit in a cluster of words with a *single diffusely abstract focus of meaning* distributed in different formal elements according to context as substantive, adjective, adverbial qualifier, or conjunction (link). Although we distinguish between *during* (prep.) and *while* (link), one word *before* does service for preposition-adverb *{directive)* and link.

(ii) Its rigid word-order and the use of empty particles as signposts of sentence-landscape, leave the translator in no doubt about the choice of the correct formal equivalent to one and the same vocable of *Interglossa*.

One example will suffice to illustrate word-economy made possible in this way. The semantic content of the word *before* in a temporal sense is *antecedent time*. If we can speak of the *above* statement we could speak with equal propriety of the *previous statement* as the *before statement*. If we can speak of *the beyond,* why not *the before-now,* i.e. *what is previous, the past, the antecedent}* If we can say the *above-mentioned,* why not the *before-mentioned* for *previously mentioned* ? We have here a cluster of word-forms, *past, history, antecedents, antecedent, preceding, previously), formerly), earlier,* all with the same general notion of *time antecedent-to-a-fixed point* (nu) *inherent in the context.* The single word **pre** and its compound **pre-nu** stand for all these homosemes, and for what is *essentially* inherent in the simple *past flexion* of the English verb.

The rules for using it are :

(i) Placed between the subject and the verboid, or if the latter has no subject immediately in front of it, **pre** signifies action or state antecedent to the context of the situation. The couplet therefore has the force of the simple past tense or past participle. As such, **pre** need not come again in a subordinate clause or in a narrative, when the context makes it clear that the whole situation is past; and it is not necessary if another particle of time points to the oast.

Na pre date re a tu =   *We gave it to you*
Mi date re a tu pre-di =   *I gave it to you yesterday*

(ii) If the pronoun, noun or noun cluster is the fixed point of time reference, **pre** precedes the article which labels *the* former or its pronoun-equivalent:

Mi kine apo pre fe   = *I go away before her*
Mi pre kine apo pre fe   = *I went away before her*

(iii) If *before* introduces a subordinate clause it does so in accordance with the rule given under *punctuation* (p. 39), viz. :

Mi pre kine apo; pre fe kine para

I went away before she came here

(iv) After the article or possessive oseudonvm we have :

u tele pre = *the remote past*
u pre-mi de tu =   *your antecedents, your history*
u pre questio =   *the previous question*

Two devices promote *space-economy* within the framework of general principles laid down in Chapters I-II:

(a) Abstract words which have no substantival equivalent listed below require no article before a noun-equivalent (p. 84).

(b) Any abstract which stands for a *relation* (as opposed to a *quality* or *action)* can have a *prepositional* as well as an adjectival value : but not all have noun-equivalents, e.g. :

boreo France	= *north of France*
u boreo mero de France	= *the north of France*
latero domi	= *on one side of the house*
u latero mero de domi	= *the side of the house*

compare mu acte	= *in comparison with their behaviour*
congruo u para re	= *corresponding to this one*
harmono mi proposo	= *in accordance with mv suggestion*

In what follows, separate columns give *preposition-, conjunction-, adverb-, adjective-* and *noun[1]* -equivalents. We can dividethem conveniently as follows: *(a) time markers, (b) place markers* and *vectors, (c) associative particles, (d) auxiliary amplifiers.*

The equivalent preposition given in the second column of *(a), (b), (c)* below does not always correspond with English usage. The value cited is the most *characteristic* one. **In** is a place marker, and thus corresponds to the most *characteristic* value of *in,* i.e. A is *in* B when B *encloses* or *surrounds* A. So defined, **in** does fit into a variety of idiomatic situations in which *in* has no spatial significance, e.g. *in winter, in writing, in difficulties, in particular, in case of.* Likewise **epi** is a place marker. *As such it is equivalent to *on* when *on* points to surface relationship as in *on the table* or *on the wall.* Obviously, **epi** is not equivalent to *on* in *on holiday.* Here *on* signifies contemporaneity, and the equivalent word is **tem.**

Some English particles have no single characteristic meaning. Thus *with* may mean *in the company of* **(syn),** *by means of* **(per)** or *because of* **(causo),** as in *wrinkled with age. By* may mean *by means of* **(per),** or *near* or *beside* **(proximo)** ; and it may also point to the *personal agent* or *source* **(ex),,**as in *a book by- Shaw. For* may mean *on behalf of, for the benefit of, in support of* **(pro),** *with a view to* **(tendo),** or *as a means of* **(functio).** *As* may mean the same as *because* **(causo),** *while* **(tern),** *like* **(homo),** or *equally* **(iso).** An interlingua designed in accordance with semantic principles cannot list single equivalents for such words. Any difficulties the beginner has to overcome are difficulties inherent in the native tongue rather than of the constructed language.

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[1] The reader who finds this feature puzzling should try substituting (as often happens in careless or uneducated speech) the abstract noun for the corresponding preposition or conjunction, e.g. *time I went to London I got flu* shows that *when* has no function in this context other than to introduce the *time* concept. Similarly we should immediately recognize *position* as the equivalent for *where* if anyone said : *I don't know position he puts it.*

(a) TIME MARKERS

	Preposition	Conjunction	Adverb	Adjective	Noun
(61) **Anni**	in the year	—	yearly, annually	yearly, annually,	year,
(62) **chron**	at	when	—	chronological	occasion (time)

Note the following:

hetero chron = *another time (259)* **u para chron** = *this time, then (94)*
pan chron = *always, whenever (15)* **u chron** = *any time, ever (12)*
pre normo chron = *early; premature (73) (325)*
post normo chron = *late; delayed (72) (325)*

	Preposition	Conjunction	Adverb	Adjective	Noun
(63) **di**	on the day		daily	diurnal, daily	day

hepta di = *a week (33)*

	Preposition	Conjunction	Adverb	Adjective	Noun
(64) **duro**	—	—	still, persistently	persistent, continuous, incessant	persistence, continuation

meso di = *midday, noon (91)*

no-duro = *cessation (adv.) no longer, no more*

	Preposition	Conjunction	Adverb	Adjective	Noun
(65) **eo**	on the morning of	—	in the morning	morning	morning
(66) **hespero**	on the evening of	—	in the evening	evening	evening

quo hora = *what is the time?*

	Preposition	Conjunction	Adverb	Adjective	Noun
(67) **hora**	at the hour of	—	hourly	hourly	hour
(68) **mensi**	in the month of	—	monthly	monthly	month
(69) **mini**	—	—	a minute	minute	minute

	Preposition	Conjunction	Adverb	Adjective	Noun
(70) **nocti**	on the night of	–	nightly	night(ly) nocturnal	night
		meso-nocti = *midnight (91)*			
(71) **nu(n)**	–	–	now, at the present time	present	present time
		no-nu = *extinct*			
(72) **post**	after	after	subsequently, then	subsequent, succeeding	–

Note the following:

		Conjunction	Adverb
		post-nu	= future, henceforth, in future
		post meso-di	= this afternoon (future) (91)
		post-di	= to morrow
		post-hora	= in an hour (similarly) with mini, seci
		post-nocti	= to-night
		post-anni	= next year; **post-mensi** = next month
		post hepta-di	= next week

	Preposition	Conjunction	Adverb	Adjective	Noun
(73) **pre**	before	before	previously	previous, past	–

Note the following:

pre-nu = ago (e.g. **bi pre-nu mensi** = *two months ago*); *the past, antecedents*

pre-anni = *last year* (similarly with **hepta-di** and **mensi**)

pre-di = *yesterday*

	Preposition	Conjunction	Adverb	Adjective	Noun
(74) **seci**	–	–	a second	second	second
		iso-seci = *at that instant, instantaneous(ly)*			

(75) **tem**	Preposition	Conjunction	Adverb	Adjective	Noun
	during	while, when	—		period, interval, duration (*time*)

blasto-tem = *spring* (162)
thermo-tem = *summer* (437)
sperma-tem = *autumn, fall* (619)
frigo-tem = *winter* (240)

pan-tem = *eternal, eternity, everlasting*
mero-tem = *temporary, temporarily*
(**post**) **mega tem** = *(after) a long while*
micro tem = *transitory, ephemeral, a little while*

Note on Time.—in Aryan languages one word may do for the two concepts of *duration* or *interval* (**tem**), signifying *extent* of time, and the *occasion* or *instant* in the time sequence (**chron**). **Tem** and **chron** tally with the two analogous space markers, viz.: *place* or *territory* (**loco**) and *position* (**topo**). Thus **tem** is Danish *tid*, and **chron** is Danish *gang*. Time markers of *Interglossa* do not ordinarily require an article where the equivalent Aryan construction is a " noun," since each has the status of an adverbial particle. Thus it is always redundant to translate *on, at* or *in* before any of the above or their compounds. **Chron** means *at* in such situations as :

Pan homini habe libero chron u nato

All men are born free (i.e. All men have freedom at birth)

Since there is no international calendar, we use (as in correspondence) numbers to indicate the days and months :

mono tetra di penta mensi = *(on) the fourteenth of May*

Similarly with daytime:
penta hora bi zero mini = *(at) twenty past five*
tri plus hemi hora — *half-past three*

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(b) PLACE MARKERS AND VECTORS

All the abstract words under this heading involve the general notion of *position* (**topo**) or *direction* (**tendo**). The meaning of (76) and (82) extends to change of *any* sort. Thus with **muto** (314) we have **muto ex Y ad Z** = *change from Y to Z*. Only **topo** can replace a substantive. To clarify the meaning of **habe** couplets such as **habe in** (*be inside*), we therefore indicate the abstract content under the heading " noun " with italics and quotes. Where we use *the inside, the outside,* etc., as nouns, we might equally well write *the inner part, the outside part,* etc, We can translate such expressions **by un in mero de, un extra mero de** and analogous constructions, e.g. :

un antero mero de apo domi = *the front of that house*
u retro mero de para alto mura =*the back of this high wall*

	Preposition	Conjunction	Adverb	Adjective	Noun
(76) **ad**	to, toward(s)	—	—	—	—
			a-chron = *till, until*		
(77) **antero**	in front of, before	—	in front	anterior	"anterior situation"
	ad-antero = *forward*		**un antero mero (de)** = *the front (of)*		

	Preposition	Conjunction	Adverb	Adjective	Noun
(78) **apo**	away from	—	over there, away, outwards	yonder	—
(79) **boreo**	(to the) north of	—	north	north	—

a-boreo = *northward*

u boreo mero (**de**) = *the north* (*of*)

| (80) **contra** | opposite, facing | — | obversely | obverse | *"being facing"* |
| (81) **dextro** | to the right of | — | (to the) right | right | *"being to the right"* |

In conformity with Cartesian conventions we can use **dextro** for *positive* in contradistinction to (88) **laevo** = *negative*. In conformity with widely current political usage we can likewise use **dextro** and **laevo** respectively for *conservative* (right wing) and *advanced or progressive* (*left wing*).

| (82) **epi** | on | — | — | — | *"surface relationship"* |

un epi mero (**de**) = *the surface* (*of*)

| (83) **e(x)** | from | whence | thence | — | — |

Note.—**Ex** is also the marker of the personal agent as origin or source, e.g.:

u bibli e Bernard Shaw = *a book by Bernard Shaw*

| (84) **extra** or **ecto** | outside | — | out, outside, externally | outside, outer, external | *"surface relationship"* |

ad-extra = *outward*

un extra mero (**de**) = *the ouside* (*of*), *the exterior* (*of*)

| (85) **hypo** or **in-fra** | below, under, beneath | — | below, under beneath | under, lower, inferior | *"belowness"* |

ad-hypo = *downward*

un hypo mero (**de**) = *the bottom* (*of*), *the base* (*of*)

	Preposition	Conjunction	Adverb	Adjective	Noun
(86) in	in, inside	—	in, inside, internally	inside, inner, internal	*"insideness"*
(87) inter	between	—	—	intervening	*"betweenness"*

un inter vacuo = *the gap, the interstice*

inter X syn Y = *between X and Y*

	Preposition	Conjunction	Adverb	Adjective	Noun
(88) laevo	(to the) left	—	(to the) left	left	*"being on the left"*

See note to (81) above

	Preposition	Conjunction	Adverb	Adjective	Noun
(89) latero	at the side of	—	laterally	side, lateral	*"lateral relation-ship"*

a-latero = *to the side of*

u latero mero (**de**) = *the side* (*of*)

	Preposition	Conjunction	Adverb	Adjective	Noun
(90) littora	at the edge of	—	at the edge	bordering	—

littora-lo = *beach, bank*   **littora-re** = *curb, brim*

u littora mero (**de**) = *the edge (of the)*

	Preposition	Conjunction	Adverb	Adjective	Noun
(91) meridio	(to the) south of	—	south	south	—

a-meridio = *southward*

u meridio mero (**de**) = *the south* (*of*)

	Preposition	Conjunction	Adverb	Adjective	Noun
(92) meso	in the middle of	—	midway, in the middle	middle	—

u meso mero (**de**) = *the middle* (*of*), *waist*

Note:— We can use **meso** as a scale marker to indicate a midway grade as in **meso thermo** = *warm* (437).

	Preposition	Conjunction	Adverb	Adjective	Noun
(93) occidento	(to the) west	—	west	west	—

ad-occidento = *westward*   **un occidento mero** (**de**) = *the west* (*of*)

	Preposition	Conjunction	Adverb	Adjective	Noun
(94) **oriento**	(to) the east of	—	east	east	—
	ad-oriento = *eastward*				
	un oriento mero (de) = *the east* (*of*)				
(95) **para**	—	—	here, hither	present	—

Para expresses nearness to the focus of interest. In colloquial discourse this is the locus of speaker or writer. **Para** then means *here*. In sustained narrative it is any part of the situation which engages the immediate attention of the reader, then doing the job of *there*. *Mutatis mutandis* we may use **nu** for *now* or for *then*.

	Preposition	Conjunction	Adverb	Adjective	Noun
(96) **peri**	around, round, (about)	—	around	surrounding	—
(97) **retro** *or* **dorsi**	behind	—	behind	posterior	*"posterior position"*
	a-retro = *backward*				
	u retro mero (de) = *the back* (*of*)				
(98) **supero**	above, over	—	above, over	upper (superior)	—
	a-supero = *upwards, up*				
	u supero mero (de) = *the top* (*of*)				
(99) **tele** *or* **ultra**[1]	far from	—	in the distance, remotely	remote	*"remoteness"*
(100) **topo**	at (in,on)	where	there	—	position, situation

Note.—**Topo** is the general particle of space relationship and may do the work of *in* or *on* where the context makes the nature of the relationship sufficiently explicit, e.g. :

topo u via = *in the street*

	Preposition	Conjunction	Adverb	Adjective	Noun
(101) **trans**	across	—	traversing	—	—
	trans longo = *wide*				
	u metro de longo trans = *width* (*of*)				

[1] It might be advantageous to reserve ultra for beyond (see p.<ins>262</ins>)

(c) ASSOCIATIVE PARTICLES

These include abstracts of instrumentality and association which are not specifically of a temporal or spatial character.

	Preposition	Conjunction	Adverb	Adjective	Noun
(102) **allo**	—	or, either	alternatively	alternative	alternative

The function of **allo** is to specify a choice between exclusive possibilities, i.e. when acceptance of one involves rejection of the other or others. For *either* ». or we use **allo . . . allo.** For *neither . . . nor:* **zero . . . zero.**[2] By itself, *neither* means *none,* and is equivalent to **zero re** or **zero pe.** By itself, *either* means *either the one or the other* = **allo mono re** (*or* **pe) allo u residuo re** (*of* **pe).**

[2] Similarly we use **minus . . . minus** for *without* ... or.   See also *footnote* to (**105).**

(103) **anti**	in spite of, contrary to, against	although	contrariwise	contrary, opposing, inimical	—

Note.—**Anti** implies logical, physical or affective antagonism.

In general but and although have a reciprocal relation. We can simultaneously eliminate the latter at the beginning of the so-called subordinate clause and introduce the former at the beginning of the so-called principal clause without change of meaning [although she was ill, she went On working = she was ill, but she went on working). The function of although or but, if used with discrimination, is to draw attention to an inherent contrast or antithesis (in Hegelian jargon an internal contradiction). Although anticipates the antithesis from the start:

Anti patho fe pre duro acte ergo
In spite of her illness she went on working

We can delay the signal of forthcoming antithesis by using the construction **anti** re — in spite of it (but, nevertheless, notwithstanding, all the same), e.g. :

Fe pre habe patho. Anti re, fe pre duro acte ergo
She was ill. All the same, she went on working

	Preposition	Conjunction	Adverb	Adjective	Noun
(104) **causo**	because of, on account of (through)	because (s9nce)	—	causal	cause
	satio causo = *if only because*			**mero causo** = *partly because*	
(105) **cleisto**	including, con-taining, enclosing	—	comprehensively	inclusive	inclusion

Cleisto and its opposite **no-cleisto** supply equivalents for the over-worked English words, only and even.[1] When even precedes a substantive cluster beginning with an attributive adjective other than a numeral, its usual meaning is all . . . including. In the same situation only means no . . . except, but English usage offers no clue to whether the inclusion or exception refers to the epithet or to the noun. According as we put the stress in speech on the words green or apples, even green apples may mean :

pan pomi cleisto phi chloro re = *all apples, including green ones*
pan re cleisto plu chloro pomi = *all of them, including green apples*

Similarly, *only green apples* may mean :

zero pomi no-cleisto plu chloro re = *no apples except green ones*
zero re no-cleisto plu chloro pomi = *nothing except green apples*

When even and only immediately precede a preposition the meaning is closely akin :

pan loco cleisto in hydro = *even in water*
pan tem cleisto blasto-tem = *even in spring*
zero-lo no-cleisto in hydro = *only in water*
zero tem no-cleisto blasto-tem = *only in spring*

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	Preposition	Conjunction	Adverb	Adjective	Noun
(103)**anti**	in spite of. contrary to. against	although	contrariwise	contrary, opposing, inimical	—

Note.—Anti implies logical, physical or affective antagonism.

In general *but* and *although* have a reciprocal relation. We can simultaneously eliminate the latter at the beginning of the so-called *subordinate* clause and introduce the former at the beginning of the so-called *principal* clause without change of meaning (*although she was ill, she went on working = she was ill, but she went on working*). The function of *although* or *but*, if used with discrimination, is to draw attention to an inherent contrast or antithesis (in Hegelian jargon an *internal contradiction*). *Although* anticipates the antithesis from the start :

Anti patho fe pre duro acte ergo
In spite of her illness she went on working

We can *delay* the signal of forthcoming antithesis by using the construction **anti re** = *in spite of it {but, nevertheless, notwithstanding, all the same)*, e.g. :

Fe pre habe patho. Anti re, fe pre duro acte ergo
She was ill. , All the same, she went on working

	Preposition	*Conjunction*	*Adverb*	*Adjective*	*Noun*
(104) **causo**	because of, on account of (through)	because (since)	—	causal	cause
(105) **cleisto**	including, containing, enclosing	—	comprehensively	inclusive	inclusion

no-cleisto = *except, exception, excluding*

Cleisto and its opposite no-cleisto supply equivalents for the over-worked English words, *only* and *even*.[1] When *even* precedes a substantive cluster beginning with an *attributive* adjective other than a numeral, its usual meaning is *all . . . including*. In the same situation *only* means *no . . . except*, but English usage offers no clue to whether the inclusion or exception refers to the epithet or to the noun.

According as we put the stress in speech on the words *green* or *apples*, *even green apples* may mean:

> **pan pomi cleisto plu chloro re** = *all apples, including green ones*
> **pan re cleisto plu chloro pomi** = *all of them, including green apples*

Similarly, *only green apples* may mean :

> **zero pomi no-cleisto plu chloro re** = *no apples except green ones*
> **zero re no-cleisto plu chloro pomi** = *nothing except green apples*

When *even* and *only* immediately precede a *preposition* the meaning is closely akin :

> **pan loco cleisto in hydro-** = *even in water*
> **pan tern cleisto blasto-tem** = *even in spring*
> **zero-lo no-cleisto in hydro** = *only in water*
> **zero tem no-cleisto blasto-tem** = *only in spring*

It is sufficiently explicit in this context to use **cleisto** by itself for *even*, and **no . . . no-cleisto** for *only* **:**

> **an acte re cleisto in hydro** = *he does so even in water*
> **an non acte re no-cleisto blasto-tem** = *he does so only in spring*

When *even* and *only* precede a numeral, the latter means *no more and no less than*, and the usual significance of the former is *as many as*, see (45) and (44) above. As an *adverb* qualifying a verb, *even* may merely mean *equally* or *also*, and *only* may mean *merely (no better than)*. Clearly no explicit single word can convey

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[1] For *both . . . and* or *whether . . . or whether* we use **cleisto . . . cleisto**, which is often equivalent to *either . . . or* where no exclusive alternative is implicit.

	Preposition	Conjunction	Adverb	Adjective	Noun
(109) **de**	of, about, conerning, in relation to, with respect to	—	—	—	

As a preposition-equivalent, **de** is an empty word, expressing *any* relation made sufficiently explicit by context. It is the normal possessive particle, e.g. :

plu ostea de plu no-nu zoa = *bones of extinct animals*

	Preposition	Conjunction	Adverb	Adjective	Noun
(110) **digito** or **indico**	pointing to, indicating	—	—	indicative	indication
(111) **functio**	for (the use of)	—	usefully	functional, useful	function, use, utility

no-duro functio = *derelict, desuetude, in abeyance*

Note.— *Use* may also mean *method of action or custom* (*vide infra*) :

	Preposition	Conjunction	Adverb	Adjective	Noun
(112) **harmono**	according to, in accordance with	—	—	consonant, harmonious	agreement, harmony

non-harmono = *discord, disagreement*

	Preposition	Conjunction	Adverb	Adjective	Noun
(113) **homo**	like	as	similarly	similar	—

homo qualito — *likeness, similarity* (385)

	Preposition	Conjunction	Adverb	Adjective	Noun
(114) **metro**	—	in so far as,in the measure that, to the extent that	quantitively	quantative, metrical	quantity, amount, extent
(115) **minus**	without	—	—	lacking	—

u minus metro = *deficit, difference* (*of quantity*)
u minus numero = *deficit, difference* (of number)

	Preposition	Conjunction	Adverb	Adjective	Noun
(116) **pendo**	hanging	—	—	hanging, suspended	suspension
(117) **per**	by means of, through	—	thereby	—	—

per via de-(= dia) = *by way of, through* (668)

Per requires no article before a collective. It takes the place of many Anglo-American prepositions 111 idiomatic constructions such as :

per chiri = *by hand* (494)	**per grapho** = *in writing* (249)
per copa = *with oars* (745)	**per poda** = *on foot* (536)

	Preposition	Conjunction	Adverb	Adjective	Noun
(118) **plus**	in adddition to	and	—	extra	—

Note.—For use of **plus** as equivalent to *and*, see (123) below. **Plus** is one of several words which may stand for *other*. Thus we have (102) **allo** *[alternative)*, (258) **hetero** *(different)*, and (394) **residuo** *(remaining)*. When we use *another* as a pronoun, the usual meaning is *an additional one*, i.e. **mono plus re (or pe)**. For-aw *additional, an extra* we use **mono plus.** For *few extra, many extra, all additional,* **oligo plus, poly plus, pan plus.** Before a collective *extra, additional* are equivalent to **u plus metro de** ; and before a plural *(the) additional, (some) extra* are equivalent to **u plus numero de.**

	Preposition	Conjunction	Adverb	Adjective	Noun
(119) **postulo**	if, in case of	if, supposing that	supposedly, presumptively	presumptive	supposition, postulate

Note.—The correct translation *oiif* depends on whether we can replace it by *on condition that* **(conditio)**, *supposing that* **(postulo)** or *whether.* The last raises a query/and we can represent it by **que** or omit it altogether :

Mi non habe sapio ; (que) fe kine apo
I don't know whether She is going away

Needless to say, postulo conveys the .meaning implicit in the ***should ox were to*** construction without recourse to a special qualifier of the key verboid.

	Preposition	Conjunction	Adverb	Adjective	Noun
(120) **pro**	for, on behalf of or the benefit of, in favour of, in support of	—	favourably	—	favourable
(121) **proximo**	near, beside, by	—	nearly, roughly, approximately	near, rough, approximate	propinquity, proximity, approximation

Note.—**Proximo** signifies proximity of spatial, temporal, or any other sort of relationship.

	Preposition	Conjunction	Adverb	Adjective	Noun
122 **sequo**	with the result, so that that	so that	consequently	consequent, resultant	consequence, result, issue, sequel, conclusion, solution (answer)
(123) **syn**	with, (in the and company of), among	and	—	present	—

no-syn = *absent*

Note.—"Whether we use **plus** *or* **syn** for *and* is not of great importance. Strictly, we should use **plus** when *and* means *in addition to (this)*, **syn.** when *and* means *together with (this)*. The1 following constructions are important:

syn recipro = *together*
syn zero re = *by itself, alone*

	Preposition	Conjunction	Adverb	Adjective	Noun
(124) **tacto**	touching, in contact with	—	—	—	contact, touch

	Preposition	Conjunction	Adverb	Adjective	Noun
(125) **tendo**	with a view to (for)	in order that	deliberately, intentionally	deliberate, intentional	tendency, aim, intention, will, diretion

no-tendo = *aimless(ness), unintentional*

	Preposition	Conjunction	Adverb	Adjective	Noun
(126) **verso**	—	—	back	reverse	restitution, reversion, reversal

no-verso = *irreversible, irrevocable, inalienable*

Note.—**Verso** is the qualifier which often does the work of **re-,** e.g. in **return, regain;** but **re- may** signify ***repetition,*** e.g. ***restate, rewrite,*** for which we use **itero** (272).

	Preposition	Conjunction	Adverb	Adjective	Noun
(127) **vice**	instead of, in place of	—	—	vicarious	substitution

u vice-re *or* **u vice-pe** = a substitute
u vice de Y per Z = *the substitution of Z for Y*
syn sequo vice postulo = *conversely*

	Preposition	Conjunction	Adverb	Adjective	Noun
(128) **volo**	rather than	—	—	desirous, wishful	wish, desire, preference

no-volo = *unwilling(ness)*

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Compound Associative Conjunctions and Subordinate Clauses

(a) To facilitate construction of short sentences sustaining a logical sequence, it is advantageous to have conjunctive adverbs which refer back to the meaning of the previous one, as when we say in English *in spite of it.* **In** this construction ***it* (re)** stands for what has gone before. The following are samples of many analogous couplets which we Can form for use at the beginning of a new sentence :

anti re   *however, notwithstanding, but, yet, all the same, nevertheless*
causo re *for this reason, consequently, hence, therefore*
cleisto re *even so*
contra re *conversely*
harmono re *accordingly*
hetero re   *otherwise, contrariwise* (259)
homo re   *similarly*
metro re   *to that extent*
no-cleisto re *apart from that, excluding that*
per re   *in that way*
plus re   *besides, moreover*
post re   *afterwards, after that*
syn re   *also*
tem re   *meanwhile*

(b) In a clause of extent, *that* points-to the consequence, hence **sequo :**

Re habe iso alto; sequo re post acte gravito

It is so high that it will fall down

It is rarely necessary to imitate English usage by recourse to the construction **iso *(or* homo) . . • sequo *(so* . . .*that)..* We can usually express the same thing in a nominal construction by reversing the emphasis :

Re post acte gravito hypo causo un alto

It will fall on account of its height

In general, a nominal construction is the best way of translating a clause of comparison or contrast.   For instance we can say :

Re no habe iso mega de an pre moro esthe credo de re

It is not as big as he used to believe

Re habe micro de pre credo

It is small in relation to his former belief

. Similarly we may say :

Re habe major de an pre moro esthe credo

It is larger than he used to believe

Re habe mega de pre credo

It is large in relation to his former belief

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No semi-colon is necessary to mark the boundary of a clause of comparison, contrast or extent.* The wording would be exactly the same if we translated the equivalent English gerundial construction,

{d) AUXILIARY AMPLIFIERS

We have seen (p. 49) that **pre, nu, post,** in front of the verboid have the force of tense flexions or tense auxiliaries. The use of other amplifiers as intransitive ***modal*** **or** ***aspective*** auxiliaries is in line with this device. At the beginning or end of a statement any one of the succeeding amplifiers (129-140) istan adverb-equivalent, as specified, qualifying the whole situation which involves the action or state predicated by the verboid. In juxtaposition to the latter the preposited particle *limits the meaning of the verboid alone,* forming with it a new semantic unit which predicates a *judgment concerning the possible occurrence or desirability of the action or state,* Two of them **(posso** and **poto)** exclude the notion of actual occurrence in a positive statement We can put them immediately before the verboid or elsewhere without affecting the meaning of an *affirmative* statement:.

> **An pre posso acte re** = *He may have done so*
> **Posso an pre acte re** = *Perhaps he did so*
> **An poto acte re** = *He can do so*
> **An acte re poto** = *He does so potentially*

When posited as qualifiers of an affirmative statement as a whole, the other members of the ensuing set pass judgment on an ***actual*** occurrence. A statement so constructed therefore carries a meaning different from that of one in which the i qualifier-verboid couplet merely predicates judgment concerning the occurrence in general. Thus :

> **An pre debito** acte **re** = *He ought to have done so*
> **An pre acte re debito** = *He did so rightly*
> **An pre tendo acte re** = *He intended to do so*
> **An pre acte re tendo** = *He did so intentionally*
> **An pre hedo acte re** = *He liked doing so*
> **An pre acte re hedo** = *He did so with pleasure*
> **An pre volo acte re** = *He wanted to do so*
> **An pre acte re volo** = *He did so by choice*

The contrast between the two uses comes out more sharply in negative statements. The qualifier*of the statement as a whole then passes judgment on the fact that the action did not occur or the state did not exist; and the negative particle is the mark of its non-occurrence or non-existence. When the negative particle qualifies **an** auxiliary couplet, it denies the valuation which it predicates.   Thus we have :

> **An no pre permito acte re** = *He was not allowed to do it*

An no pre acte re permito = *He was allowed not to do it*
An no pre posso acte re = *He could not have done it*
Posso an no pre acte re = *Perhaps he did not do it*

None of the amplifiers listed below has the force of **a** transitive auxiliary. For all transitive auxiliary constructions we use the appropriate verboid-amplifier couplet. Thus we say :

Mi esthe volo an acte re = *I want him to do it, I wish him to do it*
Mi dicte permito fe acte re = *I let her do it, I allow her to do it*

Anglo-American allows us to express great variety **of** meaning by relying on the rule of proximity alone. Thus the three following combinations of the same four vocables convey three different sorts of information : *(a) only he said that; (b) he only said that; (c) he said only that.* In the second, *only said* is a semantic unit which excludes the possibility that *he wrote* or *cabled it.* If we interpret it in this way *only* is a pure verb qualifier. Even so, few recognize it as such, unless helped by tone or context. Anglo-American has no consistent rule to implement the text-book distinction between an adverb which qualifies **a** verb and one which qualifies **a** whole statement. It is immaterial whether we say : *(a) often he thought; (b) he often thought; (c) he thought often.* Because, and only because, our own language permits this licence, our first reaction to the use of adverbial particles as modal auxiliaries is to regard such a device as a deviation from semantic rectitude. This reaction conceals a misconception about the scope of linguistic engineering. A constructed language of the isolating type is free to exploit the semantic possibilities of word-order to the fullest possible extent in the service of word-economy. *Interglossa* does so. A vocable of *Interglossa* occupies its place in the sentence-matrix BECAUSE IT HAS A DEFINITE FUNCTION THERE AND ONLY THERE. A qualifier of a statement as a whole must come : *(a)* like a word^qualifier, immediately before what it qualifies, i.e. at the very beginning ; *(b)* as an afterthought, marked as such by a comma in print, at the very end. Accordingly, the allocation of the same qualifier to a situation immediately in front of the verboid must mean that it passes judgment specifically on the latter. What we predicate of the subject is no longer the action or state implicit in the verboid with or without some goal of action. It now becomes a valuation of a ***possible*** happening in contradistinction to the valuation placed on an ***event,*** when the same qualifier limits the meaning of a complete statement.

Conditional Use of Auxiliaries,—Auxiliary constructions peculiar to Anglo-American usage are *should have, would have, could have,* etc., followed by the so-called past participle. There is no single *Interglossa* construction equivalent to.any one of them, because any one of them can convey several different notions according to the context in which it occurs or the tone of voice of the speaker. *He would have liked Y* may mean *(inter alia)* **:**

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(a) Y is the sort of thing he likes
Y eque geno re; an esthe hedo *(or* volo)
(b) He did not have the opportunity of enjoying Y
An no pre hafoe occasio de hedo Y
Similarly, *he could have done Y* may mean *(inter alia) :*
(a) Given the chance, he had the ability to do Y ,
Postulo un occasio, an pre poto acte Y
(b) He had the ability to perform Y without the inclination
Anti poto, an no pre volo acte Y
(c) He used to have, but no longer has, the power to perform Y
Anti pre poto, an no nu poto acte Y

CHAPTER VII . .

CLASS VII.   GENERAL AMPLIFIERS (335)

The amplifiers listed in this chapter can be equivalent to noun or adjective specifying the same abstract property, state or action, and to the corresponding adverb. Where the latter is a *-ly* derivative it is not necessary to give it. The vocable of *Interglossa* for any adverb of the *-ly* type is the same as for its adjectival co-twin. It is commonplace that almost any Anglo-American "noun" can do the job of an adjectival form, as in *colour film, trade cycle, conciliation board, tooth paste* ; but the same abstract notion may be present in several adjectival forms, distinguished by the participial endings *-ing, -ed,* or by such suffixes as *-fid, -some, -ly, -at, -hie.* It would be easy to lay down a straightforward rule for choice of an appropriate Anglo-American adjectival form equivalent to a given amplifier, if such affixes had a clear-cut meaning. Not one of them has a clear-cut meaning. Even the *-ing, -ed* endings do a variety of tasks. While it is true to say that *-ing* and *-ed* commonly label *active* and *passive,* it is not true to say that they do so invariably. To *hang* a rope is to *suspend* it: but a *hanging* rope is also a *suspended* one. The *three* rules we follow in *Interglossa* are in line with the reservation (pp. 45-47) of specific operators for *physical states, actions, communications,* and *sentiments.*

(a) If the amplifier stands for a *valuation,* e.g. *guilt,* or for a *physical state,* e.g. *redness* or *colour,* the equivalent adjectival form restricts the

class denoted by the substantive it qualifies to those of its members which *possess* **(habe)** or *retain* **(tene)** the attribute. Thus, the adjectival form corresponding to *redness* is *red,* and to *colour, coloured.* If preposited as a qualifier, an amplifier which stands for a physical state therefore has a passive flavour, and as such does not need **ge** unless to emphasize that the topic qualified acquired the state at some previous time (e.g. **ge thermo** = *heated).*

(b) If the amplifier stands for a *physical reaction* such as *cracking,* for an *action* such as *writing* or a *behaviour pattern* (i.e. related class of actions) such as *friendship,* or for a *communication* such as *warning,* its adjectival use limits the class denoted by the substantive it qualifies to those' of its members who *execute* **(reacte)** the reaction, *perform* **(acte)** the action, or *transmit* **(dicte)** the message.   Thus the adjectival form which

corresponds to *writing* is also *writing;* for *friendliness it* is *friendly* ; for *advice* it is *advisory.*

(c) The two preceding rules tally with the disappearance of a fqrmal noun-adjective distinction in Anglo-American usage. Where a name stands for a *sentiment* or *physiological state,* Anglo-American commonly offers us two adjectival forms, one predicating the property of *evoking* (e.g. *annoying* or *endearing),* the other predicating the property of *experiencing* (e.g. *angry* or *loving)* it. Apart from how often we have recourse to one or the other, there is no obvious reason for preferring the latter to the former, or *vice versa,.* Our one-way traffic regulation regularizes *transferred epithet, i.e.* an amplifier preposited as a substantive qualifier limits the substantive class**:**

(a) To members who *experience* **(esthe)** the sentiment or physiological state when the former is a *creature* or a class of creatures;

(b) To members who *evoke* **(stimule)** the sentiment when the substantive is *not* a creature or class of creatures.

Hence we have :

philo (noun) *love*	**algo** (noun) *pain*
(adj.) *loving* (pers.)	(adj.) *suffering* (pers.)
endearing (imp.)	*painful* (imp.)

The uncertainties of the affixes mentioned above are-numberless. Thus a *loving* wife is a wife who *experiences* the sentiment denoted by
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the root, and an annoy*ing* husband is a husband who *evokes* it. A *hateful* experience is one which confers or evokes the sentiment of *hate,* and a colour/w/ picture is one which abundantly possesses the property of *colour*. *A compressed* gas possesses the state of *compression,* and a *sounding* brass is one which possesses the state of physical vibration. The *-ing* terminal may merely indicate *becoming* or *beginning.* In keeping with rule *(a),* the adjectival form appropriate to **morto** *(death)* is *dead.* **Proto morto** means *dying.* The reason for this chaos of adjectival endings in natural languages is easy to see. The form of words antedates by centuries or by millennia our present knowledge of the qualities for which they stand.

As a corollary of the three rules given, the *Interglossa* equivalent for many adjectives is a combination of the basic amplifier with a preposited qualifying amplifier or verboid. **A** *hateful person* is someone *who evokes hatred* **(su stimule miso).** A *hateful occurrence* is a *hate-evoking* one **(u miso accido).** The contents of the adjectival affixes *-able* and *- -worthy* are as variegated as those of others mentioned. Thus *breakable* means *easily broken (or breaking)* = **facilo fracto.**

A better equivalent is **sensitive (de fracto),** the part in parentheses being usually made explicit enough by context alone. We can often render negative derivatives with the terminal *-able* by recourse to the constructions **A-resisto** or **resisto de A** (postposited), comparable to our own couplets *heat-resistant* or *resistant to heat,* as for instance :

>   **resisto de baro** = *incompressible* (157)
>   **resisto de console** = *inconsolable* (184)
>   **resisto, de pyro**   = *non-inflammable* (384)
>   **resisto de victo**   = *unconquerable* (454)

As applied to a person, *lovable* means *endearing* = **su stimule philo.** When we apply *endearing to* an occurrence or thing which *ipso facto* cannot experience **philo,** the operator **stimule** is redundantv Sometimes *-ble* points to *potentiality* -**(poto ge lecto** = *readable).* Sometimes, like *-worthy,* it specifies particular valuation. Wre can then regard the abstract notion as a qualification to the *worthiness* of the topic and make a couplet of the pattern **laudo valo** or **valo de laudo** = *praiseworthy.* Wlien the abstract notion is an action performed only by a living being, no ambiguity arises from dropping out **valo** in a substantive cluster of which the

terminal element is *inanimate,* e.g. **u bibo (valo) hydro** = *drinking* (i.e. drinkable) *water;* **plu phago phyta** = *edible* .(food) *plants.*

The following table, in which A stands for the *nominal* equivalent (e.g. *heat, writing, advice, love)* first given for the amplifiers which follow, summarizes the rules :

	Adjectival Value of Amplifier
Semantic Domain	*Preposited as Qualifier of Topic*
(a) Valuation *or* physical state	A—possessing
	A—retaining
(b) Action, behaviour *or* communication	A—performing
	A—executing
	A—expressing
(c) Physiological state *or* sentiment	(i) A—experiencing *(creature)*
	(ii) A—evoking *(thing* or *occurrence)*

A few **-o** words here listed are not abstracts in the ordinary sense of the term **(aero, anemo, hydro).** The adjectival equivalent signifies the *characteristic* property *(aerial, windy, aqueous).*

Interglossa has two devices for emphatic negation, one attributive, the other predicative. Attributively, we can say that someone or some situation is *unhopeful* **(non-espero)** or —with greater emphasis—*hopeless, without hope* (minus **espero).** Predicatively, we can say *he is not hopeful* **(an non esthe espero)** or *he has no hope* **(an esthe zero espero),** the latter being more emphatic because the negation stands out more sharply in the sentence-matrix. The **minus** construction which is postposited also gives more emphasis to the negation than the **no-** compound ; but the two are not always interchangeable in other respects. Thus **no-catalyso** *(unhelpful)* is not a less emphatic way of expressing **minus catalyso** *(helpless).* When the amplifier signifies an *action* or mode of behaviour, as opposed to a state or sentiment, the **no-** compound is active and the **minus** couplet *may* be passive, replacing **no ge,** to which it is preferable when the context would sufficiently label it as the equivalent.

(141) **accido** (noun) *occurrence; happening; (existence); (reality)*
    (adj.) *real*
      non-accido = *non-existence; unreality; unreal*
      mal-accido = *misadventure; failure; mishap; unsuccessful*

(142) **aero** (noun) *tip;   summit;   peak; point;*

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apex ; climax (metaph.) (adj.) *topmost; apical*

(143) **activo** (noun) *activity; vivacity; liveliness*
(adj.) *active; lively; vivacious*

non-activo *= inert(ness), neutrality)* **activo pro** *= enthusiasm, enthusiastic*

(144) **acuto** *or* **oxyo** (noun) *sharpness* (of edge *or* point)
(adj.) *sharp* (ditto)

non-acuto = *blunt(ness)* **acuto-re** = *spur*

(145) **adhesio** (noun) *adhesion*
(adj.) *adhesive; sticky; adherent*

auto-adhesio = *cohesion, coherent* **(phys.)**

(146) **aero** (noun) *air; atmosphere*
(adj.) *aerial; atmospheric*

(147) **aetio** (noun) *blame ; guilt* (sentiment *or* valuation)
(adj.) *blameworthy; guilty*

non-aetio = *innocence, innocent* **auto-aetio** = *shame, ashamed*

(148) **algo** ; .. (noun) *pain; ache; smart; suffering;*
hurt; (sting); (prick) (adj.) *suffering* (pers.) ; *painful; aching; smarting* (imp.)

(149) **alieno** *or* (noun) *strangeness; unfamiliarity*
xeno (adj.) *strange; unfamiliar; queer; odd*

non-alieno = *familiar (ity)*

(150) **alto** (adj.) *high; tall* (on any scale)

non-alto = *low*
u metro de alto = *height; pitch; level* (on any scale)

(151) **amico** (noun) *friendliness; kindness;* (behaviour *or* sentiment)
(adj.) *friendly; kind*

non-amico = *unkind(ness); hostile; hostility*
n mico pro recipro = *friendship* (between)

(152) **anemo** (noun) *wind (adj.) windy*,
mega anemo = *storm(y); tempest(uous)*

(153) archo *or* (noun) *authority*
      aethorito (adj.) *authoritative; official; (responsible)*
      non-archo = *unauthorised; unofficial*

(154) arrogo (noun) *pride; arrogance*
      (adj.) *proud; arrogant*
      non-arrogo = *humble; humility; modest(y)*

(155) assuro *or* (noun) *certainty; certitude; (assurance)*
      certo (adj.) *certain; sure*
      non-assuro = *uncertainty; doubt(ful)*

(156) attendo *or* (noun) *delay; waiting*
      tardo (adj.) *delayed; postponed*

      non-attendo = *promptness)*
      micro attendo = *pause, hesitation*
      plu attendo-re = *arrears*

(157) baro (noun) *pressure; compression*
      (adj.) *compressed*

(158) baso *or* **evido** (noun) *grounds; evidence; reasons*
      eu baso = *justifiable; accredited*
      u baso digito = *the reason why*

(159) batho (adj.) *deep (*on any scale**)**
      no-batho = *shallowness)*
      u metro de batho = *depth* (on any scale) *

(160) bibo (noun) *drinking* (adj.) *drinkable*

(161) bio (noun) *life* (adj.) *living; alive*
      no-bio = *dead; inanimate; lifeless*
      u bio-re = *a creature*

(162) blastooy (noun) *budding; sprouting*
      gemmo (adj-) *ditto*
      u blasto-re = *a bud, rudiment*

(163) bronto *or* (noun) *explosion; thunder*
      explosio (adj.)*explosive; detonating*
      u bronto de urani = *thunder* (665)
      u bronto de gastri = *belch, hiccough* (506)
      u bronto de trachea = *cough(ing)* (527)

u **bronto de nasa** = *sneeze, sneezing* (523)
 u **bronto-ma** = *an explosive*

(164) **canto** (noun) *song; singing*
     (adj.) *singing* u **canto-pe** = *a singer*

(165) **captivo** (noun) *capture*=**act of ;** *(catching);hunt(ing)*
       (adj.) *snaring; catching*
   no-captivo = *at large*
   u captivo-pe = *captor, catcher*
   ge captivo = *captive* (adj.)
   u ge captivo persona = *prisoner, captive*

(166) **catalyso** *or*   (noun) *help; assistance; aid; lubrication*
   lubrico   (adj.) *helpful; auxiliary; lubricant*
   no-catalyso '= *unhelpful*
   non auto-catalyso = *helpless(ness)*
   u catalyso-ma   = *lubricant, catalyst*

(167) **cavito** *or* (noun) *cavity; hole* (in ground) **;** *hollow*
   coelo (adj.) *hollow*
   no-cavito = *solid(ity),* i.e. not hollow—see also (428)
   poly cavito = *spongy, porous*

(168) **celebro** *or*   (noun) *celebration; ritual; ceremony;*
   ceremonio *rite, or* **rituo**   (adj.) *ceremonial; ritual*
   no-celebro = *informality), spontaneous(ness)*

(169) **celero** *or*   (noun) *quickness; haste*
   veloco (adj.) *quick; speedy; hasty*
   no-celero   = *slow (ness)*
   celero muto = *sudden(ness); abruptness)*
   celero ratio = *acceleration*

*Note:—***Celero** serves for *speed* or *velocity* as we use these terms in
everyday speech, but in kinematics *velocity* is the position-time ratio
with reference to a particular rectilinear co-ordinate in contradistinction
to the path-time ratio or *speed* on the race track. Accordingly **Ave** need
to distinguish:

   u topo-tem ratio = *velocity* (kinemat.)
   u via-tern ratio = *speed* (kinemat.)

(170) **certifo** (noun) *certification* (by test)
      (adj.) *certified*
      no-certifo = *uncertificated*
      u certifo-pe = *a graduate*

(171) **chloro** (noun) *green (ness); verdure*
      (adj.) *green*
      u chloro-lo = *an oasis*

(172) **cholo** *or* **iro**   (noun) *anger; (passion); (temper)*
      (adj.)' *angry; irate* (pers.)*annoying; exasperating* (imp.)
      no-cholo = *calm(ness); unruffled*

(173) **clioro** (noun) *dance; dancing*
      (adj.) *dancing* ***u* choro-pe** = *dancer*
      u choro-do = *dance-hall, palais-de-danse*

(174) **chromo** (noun) *colour; hue; tint*
      (adj.) *colour (ed)* **no-chromo** = *colourlessness); pallid*

(175) **claustro** *or*   (noun) *closure* (state)
      angio (adj.) *shut*
      no-claustro = *open*—see also (867) p.186
      u claustro-re = *a stopper, bung*

(176) **clepto-** (noun) *theft; robbery; stealing; plunder*
      (adj.) *robbing; thieving*
      u clepto-pe = *thief; robber; brigand; bandit*

(177) **clino** (noun) *dope;   incline; inclination*
      (abstr.) (adj.) *sloping; inclined*
      u clino-lo = *a slope*

(178) **cogito** *or* (noun) *thought; thinking; idea; reflection*
      ideo ' Hon (adj.) *thinking*
      no-cogito = *thoughtless (ness)*
      mega cogito = *thoughtful*

(179} **coito** (noun) *coitus; copulation; mating*
      (adj.) *mating; copulating*
      no-coito = *celibacy;' celibate*

(180) **comico** (noun) *humour; wit; comedy; drollness*
      (adj.) *funny; humorous; witty*

no-comico = *humourless; (dull)*
u comico-pe = *wag; wit; clown*

(181) **communo** (noun) *sharing;   community* (of property, sentiment,
   or relationship)
   (adj.) *communal; (common)*; (mutual)*
   u eommuno ergo = *co-operation*
   o communo de X syn Y = *relation of X to Y*

(182) **competo** (noun) *competition; (race); rivalry* (of
   sentiment *or* action) (adj.) *competing; rival; competitive*
   u sex competo =*jealousy*
   u competo-pe   = *a rival*
   u bilieta **competo** = *a lottery*

(183) **confessio** (noun) *confession; admission*
   (adj.) *confessing; admitted*
   ge confessio   = *admittedly)*
   (u) pro confessio = *(the) affirmative*

(184) **console** (noun) *consolation; (comfort)*
   (adj.) *comforting; consoling; soothing*

(185) **controlo** *or*   (noun) *control;   direction;   steering ;*
   dirigo *guidance*
   (adj.) *controlling; directing; guiding*

(186) **credito** (noun) *loan*
   ' (adj.) *lending*
   u credito-pe   = *lender; creditor*
   u ge credito pe = *debtor; borrower*

(187) **credo** (noun) *belief; confidence; trust; (faith)*
   (adj.) *believing;   trusting; confident*
   (pers.) ; *credible* (imp.)
   no-credo = *unbelief; incredulous; scepticism; sceptical*
   valo de credo = *trustworthy; reliable, reliability*
   u credo-pe   = *believer*
   (u) forto credo = *conviction, convinced*

(188) **critico** (noun) *criticism; appraisal; discrimination*
   (adj.) *critical; discriminating*
   no-critico =*uncritical; undiscriminating*

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u critico-pe   = *critic*
un auto-critico = *conscience*

(189) **cryo** *snow(ing)*
    u gravito de cryo = *snowstorm*

(190) **crypto** (noun) *secrecy; mystery; concealment*
    (adj.) *secret;   hidden; mysterious; concealed*
    u crypto-ve = *disguise, mask*

(191) **culino** v (noun *and* adj.) *cooking; cookery; baking; roasting*
    culino in hydro   = *boiling* (of food)
    culino in lipi =*frying*
    culino epi pyro   = *broiling; grilling*
    culino per vaporo = *steaming* (of food)

(192) **culto** (noun) *cultivation; rearing*
    (adj.) *(cultivating)*
    ge culto   = *cultivated* (of plants or animals)
    u culto-pe = *cultivator* (of the soil)

(193) **euro** *(noun) preoccupation; concern; vigilance; wariness (care);*
    conscientiousness (adj.) *careful; wary; methodical;*
    vigilant; conscientious; thorough
    no-curo   *indifference; indifferent; careless; unconcerned*
    pre-curo = *precaution*
    auto-curo = *self-interested)*

(194) **curvo** (noun) *curvature* (adj.) *curved*
    in-curvo   = *concave; concavity* **extra-curvo**   = *convex(ity)*
    u curvo lineo = *curve; arch*

(195) **cyano** (noun *and* adj.) *blue (ness)*

(196) **decoro** *or* (noun) *beauty; elegance; loveliness*
    callo (adj.) *beautiful; lovely; elegant*
    no-decoro = *ugly, ugliness*

(197) **defecto** *(noun) defect, blemish, shortcoming*
    (adj.) *defective; blemished; spoilt*
    no-defecto . *all right; perfection)*
    (u) cerebra defecto (pe) = *mental defective); imbecile; idiot;*
    idiocy (492)

(198) **demo** (noun) *population; folk*
    minus demo = *uninhabited*
    mega demo   = *populous*

(199) **demonstro**   (noun) *proof; demonstration*
    minus demonstro = *unproven*

(200) **desicco** (noun) *dryness; drought*
    (adj.) *dry* **no-desicco**   = *moist{ure)*
    u desicco-ma = *dehydrating agent*
    u desicco-re = *desiccator; dryer*

(201) **disputo** *(noun) argument; disputation; debate*
    (adj.) *disputatious; argumentative*

    u lego disputo-pe = *advocate; barrister*

(202) **dissipo** (noun) *wasting;   waste; dissipation;*
    excretion (action *or* result) (adj.) *wasteful*
    no-dissipo   = *thrift(y); economy; economical*
    u dissipo-va = *garbage-can; dust-bin; rubbish-box*

(203) **divino** (noun) *guessing; guess-work*
    u divino-pe   = *tipster; fortune-teller*
     u di vino-valuta = *a bet*

(204) **diviso** (noun) *factor*(adj.) *factorizable*
    bi-diviso = *even*
    no bi-diviso = *odd*
    n iso-diviso = *nth root*

(205) **dramo** (noun) *drama; (play)*(adj.) *dramatic; affected*
    dramo-pe = *actor*

(206) **dromo** *or* (noun) *running; run*
    curso (adj.) *running; racing*
    u compete dromo   *a race*

(207) **duco** *or* (noun) *priority; leadership*   (state *or* behaviour)
    hegerno (adj.) *leading; chief; main; primary; head*
    (adv.) *especially; particularly; above all*
    no-duco = *secondary*

(20.8) **dyno** (noun) *force; power; might; strength* (bodily)
    (adj.) *compelling; powerful; forceful; mighty; strong* (bodily)

u soma dyno = *brute force*
causo u dyno = *by force* (i.e. in response to force)
per dyno = *by force* (i.e. by means of force)

Note.—In everyday speech we do not draw a clear distinction between *force* and *power,* as in mechanics. Since the international unit of mechanical force is the *dyne,* we should use **dyno** for *force* in the mechanical sense. For *power* in mechanics we can use : (213) **ergo-tern ratio** *(work-time ratio).*

(209) **eco** *or* (noun) *residence; abiding*
resido (adj.) *resident*
un eco-pe = *resident; lodger* un eco-do = *boarding-house*

(210) **electio** (noun) *choice; choosing; selection; discrimination* (adj.) *selecting; choosing'*
non-electio = *random*
ge electio = *chosen; elected; selected*
pan-electio = *promiscuous, promiscuity ; undiscriminating*
un electio-fa = *deputation, delegation*

(211) **electro** (noun) *electricity*
(adj.) *electric; charged; electrified* non-electro = *uncharged; discharged*

(212) **elemento** *or* (noun) *simplicity* (of structure or design)
haplo (adj.) *simple ; elementary*
non-elemento = *complexity)*
un elemento-ma = *a* (chemical) *element*

(213) **equatio** (noun) *balance; equilibrium* (state)
(adj.) *balanced; equilibrated*

(214) **ergo** (noun) *work; employment; task; job;*labour
(adj.) *working; employed*
non-ergo = *idle(ness)*

(un) anti-ergo = *lazy(-iness); sloth(ful)*
(un) ergo moro= *industrious; (industry)*
forto ergo = *busy*
(un) agri ergo = *agriculture; agricultural*
u cerebra ergo = *brainwork; intellectual work* (491)

(215) **erro** (noun) *error; mistake; falsity;* (action,valuation, *or* expression)
(adj.) *erroneous; mistaken; false*
non-erro = *precision; accuracy ; exactitude)*

(216) **erythro** (noun *and* adj.) *red(ness)*

(217) **espio** (noun) *spying; espionage* (adj.) *spying*
un espio polizi = *police spy, detective* (843)

(218) **eu** (noun) *goodness; virtue; righteousness*
(adj.) *good; right; virtuous; righteous*
(adv.) *well* (see also (222))

(219) **examino** *or* (noun) *test; experiment; examination*
experimento (adj.) *experimental*

u lego examino = *a (legal) trial, arraignment*
un examino-pe *inspector*

(220) **excesso** (noun) *excess; superfluity*
(adj.) *excessive* (adv.) *too*

(221) **expecto** (noun) *expectation; anticipation*
(adj.) *expectant* (pers.); *expected* (imp.)
minus expecto = *surprising; sudden(ness); abruptness);*
(adv.) *by surprise; abruptly)*
post expecto = *overdue*

(222) **experto** *or* (noun) *skill; cleverness*
techno (adj.) *clever; skilful; expert* (adv.) *well* (of performance)

(223) **fabrico** • (noun) *structure; composition*
(adj.) *composite; compound*
u fabrico-ma = *a* (chemical) *compound*

(224) **facilo** (noun) *ease; facility*
(adj.) *easy*
no-facilo = *difficulty)*

(225) **famo** (noun) *reputation; fame*
no-famo = *insignificance; insignificant* (of people)
en-famo =*glory; grand(eur); glorious; splendid*
mega famo = *famous ; well-known; celebrated*

(226) **fatigo** (noun) *weariness; fatigue* (adj.) *tired; weary; fatigued*
no-fatigo = *fresh(ness)*

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(227) **fero (noun)** *the wild state; wildness*
(adj.) *wild; feral; not domesticated*
no-fero = *tame(ness); domestication; domesticated*

(228) fertilo **(noun)** *fertilization* (of egg) ; *conception*
(adj.) *fertilized; pregnant*
minus poto de fertilo = *infertile* (of female); *sterile* (of thing
or process)

(229) **lino (noun)** *end* (of thing *or* process) ;
extremity; termination
(adj.) *final; terminal*
(adv.) */ultimately ; at last*

(230) **fisco** (noun) *taxation*
(adj.) *taxing; fiscal*
minus fisco = *tax-free*
extra-fisco = *customs; tariff*
in-fisco = *excise* **pe- fisco** = *income-tax*
u fisco-pe = *tax-collector*

(231) **fissuro** (noun) *crack(ing); fissure*
(adj.) *cracking*
ge fissuro = *cracked*

(232) **fixo** *or* (noun) *firmness* (physical) ; *tightness;*
stabilo *(stability)*
(adj.) *firm; fast; tight; (stable)*
no-fixo = *loose(ness); unstable; instability*

(232) **flagello** (noun) *whipping; scourging; thrashing; beating*
u flageilc-re = *whip, scourge*

(234) **fiavoro** *(noun) flavour ; taste*

(adj.) *flavoured*
no-flavoro = *tasteless(ness); insipid(ity)*
u flavoro-ma = *spice; condiment*

(235) **forto** (noun) *intensity; * depth* (of colours) ;
strength (of reaction)
(adj.) *intense; dark* or *deep* (of colour);*strong* (of reaction)
(adv.) *very*
no-forto = *weak* (of reaction)

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no-forto (de *chromo)=pale, pallor* (174)
no-forto (de photo) = *dim(ness)* (359)
no-forto (de phono) = *faint(ness)* (of sound) (357)

(236) **fortuno** (noun) *chance; probability* (in mathematical sense)
forto fortuno = *probable*

(237) **fracto** (noun) *breaking; break; fracture;'-interruption*
(adj.)   *breaking; interrupting*
ge fracto   = *broken; interrupted; discontinuous*
no ge fracto = *unbroken; uninterrupted; continuous*

(238) **frequo** (noun) *frequency* (in time or space)
(adj.) *frequent; common* (adv.) *often*
no-frequo = *seldom; uncommon; infrequent*

(239) **frictio** (noun) *rubbing; friction*
(adj.) *frictional*

(240) **frigo** (noun *and* adj.) *cold* (physical)

(241) **frustro** (noun) *disappointment*
(adj.) *disappointed* (pers.) ; *disappointing* (things)

(242) **fugo** (noun) *flight* (running away)
(adj.) *fleeing*
u fugo-pe = *fugitive*

(243) **fumo** (noun) *smoke*(adj.) *smoky; smoking*

(244) **gameo** (noun) *marriage* (adj.) *marrying*
(u) no-gameo = *illegitimate; illegitimacy*
u gameo-pe   = *a spouse*
no ge gameo = *unmarried*

(245) **geneto** (noun) *inheritance; heredity*
(adj.) *hereditary*
u bio geneto = *biological inheritance*
u lego geneto = *legal inheritance*
u geneto-pe   = *inheritor*

(246) **glauco** *or* **polio** (noun *and* adj.) *grey (ness)*
(247) **gluco** (noun) *agreeableness ;   pleasantness;*(comfort)
(adj.) *agreeable; pleasant; nice; comfortable* (imp.)

no-gluco   = *unpleasant; disagreeable; uncomfortable* (imp.)
plu gluco-re = *comforts*

Note.—The meaning of *comfortable* is not the same in the sentences: *(a) this chair is comfortable* (imp.), *(b) are you comfortable?* (pers.). The correct equivalent of the second is : **que tu habe hedo** (131). The abstract noun *comfort* may mean either *consolation,* for which we have **consolo** (184), or *congeniality, pleasantness,* etc., as above.

(248) **gono** (noun) *angle; corner; angularity*
      (adj.) *angular; (bent)*
      u brachi gono = *elbow* (485)
      u poda gono   = *knee* (536)
      u gono-lo   = *cape*
      in ge gono   = *dovetailed*
For all *plane* figures, proceed as follows :
      (u) tri-gono   = *triangle; triangular*
      (u) tetra-gono = *quadrilateral* **;**
      (u) penta-gono= *pentagon(al)*

(249) **grado** (noun *and* adj.) *walk(ing)*
(250) **grapho** (noun *and* adj.) *writing* (act of, *or* written matter)

   (251) **gratio** (noun) *thanks; gratitude*
      (adj.) *grateful; thankful; appreciative*
      no-gratio = *thankless; ungrateful*

(252) **gravito** (noun) *falling; fall; sinking; descent*(under gravity)
      (adj.) *falling; sinking*
      no-gravito = *floating*
      un hydro gravito = *waterfall, cascade* (263)

   (253) **gravo** (noun) *importance*
      (adj.) *important; (significant);weighty* (adv.) *especially*
      no-gravo = *unimportant; insignificant; triviality)*

(254) **ftrcfio**'of (noun) *party;   social group;   society ;*
      partio *(organization)* (adj.) *social*
      no-grego   = *unsocial*
      (u) grego-volo = *sociability; sociable*

      un anti-grego = *an opposition party*

(255) **gyro** (noun) *rotation; revolution* (geometr.)(adj.) *revolving; rotating*
      hemi gyro = *half-turn; inversion; inverted; upside down*
      u gyro-re =*top*
      u gyro-me = *centrifuge; (cream) separator*

(256) **hagio** *or* (noun) *sacredness*
      sacro (adj.) *sacred; sacrosanct; (holy)*
      un hagio-pe = *a saint*

(257) **helico** *or* (noun) *coiling* (action *or* result); *spiral;*
      spiro *whorl*
      un helico rheo = *vortex* (397)
      un helico acu   = *screw* (733)
      u tricha helico = *curl* (545)

(258) **helo** *or* (noun) *slavery; serfdom; servitude*
      servo (adj.) *slave; serf; slavish*

(259) **hetero** (noun) *difference; distinction*
      (adj.) *different; unlike*[1]*; (other—see* p.141*) (adv.) otherwise*

(260) **historo** (noun) *narration; record; (account);(history)* (adj.) *narrative*

(261) **horizo** (noun) *flatness* (i.e. horizontality)
      (adj.) *horizontal ; level* (with ground)';(flat)

Note.—Flat(ness) may refer to a *plane* surface (see 364). **un horizo lineo**
      = *the horizon* (287)

(262) **humano** (noun) *courtesy;   politeness; concern* for others
      (adj.) *polite; courteous; urbane; considerate*

(263) **hydro** (noun) *water*
      (adj.) *water(y); wet*
      ge hydro = *sodden; soaked; irrigated; inundated*

(264) **immuno** (noun) *protection; defence; immunity;safety* (adj.) *safe; immune*
      ge immuno   = *defended; protected ,*
      un immuno-pe = *guardian; champion; defender*
      un immuno-re = *guard* (thing)

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[1] We can use **hetero** as we use *unlike* in adverbial constructions **such** as : **hetero fe, mi no pre vise an** *= unlike her, I did not see Him,*

(265) **impacto** (noun) *impact; blow; knock; push*
　　　　(adj.) *striking*

(266) **impero** (noun) *command; decree; (order)*
　　　　(adj.) *imperative; commanding*
　　　　un impero-pe = *commander*

(267) **inflatio** (noun) *inflation; swelling; distension;*
　　　　turgidity (state) (adj.) *swollen;*
　　　　distended; inflated; turgid

　　　　　　　　non-inflatio = *limpness*
　　　　　　　　un inflatio-lo = *boil; swelling; (bump)*

(268) **inhibito** (noun) *hindrance; interference; inhibition; (disturbance)*
　　　　(adj.) *interfering; inhibiting; thwarting; (disturbing)*
(holo) inhibito =*prevention; preventive; (stopping)*
un impero de inhibito = *prohibition* (against)
auto-inhibito = *reserve(d); prim(ness); shy(ness); bashful(ness);*
　　　　demure(ness)

(269) **insuro**　　　　　(noun *or* adj.) *insurance*
　　　　　　　　non-insuro = *uninsured*

(270) **investo**　　　　　(noun *or* adj.) *investment*
　　　　　un investo pecunio = *dividend* (348)

(271) **iodeo**　　　　　(noun *or* adj.) *violet; (purple)*
　　　　　no-forto iodeo = *mauve; lilac*

(272) **itero**　　　　　(noun) *repetition; reiteration*
　　　　　　　　(adj.) *repeated*
　　　　　　　　(adv.) *again*
　　　　　poly itero = *repeatedly; repetitive*

(273) **itinero**　　　　　(noun) *travelling); journey(ing)*(adj.)
　　　　　　　　　travel (ling)

(274) **judico** o*r*　　　　(noun) *decision; judgment; ruling*
　　　arbitro　　　　(adj.) *deciding; judging*
　　　　　　　judico anti　　= *condemnation* (legal)
　　　　　　　un judico pro = *acquittal*
　　　　　　　un judico-fa =*jury*

(275) **juro** (noun) *fair-play; justice; honesty*
(adj.) *fair; just; honest*

non-juro = *injustice; unjust; unfair(ness); dishonest(y)*

(276) **lapso** (noun *or* adj.) *slipping; sliding; gliding; skating*
lapso vagoni = *sledge* (781)
u lapso pedi-ve = *skate* (59)

(277) **laudo** (noun) *praise; approval; esteem; regard* (senti
ment- *or* its expression)
(adj.) approving; admiring
no-laudo = *disapproval; disparagement, disfavour*
mega laudo = *admiration; eulogy*
u pseudo laudo = *flattery; flattering*
u grapho de laudo (pro) = *testimonial* (for)

(278) **lavo** (noun *and* adj.) *washing; bathing*
u lavo-pe = *a launderer*

(279) **lecto** (noun *and* adj.) *reading*

(280) **lego** (noun) *law; regulation; (rule)*(adj.) *legal; regulatory*
no-lego = *illegality)*
un anti-lego = *crime; criminal* (adj.)
u lego promisso = *legal contract* (lease)
u lego-do = *court,*

(281) **leuco** (noun *and* adj.) *white(ness)*

(282) **liberalo** (noun) *generosity; liberality* (of goods
or sentiment); *tolerance* (adj.)
generous; liberal; tolerant
(**u**) **no-liberalo** = *miserliness; greed(y)*
(**u**) **no-liberalo de credo** = *intolerance; intolerant*

(283) **libero** (noun) *freedom; independence*
(adj.) *free; independent*
no-libero = *dependence*
u libero tem = *leisure*
u libero di = *a holiday*

(284) **libido** (noun) *appetite; lust; avidity*
(adj.) *lustful; (hungry); (thirsty); avid*

u libido-pe   = *addict; libertine; rake*
u loco-libido = *nostalgia; homesick(ness)*

Note.—Qualify any of the above with **phago** (353), **bibo** (160) or sex where necessary.

(285) **ligato** (noun) *ligation; tying*
        (adj.) *tying* u ligato-cruci = *knot* (710)

(286) **limito**   (noun) *limitation; restriction* (act of)
                                (adj.) *qualifying; limiting* (adv.) *somewhat*
                    ge limito = *limited; qualified; restricted*

(287) **lineo**   (noun) *line; stripe*
                                (adj.) *linear*

(288) **liquo**   *(noun and* adj) *liquidity)*

(289) **logo**   (noun *and* adj.) *understanding*

(290) **longo**   (adj.) *long*
                    no-longo = *short*
                    metro de longo = *length; distance*

Note.—**Longo** and **no-longo** refer to space. For *long, short* (brief) with tern, use **mega** and **micro.**

(291) **luco**   (noun) *translucency; (clearness)*
                                (adj.) *translucent; transparent; clear*
                    no-luco = *opaque; murky*

(292) **luteo** *or*   (noun *and* adj.) *yellow(ness)*
      xantho
                    erythro-luteo = *orange*

(293) **lyso**   (noun) *separateness; separation*
                                (adj.) *separate; distinct*
                    u lyso minus hetero = *a distinction without a difference*

(294) **magico**   (noun) *magic; witchcraft*
                                (adj.) *supernatural; magical*
              u magico-pe   = *wizard; clairvoyant; medium*
              u magico-fe   = *witch; clairvoyant; medium*
              u magico accido = *miracle*

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(295) **magneto**   (noun) *magnetism*
                         (adj.) *magnetic*
        u magneto-re = *magnet*

(296) **malo**   (noun and adj.) *evil; bad[ness); wicked(ness)*
                         (adv.) *ill*
        u malo-pe = *criminal; malefactor; crook*

Note.—Drop **o** in compounds before a vowel.

(297) **mano** *or*   (noun) *dilution* (action *or* state) ; *rare-faction*
      dilute   (adj.) *dilute; rarefied; sparse*
      no-mano = *concentration; concentrated; dense*

(298) **masso**   (noun) mass; *weight*
                         (adj.) *heavy; weighty; massive*
        no-masso = *lightness)*
        u masso-re = *burden; load; ballast*
        u comparo masso = *density*

Note.—For *weight* as used in mechanics, in contradistinction to *weight* (mass) of everyday speech, we can use either **baro** (157) or **gravito-masso** (253).

(299) **maturo**   (noun) *maturity; ripeness*
                         (adj.) *mature; ripe; adult; full-grown*
        no-maturo   = *immaturity; immature; childish*
        meso-maturo = *adolescent; adolescence*
        u maturo-pe = *adult*

(300) **melano**   (noun and adj.) *black {ness)*

(301) **merco**   (noun and adj.) *purchase; buying*
        u merco-pe = *customer; client*

(302) **methodo**   (noun) *method; means; (way); technique*

(303) **milito**   (noun) *fighting • war; battle; strife*
                         (adj.) *militant; belligerent; fighting*
        u fracto de milito = *armistice*
        (u) micro milito = *quarrelling)*
        un in-milito —*revolt; insurrection; mutiny*
        u via milito = *brawl; street fight; riot* (668)

(304) **ministro**   (noun) *service; devotion* (behaviour)
                     (adj.) *serving*
          u ministro-pe *(or **u** **ministro-fe**) = servant*

(305) **miro** *or*   (noun) *amazement; astonishment;*
      thaumo   **(***wonder; (surprise)*
                     (adj.) *amazed; astonished; (surprised)*

          no-miro = *commonplace; ordinary; mediocre; mediocrity*

(306) **miso**   (noun) *hate;   hatred;   aversion; antipathy*
                     (adj.) *hostile; antagonistic*
          forto miso = *loathing*

(307) **mixo**   (noun) *mixture;blending* (action *or* result)
                     (adj.) *mixing; blending*
          ge mixo   = *blended; mixed; adulterated*
          no ge mixo — *unblended; unmixed; unadulterated*

(308) **mnemo** *or*   (noun) *memory; remembrance*
      memo
          no-mnemo = *forgetful(ness); amnesia*

(309) **monito**   (noun) *advice; counsel; warning* against (anti)
                     (adj.) *warning; advisory*
          u monito-pe   = *advisor; counsellor*
          u lego monito-pe = *solicitor; notary*

(310) **mordo**   (noun) *bite; biting* (adj.) *biting; chewing*

(311) **morpho**   (noun) *shape; form*
          no-morpho   = *amorphous; shapeless*
          u morpho-re = *figure; shape* (concrete)
          u-morpho   = *shapely; (elegant)*
          malo-morpho = *misshapen; deformed*

(312) **morto**   (noun) *death; decease*
                     (adj.) *dead; defunct; deceased*

(u) proto morto = *dying*　　　　　**u morto-lo** = *cemetery* (53)

u morto-ca = *vault* (47)　　　　**u morto soma** = *corpse (541)*

u morto cavito = *grave* (167)　　**u morto theca** = *coffin* (698)

u morto celebro = *funeral*　　　　**u morto-te** = *pall* (57)(169)

u morto-va = *urn* (58)　　　　　**u morto-do** = *mortuary*

u morto- vagoni =*hearse*(781)(48)　　**u morto grapho** = *obituary* (250)

(313) **musico**　　　　*(noun) music; tune; melody ,*
　　　　　　　　　　(adj.) musical; tuneful; melodious
　　　　　　no-musico = *discord*
　　　　　　jun avi-musico = *birdsong* (557)

(314) **muto** *or*　　　*(noun) change; variation; alteration*
　　　vario　　　*(adj.) changing; varying*
　　　no-muto = *constancy; fidelity; constant; faithful; conservative*
　　　u muto-pe = *turncoat; traitor*

(315) **mytho** *or*　　　*(noun) myth;　fantasy; make-believe;*
　　　fantaso　　　*fiction; (imagination),*
　　　　　　　　　(adj.) mythical; fictitious
　　　　　　no-mytho = *real; concrete; matter-of-fact*
　　　　　　u mytho-pe = *spook; spectre, ghost*

(316) **narco**　　　　*(noun) narcosis; intoxication*
　　　　　　　　(adj.) intoxicated ; drunk ; narcotized; drugged
　　　　　　no-narco　　　　　= *sober*
　　　　　　u narco-ma　　　　= *drug, narcotic* (54)
　　　　　　u narco-pe　　　　= *drunkard*
　　　　　　u narco vendo-pe　　= *druggist* (451)
　　　　　　u narco catalyso-pe　= *dispenser* (166)
　　　　　　u narco experto-pe　= *pharmacologist* (222)

(317) **natio**　　　　*(noun) nationality; nation* (adj.) *national*
　　　　　　u natio-pe = *a national*

(318) **nato**　　　　*(noun) birth* (adj.) *born*
　　　　　　u nato-pe = *a native*
　　　　　　u nato-lo = *birthplace*

(319) **necro**   (noun) *destruction* (action)(adj.) *destroying*
          ge necro = *destroyed*

(320) **negotio**   (noun) *transaction; affair; (business)*
          u natio negotio-pe = *ambassador*

(321) **neo**   (noun) *newness; freshness; novelty*
          (adj.) *new; fresh; novel*
          no-neo   = *unoriginal; derivative*
          u neo-pe   = *newcomer*
          plu neo data   = *news*

(322) **nocuo**   (noun) *harm; damage; hurt* (action *or* result)
          (adj,) *harmful; damaging*
          no-nocuo   = *harmless; innocuous*
          ge nocuo   = *hurt; damaged; spoilt*
          u ge nocuo persona = *victim*

(323) **nomino**   (noun) *name; appellation*(adj.) *nominal*
          no-nomino = *anonymity; anonymous; nameless*

(324) **nomo**   (noun) *principle; theory; rule); law*(scientific)
          (adj.) *theoretical*

(325) **normo**   (noun) *standard; norm; typical; representative*
          (adj.) *normal; standard; orthodox*
          no-normo = *unorthodox*
          u normo-metro = *unit* (of measurement)

(326) **nullo** *or*   (noun) *cancellation; (receipt); annulment*
      quito   (adj.) *annulling*

          u nullo de nota = *receipt* (839)
          u nullo de gameo = *divorce* (244)
          u nullo de confessio = *recantation*
          u nullo de helo = *emancipation*
          u nullo de judico anti = *reprieve*
          u nullo de mero premio = *discount* (371)
          u nullo de mero fisco = *tax rebate*

(327) **numero**   (noun) *number; cardinal numeral*
          (adj.) *numerical*

          un ordino numero = *an ordinal number*

(328) **occasio** (noun) *opportunity; (chance); (vacancy)*
      minus oceasio de ergo = *unemployed*
      u non-occasio de ergo = *unemployment*
      un occasio de pronto = *prospects* (374)

(329) **odoro** *or* (noun) *odour; aroma; smell*
      aromo (adj.) *odorous; aromatic*
          non-odor o = *odourless*
          eu-odoro = *scent(ed)*
          mal-odoro = *stinking; stench*

(330) **offero** (noun) *offer; (reservation)*
          (adj.) *offering*
      non-offero = *withholding*

(331) **onero** *or* (noun) *responsibility; (liability*
      liabilo (adj.) *responsible*
          un onero-pe = *sponsor; guardian; guarantor*
          un onero pecunio = *bail*

(332) **oppresso** *or* (noun) *oppression; persecution,*
      persecuto (adj.) *oppressive*

(333) **ordino** (noun) *rank; position* (in scale) ;
          (order); degree; grade (adj.) *ordinal*

(334) **orientatio** *or* (noun) *attitude; orientation* '(social) ;
      attitudo *mood*
          u normo orientatio =. *temperament; character*

(335) **orno** (noun) *ornamentation;' adornment; em-*
          bellishment; decoration "
          (adj.) *ornamental; decorative*
      non-orno = *unadorned; (sober); plain*
      plu orno-re = *jewellery*

(336) **ortho** (noun) *(uprightness)*
          (adj.) *vertical; (upright)*
      un ortho gono = *right angle*

(337) **osculo** (noun *and* adj.) *kiss(ing)*

(338) **oxidatio** (noun) *oxidation; rusting* (adj.) *rusty*
          un oxidatio-ma = *rust*

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(339) **pachyo**   (noun) *thickness*
                         (adj.) *thick; stout; (fat)*
          no-pachyo = *slender(ness); thingness); lean(ness)*

(340) **paco**   (noun)] *peace; tranquillity* (personal *or* * social)
                         (adj.) *peaceful; calm; tranquil; contented*
          no-paco = *disturbance; disturbing; strife*

(341) **palaeo**   (noun) *antiquity*
                         (adj.) *old; aged*
          major paleo = *elder* (adj.)
          u paleo-pe   = *an elder; veteran*

(342) **papillo** *or*   (noun) *protuberance; projection*
      projectio   (adj.) *projecting; sticking out*

(343) **parallelo**   (noun *and* adj.) *parallelism)*

(344) **paralyso**   (noun) *paralysis; numbness*
                         (adj.) *paralysed; numb*

(345) **parasito**   (noun) *parasitism* (adj.) *parasitic*
          u parasito bio-re = *parasite*

(346) **pardo**   (noun) *forgiveness; mercy;pardon;*
                         clemency (sentiment *of* behaviour)
                         (adj.) *forgiving; merciful; (charitable),*
(u) petitio de pardo = *apology; apologetic; excuse*
(u) baso de pardo   =*extenuating circumstances; justification ; excuse*

(347) **patho**   (noun) *disease; sickness; illness; bad health*
                         (adj.) *diseased; sick; ill*
          u patho-pe   = *invalid; patient*
          u cerebra patho-pe   = *lunatic* (490)
          (u) cerebra patho   = *insane; insanity; lunacy*
          u patho-taxi   = *ambulance* (779)

(348) **pecunio** (noun) *payment; remuneration*(adj.) *paying*
          u no-pecunio = *debt*
          u pecunio pre debito chron = *payment in advance*
          un eco pecunio-pe   = *tenant; lodger*
          (u) divino pecunio   = *gambling; bet; wager*

(349) **pedio**   (noun) *youth* (adj.) *young; childlike*
        u pedio-pe = *child*
        u pedio-an = *boy*
        u pedio-fe = *gift*

(350) **penito**   (noun) *regret; repentance* (sentiment *or*
        behaviour) (adj.) *repentant; sorry* (attributive)

(351) **peno**   (noun) *punishment; penalty ; vengeance ;
        retribution; revenge*
        (adj.) *penal; vindictive; avenging*
        u peno milito = *feud*
        u peno-do = *prison; penitentiary*
        u peno-ca = *dungeon; cell*
        u morto peno = *death penalty; capital punishment*

(352) **phaeo**   (noun *and* adj.) *brown(ness)*

(353) **phago** *or*   (noun *and* adj.) *eating ; feeding ; meal*
    dieto
        (u) no-phago = *fast(ing)*
        u phago-pe = *glutton; gourmand*
        u phago tene-ca = *pantry; larder* (479)
        (u) phago-ma = *edible; food*

(354) **phanero**   (noun) *(clarity)*
        (adj.) *manifest; (clear)*
        no-phanero = *obscure; obscurity; involved*

(355) **philo**   (noun) *love; loving; (tenderness)* (adj.) *loving*
        ge philo =*dear*

(356) **phobo**   (noun) *fear; dread; alarm; anxiety;*timidity
        (adj.) *fearful; dreading; anxious; afraid ; timid*
        no-phobo = *fearless (ness); brave (ry); courage*
        u phobo-pe = *coward*
        u phobo pecunio = *blackmail*

(357) **phono**   (noun) *sound; noise*
        (adj.) *noisy; sounding*
        no-phono = *quiet(ness); soundless (ness); still(ness)*
        eu-phono = *harmony*
        malo-phono = *discord; cacophony*

(358) **phoro** (noun) *transport; carriage; conduction ,*
(adj.) *conducting; (carrying)*
plu phoro re = *baggage; luggage*

(359) **photo** (noun) *light; shine*
(adj.) *shining; (light)*
no-photo = *dark (ness)*
meso photo = *dim(ness); twilight*
u plasti photo-re = *wax candle* (802)

(360) **phreno** (noun) *reasoning; logic*
(adj.) *reasonable; logical*
(u) phreno poto = *intelligence; intelligent* (137)

(361) **physio** (noun) *(state); (condition); (nature).*
crystali physio = *crystalline state* (793)
gasi physio = *gaseous state* (796)
liquo physio = *liquid state* (288)
stereo physio = *solid state* (428)

(362) **picto** (noun) *picture; image;*
(adj.) *pictorial*
li picto-pe = *artist; (painter)*
u soporo picto = *dream* (423)
u stereo picto = *idol; image; sculpture* (428)
u verba picto = *metaphor* (860)

(363) **piano** (noun)*plan(ning);project; design*
(action *or* result) (adj.) *planning*
u crypto piano = *plot; conspiracy*

(364) **plato** (noun) *flatness* (adj.) *plane; (flat)*
u plato mero = ***palm; sole***
u plato morpho-re = *plane figure*
u plato-secto = *a plane* (geom.;

(365) **pleno** (noun) *fullness*(adj.) *full; filled* with (per)
u pleno-re = *bung; stopper; plug*

(366) **plico** (noun) *fold (ing)* (adj.) *folding*
ge plico = *folded*
poly plico = *grooved; corrugated*

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<pre>
              un in-plico   = groove
              un helico pico roll
</pre>

(367) **pluto**   (noun) *prosperity; riches; (luxury)*
                             (adj.) *prosperous; rich*
          no-pluto   = *poor; poverty*
          u pluto-re = *a luxury*

(368) **pluvio**   (noun and adj) *rain(y); raining*
          u glacia pluvio = *hail* (876)

(369) **pneumo** *or*   (noun) *breath(ing); respiration*
     respiro   (adj.) *breathing; respiring*
          no-pneumo = *breathless {ness)*
          (un) in-pneumo   = *inhalation; inhaling; (inspiration)*
          (un) extra-pneumo = *exhalation; (expiration)*

(370) **praxo**   (noun) *practice; experience*
                             (adj.) *practical; empirical*
       no-praxo = *unpractical;   academic* **(excesso nomo =**(324))

(371**) premio**   (noun) *cost; price; expense*
          mega premio = *costly; expensive; (dear)*
          micro premio = *cheap (ness)*

(372) **privilegio**   (noun) *privilege; right*
                             (adj.) *privileged; rightful*
          no-privilegio   = *outcast; disfranchised*
          plu privilegio de plu homini = *the rights of man*
          u privilegio manifesto   = *declaration of rights*

(373) **producto**   (noun or adj.) *product* (math.)
          un *n*-**producto**   = *it-fold product,* i.e. *nth power*
          e.g. u bi- producto = *the square of*

(374) **profito**   (noun) *profit; reward; advantage ;* success
                             (adj.) *profitable; advantageous*
          ge pronto   = *successful*
          no-profito   = *unprofitable*
          u malo-profito = *disadvantage; drawback; objection*

(375) **promisso**   (noun) *promise; (undertaking)*
                             (adj.) *promissory* **u**

promisso-pe   = *guarantor*
u recipro promisso ,= *(com)pact; treaty; alliance; contract; agreement*

(376) **proposo**   (noun) *proposal; (suggestion); (motion);*
                            (proposition) (adj.) *proposing*
           u proposo-pe   = *proposer*
           u post proposo-pe = *seconder*

(377) **prospecto**   (noun) *(view); (prospect); (outlook)* (adj.) *scenic*
           u rura prospecto = *scenery*
           extra prospecto   = *invisible*
           eu-prospecto   =*conspicuous*
           micro-prospecto   = *inconspicuous*

(378) **protesto**   (noun) *protestation; (complaint);*
                            lament(ation); (objection)
                            (adj.) *protesting; complaining; lamenting*
           u protesto-pe = *complainant*
      u milito protesto-pe = *conscientious objectof*

(379) **pseudo**   (noun) *deceit(fulness); lying; lie;*
                            mendacity ; falsity
                            (adj.) *deceitful;   treacherous; lying; false*
           u pseudo-pe = *liar; deceiver*

(380) **publico**   (noun) *publicity; advertisement; (notice)*
                            (adj.) *public; advertised*
           no-publico = *privacy; private*

(381) **pudo**   (noun) *horror; disgust*
                            (adj.) *horrible; disgusting; obscene; revolting*

(382) **puro**   (noun) *cleanliness; purity*
                            (adj.) *pure; clean*
           no-puro = *dirt(y); impurity; impure*

(383) **pylo** *or*   (noun) *piercing; perforation; puncture;*
        perforato   *(prick)* (act *or* result) ; *hole* (in wall *or* fabric)
                            (adj.) *perforating; (stinging); (drilling)*
      ge pylo   = *punctured; pricked; perforated; pierced*
      u pylo-ru = *gimlet; auger; (drill); awl; sting* (of insect *or* nettle)

(384) **pyro**   (noun) *combustion; burning;fire;flame;*(state)
                            (adj.) *burning; flaming; ablaze*

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u pyro centra = *spark* (706)
u pyro nocuo = *a burn* (322)
un urani pyro = *lightning* (665)

(385) **qualito**   (noun) *quality; characteristic; attribute*
                         (adj.) *qualitative*
         auto-qualito = *specific; innate; natural*

(386) **radio**   (noun) *ray; spoke; radius*
                         (adj.) *radiant* (phys.)
         u recto radio = *beam; (shaft)* (390)
         un heli radio = *sunray; sunbeam* (646)
         u luna radio = *moonray; moonbeam* (649)

(387) **rapo**   (noun) *grasping; seizure; (catching)*
                         (adj.) *seizing ; grasping*
         u milito per rapo = *wrestling*

(388) **raso** *or* **talo** (noun *and* adj.) *scratching); scraping*
         u raso-ru = *rake; scraper*

(389) **ratio**   (noun) *ratio; rate; fraction*

(390) **recto**   (noun *and* adj.) *straight(ness); rectilinear[ity]*
         no-recto = *crooked(ness)*

(391) **reflecto**   (noun) *reflection; (brightness)*
                         (adj.) *reflecting; resplendent; (bright); (shining)*

         no-reflecto = *dull (ness); non-reflecting*

(392) **religio**   (noun) *religion; (faith)*
                         (adj.) *religious*

      no-religio = *irreligious ; profane; secular*
      u religio grego = *religious order; denomination* (254)

(393) **reparo**   (noun) *repair; mending; remedy; cure*
                         (action *or* result)
                         (adj.) *mending; remedial; curative*
         u pedi-ve reparo-pe = *cobbler* (533)
         u via reparo-pe = *roadmender, navvy* (668)

(394) **residuo**   (noun) *" residuality "*
                         (adj.) *residual; remaining; (other); (left)*
                         (adv.) *else; (besides); (over)*

*N*ote.=**Residuo** means *other* when *other* means *remaining* ; hence always after *or:* **allo u residuo . . .** =*or the other . . . or another . . .* The derivative pronouns illustrate the use of the adjectival equivalents :

singulo residuo re .= *everything else*
singulo residuo pe = *everybody else; everyone else*
zero residuo re = *nothing else; nothing more;   nothing left*
zero residuo pe= *nobody else; no-one left*
u residuo re   = *residue; remainder; anything over; any thing left*
u bio residuo-re = *a fossil*

(395) **resisto**   (noun) *strength* (of materials *or* will) ; *opposition* (to change) ; *resistance* (to tension *or* current)
(adj.) *strong* (as above) ; *resistant*

no- resisto = *weak(ness); non-resistant* (as above);
                                (flimsiness); flimsy; (delicate)
resisto de thermo = *heat stable*
resisto de baro   =   *incompressible*
resisto de fracto =   *unbreakable*
resisto de tenslo =   *unstretchable*
resisto de pylo   =   *impenetrable* **(-***ility*)
resisto de rheo   =   *viscosity; viscous*
resisto de electro =   *insulating; dielectric*
no-resisto de electro   = *conducting*

(396) **revero** *or*   (noun) *reverence; respect; worship*
     latrio   (sentiment *or* action)
                    (adj.**)** *reverent; respecting; worshipping*

no-revero = *disrespectful); (flippant)'; (profane)*

(397) **rheo**   (noun) *current; flow; tide*
                    (adj.) *flowing; streaming; tidal*
     un aero rheo-ru = *bellows; fan*

(398) **rhodo**   (noun *or* adj.) *pink (ness)*

(399) **rigo**   (noun) *rigidity; stiffness*(adj.) *rigid; stiff*
     no-rigo = *flaccid(ity); flabby; flexible; flexibility*

(400) **riso**   (noun) *laughter* (adj.) *laughing ; smiling*

u riso minus voco = *a smile*

(u) riso anti   *mockery; mocking; derision*

(401) **rugo**   (noun)   *roughness; coarseness* (of texture)

                        (adj.) *rough; coarse* (as above)

no-rugo = *smooth(ness); (even)*

(402) **sado**   (noun)   *cruelty; ferocity; malice*

                        (sentiment *or* action)

                        (adj.) *cruel; fierce; tormenting; malicious*

u sado-pe = *tormentor; sadist*

(403) **saito**   (noun *or* adj.) *jump(ing); leaping)*

(404) **salnto**   (noun)   *greeting; welcome*

                        (interjection) *how do you do, good-day,* etc.

(405) **sano**   (noun) *health*

                        (adj.)h*ealthy; (well); hygienic* (imp.)

u sano experto-pe = *physician; doctor* (222)

(406) **sapio**   (noun) *knowledge; (information) ; acquaintance*

(407) **sapro**   (noun) *decay ; putrefaction*

                        (adj.) *decayed ; rotten ; foul*

(408) **schizo**   (noun) *splitting); cleavage; cleft;cleaving;*

                        tear(ing);division)(adj.) *splitting; tearing*

ge schizo = *split; torn; (divided)*

(409) **scholo**   (noun) *instruction ; study ; learning; tuition*

                        (adj.) *educative; instructive*

u duco scholo-fe = *head mistress*

(410) **sclero**   (noun) *hardness* (of materials)

                        (adj.) *hard* (as above)

no-sclero = *(softness)* (as above)

(411) **scopo**   (noun) *search; watching; observation;inspection*

                        (adj.) *searching; inspecting; observing*

no-scopo   = *unobservant*

u scopo-pe = *observer; scout; patrol*

(412) **secto**   (noun) *cut (ting); dissection; pruning*

                        (adj.) *cutting*

ge secto =*cut; pruned*

no ge secto   = *uncut*
                        u sano secto-pe = *surgeon*
(413) **semao**   (noun) *signal; sign; symbol;*
                               (gesture)(action *or* result)
                               (adj.) *symbolic*
               u cephali semao = *nod* (491)
               u dactyli semao = *beckoning* (500)
               u numero semao= *figure, cipher* (327)
               un oculi semao = *wink* (526)
               u phono semao   = *letter* (of alphabet) (357)
               u soporo semao = *yawn* (423)
               u typo semao   = *punctuation mark* (444)

(414) **sensitive** *or*   (noun) *sensitivity; receptivity*
      recepto (adj.) *sensitive; receptive*
               no-sensitivo = *indelicate; insensitive; thick-skinned*
               sensitive de baro = *compressible (-ility)*
               sensitive de tensio   = *extensible l-ility)*
               sensitivo de thermo   = *heat labile*
               no-sensitivo de photo = *blind (ness)*
               no-sensitivo de phono = *deaf(ness)*

(415) **serio**   (noun) *series; list; succession; array;*sequence
                               (adj.) *serial; successive; consecutive*
               u bibli serio   = *catalogue* (of books) (814)
               u chron serio   = *timetable* (62)
               un in-re serio   = *table of contents, index*
               u nomino serio = *roll* (of school, etc.) (323)
               un ortho serio   = *column* (336)
               u parallelo serio = *table* (in books) (343)
               u re serio   = *inventory*
               u trans serio   = *row* (101)

(416) **severo**   (noun) *strictness; severity*
                                (adj.) *strict; severe; (hard)*
               no-severo = *indulgence; lenient*

(417) **significo**   *(noun) significance; meaning*
                                (adj.) *meaningful; (significant)*

(418) **siphono**   (noun) *suction; siphoning*
                                (adj.) *shucking; (pumping)*
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(419) **societo**   (noun) *organizing; organization*
          (adj.) *organizing*
    societo = *organized*

(420) **solemno**   (noun) *solemnity*
          (adj.) *solemn; (serious)*
    no-solemno = *light-headed; frivolous; frivolity; (flippant)*

(421) **solutio**   (noun) *solution* (state)
          (adj.) *dissolved*
    solutio poto = *soluble; solubility*

(422) **sopho**   (noun) *wisdom* (adj.) *wise; (clever)*
    no-sopho = *foolish; folly*

(423) **soporo** *or*   (noun) *sleep; slumber*
   somne   (adj.) *sleeping*

(424) **specio**   (noun) *specimen; type; example; (illustration)*
          (adj.) *representative; illustrative*
          (adv.) *for example; such as*
    u neo specio = *a copy*
    u pseudo specio = *a fake*

(425) **sporto**   (noun) *play ; game ; sport; romp*
          (adj.) *playing*

    u sporto-re = *toy; plaything*
    u sporto-pe = *sportsman*

(426) **stalagmo**   (noun *or* adj.) *drop(ping);*
          dripping(action *or* result)
          (adv.) *drop by drop*

(427) **stato**   (noun) *rest; (calm)* (adj.) *resting; static; (calm);*
          (steady)(of position) (adv.) *at rest* (phys.)
    no-stato = *unrest; disturbed; disturbance*

(428) **stereo** *or*   (noun) *solid* (as opposed to *liquid* or *gas)*
   solido   (adj.) *solid; three-dimensional*

(429) **stigmo**   (noun) *mark; spot; stain*
          (adj.) *marked; spotted; stained*
    no-stigmo = *spotless(ness)*
    u stigmo de tendo = *bull's eye* (of target)

(430) **strategio**   (noun) *trick; stunt; stratagem; dodge*
                      (adj.)*wily;cunning*
        no-strategio = *guileless (ness)*
        u strategio-pe = *trickster; conjurer*
        un aero strategio-pe = *acrobat* (146)
        u miro strategio = *conjuring trick* (305)

(431) **summatio**   (noun *or* adj.) *total; aggregate*
        u summatio Y plus Z = *the sum of Y and Z*
        u summatio Y minus Z = *the difference between Y and Z*

(432) **sympto**   (noun) *clue ; symptom ; hint; (suggestion)*
                    (adj.) *symptomatic; suggestive*
        no-sympto = *puzzling; baffling; perplexing; bewildering*
        minus pre sympto = *sudden(ness); abruptness)*

(433) **systemo**   (noun) *arrangement; system; pattern,*(order)
                    (adj.) *tidy; orderly; systematic*
        u no-systemo = *chaos; confusion; disorder; untidiness*

(434) **tensio**   (noun) *stretching; extension; (tightening)*
                    (adj.) *stretching*
        ge tensio = *stretched; extended; (tight)*
        no-tensio = *slack (ness)*

(435) **testimono**   (noun) *testimony; evidence* (legal);*(witness)*
                    (adj.) *testifying*
        ge testimono = *witnessed; accredited* (legally)
        u testimono-pe = *a witness*

(436) **theo**   (noun) *god; deity*(adj.) *divine*
        ge theo = *deified*

(437) **thermo**   (noun) *heat;* (adj.) *hot*

(438) **tolero**   (noun) *forbearance; patience* (behaviour)
                    (adj.) *forbearing; patient*

(439) **tono**   (noun) *tone; note* (musical) ; *pitch*
        eu-tono = *in tune*
        malo-tono = *out of tune*
        u tono-fa = *bar* (of music)
        u tono-re = *tuning-fork*

(440) **toxo** *or* **sepso**   (noun) *poison*
                         (adj.) *poisonous; toxic*
        ge toxo = *poisoned*

(441) **traumo**   (noun) *shock*
                         (adj.) *shocked* (pers.) ; *shocking* (imp.)

(442) **tropo**   (noun) *turn (ing); twist (ing)* (process *or*action)
                         (adj.) *turning; twisting*
        u tropo axi = *pivot* (736),

(443) **turbo**   (noun) *shake; shaking; (disturbance);(agitation)*
                         (action *or* state) (adj.) *shaking*
        no-turbo   = *calm(ness)* (of sea)
        ge turbo   = *shaken; (agitated)*
        mega turbo = *upheaval*
        u geo turbo = *earthquake* (645)

(444) **typo**   (noun or adj.) *printing)*

(445) **umbro**   *(noun) shadow; shade; (eclipse)*(adj,) *shady*
        u luna umbro = *solar eclipse* (649)
        u geo umbro = *lunar eclipse* (645)

(446) **uniformo**   (noun) *regularity; uniformity*
                         (adj.) *regular; uniform; (steady)* (of motion)
        on-uniformo = *irregularity; erratic*

(447) **unio**   (noun) *meeting; gathering; conference;*
                         congress; reunion; assembly (action and result)
                         (adj.) *meeting; gathering*
        ge unio = *gathered; assembled*
        non-unio = *adjournment; adjourned*

(448) **vacuo**   (noun) *emptiness; vacuum*
                         (adj.) *empty; vacant*

(449) **valo**   (noun) *worth; value* (adj.)   *(valuable); worthy*
        no-valo = *worthless*
        u valo-re = *treasure*

(450) **vaporo**   (noun *or* adj.) *vapour; steam*

(451) **vendo**   (noun) *selling; sale; commerce; trade*
        ge vendo   = *sold*

u vendo-pe = *salesman; tradesman; shopkeeper*
plu vendo-re = *goods; wares*

(452) **verito**   (noun)(adj.) *true; correct* (adv.) *yesi*

(453) **vibro** *or*   (noun) *wave;vibration undulation;alternation*
    oscillo   (adj.) *vibrating; undulating; alternating*
                      (adv.) *to and fro; alternately; up and down*
un haema vibro = *pulse* (512)

(454) **victo**   (noun) *victory; (conquest); win*
                      (adj.) *victorious*
no-victo   = *defeated)*
u victo-pe = *victor; winner; conqueror*
u victo-re = a *trophy*

(455) **violo** *or*   (noun) *violence; aggression; attack*
    aggresso   (adj.) *violent; aggressive; attacking*
u violo-pe = *an aggressor; ruffian*
plu violo verba = a *threat; threats* (860)

(456) **viro**   (noun) *danger; peril*
                      (adj.) *dangerous; perilous*
no-viro = *safe(ty)* ,
ge viro = *endangered*

(457) **visile**   (noun or adj.) *visit(ing)*
no-visito = *absenteeism)*
u no-visito persona = *an absentee*
u visito-pe = a *visitor; guest*

(458) **vivo**   (noun) *consciousness;awareness;awakeness*
                      (adj.) *awake; aware; conscious*
no-vivo = *unconscious*
meso-vivo = *half-awake; dazed*

(459) **voco**   (noun) *voice; (crying aloud); call*
                      (adj.)   *(calling); vocal*
micro voco   = *whisper (ing)*
alto an voco   = *tenor*
alto fe voco   = *soprano*
batho an voco = *bass* (159)

batho fe voco = *contralto*

meso an voco = *baritone*

(460) **volumo** *or* (noun) *room; (space); volume; (capacity)*

   capacito

   pan volumo = *space* (all-embracing)

Note.=Space as opposed to *time* (**chron**) is *position* (**topo**).We can use **volumo** and **alto** (150) metaphorically as in current physical metaphor for the two components of energy : *quantity* and *potential* (level). Thus:

   electro alto   = *voltage; electric potential*

   electro volumo = *electric charge*

   thermo alto   = *temperature*

   thermo volumo = *amount of heat*

(461) **vulno** (noun) *wound; sore* (adj.) *wounded; sore*

(462) **zygo** (noun) *joining; union ; fusion ; connexion* (action *or* result) (adj.) *joining; connecting*

   ge zygo = *united; joined together; fused*

Supplementary Amplifiers

Thirteen supplementary amplifiers take their place as numbered items of the essential word-list less because they are necessary from a semantic point of view than because they dispense with the need for clumsy expressions ;

(861) **cambio** *exchange of Y for Z* (de Y vice Z);
   exchanging; interchange

   posso de cambio = *interchangeable (-ility)*

(862) **charito** *compassionate); pity; sympathy (-etic)*

   minus charito = *pitiless; ruthless*

(863) **cido** *slaughter; killing; murder; fatal;*mortal

   cido-pe = *killer; slaughterer; murderer*

   cido-lo = *scaffold;* (sacrificial) *altar*

(864) **concessio** *lease; concession*

   concessio-pe = *lessor; landlord*

(865) **diffusio** *diffusion; spreading; pervading*

   no-resisto de **diffusio** = *permeable (-ility)*

(866) **flexio**   *bending; refraction; flexion*
        ge flexio = *bent*

(867) **foramino**   *open(ness)*

(868) **idio**   *specific (ity); special; particular*

(869) **massago**   *stroking*

(870) **necto**   *swimming*

(871) **perplexo** *or*   *bewilderment (-ed); perplexity (-ed)*
      confusio

(872) **universo**   *generality); universality)*

(873) **utilo**   *utilization; (employment); (tenure)*
        excesso de utilo = *wear and tear*
        excesso ge utilo = *worn out; shabby*

APPENDIX TO CHAPTER VII

Each operative verboid of *Interglossa* has a clear-cut semantic domain. To prepare the way for the ensuing treatment of the operative system it will therefore be helpful to make a rough and ready classification of amplifiers listed in this and preceding chapters under the following headings : *(a) physical states and qualities; (b) logical (including spatio-temporal) relationships; (c) action and reaction (including motions); (d) explicit modes of human behaviour (including social relations); (e) types of communication ("messages"); (f) personal states (affective and cognitive); (g). valuations (based on personal judgments) ; (h) collectives.* Amplifiers which might fit into more than one class have an asterisk.

(a) **Physical States and Qualities**

. (138), (141)-(145) inclusive, (150), (157), (159), (161), (162), (167), (169), (171), (174), (175), (177), (190), (194), (195), (200), (208), (209), (211), (212)*, (213), (216), (223), (227), (228), (232), (234), (239), (240), (246), (261),* (264), (267), (268)*, (271), (281), (283),* (291), (292), (293), (295)> (297)-

(300) inclusive, (307), (311), (312), (316), (318), (321), (329),

{336), (338), (339), (341), (342), (344). (345), (347), (349),

(352) , (357), (359), (364), (365), (382), (384),* (395), (398), (399), (401), (405), (409), (410), (414),* (421), (423), (427), (437), (439), (440), (441),   (448), (456), (460), (867).

(b) Logical Relationships

(44)-(46) inclusive, (53), (61)-(127) inclusive, (132), (133),

(134), (139), (149), (156), (158), (187), (204), (220),* (229),

(207), (235), (236), (238), (245), (248), (259), (261),* (272),

(286), (290), (328), (331), (333), (343), (371), (373), (388),

(390) , (394), (395), (417), (431), (433), (446), (868), (872).

(c) Action and Reaction

(59), (140), (152), (160), (163)-(166), (173), (179), (189),

(191), (192), (205), (206), (210), (231), (233), (237), (242),

(249), (250), (252), (255), (257), (267), (273), (274), (276),

(278), (279), (285), (310), (313), (314), (319), (322), (337),

(353) , (358), (366), (368), (369), (383), (384),* (387), (388),

(391) , (393), (397), (400), (403), (412), (413), (418), (426), (434), (442), (443), (444), (447), (451), (453), (457), (459), (462), (861), (863)-(866), (869)-(870), (873).

(d) Explicit Human Behaviour

(151), (153), (154), (168), {176), (180),* (182),* (184),* (185), (193),* (202), (214), (217), (219), (230), (244), (258),* (262), (268),* (269), (270), (275), (280), (282), (294), (301), (302), (303), (304), (320), (326), (340),* (348)> (351),* (370), (379), (392), (396),* (402), (409), (411), (414),* (416), (419), (420),* (429), (438),* (455).

(e) " Messages "

(41), (42), (110), (181),* (183),* (184),* (188), (199)/(201), (251), (260), (266), (277), (309), (324)/ (330), (346),* (350),* (360), (375), (376), (378),* (404), (435).

(*f*) Personal States (Affective and Cognitive)

(125),* (128), (130), (131), (148), (155), (172), (178), (182),* (187), (193),* (203), (221), (226), (241), (258),* (277), (284), (289), (305), (306), (308), (315), (334), (340),* (346),* (350),* (351),* (355), (356), (378),* (381), (396),* (406), (421),* (425), (438),* (452), (458), (862), (871).

(*g*) Valuations

(129), (133), (135)-(137) inclusive, (147), (170), (180),* (196), (197), (212),* (215), (218), (220),* (222), (224), (225), (247), (252), (253), (258),* (277), (283),* (296), (325), (335), (354), (367), (372), (422), (449).

(*h*) Collectives

(49), (146), (198),* (243), (254), (263), (287), (288), (316), (323), (327), (361), (362), (363), (374), (377), (380), (386), (415), (424), (428), (431), (432), (436), (445), (450), (454), (460),

CHAPTER VIII

CLASS VI—THE VERBOIDS (20)

Essential characteristics of the verboid system of *Interglossa* have come up for discussion in Chapter IIL# Here follows a more detailed treatment with a summary of equivalent constructions for Anglo-American verbs.

(463) **acouste** *or* **audie,** *hear; hearing*
      plu acouste-pe = *the audience*
      minus poto de acouste = *deaf* (137)
      tentato acouste = *listen (140)*

The only amplifiers with which **acouste** forms operative couplets are names for *sounds* or *sound-producing* events, e.g. :
      acouste bronto Y = *hear the explosion of Y* (163)
      acouste canto   = *hear singing* (164)
      acouste fissuro Y =*hear the crack of Y* (231)
      acouste tono   = *hear a note* (439)

(464) **acte,** *do; performance); behave; act; behaviour; deed;conduct*
      un acte-pe   = *performer*
      plu acte nomo = *rules of conduct; " principles "* (324)

The wide operative range of **acte** depends on two types of construction:

(a) Instrumental use in conformity with the general formula :

Acte per *Z* **de** Y = *Act on Y by means of Z* (= Perform with Z in relation to Y)

In this construction Z is an instrument, e.g. a *comb*. Thus we have:

Acte per cteni de tricha = *Comb the hair* (748) (545)

(b) Non-instrumental use with an amplifier (A) which may be any one of the numbered items in classes *(c)* and *(d)* on pp. 169-170, i.e. (i) a simple action (e.g. *running)* ; (ii) a mode of behaviour (e.g. *friendliness)* ; (iii) a physical reaction (e.g. *fracture)* ; (iv) any type of motion (e.g. *rotation).* With such amplifiers **acte** forms couplets with the meaning *X performs A on Y* or *X does A to* Y, *X displays the mode of behaviour A towards Yt* or, if the meaning is inherently intransitive (motion or reaction), *X does A.* So we have :

X acte amico Y = *X befriends Y* (151)

X acte fissure   = *X is cracking, X cracks* (231)

X acte gyro   = *X is spinning; X rotates; X is revolving* (255)

If the amplifier signifies a *motion* or *physical reaction,* the acte couplet is always *intransitive.* The corresponding transitive couplet involves **stimule** (p. 47). Otherwise the object **(Y)** of an **acte** operative couplet is the person or thing changed (actually or potentially) as the result of the action ; and if the thing or person changed is also the subject, **no** specification of an object is necessary. A substantive may follow a couplet which is intransitive in this sense without the intervention of a preposition-equivalent pointing to a relationship sufficiently suggested by the context. In accordance with current Anglo-American usage we may thus say :

Fe pre acte grado u via holo nocti
She walked the street all night

An pre acte salto u mura
He jumped the wall

The same remarks apply to what Jespersen calls the *object of result,* or any more or less cognate object of the equivalent Anglo-American verb, e.g. :

An pre acte dromo u competo = *He ran a race*

By the same token we can put:

Fe acte grapho auto nomino in bibli (323) (814)
She is writing her name in the book

The amplifiers **grapho** and **lecto** commonly enter into many such constructions with the semi-cognate objects **historo** (260), **bibli** (814), **gramma** (833), etc.; but the object in the sense defined above* is the person who receives the communication. In other words, we can regard a construction such as **acte grapho u gramma** *(write a letter) as* a compound operator capable of taking its own personal object in accordance with the pattern : »

Fe post acte grapho mi u gramma
She will write me a letter

By the same token the pseudonyms **re** and **mu** can replace such substantives as **bibli** *or* **gramma,** e.g. :

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Mi acte grapho re = *I am writing it*

An pre acte lecto mi auto neo poeti
He read me his new poem

It should scarcely be necessary to point out that the **dis**tinction between an *explicit* form of *behaviour* and **a** *sentiment* is not clear-cut or final. Consequently there are situations in which decision in favour of **acte** *or* **esthe** is a matter of personal judgment. Likewise, the distinction between a *passive* state and a type of *motion* depends on whether we look on a situation from **an** everyday or from an ultramicroscopic point of view. By *motion* in this context we signify visible motion, in contradistinction to the molecular motion of heat or the wave motion of a sound. Again, there is room for personal taste and judgment concerning choice between **acte** and **habe** (p, 185). In what follows the writer has checked a personal inclination to adopt forms of expression too greatly in advance of current habits of discourse.

(a) *Instrumental Constructions*

By itself, **acte per S de Y** means the same as *Use S for Y;* or if there is no explicit object:

acte per S = *use S*

Among single Anglo-American verbs covered by this formula, we have :

> **acte per fi-ru de Y**   = *sew Y* (50)
> **acte per mallea de Y** = *hammer Y* (761)
> **acte per seta de Y**   = *brush Y; sweep Y* (773)
> **acte per spatula de Y** = *dig Y* (775)
> **acte per sphena de Y** = *wedge Y* (776)

We can use the instrumental construction to cover the meaning of *shoot* when the instrument is a *missile,* e.g. :

acte per sagitta de Y = *shoot Y* (with an arrow) (771)

Similarly **acte per** means *play* when what follows is a musical instrument=a construction on all fours with Anglo-American use of *perform* in the same context=e.g. :

acte per lyra = *play the harp* (759)

To *act by force* or to *use force* is to compel.   Hence we have : **acte per dyno de Y** = *force Y to . . ., compel Y to . . .*

The corresponding passive construction is to *perform some action A on Y* **(acte A Y)** *in response to force* **(causo u dyno)**:

Fe pre acte unio mu causo u dyno = *She was forced to meet them; she had to meet them* (emphat.) ; *she was compelled to meet them*

(b) *Simple Operative Constructions*

In accordance with the formula given above, **acte** couplets with simple amplifiers appear **in** the table on pp. 206-217 at the end of this chapter.

(c) *Complex Operative Constructions*

We can make three useful constructions with **acte semao per** *(signal by means of)* and **acte semao de** *(give a sign of):*

      acte semao per cephali = *nod* (410)
      acte semao per dactyli = *beckon* (499)
      acte semao per oculi   = *wink* (525)
      acte semao de algo   = *wince* (148)
      acte semao de phobo   = *flinch* (356)
      acte semao de fatigo   = *yawn (226)*

The following constructions do not occur in the table of’ **acte** couplets on pp. 206-217:

      acte pro auto - = *(be) selfish* (120) (9)
      duro acte mordo   = *chew* (64) (310)
      tentato acte captivo   = *hunt* (181) (214)

Note.=The use of **acte** in an infinitive construction is redu»-flant. Thus we say :

      tendo u ligato de Y syn Z = *in order to tie Y to Z*
      tendo 11 grado = *in order to walk*

(465) **balle,** *dispatch; send; throw; cast*
          u balle-pe = *a thrower; a sender*
          u balle-ma = *an emanation*

The meaning of **balle is** *motion conferred on the object by the subject and directed away from the latter.*   For instance :

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X post balle u gramma a mi = *X is sending me a letter*
X pre balle u sphera ad an   = *X threw him the ball*
X balle Y a-supero = *X is sending Yup; X is throwing*, Y *up*
X balle Y ad hypo = *X casts Y down; X knocks Y
down; X tips Y over* **X balle Y verso** = *X sends Y back; X returns
Y ;X reflects* Y

With amplifiers equivalent to preposition-adverbs, we have :
balle Y ad-antero   = *propel Y; project Y*
balle Y tele auto   = *repel Y*
balle Y apo = *discard Y; evict Y; send Y away ; dismiss Y;
dispense with Y*
balle Y (ad-extra) = *eject Y*
balle Y extra auto   = *exude Y; extrude Y*
balle Y apo per dyao = *push Y away*
balle Y peri ~ *scatter Y* (seed, etc.)

With collective amplifiers, **aero, fumo, hydro, vaporo,**

 we have:
balle aero ex unasa = *blow the nose*
balle fumo ad-extra = *smoke* (intr.)
balle hydro a-supero *(or ad-extra)* = *spurt water, squirt water*
balle vaporo apo * = *evaporate* **(intr.)**

With substantives it enters into several constructions equivalent to single Anglo-American verbs based on :
balle Y **ex auto** = *throw Y off; cast Y off; shed Y;
get rid of Y; spit out Y*

The last two words are usually redundant:
balle u feci (ex **auto**) = *defaecate*
balle plu lacrima **(ex auto)** = *weep; shed tears*
balle un **ova (ex auto)**   = *ovulate; lay an egg*
balle u sudori (ex auto)   = *perspire; sweat*
balle un urini (ex auto)   = *micturate; urinate*

 No ambiguity would arise from shortening the foregoing to **baile feci, balle ova,** etc.   Note also :
balle plu sperma peri = *sow* (seed)
balle stalagmo peri   = *spray; sprinkle*

No ambiguity would arise from shortening these to **balle sperma, balle stalagmo.**

(466) **date,** *give, confer, furnish, provide, provision, gift, donation*
　　　u date-pe = *donor*

Date is the *causative* operator for use with an amplifier (A) which signifies a physical condition or a logical relation, i.e. classes *(a)* and *(b)* on p. 169. We can also combine it with a collective of class *(h)*. The formula is *X confers A on Y.* Thus with **baro** (157) we have :
　　　X date baro Y = *X compresses* Y (= X confers pressure on Y)

With metrical or numerical attributes we can use compound constructions analogous to :
　　　X date **major (metro de) longo** Y'= *X lengthens Y* **(= X** gives more length to Y)

Where the context makes the dimension or direction explicit, the second amplifier is redundant, and we can simply put:

date major = *increase, augment, enlarge, add, heighten, deepen, steepen, multiply, strengthen, exacerbate, amplify.*

Date does most of the work of the Basic English operator *make (to give heat = to make hot)* ; and is always equivalent to it, when the amplifier stands for a colour, e.g. : **date rhodo Y** = *make Y pink* (398)

In accordance with the formula given above, the direct object of a **date** couplet is the indirect object of the equivalent Anglo-American verb. When there are two objects the prescribed pattern is :
　　　date credito Y de Z «= *lend Z to Y* (186)
　　　date prospecto Y de Z = *show Z to Y* (377)

Amplifiers which go with **date** may be physical states or logical categories, e.g. (105) **cleisto** *(the state of inclusion in a larger whole)* :
　　　date cleisto　　= *include, contain, (hold), envelop*
　　　no date cleisto = *omit, exclude*

The following constructions call for special comment:
　　　date (physio de) liquo Y (per thermo) = *liquefy Y, melt Y ;* **. .** **(per frigo)** = *condense Y ;* **date (physio de) stereo** Y = *solidify Y, freeze Y ;* **date (physio de) vaporo Y (per thermo)** = *boil Y ;* **. . . minus thermo** = *evaporate* Y.

All **date** couplets are transitive, though the object may be implicit. Usually they are *causative.* The meaning of **date** *couplets* with appropriate amplifiers is in the list on pp. 196-206, at the end of this chapter.

(467) **detecte,** *find (out); discover(y); detection)*
      ge detecte   = *found, discovered*
      u detecte-pe = *a discoverer*

The formula for a couplet involving **detecte** and an amplifier (A) is : *X finds the A of Y.* If *A* is a metrical property (e.g. *length)* this is the same as *measures the A of Y* or *X finds how A Y is.* If *A* is a physical state *(electrification, heat)* it is the same as : *X sees if Y is A,* in which *A* is the adjectival equivalent. If *A* is a *spatially* localized reaction *(breaking)* or result of an action *(puncture),* it is the same as : *locate the A of Y.* Thus we have :

      detecte defecto Y = *find the fault in Y* (197)
      detecte tem Y = *find how long Y takes* (75)
      detecte longo Y = *measure the length of Y* (290)
      detecte thermo Y = *see if Y is hot* (437)
      detecte electro **Y** = *see tf Y is charged up* (211)
      detecte magneto **Y** = *see if Y is magnetized* (295)
      detecte nssuro **Y** = *locate the crack in Y* (231)
      detecte pylo Y =*= *locate the leak in Y* (383)

Important constructions involving qualifying amplifiers are:
      detecte electro alto Y = *find the voltage of Y* (211) (150)
      detecte proximo metro Y = *make a rough estimate*
                         (measurement) *of Y* (121) (114)
      detecte proximo numero Y = *make a rough estimate*
                         (count) *of Y*(121) (327)
      detecte ratio de rheo Y   = *find the rate of flow of Y; find the*
                         current strength of Y (397) (389)
      detecte alto de thermo Y = *find the temperature ofY* (437) (150)

The amplifiers indicated by number below form **detecte** couplets which do service for single Anglo-American verbs in accordance with the following paradigm based on (100) **topo :.**
      detecte topo Y = *locate Y* (= find the position of **Y**)

  (104) *diagnose Y; analyse Y; infer from Y;* (noun) *diagnosis; analysis; inference; induction*

(108) *try Y on; try Y out; see if Y fits; find if Y is suitable*

(114) *measure Y; estimate Y; assay Y;* (noun) *measurement;assay; estimation*

(122) *deduce from Y; conclude from Y;* (noun) *deduction* (180) *see the humour in Y; see the joke* (199) *prove; (demonstrate); (show)*

(223) *analyse Y* (= find the composition of Y) ; (chemical) *analysis*

(259) *distinguish Y* from Z **(Y de Z). .**

(298) *weigh Y;* (noun) *weighing*

(327) *count Y; compute Y;*(noun) *enumeration; computation* (371) *cost Y;* (noun) *costing*

(373) *multiply Y* by Z **(Y latero Z)** ; (noun) *multiplication; divide Y* by Z **(Y supero Z)** ; (noun) *division*

(431) *add Y to Z* **(Y plus Z)** ; (noun) *addition ; tukeZi from* Y **(Y minus Z)**; (noun) *subtraction*

Detecte couplets do the work of all numerical *calculation,* e.g.: **detecte ratio X de Y** = *find* (calculate) *the proportion of X toY; find the ratio X/Y* (389) **detecte bi iso diviso Y** = *find* (calculate) *the square root of Y* (204)

(468) **dicte,** *say; tell; communicate; express*
u dicte-pe = the speaker
   Dicte is the transitive operator for use with any amplifier (A) which stands for an act of communication ; but we can extend its use to convey *expression of any communicable sentiment or valuation,* **i.e. a** sentiment or valuation which has communicative rank in **a** particular context. The object is the person who receives the communication. Thus the general formula is :

   X dicte A Y de Z = *X communicates the A about Z to Y,* or *X expresses A about Z to Y*

   Hence the direct object **of** a single Anglo-American verb equivalent to a **dicte** couplet may be a word connected with the latter by the empty particle **de** or other preposition-equivalent, e.g. :
      X dicte malo Y de Z = *X condemns Z to Y* (296),
      X dicte protesto Y de Z. = *X complains abdut Z to Y; X protests*

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against Z ta Y (378) **X dicte** erro **Y de Z** = *X misleads Y about Z* (215)

The object nexus may be more complex, e.g. :

X dicte aetio Y anti Z causo F = *X blames Z for P to Y; X accuses Z of P to Y* (147)

More usually with (147) **aetio anti** *(accusation)* the object is implicit, and we have :

dicte aetio anti Z causo P = *blame Z of P; accuse Z of P; reprimand Z because of P*

With **impero** (266) we have positive and negative couplets :

dicte impero Y de . . .   = *command Y to . . . ; order*Y to . . .

dicte impero Y de non . • . = *forbid Y to . . . ; prohibit*   Y *from ...*

To *say no about something* is to *refuse, decline, reject* or *deny,* according to the context.   Accordingly we have :

dicte no de Z = *refuse Z; reject Z; deny Z; decline Z*

(469) **eque,** *be* (something *or* somebody)

      proto eque = *become* (something *or* somebody) (139)

Eque and **proto eque** respectively mean *be* or *become* only when the complement is substantival, i.e. when they respec-tively signify *being* or *beginning to be : (a)* a particular thing or person ; *(b)* a particular example of a class of things or persons, e.g.:

(a) **George 6 eque u nu regi de Britain**

        George VI is the present king of Britain

(b) **Plu homini eque plu crea-phago zoa**

        Man is a carnivorous animal

Otherwise we usually express *be* in one of two ways :.

   (a) Use of **babe** as *copula* between topic and attribute, e.g. :

      re babe thermo = *it is hot* (i.e. it has heat)

(b) Use of **habe bio** *(creatures)* and **habe accido** *(things* or *situations)* to signify *existence* or *occurrence :*

      Un habe bio allo u non habe bio = *To be or not to be*

      Pan re ; su habe accido ; habe eu = *Whatever is, is right*

Note the following useful constructions ;

eque u mero-ma de Y   = *be present in Y* (be an ingredient of Y)

non eque u mero-ma de Y = *be absent in Y* (not be **an** ingredient ofY)

proto eque u mero-pe de Y = *join Y* (i.e. become **a** member of Y)

(470) **esthe,** *experience, feel(ing)*

In accordance with the rule given on p. 54, an operative couplet must involve an amplifier (A) which stands for a personal state *(affective* or *cognitive).* Its meaning is : *experience the sentiment A in relation to* the object Y which follows, or (if there is no object) simply : *experience the sentiment A.* Thus we have :

        mi esthe espero re = / *hope so* (130)
        mi esthe fatigo re = *I am tired of it* (256)

Some Anglo-American verbs correspond to negative constructions :

X non esthe assuro Y = *X doubts Y* (X does not feel certainabout Y) (155)

X non pre esthe expecto Y = *X was surprised by Y* (223)

It is permissible to use **esthe** with amplifiers not placed in class *(f)* on p. 170 ???, if the context endows them with *affective* significance. Thus we may say :

        esthe lyso = *be lonely, lonely, loneliness* (293)
        esthe no-facilo (de) Y = *find Y difficult* (224)
        esthe immuno = *feel safe* (264)
        esthe viro (de) Y   = *be apprehensive about Y* (456)

Note the special construction : **esthe u perde de =** *miss* (feel the loss of)

(471) **facte,** *make; construction); manufacture; devise*
        u facte-pe = *maker*
        u facte-me = *a generator*
        ge facte   = *synthetic; manufactured; artificial*

Facte means *make* only when *make* is replaceable by *construct* ; and hence forms couplets only with amplifiers which can have a concrete meaning :

        facte fascio = *collect; assemble* (tr.) ; *gather; compile*
        facte hydro = *synthesize water*

     facte neo specio = *copy*
     facte picto = *portray*
     facte picto per carba = *sketch; draw*
     facte picto per chromo = *paint a picture*
     facte stigmo = *make a mark; blot; smudge; mark*

    Facte provides equivalents for several Anglo-American verbs in combination with a substantival object:

     facte u domi   = *build*
     facte u fi = *spin*
     facte u texti   = *weave*
     facte u farina de = *grind, powder* (643)

    Note also :

     facte lineo hypo = *underline*
     facte Y proto = *invent Y*
     u neo facte = *an invention*
     un anemo facte-me = *fan ; bellows*

(472) **ge,** *that has got; that has been*

    It is necessary to add only three comments to previous remarks upon the use of **ge** (pp. 51-52) :

    (a) **Ge** gives any amplifier=simple or complex=the meaning equivalent to that of the corresponding *passive* participle. The provision of a separative passive particle with this function permits recourse to constructions which the grammatical etiquette of Anglo-American usage excludes from the repertoire of Basic English. The Anglo-American flexion which endows a verbal root with a passive meaning in an adjectival context cannot attach itself to an intransitive verb root in the same situation. If we split a transitive verb (e.g. *leave)* into an intransitive one with an adverbial qualifier (e.g. *go away without),* we then have to restrict ourselves to the *active* domain. For *to leave a book in a train* it is permissible to put *go away from the train without a book ;* but it is not in keeping with the Anglo-American idiom to paraphrase *a book left in a train* by the expression *a book gone away from the train without.* That we cannot do so is merely the penalty of having the passive flexion glued to the verb itself. If we have an independent passive particle, there is nothing to prohibit its association with *any* verbal nexus which may have a transitive meaning, if taken as a whole.   Thus we can legitimately say :

kine apo minus Y = *leave Y behind; forsake Y*
ge kine apo = *left behind; forsaken; abandoned*

Thus we may put:

un infanti, ge kine apo = *an abandoned baby* .
u ge kine apo domi   = *a forsaken house.*

(b) The correspondence between **ge** and the passive flexion is not one to one. If an amplifier stands for a passive state (e.g. *heat),* its use as an adjectival qualifier (p. 131) predicates that the substantive qualified possesses the state ; and its meaning may be inherently passive. Thus a *hot fluid* is a fluid *which has been heated.* The adjectival meaning given for each of the amplifiers in.Chapter VI shows whether it is or is not necessary to preposit **ge** in order to give the epithet a passive content. All amplifiers which stand for *actions* require **ge** to that end.   Thus we have :

vesto   = *covering*   **thermo** = *hot, heated*
ge vesto = *covered*   **su date thermo** =*heating* (= conferring heat)

(c) Since **ge** means **su pre gene** *(that has got),* there is nothing to prevent the use of **ge** as a substantive qualifier, e.g. :

Hypo ge astra syn phylla urani
          Beneath a starred and leafy sky

(473) **gene,** *get; acquire; receive; receipt* or *acquisition* (in

the abstract sense) The literal significance of **gene** is complementary to that of **date,** and it has a complementary metaphorical extension of meaning like the Basic English *get.* To *get cold* is to acquire the property of *coldness,* hence to *become cold.* **Gene** is equivalent to *become* only when associated with an abstraction. When *become* expresses *incipient identification,* we use the couplet **proto eque** (469).

Gene is the operator which makes it possible to dispense with the *intransitive* Aryan verb-forms corresponding to the causative ones made by combination of **date, acte, dicte** or **esthe** with an amplifier. In all constructions of the type indicated below, the epithet follows immediately after the operator. From the previous items of our word-list, we get such *intransitive* verbs as :

gene proto (ex) =*begin; originate* (from) ; *come (from)* (139)
 gene fino   = *end* (intr.) *; finish* (intr.) ; *stop* (intr.) (229)

gene profito (causo) = *profit* (by) ; *be benefited* (by) (374)

The last illustrates the rule that a **gene** couplet can do service as the passive equivalent of the **date** construction with the same amplifier; but its use as a passive operator is not restricted to the semantic domain of **date.** Like its opposite **perde, gene** can combine with any amplifier to form the equivalent **date** passive construction. Remarks concerning **date major** and **date** couplets with metrical attributes apply *mutatis mutandis* to **gene major.** According to context we 'have:

gene major ~ *enlarge; increase; gain; multiply; grow;- add to itself; get quicker; steepen; heighten,* etc.

The intransitive equivalents of **date (physio de) liqtio,** etc., are :

Gene (physio de) liquo (per thermo) = *melt, thaw, fuse;*
. , . (per frigo) = *condense;* **gene (physio de) stereo** =
solidify, freeze;. **gene (physio de) vaporo (per thermo)** =
boil; **... (minus thermo)** = *evaporate.*

Gene couplets convey the *passive* meaning of corresponding constructions with **acte, "dicte** and **stimule.** When the amplifier is a physical state, we can then express the passive by means of a **habe** couplet; but it is better to use the **gene** construction when an explicit agent follows, e.g. :

> **U porta pre habe claustro** = *The door was shut;*
> *the door was closed* (723) (175)
> **U porta pre gene claustro ex fe** = *The door was shut by her*

There is a list of **gene** couplets on pp. 196-206 at the end of this chapter.

(474) **habe,** *have; possession* The value given above is the literal one referring to possession of things or persons :. -

> **An habe mega domi** ~ *He has a large house*
> **Fe pre habe u palaeo anthropi** = *She had an old husband*

Just as we speak of an attribute of a thing as one of its *properties,* we may extend the literal meaning of **habe** to the possession of abstract qualities and relationships. This has a consequence that will be less novel to a Swede or to a Frenchman (cf. *fai froid,* etc.), than to an American or Britisher. Habe is the *universal copula* connecting attribute and epithet.

Sometimes this is self-evident. A thing *has* rigidity*when it *is* rigid, and it *has* superiority to something when it *is* greater than it. Hence we have:

>**Re habe rigo** = *It is rigid; it is stiff* (399)
>**Re babe major de X** = *It is greater than X* (45)
>**Fe habe verito** = *She is right* (452)
>**An habe erro** = *He is wrong* (215)

Thus the couplet **habe eco** means *inhabit,* and as such does service in many situations where the English idiom *there is, there are, there were,* etc., crops up, e.g. : **Zero ophidia habe eco Island** = *There are no snakes in Iceland*

The couplets (53) **habe loco** *(has locality)* and (100) **habe** topo *(has position)* mean *is at* or *is in,* and naturally require 110 other preposition-equivalent after them : **Fe non pre habe loco Edinburgh** = *She was not at Edinburgh* **Re habe topo un in-centra de cycli** = *It is at the centre of a circle*

In a negative construction the use of **zero** is more emphatic than **no,** e.g. :

>**Re non habe rigo** = *It is not stiff* (399)
>**Re habe zero rigo** = *It is by no means stiff*

The significance of operator-amplifier couplets of **habe** should offer no difficulty when the amplifier signifies a *quality* or *state*. Such a couplet may correspond to a single intransitive verb or to a pseudo-passive construction, e.g.

>**habe bio** (have life) = *live, be alive* (161)
>**habe morto** (have death) = *die, berdead* (312)

To *have life* is good New Testament English ; but the use of **habe** with prepositional amplifiers which have no equivalent abstract noun-(see p. 132), more particularly with the *place-markers,* does not lend itself to direct transliteration. **In** stands for the, "*state of being inside*" (p. 134. Hence **habe in** = *be in(side).* Accordingly we have :

(77) habe **antero** = *be in front of, be.anterior, to, precede (spatially)*
(78) **habe apo** = *be apart; be away from*
(80) **habe contra** == *be opposite; face*
(84) **habe extra** ~ *be outside*
(85) **habe hypo** = *be under; be below; underlie*
(86) **habe in** =*be inside; be internal to ; wear* (clothes)

(87) **habe inter** = *be among; be between; interpenetrate* (spatially)
(89) **habe iatero** = *be at the side of*
(96) **habe peri**   = *be around; surround* (statically)
(97) **habe retro**   *be behind; be at the back of; succeed* (spatially)
(98) **habe supero** = *be above; be on top of; lie on*
(99) **habe tele**   = *be far from*
(101) **habe trans**   = *be across*
(109) **habe de**   =* *be about*

Some of the above correspond to single English verbs :

Un hydro habe peri holo Britain
                    Water surrounds the whole of Britain
U fenestra habe contra un a-supero-hell
                    The window faces the rising sun

Some **habe** couplets do service for single Anglo-American verbs if we reverse the subject-object relation, as with babe **necesso** *(be necessary)* :

X babe necesso pro Y = Y *needs* X (= X is necessary on behalf of Y)

It is better to express the same relation by one or other of the following constructions :

        X non babe satio Y   = *X has not enough Y*
        X non babe u necesso Y = *X has not a necessary Y*

Like *have,* **babe** stands for temporary *(tenure)* as well as for legal *possession,* and thus overlaps the domain of *hold* (cf. *tener* in Spanish and Portuguese), predicating nothing more than close association of the subject and object. To make more explicit the legal relation implicit in *belong,* we can use **eque u propria de** (847), e.g.:

U domi eque u propria de an = *The house is his property*

In the same way, *X belongs to the society* is *X is a member of the society,* i.e. :
        X eque u mero-pe de grego

A construction for *hold X* is **Habe X in.** . . . Thus we have :

Fe habe re in chiri = *She is holding it* (= she has it in her hand) (493)

Re habe un hydro in auto = *It holds water; it contains water* (263)

Since h**abe** denotes temporary association, we can express *wear* in two ways analogous to the English constructions *she was in a green frock* (as above), or *she had on a green frock,* i.e. :

Fe pre habe u cbloro toga epi auto

She had a green frock on (herself) **Fe pre babe in u chloro toga**

She was in a green frock

We can express *lack* by **habe zero,** if the object is positive ; but an alternative construction is appropriate if the object is negative :

(a) **X habe zero penna**   = *X lacks a pen -*
(b) **X habe pan necesso re**   *X lacks nothing* (= has everything necessary)

When *keep* is *intransitive,* it is equivalent to **duro babe,** e.g.:

   X duro babe frigo = *X keeps cold* (240)
   X duro babe bio   = *X survives, keeps alive* (161)

With **ortho** (335) and **horizo** (269) we get constructions equivalent to *stand* and *lie,* e.g. :

Fe habe ortho epi mura = *She is standing on the wall* (721)
 Fe babe borizo epi terra = *She is lying on the ground* (663)

With prepositional amplifiers **habe** may be equivalent to *lie.* Thus to *be between* **(habe inter)** is to *lie between*; to *be north (of)* **(habe boreo)** is to *lie north (of),* e.g. ;

   X habe epi Y   = *X is lying on Y ; X floats on Y*
   X habe hypo Y = *X is lying under Y*

Two other **habe** constructions call for comment:

   (a) **Habe satio minus** *(have sufficiency without)* is the construction for *to be able to spare,* e.g. ;
      Qne tu habe satio minus re = *Can you spare this ?*

   (b) **Habe cleisto in iso geno** *(have inclusion in the same class)* is the construction for logical relationships, e.g.
      Mu habe cleisto in iso geno causo . . .
      They are related to one another by . . .
      Mu habe cleisto in quo geno = *How are they related ?*

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A construction which economizes space is consistent with the rule for postposition of the *ordinal* (p. 89) :

Re habe ordino N = *it is Nth on the list; it is the Nth; it is Nth in order* (i.e. it has rank N)

In speaking of a *situation we* can say **re habe frigo** *fit is cold),* as we may also say :

> **Re habe** *(or* **acte) pluvio** = *It is raining*

Of *thunder* **(urani bronto)** and *lightning* **(urani pyro)** it is more appropriate to put:
> **Un urani acte bronto** = *It thunders*
> **Un urani gene pyro**   = *There is lightning*

Many **habe** couplets have a passive meaning, more especially if the amplifier stands for a sustained state ; and in some situations it is a matter of taste whether we use **gene** on the one hand or **babe** on the other. Generally speaking, it is best to use **gene A eX** (with **a** *personal* agent) or **gene A per** (instrumental object) in preference to **habe A eX** *(or* **per),** i.e. **gene** is the more appropriate passive operator when there is an explicit agent or instrumental object. Not all **babe** couplets are passive or intransitive. Thus **habe homo** means *resemble (= is like) ;* and we can always omit a preposition=equivalent after a **habe** couplet which indicates the relation ship sufficiently without it, i.e. whenever we might be tempted to put in the empty particle **de** *(in relation to).* The following list of **habe** couplets omits all simple *copulative* constructions such as **habe chloro** = *be green :*

(59) *be dressed* in **(per) ;** *be covered* by **(per)**

(04) *go on; persist; continue*

(104)*be included in;be continued in*
(106) *"be comparable to*
(107) *be conditional on; be dependent* on **(ex)**
(108) *correspond to*
(112) *harmonize with, tally with*
(113) *resemble*

(207) *lead* (impersonal subject); *come first; have priority*

(209) *reside in; stay in; dwell in; live in; inhabit*

(213) *balance itself; be balanced; be in equilibrium with*
(223)*be composed* of **(ex) ;** *bemade* (up) of **(ex)**
(229) *be over; be finished; be ended*
(233) *have the taste of; taste like*

(116) *be hanging* from **(ex)**

(121) *approximate to*

(124) *touch* (=be in contact with)

(125) *be attracted* by **(ad)**

(127) *be replaced* by **(per)**

(133) See remarks above.

(135) *have the appearance of; seem to be*

(141) *occur; exist; happen*

(145) *be attached to; stick to*

(149)with **non** *be accustomed to* (something *or* someone)

(153)*be in office; have authority to* **(tendo) >**

(156) *be postponed, delayed* or *put off* by **(causo)**

(158) *be founded* on **(ex); be based on (ex)**

(161) *live (=* be alive)

(170) *have a certificate for; have graduated in; have passed* (a test)

(175) *be shut* in **(in)**

(177) *slope* (intr.)

(181) *share* **Y** with **Z (Z de Y)**

(185)*be under the control* of **(ex)**

(186) *owe* **Y** to **Z (de Y ex Z)**

(198) *is populated* by **(per)**

(199) *be proven*

(238) *happen often* (= be frequent)

(242) *be repelled* by **(ex)**

(245) *have a kink; be bent*

(248) *be transmitted* by **(ex) ;***be inherited* from **(ex)**

(286) *be restricted* by **(causo)**

(316) *be drugged; be narcotized*

(323) *be called* ,.(= named)

(328) *have the chance of; have opportunity to*

(329) *have the odour of; smell like*

(331) *be responsible for*

(333) *have the rank of*

(337) *be standing; stand*

(340) *be at peace with*

(342) *project; stick out*

(372) *have the right to*

(374) *be rewarded* by **(ex) ;** *be to the advantage* of **(pro)**

(384) *be burning*

(385) *be endowed with*

(389) *be proportional to*

(395) *be resistant to*

(397) *flow; pour over* (intr.)

(417) *signify; (mean)*

(421) *be dissolved in* **(per)**

(427) *be at rest*

(460) *have room* for **(pro)**

(475) **kine,** *go; come; move; motion*

The semantic content of this operator is simply change-of position of the subject, e.g. :

Na kine e London a Paris = *We are going from London to Paris..*

Besides the simple constructions **kine ex** = *go from, step off,* and **kine ad** = *go to* or *go towards,* we have :

kine latero   = *skirt*

kine antero	= *precede*
kine retro	= *follow*
kine a-supero	= *ascend, rise, climb*
kine ad-hypo	= *descend, fall*
kine peri	= *surround, circumscribe*
kine proximo	= *approach*
kine ultra	=*pass*
kine apo	= *depart, leave*
kine in	= *enter*
kine extra	= *leave* (room *or* building) .
kine trans	= *cross, traverse*
kine syn	= *accompany*
kine apo minus	= *leave behind (i.e.* come away without); *forsake; abandon*
kine ad-epi	= *mount*
proto kine	= *start out*
kine-posso	= *movable, movability*

The combination **kine para** means *come,* but *come* often obtrudes into contexts in which its semantic content is exactly the same as that of *go.* The fact that it is necessary to include it in the Basic English word-list as an operator is an illustration both of the limitations which natural language structure imposes on the Basic method, and of the ingenuity with which its inventor has made the best of a bad job. The following is typical of the interchangeability of *go* and *come :*

An pre kine ad auto demo; plus mu non acte saluto an
He came unto his own, and they received him not

For *row* and *sail* we use **kine** with **per copa** (745) or **per vela** (783). For *float* we can use **habe epi hydro,** for *fly* **kine in aero,** and for *hop* **kine per mono poda. Kine** ad-**hypo** *(descend)* may mean *set:*

Un heli kine ad-hypo = *The sun is setting, the setting sun*

The construction **kine a-supero** *(ascend, rise)* does not mean *get up* **(gene ortho)**.   Thus :

Un heli kine a-supero = *The sun is rising*
An pre gene ortho   = *He rose, he got up, he stood up*

(476) **mote,** *shift; remove; move* (trans.) ; *put; place; set* In contradistinction to the intransitive operator **kine** which predicates movement of

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the subject, **mote, tracte** and **balle** predicate motion of the object *initiated* by the subject. **Mote** stands for induced motion without specific reference to its direction. **Tracte** implies motion directed towards the subject, **balle** motion directed -away from the object. The general formula for **mote** is :

  P mote Q ex R ad S = P *shifts Q from R to S*

It can signify *take* when *take* means *remove* without implying that the motion is *self*-directed :

  P mote Q apo R = *P removes Q from R, P takes Q from R*

In combination with a large class of directive amplifiers, mote does the work of *put, place, set,* e.g. :

        P mote Q latero R = *P puts Q beside R*
        P mote Q epi R   = *P puts Q on R*
        P mote Q laevo R = *P puts Q to the left of R*
        P mote Q peri R   = *P puts Q round R*
        P mote Q supero R = P *puts Q above R*
        P mote Q hypo R. = *P puts Q under R*

As-in English, the preposition need have no object-equival-
; ent:

        P mote Q apo = P *puts Q aside*
        P mote Q littora   = *P puts Q at the edge*
        P mote Q dextro   = *P puts Q on the right*

The following **mote** constructions cover the meaning of separate verbs :

        P mote Q supero = *P raises Q*
        P mote Q hypo = *P lowers Q*
        P mote Qextra = P *ejects Q*
        P mote Q in **,** = *P inserts Q (in)*
        P mote Q peri R = *P winds Q around R, P twists Q round R*
        P mote Q in terra = P *buries Q* (663)
        P mote Q in liquo = *P immerses Q* (288)

The idiom of *Interglossa* does not tolerate such teleological us-
age as P *put out his hand,* The correct equivalent is *P's hand went forward* :

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U chiri de P pre kine ad-antero = P put out his hand
An pedi pre-kine ad-antero = He put his foot for-
ward '
U cephali de P pre gene tropo a-supero = P lifted his head up
The following construction is Operative :

   X mote vesto apo auto = X un*dresses himself* (or *herself)*
(477) **perde,** *lose; forfeit*

         u perde-pe = *loser*
The meaning of **a perde** couplet is opposite to that of **a gene**
couplet with the same amplifier, e.g. :

      gene thermo = *warm, heat* (intr.)
      perde thermo = *cool* (intr.)

Thus **perde** couplets are essentially intransitive, reflexive or pas-
sive, without restriction of the semantic domain of the amplifier.
If the amplifier (A) signifies a motion, its'**perde** couplet signi-
fies *the A of X comes to a standstill; the A of X ceases* ; or *the A
of X stops,* e.g. :
X perde gyro = *X stops revolving; X ceases to rotate; X stops
spinning* (=X loses rotary motion)
Though the literal meaning of a **perde** couplet is intransitive, we
can treat it as transitive, i.e. omit a preposition-equivalent be-
tween the verboid nexus and the substantive which follows,
when it predicates a type of relationship so general that the only
appropriate link would be **de** *(in relation to).* The same remarks
apply to **gene** or **habe** couplets. Thus we can say :
      Perde tacto Y = *Lose contact with Y* (124)
The couplets **perde metro** and **perde numero** do service for the
intransitive verbs *diminish, decrease, dwindle,* according as they
refer to *measurement* or *enumeration.* With metrical amplifiers
we get equivalents for such intransitive verbs as *shrink* = **perde
volumo** (459) and *shorten* = **perde longo** (290).
Where the *agent* of a passive **perde** construction is specified, the
appropriate link is **causo** *(pers.)* or **per** *(imp.)*

A list of **perde** couplets is on p. "at the end of this chapter.
(478) reacte, *heed; respond to; react with; response; reaction*
no-reacte   = *unresponsive; indifferent; indifference* 11 **reacte-
ma** = *a reagent*
Reacte means : *give the response appropriate to the situation*
and is therefore roughly equivalent to the verb *heed* of Bible
English. Like *heed* it can mean, according to context, *answer,
obey, listen, yield, acknowledge, submit,* etc. Its usefulness de-
pends on the fact that we never need to use an amplifier as speci-
fied below, if the context sufficiently indicates the type of
reaction. In accordance with the formula on p. , we have the
following *explicit* combinations :

   reacte recipro = *respond to one another; click* (10)
   reacte petitio Y = *comply* **(**with a request o*f*) *Y* (41)
   reacte questio Y = *answer* (a question of) *Y* (42)
   reacte tacto Y = *feel Y* (124)
   reacte volo Y = *conform to the wishes of Y* (128)
   reacte archo Y =*submit to Y* (153)
   reacte "baro Y = *respond to the pressure of Y* (157)
   reacte batho   = *be geotropic; be geotactic* (159)
   no reacte chromo = *be colour blind* (174)
   reacte claustro = *have claustrophobia* (175)
   reacte comico Y = *see the joke in Y* (180)
   reacte controlo Y = *submit to* (the discipline or guid-
               ance of) *Y*(185)
  reacte critico Y   = *heed the criticism of Y* (188)
  reacte decoro (Y) = *appreciate the beauty* (of Y) (196)
  reacte duco Y   = *follow Y* (as leader) (207)
  reacte major dyno (Y)= *capitulate* (to **Y**) **;** *surrender*
                 (to Y) (208)
  reacte fisco   = *pay one's taxes* (230)
  reacte flavoro Y = *taste Y* (234)
  reacte frigo   = *be sensitive to cold* (240)
  reacte grapho Y   = *answer* (the letter of) *Y* (250)
  reacte hydro   = *react to water* (263)

reacte impacto Y	= *recoil from Y* (265)
reacte impero Y	= *obey Y, comply with the orders of Y* (266)
no reacte impero Y	= *disobey Y* (266)
reacte lego	= *be law-abiding* (280)
reacte musico	= *appreciate music* (313)
reacte occasio Y	= *seize an opportunity, of Y* (328)
reacte odoro Y	= *smell Y* (329)
reacte offero Y	= *accept Y* (330)
reacte pecunio Y	= *acknowledge the payment of Y* (348)
reacte photo	= *be sensitive to light* (359)
reacte phreno	= *be rational* (= respond to reason) (360)
reacte pronto	= *be corruptible; be venal* (374)
reacte protesto	= *take notice of a complaint* (378)
reacte pyro	= *be combustible* (384)
reacte saluto Y	= *acknowledge the salute* (or *greeting) of Y* (404)
reacte scholo Y	= *pay attention to the teaching of Y* (409)
reacte tensio	= *stretch* (intr.) ; *be elastic* (434)
reacte thermo	= *be heat-sensitive* (437)
reacte violo Y	= *withstand Y, put up a fight against Y* (455)
reacte viro Y	= *be wary of Y* (456)

(479) **stimule,** *evoke; excite; stimulate; influence ;* (adj.) *stimulating; inspiring; exciting*

> **no-stimule** = *boring; boredom; (dull)*

The general formula for operative couplets of **stimule** with an amplifier (A) is : *X evokes the response A from Y;* or if there is no explicit object: *X evokes the response A.* The response may be : *(a)* a sentiment or physiological state (**e**.g. *hope, pain) ; (b)* an *immediate* [1] physical reaction (**e.g.** *cracking)* as opposed to **a.** *sustained* condition or state ; *(c)* an action (e.g. *payment),.* Thus we have :

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[1] Remarks with reference to choice of **acte** and **esthe** or **acte** and **habe** (p. 191) ??? apply *mutatis mutandis* to choice of **stimule** and **date** when the amplifier signifies a physical process. **Stimule** generally implies *initiating,* **date** initiating and *sustaining,* e.g. **stimule phono u campani** (676) or simply **stimule u campani** =*(ring a bell),* or **date phono (=** *make a noise) ;* but the distinction is not always as clear ; and the choice of **date** or **stimule** is a matter of personal judgment.

stimule espero =. *encourage Y* (130)
stimule fissuro Y = *crack Y* (231)
stimule pecunio Y = *charge Y* (348)

The meaning may be expressible in Anglo-American only by a causative construction involving *make,* etc., e.g. :

stimule cogito Y = *make Y think; force Y to think* (178)
stimule grado Y =*make Y walk; induce Y to walk* (249)

It is not necessary to make the response explicit in :
stimuie un artilleri *= fire a gun* (735)
stimule Y minus pre sympto = *surprise Y (=* take Y by
surprise) (221)
stimule Y per offero = *bribe Y* (330)
stimule vendo Y = *encourage the sale of Y* (451)

If the amplifier is a motion or physical reaction, the **stimule** couplet is the *transitive* counterpart of the **acte** couplet, e.g. :
acte gyro = *spin; rotate; revolve* (intr.)
stimule gyro Y = *spin Y; rotate Y; revolve Y*

A list of **stimule** couplets is on p. at the end of this chapter.

(480) **tene,** *keep* (tr.) ; *maintain; retain; sustain; conserve; conservation; maintenance* **u tene-re =** *support; prop; rail; bulwark; scaffolding*

By itself **tene** simply means *keep* ; though the converse is not always true, e.g. :

X acte harmono u promisso de Z = *X keeps a promise to Z*
Re duro habe thermo *= It keeps hot*

As an operator in combination with an amplifier (A) signifying a *state* or *relationship* it is also transitive. **Tene A Y** means *keep Y A* or *maintain* (or *conserve) the A of* Y. The advantage of including **tene** in our list of operators is not that its couplets cover the meaning ot many single verbs of other languages. They do not do so. Indeed, **tene** is not really necessary on grounds of word-economy. Thus £o. *keep a thing hot* is merely to *prevent a thing front losing heat.* What **tene** does for us is to short-circuit many long-winded expressions. It is shorter to say *keep Y in Z* than to say *prevent Y from getting outside Z.* Paradigms for most **tene** couplets are :

tene thermo Y   = *keep Y hot* (= conserve the heat of Y)
tene no-thermo Y = *keep Y cool*

The following amplifiers and their opposites conform to this pattern, i.e. **tene** AY = *keep Y A* (adjectival equivalent for the amplifier given in Chapter **VI) :**

(138), (143), (161), (171), (190), (196), (200), (213), (214), (232), (247), (248), (261), (263), (267), (268), (281), (284), (285), (321), (336), (349), (352), (356), (359), (364), (305), (3^7), (369), (3&z), (384), (391), (395), (398), (399), (401), (405), (407), (4*° > (414), (416), (420), (427), (433), (434), (437), (438), (442), (443), (446), (448), (452), (456), (458)..

The following constructions do not tally precisely with the Basic English paradigm :

(100) *prevent Y from falling; keep Y in its place; stop Ymoving*
(105) *restrict Y* to Z **(de Z)** (in) *keep Y in use*
(116) *keep Y dependent* on Z **(de Z)**
(128) *keep Y willing* to **(de)**
(132) *keep Y accustomed* to Z **(de Z)**
(141) *keep Y going* (151) *keep Y in a good temper*
(153) *keep Y in office*
(174) *prevent Y from fading*
(214) *keep Y busy; keep Y employed*
(234) *conserve the flavour of Y*
(239) *maintain friction between Y* and Z **(de Z) ;** *keep on rubbing*
                                        Y with Z **(de Z)**
(258) *keep Y in servitude (slavery)*
(283) *keep Y free* from Z **(de Z)**
(293) *keep Y separate* from Z **(de Z)**
(298) *stop Y from wearing away*
(308) *keep Y reminded* of Z **(de Z)**
(329) *conserve the odour of Y*
(331) *keep Y in the right order*
(343) *keep Y equidistant* from Z **(de Z)**
(347) *maintain the rights of Y ,*
(417) *retain the meaning of Y*

The following involve qualifying amplifiers or phrases •

tene stato Y **in liquo** *(or* **hydro)** = *soak Y; let Y soak; leave Y*

<center>*to soak; leave Y in a fluid;* (427) (288)</center>

tene (physio de) liquo Y = *keep Y liquid; prevent Y from boiling away* (if liable to get hot) ; *prevent Y from solidifying* (if liable to cool) (288) (361)

tene (physio de) stereo Y = *prevent Y from melting* (473)(361)

tene (physio de) vaporo Y = *prevent Y from condensing*(450) (361)

The reflexive construction **tene A auto** *(keep oneself A)* means the same as **duro habe** ; but is more active in content, and therefore more appropriate in certain situations, e.g. :

tene apo auto de Y =.*avoid Y;shun Y; keep out of the way of Y;abstain from Y*

tene lyso auto de Y = *not get mixed up with Y* (293)

Tene couplets do service for a few single Anglo-American verbs other than *soak, shun, avoid,* notably :

(98) **tene supero** Y   = *support Y; prop up Y* (= keep Y up)

(263) **tene immuno** Y = *defend Y; guard Y; protect Y* (= keep Y safe)

With the negative particle we have the following constructions :
no tene Y = *give up Y; abandon Y*
no tene archo auto = *abdicate; resign; retire* (from office) (153)
no tene ergo auto   = *retire* (from a job) (214)

There is no objection to the use of **tene** with **ge** couplets :
tene ge plico Y = *keep Y folded*
tene ge tensio Y *= keep Y stretched*

(481) **tracte,** *draw; pull; take*

u tracte-re = *a drawer* (of a chest)

Since **tracte** means *motion of the. object initiated by the subject and directed away from the latter,* it means *take* when *take* has the force of *draw* or *pull,* but not when *take* means *carry* **(acte phoro),** nor in a host of idioms *(e.g. take trouble)* which Basic English incorporates in its catholic outfit. It enters into nonoperative constructions with place-markers, like **mote** or **balle,** e.g. :

tracte Y **apo** = *remove Y ; take Y away; withdraw Y;* (78)
tracte Y **ex** Z   "V ••=. *extract Y from Z* (83)
tracte Y **extra**   = *extract Y* (84)

   tracte Y in **auto** = *absorb Y* (86)
   tracte Y inter   = *draw Y through* (87)
   tracte Y a-**supero** = *pull Y up* (98)

    tracte Y **tele** = *attract Y* (99)

  The construction **tracte** Y **in auto** covers the operations of *eating* and *drinking* or *breathing (taking air in),* and the qualification **in auto** is redundant if the context supplies the necessary clue. Thus **acte bibo = tracte liquo; acte phage =. tracte u phago-ma; acte pneumo = tracte aero.** Hence we get:
   tracte toxo = *poison oneself (*= take poison)

  This construction is an economy of space when we use *eat* or *drink* transitively, e.g. :
   tracte u crea = **acte phago u crea** (eat meat)

  The importance of **tracte** resides in the operative use of **tracte . . . apo.** The formula **tracte A apo** Y means *remove the A of Y,* e.g. :
   tracte thermo apo Y = *cool Y*

  Thus **tracte . . . apo and perde** respectively stand in the same relation to **date** and **gene.** Any **tracte . . . apo** construction has the opposite meaning to a **date** couplet with the same amplifier ; but there is no restriction on its semantic domain. By the same token, a **perde** couplet is the *intransitive, passive,* or *reflexive* equivalent of a **tracte « . . apo** construction.

  Thus **tracte metro apo Y** and **tracte numero apo Y** respectively mean *decrease Y, diminish Y, reduce Y, make Y less, make Y smaller,* according as they refer to *measurement* or *enumeration.* Likewise we may put:
   tracte longo apo Y = *shorten Y*

  There is a list of **tracte . . . apo** couplets on p. 196 at the end of this chapter.

(482) **vise,** *see; look at; vision*
   u vise-pe =- *an observer* **duro vise** = *watch*

  Vise can operate only with amplifiers which stand for: *(a) photic phenomena; (b) visible result of an action or reaction.*
  (a) **vise photo** = *see a light* (359)
   vise picto Y = *see a picture of Y* (362)

      vise pyro = *see afire* (384)

      vise reflecto Y = *see the shine on Y* (391)

(b) **vise fissuro** Y = *see the crack in Y* (231)

      vise pylo Y = *see the hole in Y* (383)

      vise schizo inter Y **syn Z** = *see the split between Y and Z* (408)

TABLE OF COUPLETS WITH DATE, GENE, PERDE AND TRACTE . . . APO

Note.—**Gene** and **perde** can combine with amplifiers of *any* class to make passive equivalents of single Aryan verbs ; and the ensuing list therefore omits some such constructions. When the agent is specified, the appropriate equivalent for *by* is **per impersonal** (i.e. the *means*). When *by* refers to the personal agent, the appropriate equivalent after a **gene** couplet is **ex**, after a **perde** couplet, **causo.** The range of **tracte . . . apo** is likewise unrestricted by the semantic domain of the amplifier.   It can operate with an *action* or *personal state.*

	date	gene	tracte . . . apo	perde
(44) **iso**	equalize	—	—	—
(59) **vesto**	—	be dressed by (**ex**)	undress Y	—
(100) **topo**	place ; set	be put	—	lose one's way
(110) **digito**	—	be implied *by* (**ex**)	—	—
(111) **functio**	find a use for	—	—	—
(112) **harmono**	harmonize Y *and* (**de**) ; make Y tally *with* (**de**)	agree *with* (**de**) ; tally *with* (**de**)	—	get out of step with (*metaph.*)
(114) **metro**	—	—	diminish Y ; decrease Y ; xeduce Y	diminish, dwindle, decrease, shrink
(116) **pendo**	hang (*tr.*) ; suspend	hang (*intr.*)	unhang (*tr.*)	—
(121) **proximo**	—	approach	—	recede
(124) **tacto**	touch Y *with* Z (**de Z**) ; make contact between Y *and* Z (**de Z**)	get into contact with	—	get out of touch with
(125) **tendo**	aim Y *at* (**ad**)	—	—	become aimless
(128) **volo**	—	—	—	become listless, become indifferent
(130) **espero**	—	—	discourage	be discouraged *by* (**causo**)

(131) **hedo**	—	become glad or happy	sadden Y; make Y miserable	become miserable
(134) **permito**	allow; let	be allowed to	withdraw permission to (**de**)	—
(135) **pheno**	—	—	—	cease to seem
(136) **posso**	make Y possible	become possible	make Y impossible	become impossible
(138) **preparo**	make Y ready; prepare Y	exbe prepared by (ex)	—	—
(139) **proto**	begin Y; start Y; initiate Y	begin; start (*intr.*); be started by	—	—
(141) **accido**	cause Y (To happen); bring Y into being	be brought about by (**ex**)	do away with; abolish	cease to exist
(142) **acro**	Give a point to Y; sharpen (*the end of*) Y	—	blunt (*the tip of*) Y	get blunt (*at the tip*)
(143) **activo**	activate	be activated by (**ex**)	—	become inert
(144) **acuto**	sharpen (*the edge of*) Y	be sharpened by (**ex or per**)	blunt (*the edge of*) Y	get blunt (*at the edge*)
(145) adhesio	stick Y *on* (epi); make Y adhere to (de); seal Y up	stick to	unstick Y; unseal Y	come unstuck
(146) **aero**	air; ventilate	be ventilated by (**ex**)	—	leak
(147) **aetio**	—	be blamed	exonerate	be exonerated by (**causo**)
(149) **alieno**	—	become distant	make Y familiar with (**de**)	become familiar; get at home with
(152) **anemo**	blow on	—	—	become calm (of weather)
(153) **archo**	authorise Y; legalise Y	be authorised by (**ex**)	depose	be deposed
(154) **arrogo**	—	—	humble; humiliate	humble oneself; be humiliated

	date	gene	tracte . . . apo	perde
(155) assuro	—	—	make Y doubt; unsettle Y	(begin) to doubt; lose confidence ; become uncertain
(157) baro **(158) baso** **(161) bio** **(162) blasto**	compress Y justify, vindicate — —	be compressed be justified by (**ex**) come to life sprout; bud	decompress (*tr.*) invalidate kill; murder —	become decompressed cease to be valid die —
(164) catalyso **(167) cavito** **(169) celero**	— hollow out Y quicken Y ; speed Y up	— get hollow hasten ; quicken ;accelerate	deprive Y of help fill in Y retard Y; slow Y down	lose the help of Y get filled in slow down
(170) certifo	give a certificate to Y *of* (de)	graduate ; get a certificate for (de)	—	—
(171) chloro **(172) cholo**	make Y green —	get green —	— calm Y down ; pacify	become aetiolated regain one's temper
(174) chromo	dye Y; colour Y; paint Y ; stain Y	be dyed	■ Y. make Y fade	fade (*intr.*)
(175) claustro	shut Y in; shut Y up	he shut in	open Y	open (*intr.*)
(177) clino	make Y slope ; tilt Y	slope (intr.) ; tilt	—	—
(185) controlo	—	be controlled by (ex)	deprive Y of control	lose control; lose control of oneself (auto)
(186) credito	lend Z to Y (Y de Z)	borrow Z from Y (de Z ex Y)	—	—
(187) credo	—	—	discourage Y; disillusion Y;shake the faith of Y	cease to believe; lose faith in

	date	gene	tracte...apo	perde
(224) facilo	make Y easy	get easy	make Y difficult	get difficult
(227) fero	—	become wild	domesticate Y	get domesticated
(228) fertilo	fertilize (an egg)	be fertilized by (ex)	—	—
(229) fino	finish Y; end Y; abolish Y; put an end to Y	finish (*intr.*) ; end (*intr.*)	—	—
(232) fixo	tighten Y; make Y firm	get tightened ; be tightened by (ex or per)	loosen Y	get loose
(234) flavoro	flavour Y	be flavoured by (per)	make Y insipid	become insipid
(235) major forto	intensify Y ; make Y dark (of colours)	be intensified by (per)	make Y pale (of colours)	get pale (of colours)
(240) frigo	make Y cold	get cold	warm up Y (if previously cold)	warm up (intr.)
(243) fumo	give off smoke ; smoke Y (fish) ; ex Y (a pipe, etc.)		—	stop smoking (*intr.*)
(244) gameo	—		divorce Y	get divorced from
(246) gluco	make Y pleasant ; make Y comfortable (imp.); sweeten Y	become pleasant	make Y unpleasant ; make Y uncomfortable (*imp.*)	become unpleasant ; become uncomfortable (*imp.*)
(248) gono	inflect Y ; bend Y	get a kink ; get bent	straighten out Y	get straight
(252) gravito	—		stop Y falling ; stop Y sinking	stop falling; stop sinking
(253) gravo	make Y important	get important	make Y unimportant	become trivial
(255) gyro	—		stop Y spinning ; stop Y" revolving ; stop Y rotating	stop spinning; stop revolving; stop rotating

(190) **crypto**	hide Y ; conceal Y ; secrete Y	hide (*intr.*), etc.; be concealed *by* (ex)	expose Y ; reveal Y	be revealed by (**causo**) ; be exposed . by (**causo**)
(194) **curvo**	curve Y ; (bend) Y	be curved by (**ex**) ; be bent by (**ex**) ; bend (*in-tr.*) ; curve (*intr.*)	straighten out Y	get straight
(196) **decoro**	beautify Y	become beautiful	make Y ugly	get ugly
(197) **defecto**	blemish Y	get blemished	make Y flawless ; make Y all right	get all right
(198) **demo**	people Y	be peopled by (ex)	depopulate Y	be depopulated by (**causo**)
(200) **desicco**	dry Y ; desiccate Y	be dried by (ex)	moisten Y	get moist
(207) **duco**	put Y first; give priority to Y	get priority; be put first	—	lose priority
(209) **eco**	put Y up, entertain Y ; give Y hospitality ; shelter Y	be entertained by (**ex**); be sheltered by (**ex**)	evict Y ; turn Y out of doors	be evicted by (**causo**)
(210) **electio**	give Y the choice of	get the choice of	deprive Y of the choice of	—
(211) **electro**	electrify Y ; charge Y	be charged by (**ex**)	discharge Y	be discharged by (**per**)
(212) **elemento**	simplify Y	—	complicate Y	get complicated
(213) **equatio**	balance Y	balance (*intr.*)	upset Y ; tip Y over	get upset; be tipped over by (**per**)
(214) **ergo**	employ Y; give Y work	be employed *by* (ex)	deprive Y of work; dis-charge Y; sack Y	be discharged ; be sacked for (**causo**)
(215) **erro**	—	—	X correct Y; put Y right	be corrected
(220) **excesso**	—	—	moderate Y;	
(22–3) **fabrico**	—	—	decompose Y	decompose (*intr.*); be decom-posed by (**per**)

Prefix				
(258) **helo**	enslave Y	be enslaved by (**ex**)	emancipate Y ;liberateY	get emancipated ; get liberated
(259) **hetero**	make Y different from(**de**)	become different from	make Y like ; make Y resemble	become like ; come to resemble
(261) **horizo**	make Y horizontal; level Y	lie down (on the ground)	tilt Y up	tilt up (*intr.*)
(262) **hospito** (263) **hydro**	water Y ; irrigate Y —	be entertained by —	dehydrate Y ; dry Y	be dehydrated by (**per**)
(264) **immuno**	make Y safe	be protected by; be defended , by ; be guarded by	make Y vulnerable to (**de**)	become vulnerable to (**causo**)
(267) **inflatio**	inflate Y ; distend Y ; make Y swell	swell (*intr.*) ; distend (*intr.*) ; be inflated by (**per**)	deflate Y	collapse; become flaccid ; be deflated by (**per**)
(281) **leuco**	whiten Y	whiten (intr.)	—	
(283) **libero**	free Y ; set Y free ;liberate Y; let Y go	be liberated by (**ex**)	enslave	become enslaved to (de)
(291) **luco**	make Y clear	get clear	make Y opaque; make Y murky	become opaque ; become murky
(293) **lyso**	separate Y from (**de**)	separate out; get separated	reunite Y and (syn)	get reunited
(295) **magneto**	magnetize Y	get magnetized by (**per**)	demagnetize Y	be demagnetized by (per)
(296) **malo** (297) **mano**	make Y bad rarefy Y ; dilute Y	become evil be diluted by (**per**)	concentrate Y	become concentrated
(298) **masso**	load Y	—	lighten Y	—
(299) **maturo**	ripen Y; make Y grow	ripen (intr.) ; grow (*intr.*) ; develop (*intr.*)	—	—
(311) **morpho**	mould Y ; fashion Y ;shape Y ; carve. Y	be moulded by (ex)	destroy the shape of Y	lose one's shape

	date	gene	tracte . . apo	. perde
(314) **muto**	change Y ; alter Y	be changed by (ex) ;change (intr.) ; alter(intr.)	stabilize Y; make Y constant	stabilize (intr.)
(317) **natio**	naturalize Y	get naturalized	deprive Y of nationality	lose one's nationality
(318) **nato**	—	be born	—	—
(321) **neo**	renovate Y	get renovated	—	—
(323) **nomine**	name ; (call)	be called	—	—
(327) **numero**	number	—	—	—
(329) **odoro**	perfume Y ; scent Y ;make Y smell like (**homo**)	smell (intr.)	deodorize Y	lose (its) odour
(331) **onero**	make Y responsible for; make Y answerable for;	—	—	—
(333) **ordino**	put Y in position (in a series) ; give Y the rank of (de) classify Y	—	change the order of Y	—
(336) **ortho**	put Y upright; make Y vertical; stand Y up	get up ; rise (pers.)	—	—
(339) **pachyo**	thicken Y	get thick; thicken (intr.)	make Y thin ; make Y narrow ; make Y slender	get narrow ; get thin ; get slender
(341) **palco**	age Y	age (intr.)	rejuvenate Y	get rejuvenated
(342) **papillo**	make Y stick out; make Y project	stick out; project (intr.)		

(347) **patho**	make Y sick ;l make Y ill	sicken; get ill	heal Y ; cure Y	recover (*intr.*) ; get better
(349) **pedio**	rejuvenate Y	—	age Y	age (*intr.*)
(351) **peno**	—	be punished by (**ex**)	—	—
(354) **phanero**	make Y manifest; make Y clear ; make Y explicit		muddle up Y; obfuscate Y	—
(357) **phono**	make a noise ; sound (intr.)		quieten Y; make Y quiet s	become quiet; become still
(359) **photo**	illuminate Y; give light to Y; shine on Y	be illuminated by (per)	dim Y ; darken Y	dim (intr.); darken (*intr.*)
(364) **plato**	X flatten Y ; plane Y	get flat	—	—
(365) **pleno**	fill Y with (per)	be filled by (**ex**) ; be filled with (**per**) ; get full		cease to be full
(366) **plico**	—	be folded *by* (**per**)	unfold Y	unfold (*intr.*)
(367) **pluto**	enrich Y; make Y prosper	get rich	impoverish Y	become poor
(369) **pneumo**			chokeY; strangle Y;smother Y	choke (*intr.*) ; be smothered by (per)
(372) **privilegio**	endow with the right to ; give Y the right to (**tendo**)	get the right to (**tendo**)	deprive Y of the right to;(with **de electio** = disfranchise)	lose the right to
(375) **promisso**	—	be promised by (**ex**)	withdraw a promise to Y of (**tendo**)	—
(376) **proposo**	—		withdraw a proposal ; withdraw the motion to (**tendo**)	—
(377) **prospecto**	show Y to Z (**pro Z**) ; -exhibit Y; display Y	—	obscure Y	become invisible

	date	**gene**	**tracte . . . . apo**	**perde**
(380) **publico**	advertise Y; publicize Y	be advertised by (**ex**)	give Y privacy	get soiled
(382) **puro**	clean Y; cleanse Y; purify Y	be cleaned by (**ex** or **per**)	soil Y; dirty Y; mess Y up	get dirty
(383) **pylo**	—	be perforated by (**ex** or **per**)	seal up Y	get sealed up; fill up (*intr.*); (fill itself up)
(384) **pyro**	—	to get on fire; to get alight; . be burned .by. (per.or **ex**)	quench Y; stop Y burning	get quenched; stop burning
(388) **radio**	irradiate Y	be irradiated by Y (**per**)	—	—
(390) **recto**	straighten Y	be straightened out by (**per** or **ex**)	—	get uneven
(394) **residuo**	leave Y behind	be left behind	—	—
(395) **resisto**	strengthen Y; reinforce Y	be strengthened by (**per**)	weaken Y; make Y conduct (electricity or heat) with (**de**)	weaken; get weak
(399) **rigo**	stiffen Y; make Y rigid	be stiffened by (**per**); get stiff	make Y limp; make Y flaccid	get limp; get flaccid
(401) **rugo**	roughenY; coarsen Y	get rough	polish Y; make Y smooth	get smooth
(405) **sano**	make Y healthy; cure Y; heal Y	get well; recover; get better	make Y ill	get ill get run down; sicken
(407) **sapro**	make Y decay; make Y putrid	putrefy; go bad; decay	arrest the decay of Y	stop decaying
(410) **sclero**	harden Y	harden (*intr.*); get hard	soften Y	soften (*intr.*); get soft

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(414) **sensitivo**	make Y sensitive to (de)	get sensitive to (de)	make insensitive to (de) ; (with de algo means anaesthetize locally)	become insensitive ; get numb
(415) **serio**	list Y; arrange Y (in [serial] order)	—	—	—
(421) **solutio**	dissolve Y	be dissolved *in* (per)	precipitate Y	be precipitated by (**per**)
(424) **soporo**	—	go to sleep	waken Y	wake up (*intr.*); awaken (*intr.*)
(427) **stato**	bring Y to rest; halt Y; stop Y	come to rest; halt; stop	set Y in motion ; put Y in action	—
(433) **systemo**	arrange Y ; put Y in order ; tidy up Y	be arranged by (ex)	disarrange Y; untidy Y	get untidy ; get out of order
(434) **tensio**	—	be stretched *by* (per)	relax Y; make Y slack	slacken (*intr.*) ; relax (*intr.*)
(437) **thermo**	heat Y ; warm Y up	heat up (*intr.*) ; warm up (*intr.*) get poisoned ;	cool Y	cool (*intr.*)
(440) **toxo**	poison Y; make Y septic	be poisoned by (**ex**) ; be poisoned with (**per**)	detoxicate Y	—
(445) **umbro**	shade Y	be shaded, by (per)	—	—
(446) **uniformo**	regularize Y ; make Y uniform	get regular	make Y irregular	—
(448) **vacuo**	empty Y; evacuate Y; exhaust Y	empty itself ; be emptied by (**ex**)	—	—
(449) **valo**	—	—	debase Y	—
(454) **victo**	—	get victory over (**anti**) = vanquish ; conquer ; beat ; defeat	—	be defeated ; be beaten ; be vanquished ; be conquered
(456) **viro**	endanger Y	get into danger	make Y safe ; save Y from (**de**)	get into safety

	date	•gene	tracte . . . apo	perde
(460) **volume**	make room for Y (pro Y) ; hold Y (i.e. have space for Y)	—	cut down space for Y	—
(461) **vulno**	wound Y; make Y sore	get wounded; get sore; be wounded by (**ex** or **per**)	—	—
(864) **concessio**	let; lease	hire ¦ rent	—	—

TABLE OF COUPLETS WITH AGTE, DICTE, STIMULE AND ESTHE

	acte	dicte	stimule -	esthe
(41) **petitio**	—	request Y ; invite Y ; (ask Y)	prompt a question from Y	
(42) **questio**	—	(ask Y) ; question Y	—	feel curious about Y
(43) **no**	—	deny Y ; refuse Y ; decline Y	—	—
(59) **vesto**	dress Y ; cover Y ; coat Y	—	—	—
(103) **anti**	oppose Y	malign Y (*pers*.) ; object to Y(*Imp.*)	antagonize Y	disapprove of Y; dislike Y

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(107) conditio	—	state a condition to Y regarding (de)	—	—
(110) digito	indicate	point out; indicate; imply	—	—
(112) harmono	act on	express agreement with	reconcile Y with Z (de Z)	agree with Y
(113) homo	mimic; pretend; imitate	—	—	identify oneself with Y
(119) postulo	—	postulate; presuppose; assume	—	—
(125) tendo	aim at	intend; mean	—	intend; (mean)
(126) verso	—	retract	reverse Y	—
(128) volo	—	express a wish to	make Y willing to (tendo) tempt y to (tendo)	wish; want; desire; prefer
(129) debito	do one's duty	—	make Y feel obliged to; put Y under an obligation	feel one ought to
(130) espero	—	express the hope that	encourage	hope (for)
(131) hedo	—	congratulate Y about (de); express pleasure	please Y; gratify Y; amuse Y; entertain Y; make Y comfortable (pers.)	enjoy; be pleased (about)
(134) permito	—	give permission to Y	—	—
(140) tentato	attempt; try	—	encourage Y	—
(143) activo	—	—	influence Y	—
(147) aetio	—	blame; reproach; condemn; accuse Y of (de)	make Y ashamed	be ashamed of
(148) algo	—	—	pain Y; hurt Y; wound Y's feelings	suffer on account of (causo); be hurt by (ex)

	acte	dicte	stimule	esthe
(151) **amico**	—	express friendship for	endear oneself to	like (a person)
(154) **arrogo**	—	boast about Z (**de Z**) to Y	—	flatter oneself; be proud of
(155) **assuro**	—	express assurance that	reassure Y	feel sure ; be certain
(156) **attendo**	wait		delay Y ; postpone Y ; put Y off	—
(160) **bibo**	drink Y ; imbibe Y	—		—
(163) **bronto**	explode	—	make Y explode	—
(164) **canto**	sing ; carol; chirp	—	make Y sing	—
(165) **captivo**	capture ; catch ; trap ; (en)snare	—		—
(166) **catalyso**	help Y ; assist Y ; lubricate Y; catalyse Y	—	enlist the help of Y; engage the assistance of Y	
(172) **cholo**		express anger; express annoyance	anger Y ; annoy Y ; irritate Y	be angry (about)
(176) **clepto**	steal; thieve ; rob ;plunder	—	tempt Y to steal	—
(178) **cogito**	—	—	make Y think about (**de**)	think about; ponder on ; reflect on
(179) **coito**	copulate	—	seduce Y	—
(180) **comico**	play the fool	make a joke	—	see the joke in
(181) **communo**	co-operate with Y	express sympathy for Z to Y (**Y de Z**) ; express agreement with	persuade Y	sympathize with ; agree with Y
(182) **competo**	compete with Y	express envy of Z to Y(**Y de Z**)	make Y jealous	be jealous of Y

(183) **confessio**	—	confess ; admit	make Y confess	feel in one's heart that
(184) **consolo**	—	console ; comfort	—	get comfort from (**ex**)
(185) **controlo**	control; guide; steer; direct	—	—	be under the influence of
(187) **credo**	—	express the belief that	convert Y	believe Y ; think Y
(188) **critico**	—	criticize Y	cause criticism of Y	have a conscience about
(189) **cryo**	snow	—	—	—
(191) **culino**	cook	—	—	—
(192) **culto**	grow Y ; cultivate Y	—	—	—
(193) **curo**	look after (pro)	express concern for (**pro**)	make Y careful	be concerned about
(201) **disputo**	—	argue about (**de**) ; dispute about (**de**)	cause argument about (**de**)	argue to oneself
(202) **dissipo**	waste Y; squander Y	—	—	—
(203) **divino**	—	make a guess; guess (*orally*)	tantalize Y	guess; suspect
(205) **dramo**	act (a play)	—	—	—
(206) **dromo**	run	—	—	—
(210) **electio**	choose ; elect; select	express a preference/or (**tendo**)	give Y the choice of (**de**) ; tempt Y (**tendo**)	—
(214) **ergo**	work ; toil; labour ; strive for (**tendo**)	—	get work out of Y	—
(215) **erro**	err ; make a mistake	say the wrong thing	make Y go wrong	get the wrong impression about
(218) **eu**	do good to Y	—	reform Y	feel righteous about
(219) **examino**	test; experiment with; try on ; examine (a candidate)	say something to test Y	—	—
(220) **excesso**	—	exaggerate Z to Y (**YdeZ**)	—	—

	acte	dicte	stimule	esthe
(221) expecto	—	express the expecta-tion that	lead Y to expect	expect
(226) fatigo		express boredom	bore Y ; weary Y ; tire Y	feel bored ; tire of
(230) fisco	tax ; levy tribute	—	—	—
(231) fissuro	crack (*intr.*)	—	crack Y	—
(233) flagello	whip ; (beat) ; cane ;flog ; thrash ;scourge	—	—	—
(237) fracto	break (*intr.*)	—	break Y , fracture Y	
(239) frictio	rub Y ; (polish Y)	—	cause friction between Y and Z (**de Z**)	—
(241) frustro	—	—	disappoint Y	be disappointed
(242) fugo	flee from (**causo**) ; run away from (**causo**)	—	chase Y; put Y to flight	—
(244) gameo	marry	—	—	—
(249) grado	walk	—¦	—	—
(250) grapho	write ; inscribe; sign	—	—	—
(251) gratio	—	thank	make Y grateful	feel grateful ; be grateful for (**causo**)
(252) gravito	fall; descend (under gravity) ; sink	—	tip Y over; make Y fall; spill Y ; drop Y	
(253) gravo	—	emphasize Y; stress Y		
(255) gyro	roll (*intr.*) ; spin (*intr.*) ; re-volve (*intr.*); rotate (*intr.*)		rotate Y ; spin Y ; re-volve Y ; roll Y	

	acte	dicte	stimule	esthe
(294) **magico**	bewitch ; cast a spell over	repeat a spell	—	—
(296) **malo**	sin : do evil	run down Z to Y (**Y anti Z**) ; condemn Z to Y (**Y anti Z**)	stir up trouble (*intr.*) ; tempt Y into evil	—
(299) **maturo**	grow	—	encourage the growth of Y ; force Y (*of plants*)	—
(301) **merco**	buy; purchase	—	encourage the sales of Y	—
(302) **methodo**	—	state the method of (**de**)		—–
(305) **miro**	—	express surprise	astonish Y; amaze Y; surprise Y	be amazed at ; be astonished by
(306) **miso**	—	express hatred against (**anti**)	stir up hatred	hate ; loathe ; abhor
(307) **mixo**	mix ; blend	—	mix Y *with Z* (**syn Z**) ; blend Y	—
(308) **mnemo**	—	recite (*from memory*)	remind Y	remember, recall
(309) **monito**		advise Y ; counsel Y ; warn Y against (**anti**)		—
(310) **mordo**	bite; with duro (*as auxil.*); chew; nibble	—	make Y bite	
(313) **musico**	play; perform	—	—	—
(314) **muto**	alter (*intr.*) ; change (*intr.*)	—	alter Y ; change Y	

(257) **helico**	coil up	—	make Y coil; coil Y	
(260) **historo**	—	narrate Z to Y (**Y de Z**) ; give an account of Z to Y (**Y de Z**)		”
(265) **impacto**	strike; knock; (push)	—	make Y knock against (**de**)	—
(266) **impero**	—	order; command		feel impelled to ; must
(268) **inhibito**	interfere with; thwart; frustrate	forbid		feel frustrated ; be thwarted
(269) **insure**	insure Y (life or property)	—	—	—
(270) **investo**	invest (money)	—	encourage investment in (**de**)	—
(274) **judico**	decide	give a verdict for (**pro**), or against (**anti**) ; i.e. acquit or condemn	make Y decide to	make up one's mind to (**tendo**)
(276) **lapso**	slip,; slide; glide; skate	—	make Y slip	—
(277) **laudo**	—	praise Z to Y (**Y de Z**); commend Z (de Z)	arouse approval	admire; approve of
(278) **lavo**	wash	—	—	—
(279) **lecto**	read Z to Y (**Y ex Z**) ; peruse Z (ex Z)	read Z aloud to Y (**Y ex Z**)	—	—
(284) **libido**		—	excite desire in Y	lust after (**de**); hunger for (**de**), etc.
(285) **ligato**	tie; ligate	—	—	—
(286) **limito**	—	qualify Z (**de Z**)	—	—
(289) **logo**	—	elucidate Z to Y (**Y de Z**)	enlighten	understand

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		romance	fire the imagination of Y	imagine; fantasy
(315) mytho	—	romance	fire the imagination of Y	imagine; fantasy
(316) narco	—	—	narcotize Y ; drug Y ; in-toxicate Y	feel drugged
(319) necro	destroy Y ; ruin Y ; annihilate Y; demolish Y	—	—	—
(320) negotio	transact; negotiate ; do business	talk business	—	—
(322) nocuo	harm; spoil; damage ; (*hurt*)	—	—	—
(324) nomo	—	theorize about (**de**)	—	—
(326) nullo	receipt; annul; cancel ; *rescind, repudiate*	—	—	—
(330) offero	—	offer; make an offer to	get Y to Offer *P to Q* (**de P ad Q**)	—
(332) oppresso	oppress, persecute	taunt Y	—	feel persecuted
(335) orno	ornament; decorate ; embellish	—	—	—
(337) osculo	kiss	—	—	—
(339) oxidatio	—	—	oxidize Y	—
(340) paco	—	soothe Y (*verbally*)	soothe Y ; pacify Y ; rec-oncile Y *with Z* (**de Z**)	be at ease (*with*) ; be con-tented (*with*)
(346) pardo	—	express forgiveness ; excuse *Z to Y* (**Y de Z**)	—	forgive ; pardon ; condone ; excuse
(348) pecunio	pay; spend	—	charge Y	—
(350) penito	—	express regret	make Y sorry ; make Y regret	regret; repent; be sorry *for* (**causo**)

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	acte	dicte	stimule	esthe
(351) **peno**	punish Y ; pay Y back	—	—	feel vindictive
(353) **phago**	eat Y ; feed (*intr.*)	—	feed Y on (**per**)	—
(355) **philo**		—	make love to Y ; woo Y	love Y ; be fond of Y; with **mega** = adore
(356) **phobo**	show fear	express one's fears v	terrify Y ; frighten Y ; make Y afraid	be afraid of ; fear
(357) **phono**	—	—	sound Y ; ring Y	—
(358) **phoro**	carry ; transport; take (with one) ; (bear)	—	—	—
(360) **phreno**		persuade Y ; reason with Y	—	reason
(363) **piano**	plan ; design		—	—
(366) **plico**	fold (*intr.*)		fold Y,	—
(368) **pluvio**	rain		—	—
(369) **pneumo**	breathe; respire; inin- hale; **extra-** exhale		apply artificial respiration ; make one lose one's breath	—
(370) **praxo**	practise ; drill	—	—	—
(375) **promisso**		promise Y ; undertake to (**tendo**)	make Y promise	—
(376) **proposo**		propose; suggest		
(378) **protesto**		protest *about* (**de**) ; complain *about* (**de**); lament *about* (**de**)	make Y complain	feel aggrieved
(379) **pseudo**	deceive Y ; decoy Y	lie to Y ; deceive Y	—	—
(380) **perforato**	perforate ; puncture ; drills make a hole in	—	—	—

		express horror at (causo),	horrify Y ; disgust Y	be horrified by (causo); feel disgusted at (causo)
(381) **pudo**	—	express horror at (causo),	horrify Y ; disgust Y	be horrified by (causo); feel disgusted at (causo)
(384) **pyro**	burn (*intr.*)	—	light Y ; burn Y ; set on fire	—
(385) **qualito**		define	—	—
(387) **rapo**	seize ; grasp : (*catch*) ; snatch	—	—	—
(388) raso	scratch ; scrape	—		—
(391) **reflecto**	reflect; glisten ; glitter ; echo		polish Y ; burnish Y ; make Y shiny ; (re-) echo to	—
(393) **reparo**	mend ; repair; remedy ; heal	—	heal (*tr.*) ; cure	feel better
(396) **revero**	—	express reverence for (**de**) worship Y (orally)	—	revere ; respect; worship (silent)
(397) **rheo**	flow ; stream	—	switch on the current (turn on the light)	—
(400) **riso**	laugh *at* (**de**)	express amusement	make Y laugh	be amused at
(402) **sado**	be cruel; torment Y	taunt Y	encourage cruelty	—
(403) **salto**	jump ; leap	—	make Y jump ; jerk Y off (**apo**)	—
(404) **saluto**	salute Y	greet Y ;	—	—
(405) **sapio**		inform Y	—	know Y ; be acquainted with Y
(408) **schizo**	split; tear ;. cleave ; divide		split Y; tear Y ; cleave Y ; divide Y	—
(409) **scholo**	teach Y ; instruct Y	expound Z to Y (**Y de Z**)	—	—

	acte	dicte	stimule	esthe
(415) **scopo**	search *for* Y ; look *for* Y (**de Y**)	—	invite curiosity	—
(416) **severe**	discipline Y ; with **no** = indulge Y	reprimand Y	—	—
(417) **significo**	—	translate Y ; interpret Y ; give the meaning of Y ; explain Y	—	—
(418) **siphono**	suck Y up ; siphon Y	—	—	—
(419) **societo**	organize Y	—	encourage the organization of Y	—
(420) **solemno**	be dignified ; be pompous	—	—	—
(423) **soporo**	—	speak earnestly to Y	put Y to sleep	feel sleepy
(424) **specio**	—	give Y an example *of* (**de**)	—	—
(425) **sporto**	play ; frolic ; gambol	say Z in fun to Y (**de Z**)	make Y gay	feel gay feel merry
(426) **stalagmo**	drop (*intr.*) ; drip (*intr.*) ; trickle	—	make Y drip	—
(432) **sympto**	—	give Y a hint; hint to Y	—	have a hunch
(434) **tensio** .	stretch (*intr.*) ; extend	—	stretch Y ; extend Y	—
(435) **testimono**	—	give evidence to Y ; make a statement to Y (legal)	—	—
(438) **tolero**	forbear with Y; put up with Y ; suffer Y	—	encourage Y to be patient	be tolerant *about* (**de**)
(439) **traumo**	—	—	shock	be shocked at (**causo**)

(442) **tropo**	| trim (*intr.*) ; twist (*intr.*)	—	make Y turn ; twist Y; turnY	—
(443) **turbo**	shake; quake	—	shake Y	—
(444) **typo**	print	—	—	—
(447) **unio**	meet; forgather	—	assemble ; call a meeting	—
(451) **vendo**	sell	—	stimulate the sales of	—
(452) **verito**	—	tell Y the truth *about* (**de**)	—	—
(453) **vibro**	vibrate ; alternate	—	make Y vibrate	—
(455) **violo**	attack Y	attack Y (orally)	provoke an attack by Y	—
(457) **visito**	visit Y ; pay a call on Y	—	—	—
(458) **vivo**	wake up (*intr.*) ; awaken (*intr.*)	—	wake Y up ; awaken Y; interest Y *in* (**de**)	be awake; be alert (to) **de** ; be conscious (of) **de**
(459) **voco**	cry out to Y ; call to Y	—	--	—
(462) **zygo**	join Y *for* Z (**de Y**) ; connect *with* Y (**de Y**) ; unite *with* Y (**de Y**) ; fuse *with* Y (**de Y**)	—	join Y *with* Z (**de Z**). ; connect Y *with* Z (**de Z**) ; fuse Y *with* Z (**de Z**) ; unite Y *with* Z (**de Z**)	—
(861) **cambio**	exchange Y *for* Z (**Y de Z**) ; interchange Y and Z (**Y de Z**)	—	—	—
(862) **charito**	—	express sympathy *for* (**de**)	—	pity ; sympathize with
(863) **cido**	kill; murder ; slaughter	—		—

	acte	dicte	stimule	esthe
(865) **diffusio**	diffuse ; spread ; pervade	—	—	—
(866) **flexio**	bend (intr.)	—	bend (tr.) ; refract	—
(869) **massago**	stroke ; massage	—	—	—
(870) **necto**	swim	—	—	—
(871) **perplexo**	—	express bewilderment	bewilder; perplex	be perplexed by (de)
(873) **utilo**	use (up) ; employ	—	—	—

CHAPTER IX

CLASS VIII: SUBSTANTIVES (385)

No one who has given any thought to semantic issues would be so foolish as to assert that there is a clear-cut division between abstract words and names for things, or between names for things and names for classes of things. With that reservation we can say that amplifiers are names for abstracts and that substantives are names for things or persons. If our list of the former admittedly contains collectives which have equal title to rank as concrete entities alongside many items in the list which follows, a sufficient justification is that they are specially liable to enter into constructions for which some languages have single verbs. Existing international names for many concrete entities are suitable for use as they stand, and it will not be necessary to enter them as *numbered* items in our list of essential substantives. Those mentioned in this chapter appear in a separate table at the end of the Basic word-list on p. 255.

In conformity with the principle stated on p. 17, *Interglossa* makes full use of *generic* substantives which sufficiently label a thing or person *in a given context* without recourse to compound formation or use of a qualifying epithet. Thus **vecti** (782) for a *lever,* means any sort of lever, including a piano key, bicycle pedal, starting-handle of automobile, etc. We need to use the qualifier dactyli in u dactyli vecti when, and *only* when, the context does not make it sufficiently clear that the type of lever under discussion is a piano key. We need scarcely ever do so in a sentence or paragraph containing the word piano. This instruction applies *mutatis mutandis* to all *qualified* substantives listed below.

(a) Parts of the Body (68) :From the international vocabulary of comparative anatomy and medicine, we can adopt without change :

anus	anus, vent	**nausea**	(sea) sickness
arteria	artery	**pterygia**	fins
branchia	gills	**pyrexia**	fever
carina	keel	**saliva**	spittle
coryza	cold	**sex**	sex
chela	pincers	**trachea**	windpipe
dyspepsia	indigestion	**vena**	vein
embryo	embryo	**vertebra**	vertebra
mamma	breast	**viscera**	entrails, guts

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Nearly all the numbered items below are familiar to anyone who has a little knowledge of hygiene or school biology :

(483) **abdomini**   *abdomen*
(484) **arthri**   *joint*
(485) **brachi**   *arm*
(486) **bucca**   *cheek*
(487) **calca**   *heel* (abbreviated from *calcaneum, the heel-bone)*
(488) **cantha**   *eyelid*
(489) **cardia**   *heart*
(490) **carpi**   *wrist*
(491) **cephali**   *head; apex; summit*
(492) **cerebra**   *brain ; intellect*
        u cerebra ergo = *brainwork*
(493) **cervica**   *neck ; throat; isthmus*
(494) **chiri**   *hand*
        u chiri-re —*handle*
        plu chiri arthri = *knuckles*
(495) **chondra**   *cartilage ; gristle*
(496) **costa**   *rib ; chop*
(497) **crania**   *skull*
(498) **cysti**   *bladder*
(499) **cyti**   *cell* (of tissue *or* honeycomb)
(500) **dactyli**   *digit, i.e. finger* or *toe; peninsula*
Where context insists :
        chiri dactyli = *finger*
        pedi dactyli = *toe*
For *thumb* we have **minor dactyli,** or the international term **hallux,**
(501) **denti**   *tooth* (of jaw *or* wheel), *dental*
(502) **dermi**   *skin ; leather*
(503) **entera**   *gut; alimentary canal*
(504) **facia**   *face*
(505) **feci** *or* **copra**   *faeces ; excrement*
(506) **gastri**   *stomach*

(507) **glandi**	*gland*
(508) **glena**	*socket* (of skeleton or device)
(509) **glossa**	*tongue ; language*
(510) **glutea** *or* **pygea**	*buttocks; rump*
(511) **gnatha**	*jaw, beak*

<p style="text-align:center">un hypo gnatha = <i>chin</i></p>

(512) **haema**	*blood*
(513) **hepa**	*liver*
(514) **kerati** *or* **cornua**	*horn*
(515) **labi**	*lip(s)*
(516) **lacrima**	*tear(s)*
(517) **lacti**	*milk*
(518) **lana** *or* **eri**	*wool*
(519) **lepidi**	*scale; scaly*
(520) **lipi** *or* **stea**	*fat*
(521) **lophi**	*comb; crest; ridge*
(522) **nari**	*nostrils*
(523) **nasa**	*nose; cape* (geogr.)
(524) **nephri** *or* **rena**	*kidney*
(525) **neura**	*nerve*
(526) **oculi**	*eye, optic*
(527) **oesophagi**	*gullet*
(528) **ora** *or* **stoma**	*mouth; opening; orifice; aperture*
(529) **ostea**	*bone*
(530) **ostraca** *or* **concha**	*shell* (of mollusc, egg, nut)
(531) **oti**	*ear*
(532) **ova**	*egg*

<p style="text-align:center">ova morpho = <i>oval</i></p>

(533) **pedi**	*foot*

<p style="text-align:center">u pedi-re = <i>step</i> (of ladder or staircase) ; <i>rung</i></p>

(534) **pelvi** *or* **coxa**	*hip*
(535) **pinna**	*feather*
(536) **poda**	*leg,limb* (of body, chair, table)
(537) **pteri**	*wing*

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(538) **pulmoni**	*lungs*
(539) **sarca** *or* **mya**	*muscle*
(540) **scapa**	*shoulder*
(541) **soma** *or* **corpora**	*body*
(542) **sndori**	*sweat*
(543) **tarsi**	*ankle*
(544) **thela** *or* **villi**	*nozzle ; nipple ; promontory*
(545) **thoraci**	*chest*
(546) **tricha** *or* **capilla**	*hair; fur*

        plu gnatha tricha = *beard*
        plu labi tricha   = *moustache*
        plu soma tricha   = *fur*; *pelt*
        plu cantha tricha = *eyelashes*
        plu oculi tricha   = *eyebrow*

(547) **ungua**	*nail; hoof; claw*
(548) **ura** or **cauda**	*tail*

(b) Zoological and Botanical Terms (80)

Since there is an existing international vocabulary of zoological and botanical names, it is difficult to know which words to adapt (see p. 266) and which to accept, as they stand. We have to be guided by : *(a)* human interest of the item itself; (6) degree of correspondence between technical terms and categories of everyday speech ; *(c)* geographical distribution of the type itself. The type may be actually specific, e.g. the horse *(Equus caballus)* or the ass *(Equus asinus)* ; and if we followed international practice this would involve recourse to the *binomial* epithet. More often a common name cuts across species, genera, or even classes. There is no need to add to our list items of the existing international vocabulary of *Horticulture.* Such words as **rosa, viola, azalea,** are on the lips of people wherever commercial distribution of horticultural products goes on ; and many,are, like the foregoing, compatible with the phonetic pattern of *Interglossa* without change. If they are not, we can adapt them to it by applying the rules on p. 239, e.g. *Lilium* becomes **lilia** *{plural* form) ; *Gladiolus* becomes **gladioli;** *Rhododendron* becomes **rhpdo-dendra,** and *Meconopsis* becomes **meconopsi.** Anyone who wishes to write

poetry in *Interglossa* will find enough of theni in a seed-catalogue. The following are internationally current in the form given, and need not appear as numbered items in our list of essential words :

acarina	*ticks*	**scorpionida**	*scorpions*
alfalfa	*lucerne*	**diptera**	*flies ; mosquitoes*
alga	*seaweed*	**erica**	*heather*
anguilla	*eel*	**fungi**	*mushroom ; mould*
anura	*frog; toad*	**insecta**	*insect*
araneida	*spider*	**lacertilia**	*lizards*
avena	*oats*	**lactuca**	*lettuce*
bacteria	*bacteria*	**larva**	*caterpillar,silkworm*
banana	*banana*	**leo**	*lion (zodiacal constellation)*
betula	*birch*	**lepidoptera**	*butterflies; moths*
brassica	*cabbage*	**mollusca**	*shellfish*
capra	*goat*	**ophidia**	*snakes*
cetacea	*whale ; dolphin*	**oryza**	*rice*
chelonia	*turtle ; tortoise*	**ostrea**	*oyster*
coleoptera	*beetle*	**pediculina**	*lice*
corolla	*petals*	**pelecypoda**	*clams*
crocodilia	*crocodile ;alligator*	**siphanaptera**	*fleas*
picea	*fir*	**sago**	*sago*
porifera	*sponges*	**soya**	*soya*
protista	*micro-organisms*	**ursa**	*bear*
reptilia	*reptiles*	**zea**	*maize*

With these current international words at our disposal the following will suffice for everyday use :

(551) **acantha** *or* **echini**   *spine; prickle; thorn* .
(552) **amygda**   *almond*
(553) **ana**   duck
(554) **anseri**   *goose*
(555) **api**   *bee*
(556) **asini**   *ass; donkey*
(557) **avi**   bird ,
(558) **bovi**   *ox; cattle; beef*

un an bovi = *bull*
u fe bovi = *cow*
un infanti bovi = *calf* (835) ; *veal*

(559) **brya**   *moss*
(560) **bulba**   *bulb* (of plant *or* lamp)
(561) **cameli**   *camel*
(562) **canabi**   *hemp*
(563) **canceri**   *crab*
(564) **cani**   *dog*
(565) **cari**   *shrimp; prawn*
(566) **carpa**   *fruit*

u sclero carpa = *nut*

(567) **caula**   *stalk; stem*
(568) **cervi**   *deer*
(569) **chyma**   *juice*
(570) **citra**   *lemon; citron*
(571) **cochlea**   *snail*
(572) **cocoa**   *coconut; coco palm*
(573) **coniferi**   *conifers; pines,* etc.
(574) **cucurbi**   *squashes; cucumbers*
(575) **cygni**   *swan*
(576) **dendra**   *tree; wood; timber*

micro dendra = *shrub*

(577) **elepha**   *elephant*
(578) **equi**   *horse*
(579) **faba**   *bean*
(580) **feli**   *cat*
(581) **filici**   *fern*
(582) **flora**   *flower; blossom*
(583) **formici**   *ant*
(584) **galli**   *domestic fowl*

un an galli = *cock*
u fe galli   = *hen*
un infanti galli = *chick* (835)

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(585) **gluma**	*husk; bran; glume*	
(586) **gossypi**	*cotton*	
(587) **gramini**	*grass*	
	u desicco gramini = hay	
	plu phago gramini = *cereals*	
(588) **harengi**	*herring*	
(589) **homari**	*lobster*	
(590) **homini**	*human being;* **(plur.)**	
	mankind;Man; men and women	
(591) **hordea**	*barley*	
(592) **latici**	*latex ; (india)rubber*	
(593) **legumi**	*legumes*	
(594) **lepi**	*rabbit; hare*	
(595) **lina**	*flax*	
(596) **lupi**	*wolf*	
(597) **muri**	*rats; mice*	
	mega muri = *rat*	
	micro muri = *mouse*	
(598) **orangi**	*orange*	
(599) **ovi**	*sheep; mutton*	
	un an ovi = *ram*	
	u fe ovi = *ewe*	
	un infanti ovi = *lamb* (835)	
(600) **panica**	*millet*	
(601) **persica**	*peach*	
(602) **phoeni**	*date*	
(603) **phylla**	*leaf; blade*	
(604) **phyta**	*plant; vegetable*	
(605) **pisa**	*pea*	
(606) **pisci**	*fish*	
(607) **pomi**	*apple*	
(608) **potati**	*potato*	
(609) **pruni**	*plum*	
	u desicco pruni = *prune*	

(610) **pyri**	*pear*
(611) **rami**	*branch*
(612) **rhabdi**	*stickf/staff*
(613) **rhiza**	*root*
(614) **salmi**	*salmon*
(615) **sardini**	*sardine*
(616) **secala**	*rye*
(617) **selachi**	*shark*
(618) **simi ape;**	*monkey*
(619) **sperma**	*seed*
(620) **suberi**	*cork*
(621) **sui**	*pig; pork; bacon; ham*

      un an sui = *hog*
      u fe sui   = *sow*

(622) **syca** *or* **fici**	*fig*[1]
(623) **tabaca** *or* **nicoti**	*tobacco*
(624) **tomati**	*tomato*
(625) **tritica**	*wheat*
(626) **vermi** *or* **helminthi**	*worm*
(627) **vespi**	*wasp; hornet*
(628) **viti**	*grape**; *vine*

      u desicco viti = *currant; raisin*

(629) **vulpi**	*fox*
(630) **zoa**	*animal; beast*

(c) Geographical Names (38)

(631) **agri**	*field; meadow*

      un agri ergo = *agriculture*
      un agri-lo   = *farm*

(632) **alluvia**	*clay*
(633) **astra**	*star*
(634) **asyla**	*harbour; haven; sanctuary*

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[1] **Fici** based on the genus *Ficus* should undoubtedly have preference over **syca.**

(635) **baia**	*bay*	
(636) **canali**	*channel; strait*	
(637) **carta**	*map; diagram; chart ,*	

u stereo carta = *solid model*
u domi carta = *house plan*

(638) **dim a** *or* **meteori**	*climate; weather*
(639) **continenti**	*continent*
(640) **cosmi**	*universe*
(641) **deserta**	*desert*
(642) **detriti**	*mud*
(643) **farina**	*dust; powder*

u tritica farina = *wheat flour*
u zea farina = *maize, meal*
un an farina   = *pollen*

(644) **fonta**	*spring; fountain*
(645) **geo**	*the earth*
(646) **heli**	*sun*

un heli-radio = **a** *sunbeam*
un heli photo = *sunlight; sunshine*
un heli lavo   = **a** *sunbath*

(647) **horti**	*park, garden*
(648) **limni**	*lake*

micro limni = *pond*; *pool*

(649) **luna**   *moon; satellite*

u cephali-luna = *halo*
u luna photo   =*moonlight*
hemi luna   = *half moon*
holo luna   = *full moon*
un heli luna   = *planet*

(650) **mari**	*sea*
(651) **mina**	*mine*
(652) **monti**	*mountain*
(653) **muci**	*slime*
(654) **nesia**	*island*

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(655) **nebuli**	*fog; mist*
(656) **nephela**	*cloud*
(657) **oceani**	*ocean*
(658) **phrea**	*well; pit*
(659) **potami**	*river; stream*

u ge facte potami = *canal*

| (660) **rura** | *countryside* |

u rura prospecto = *scenery, landscape*

(661) **sili of psamma**	*sand*
(662) **spectra**	*rainbow; spectrum*
(663) **terra**	*land; soil; ground*

in terra = *underground; subterranean*

(664) **tunneli or glypha**	*tunnel*
(665) **urani**	*sky; heaven*
(666) **urba**	*city; town*
(667) **valli**	*valley; dale; groove; dent*
(668) **via**	*way; road; street; thoroughfare;track; path; trajectory*

u via-pe = *guide; pilot; conductor*

u pedi via = *the pavement*

u dendra via — *an avenue*

u meso via = *compromise* (the middle way)

(un) extra meso via = *fanatical; fanaticism*

habe u via ad = *have access to*

kine epi erro via = *take the wrong road; lose one's way*

(d) Food, Clothes and Furniture (34)

Articles of food, clothes and furniture vary greatly in different countries ; and it is permissible (p. <u>22</u>) to use local names for specifically local ones, e.g. **frankfurter, cognac, omelette**. We can form many essential terms by compound formation with **-ve, -mo, -zo** (pp. 101-105). In addition the following are useful:

| (669) **ampulla** *or* **asci** | *flask; bottle; flagon* |

(670) **amyla**	*starch*	
(671) **bursa** *or* **sacci**	*bag; sack*	
	u valuta bursa = *purse* (859)	
(672) **butyri**	*butter*	
(673) **caca** _	*cocoa*	
(674) **cafa**	*coffee*	
(675) **calyci**	*cup*	
(676) **campani**	*bell; alarum*	
(677) **casea**	*cheese*	
(678) **choani**	*collar*	
(679) **clinica**	*bed; couch*	
	un avi clinica = *bird's nest*	
(680) **confecti**	*jam*	
(681) **corona**	*drown; wreath; coronet; diadem*	
(682) **crea** *or* **carni**	*flesh; meat*	
	crea chyma = *gravy*	
(683) **geli**	*jelly*	
(684) **marsupia**	*pocket*	
	u liquo-marsupia = *a blister*	
(685) **mitra**	*hat, cap*	
(686) **olea**	*oil*	
(687) **pani**	*bread, loaf*	
(688) **placa**	*cake, bun, biscuit*	
	micro placa = *tablet*	
(689) **pulvini**	*cushion; pillow*	
	u soma pulvini = *bed mattress*	
(690) **sacari**	*sugar*	
	un api sacari = *honey*	
	plu sacari-re = *sweets*	
(691) **sedi**	*chair, seat, bench*	
	u regi sedi = *throne* (849)	
	plu sedi-pe = *congregation*	
(692) **spiriti**	*spirits; strong drink*	
(693) **strata**	*shelf*	

u strata-ca = *cupboard* **(built-in)**	
u strata-mo = *cupboard* **(movable)**	
(694) **supa**	*soup; broth*
(695) **tapea**	*carpet; mat*
(696) **tea**	*tea*
(697) **testa**	*coat*

un extra testa = *overcoat*

un in testa = *waistcoat*; (Amer.)

u pluvio testa = *raincoat*

(698) **theca**   *box; chest;* (plural) *baggage*

u liquo-theca = *tank*

u tracte-theca = *chest of drawers*

u vesto theca = *wardrobe*

(699) **toga** *or* **pallia**   *mantle; cloak*

(700) **trapeza**   *table*

un hagio trapeza = *altar*

(701) **tunica**   *frock, smock, dress* (woman's)

un in tunica = *chemise; undershirt; (vest)* (Brit.)

un hypo tunica = *skirt*

u supero tunica = *shirt ; blouse*

(702) **vini**   *wine*

(e) Architectural Terms; Shapes and Units (30)

In this context we have two current international words our disposal:

area (= epi-metro) *area; surface*

inertia *sluggishness ; inertia*

(703) **amorphi**   *lump; clod*

(704) **atria**   *court* (enclosed yard)

un in-atria = *hall* **(of house)**

(705) **balconi**   *balcony; gallery*

u terra balconi = *verandah; stoep*

(706) **centra**   *point; speck*

u meso centra = *centre*

	u tendo centra = *focus*
(707) **cera**	*brick; block*
	u plato cera = *tile; slate*(364)
	plu via cera = *paving-stones* (668)
(708) **columni**	*pillar; column; pole*
(709) **coni**	*cone* (geom); *funnel* (for filling)
(710) **cruci**	*cross*
	u cruci ligato = *knot* (285)
(711) **cuba**	*cube; third power*
(712) **cycli**	*circle*
(713) **cylindri**	*cylinder*
(714) **fenestra**	*window*
(715) **fossa**	*ditch; drain*
	un in terra fossa = *ditch*
(716) **grami**	*gram*
(717) **lampa**	*lamp*
	u plasti lampa = *candle*
	u lampa umbro-re = *lampshade*
(718) **litri**	*litre*
(719) **metri**	*metre*
(720) **mura** *or* **septa**	*wall; partition*
	u columni mura = *railing*
	u chiri mura *—handrail; banister*
(721) **ponti**	*bridge*
(722) **porta**	*door; gate; lid*
	u fenestra porta = *french window*
(723) **prisma**	*prism*
(724) **prosceni**	*stage*
(725) **pyrami**	*pyramid*
(726) **quadra**	*square*
(727) **recessi**	*recess*
(728) **scala**	*steps; ladder; stairs*
(729) **skeleta**	*framework; frame; skeleton; scaf-* *folding*

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(730) **sphera**   *sphere; ball; globe*
(731) **tecti**   *roof*

        u coni tecti — *spire*
        u hemi sphera tecti = *dome*
        un ora tecti = *palate*

(732) **tubi**   *pipe; tube*

        u fumo tubi ~ *funnel, chimney*
        u nicoti tubi — *tobacco pipe*

(f) Instruments (51)
The following are internationally current as they stand:

camera   *camera*

        u camera-pe = *photographer*

lens   *lens*
libra   *scales, balance* (zodiacal-constellation)
piano   *piano*

        u piano-pe = *pianist*

violin   *violin*
(733) **acu**   *nail; pin*

        un helico-acu = *screw*

(734) **ara**   *plough*
(735) **artilleri**   *gun; rifle; cannon*

Note.—Artilleri is the *generic* term for explosive weapons. Internationally current terms for nearly all types now in use are to hand.

(736) **axi**   *shaft*
(737) **baci**   *bar; rod*

        u cleidi-baci = *bolt* (of door)

(738) **blada**   *knife; dagger*
(739) **bomba**   *shell; bomb*

        u stato bomba = *mine*

(740) **cardo**   *hinge*
(741) **catena**   *chain*
(742) **clavi**   *key* (of door)
(743) **cleidi**   *lock* ???

(744) **colea** sheath

        u coito colea = condom

        u cephali-colea = hood

(745) **copa** oar; paddle

(746) **copula** link

(747) **coryna** club; bat

(748) **cteni** or **pectini** comb; rake

(749) **dentili** or **trepana** saw

(750) **disca** disc; plate

(751) **elasti** spring

        elasti poto = elasticity

(752) **falci** hook

        u secto falci = a sickle

(753) **furca** fork (table or garden**)**

(754) **gladi** sword

(755) **helica** propeller; electric fan

(756) **inci** anvil

(757) **lamina** sheet; plank; board; page; layer

        u picto lamina = drawing-board

        u creta lamina = blackboard

(758) **lancea** lance

(759) **lyra** harp

(760) **machina** engine

(761) **mallea** hammer

(762) **mimi** doll, effigy

(763) **missili** missile; bullet; cannon-ball

(764) **navi** ship

        un aero nayi = airship; aeroplane[1]

        u navi-lo = docks

        navi-fa = fleet

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[1] *Balloons* and *dirigibles* are light airships (**no-masso aero navi**) *without a propeller* (**minus helica**) or *with a propeller* (**syn helica).**

(765) occlu   *burr* (Amer.) ; *nut* (Brit.)

(766) **peleci**   *axe; chopper*

(767) **penna**   *pen*

                   u carba penna = *a pencil*

(768) **pista**   *piston*

(769) **reti**   *net, network; sieve*

                   u rhabdi reti = *basket(work)*

(770) **rota**,   *wheel*

                   u vaporo rota = *a turbine*

                   u bi-rota   = *a bicycle*

(771) **sagitta**   *arrow; dart*

                   u sagitta-ru = *a bow*

                   u sagitta-va = *quiver*

(772) **scuta** *or* **aspi**   *shield; mask*

                   u facia scuta = *mask*

(773) **seta**   *brush; broom*

(774) **signa**   *flag; ensign; banner*

(775) **spatula**   *spoon; spade*

(776) **sphena**   *wedge; wad*

(777) **stapi**   *stirrup*

(778) **syringi**   *flute; whistle; recorder; pipe*

(779) **taxi**   *automobile; motor-car*

(780) **tympana**   *drum*

(781) **vagoni**   *vehicle; carriage; car*

                   u via vagoni = *tramcar; street-car*

(782) **vecti**   *lever; (pedal); (piano key)*

                   u dactyli vecti = *a key* (of piano)

                   u pedi vecti —*pedal*

(783) **vela**,   *sail*

                   urani vela = *kite*

(g) Substances and Manufactured Articles, other than Foods *
and Clothes (25)

In accordance with the rule on p. 239, *Interglossa* adopts -a (plu-
ral) form for any internationally current term which ends with
-*um,* e.g. **zinca** *(zinc).* This covers nearly all th**e** *metals* **i**n the
periodic table, and we need therefore list only the more common
ones in what follows. The three next items are of sufficiently
international rank to list without number in accordance with pre-
vious usage :

alkali	*alkali*
arnica	*mica*
silica	*silica; quartz*
(784) **acidi**	*acid*
(785) **anthraci**	*coal*
(786) **argenta**	*silver*
(787) **aura**	*gold*
(788) **carba**	*carbon; graphite; soot*
(789) **cigara**	*cigar*
(790) **cigaretta**	*cigarette*
(791) **colli**	*glue; adhesive; paste; gum*
(792) **creta**	*chalk*
(793) **crystalli**	*crystalline)*
(794) **cupra**	*copper*
(795) **ferra**	*iron*
u sclero ferra = *steel*	
(796) **gasi**	*gas*
(797) **hali**	*salt*
(798) **margara**	*pearl*
(799) **metali**	*metal*
u metali mixo — *alloy*	
(800) **papyri**	*paper*
(801) **petrolea**	*petrol; gasoline*
(802) **plasti**	*wax*
un adhesio plasti = *sealing-wax*	

	un api plasti	= *beeswax*
(803)	**plumba**	*lead*
(804)	**saponi**	*soap*
(805)	**sepia**	*ink*
(806)	**stanna**	*tin*
(807)	**sulphi**	*sulphur*
(808)	**vitri**	*glass*

For alloys we can use contractions in accordance with modern usage (e.g. **magal** for magnesium-aluminium alloys). Thus we have :

> **u cupra zinca (= cu-zi)** = *brass*
> **u cupra stanna (= cu-sta)** = *bronze*

(h) Human Affairs (52)

We may adopt as they stand :

	gemini	*twin(s)* (zodiacal constellation)
	manifesto	*manifesto, declaration*

> **U Manifesto de plu Homini Privilegio**
> *The Declaration of the Rights of Man*

	virgo	*virgin* (zodiacal constellation)
(809)	**agenda**	*agenda; programme; business* (of a meeting)
(810)	**anthropi**	*man* (male human being) **;** *hus band; gentleman*
(811)	**arma**	*army*
	un arma-pe = *a soldier; warrior*	
(812)	**arti**	*art*
(813)	**banca**	*bank; treasury*
(814)	**bibli**	*book*
(815)	**billeta**	*ticket, coupon*
	u vagoni billeta = *railway ticket*	
	plu sporto billeta = *playing-cards*	
	u nomino billeta = (323)	
(816)	**bureau**	*(public) office*

(817) **capitali**   *capital*
(818) **capitula**   *chapter* (of book)
(819) **capsa**   *package; packet; parcel*
(820) **Christi**   *Christ*

        u Christi-pe = *a Christian[1]*

{821) **classi**   *class; caste*
(822) **coloni**   *colony*
(823) **commisari**   *ministry; government department*
(824) **commita**   *committee*
(825) **compani**   *company* (business)
(826) **crati**   *government*
(827) **data**   *fact ; information*

        plu neo data = *the news*
        cleisto pan data = *all-embracing, general, uni*
                                            versal

        un anti data *or* **u data**
          digito anti re = *an exception*
(828) **discipuli**   *pupil; scholar; student*
        un ergo discipuli = *an apprentice*
(829) **famili**   *family; relations*
(830) **fill**   *offspring*
        un an fili = *a son* (if context demands)
        u fe fili = *a daughter* (ditto)
(831) **formula**   *formula; recipe*
(832) **gazeta** *or* **journali**   *periodical; magazine*
        u tri mensi gazeta = *a quarterly magazine*
        u di gazeta   = *a (daily) newspaper*
(833) **gramma**   *letter*
        u no ge vesto gramma — *postcard* (59)
        u gramma-ve = *envelope*
(834) **gyna**   *woman; wife; lady*
(835) **infanti**   *baby*

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(836) **imperia**   *empire; imperial*
(837) **industri**   *industry; manufacture*
(838) **musea**   *museum*
          u picto musea = *a picture gallery*
(839) **nota** *or* **computo**   *bill; account*
(840) **parenta**   *parent*
          un an parenta = *a father*
          u fe parenta = *a mother*
          u parenta parenta = *a grandparent* (with **an** *or*
                    fe as context insists, e.g.:
          un an parenta fe parenta = *paternal grandmother)*
          plu pre parenta = *ancestors; forbears*
(841) **poeti**   *poetry; verse; poem*
(842) **politica**   *politics; political*
(843) **polizi**   *police*
(844) **posta**   *post*
          u posta billeta — *postage stamp*
          u posta theca   = *letter-box*
          u posta bureau .= *post-office*
(845) **proletari**   *an employee; working-man*
(846) **propaganda**   *propaganda; preaching*
(847) **propria**   *property* (legal)
          u tem propria = *tenure*
(848) **prosa**   *prose*
(849) **regi**   *king; emperor;   ruling queen;*
                    hereditary ruler
          u regi gyna = *queen* (consort)
(850) **rentieri**   *rentier; shareholder;*   (with **plu**)
                    leisure, class
(851) **sacramenta**   *legal oath*
(852) **scientia**   *science*
(853) **secretari**   *secretary*

(854) **sibi**   *sib; brother* or *sister*
       un an sibi = *brother* (if context supplies no clue to sex)
       u fe sibi *sister* (ditto)
       u parenta sibi= *uncle* or *aunt* (with **an** *or* **fe** if
                context supplies no clue)
       u parenta sibi fill = *cousin*

(855) **telefon**   *telephone*
(856) **telegram**   *telegram*
(857) **thema**   *topic; issue; (matter); (quest-*
                    ion); subject (of discourse)*(case)*
(858) **universita**   *university*
(859) **valuta**   *money; cash*
(860) **verba**   *word*
     Verba is the key-word for grammatical terms:
       u vice-verba   = *pronoun* (127)
       u nomino-verba   = *noun* (323)
       u clavi-verba   = *verb* (742)
       u qualito-verba   = *adjective* (385)
       u limito-verba   = *adverb* (286)
       u copula-verba   = *conjunction* (746)
       u tendo-verba   = *preposition; directive* (125)
       u no-muto verba = *particle* (314)
       u picto-verba = *hieroglyph; pictogram* (362)
       u verba mero = *syllable* (19**)**
       u verba semao = *ideogram* (413)
       u post-verba = *object* (72)
       u thema-verba = *subject* (857)
       u verba-fa = *phrase* (49)
       holo verba-fa = *sentence* (24) (49)

Supplementary Substantives
(874) **cartoni**   *cardboard; pasteboard*
(875) **corpuscula**   *particle; grain*
(876) **glacia**   *ice*

(877) **organa** *organ; institution*

(878) **phlogista** *or* *match; lucifer*
  luciferi

(879) **sphinctra** *tap; switch*

(880) **unita** *step; pace; degree*
  per unita = *step by step ; little by little ; by degrees*

PART III

CHAPTER X   EXPANSION OF VOCABULARY;
CONVENTIONAL FORMULAE

The preceding schema of Part II sets out the *essential* vocabulary of *Interglossa.* It lists all the words the beginner needs for fluent self-expression about everyday issues, if supplemented by internationally current technical terms, or by local names for local things and local institutions, where necessity arises. It does not set out to make full provision for the requirements of certain domains of *technical* discourse, such as law and architecture, which have no truly international vocabulary in the sense that medicine, engineering, cartography or horticulture have one. For such it will be necessary to draw up small residual batteries of technical terms. The fact that our essential word-list does not furnish us with snappy expressions to distinguish a *felony* from a *misdemeanour* in the legal sense need not therefore trouble us. In everyday life few people other than lawyers use such words in accordance with dictionary definitions dictated by law-court practice; and distinctions dear to lawyers of one country may have no local relevance in another. Except when we use technical terms of wide international currency, our vocabulary of daily use, even that of highly educated people, falls far short of a precision -proportionate to its diversity. Indeed, few people with a literary education use so common a word as *animal* in the same way as biologists, i.e. for any member of the *animal kingdom* including *Homo sapiens.* More usually the animal of a lawyer, of a novelist or of a classical scholar, is a *mammal* other than a human being.

Thus a language designed to reduce, to a minimum the necessary equipment for unaffected daily discourse about matters of common concern for people of different nationalities need not keep inside the strait-jacket of word-economy on every conceivable occasion. For stylistic reasons alone, a *residual* battery is desirable ; and a living language must have space for growth. We have therefore to make room for assimilation of internationally current words[1] and of additional

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[1] Lott, de Wahl, Jespersen and the I.A.L.A. have done all the necessary spadework of assembling the raw materials for such residual batteries from internaMonally current words and roots.

internationally current roots in conformity with the principles of sentence-landscape laid down in Chapter II. Some provisional rules of expansion are as follows,:

(i) The number of pseudonyms, of articles, of verboids and, of amplifiers which can do service as modal auxiliaries or pre-position-equivalents is *fixed.*   Suggested exceptions are: *(a)* separation of (99) tele *(far from, distant)* from ultra *(beyond); (b)* addition of:

dia (= per via de) = *through*

(ii) *No* words are admissible if they are *homophones* of any words on the *essential* list on pp. 249 *et seq.*

(iii) Abstract *words* with the following Anglo-Americali terminals can become amplifiers if they have international currency :

(a) -ion words drop the -n, as when we make natio from *nation.* Hence *acceleration,* etc., become :

acceleratio	evolutio	relatio
communicatio	excretio	revolutio
cooperatio	inventio	secretio
digestio		

(b)| **-sm** words add **-o,** so that we have for *communism, social-ism, materialism :*

communismo	socialismo	materialismo

(c) **-graph** and **-log** words add **-o** to these syllables in place of *-y, ic,* etc.:

> **hydrographo** = *hydrography ; hydrographical*
> **stenographo** = *typing*
> **zoologo** = *zoology; zoological*

(iv) *Any* well-established *roots* of international technical terms can become amplifiers signifying actions, states, qualities or processes by addition of **-o** to the *stem,* e.g. :

(a) With **date :**

ancylo (= no-recto) = *crooked(ness)*

brachyo (= no-longo) *= shortness)*

bradyo (= no-celero) *y* ■= *slow(ness)*

caco (= no-decoro) = *ugly, ugliness*

diplo = *double(ness)*

gymno (= no-vesto) = *bare(ness); naked(ness)*

hygro (= no-desicco) = *moist(ure)*

lepto *or* **steno {= no-pachyo)** = *slender (ness) ,\ thin*

lisso (= no-rugo) = *smooth(ness)*

loxo (= non-ortho) *or* **obliquo** = *oblique(ness)*

mollo (= np-sclero) = *soft(ness)*

(b) With **acte :**

colymbo *= diving*

grapto   = *engraving*

nemato —*sewing*

plankto =*floating*

plecto *or* **strepto**= *plaiting; twisting*

pio = *gentle(ness); tender(ness)*

(c) With **habe:**

amblyo = *dullness)* (of vision or hearing)

artio = *even* (numbered)

deutero *or* **secondo** = *secondary*

dino *= terrible; frightful(ness)*

giganto = *enormous; gigantic*

nanno = *tiny; dwarf (ness)*

    (v) Occupational (i.e. personal agent) terms related to (ii) *(b)* above
(i.e. **-sm** words) may take **-sti** for **-sm,** e.g. :

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u communisti — *a communist*
            u materialisti = *a materialist*
            u radicalisti = *a radical*

(vi) Occupational terms based on amplifiers other than those which end in **-smo** are **-pe** compounds, e.g. :

            u revolutio-pe = *a revolutionary*
            u theologo-pe = *a theologian*

(vii) Substantives which correspond to local things, offices and institutions or place-names, retain the local form or its equivalent in Roman script, e.g. :

Island	= Iceland	**Wien**	= Vienna
Kobenhavn	= Copenhagen	**Moskva**	= Moscow

(viii) Technical terms of which the form has been fixed by international agreement (e.g. binomial, botanical, and zoological epithets and names of elements) *may* retain their existing form.

(ix) A semi-technical substantive, of which the precise form (terminal or spelling) is subject to minor local variation, undergoes one or other of the following changes on assimilation :

(a) Whole words which end in **-um** (cf. *tympanum* or *ovum)* or **-on** (cf. *piston)* take the plural **-a** form, e.g. :

            u sanatoria = *a sanatorium*
            u spermatozoa = *a spermatozoon*

Note.—Some English words of which the German form retains the Latin **-ium** have the terminal **-y,** c.f. *Laboratorium—laboratory* = **u laboratoria.**

(b) Whole words which end in **-us** take **-i** instead, e.g. :

            un umbilici = *the navel*
            u bacilli = *a bacillus*

(c) Whole words which end in -e have the **-a** form, e.g. :

        (u) homozygota — *thoroughbred* (homozygote)
        (u) heterozygota = *hybrid* (heterozygote)

These rules suffice for adapting international names of plant or animal *genera* to daily use> when we refer to them frequently, e.g.:

pini = *pine*
meconopsi = *Meconopsis*
meleagri   = *turkey* (Meleagris)
pelargonia = *geranium* (= Pelargonium)
lilia   = *lily* (Lilium)

(x) The rules for forming substantives from *any* roots available in the international vocabulary of technics are two : *(a)* If the root comes from a Latin or Greek noun of which the nominative singular ends in **-m** or **-n, -a** or **-e,** add **-a** to the stem, e.g. :

adena	= *swelling*	**marmora**	= *marble*
antra	= *cave*	**radula**	= *file (tool)*
aula	= *furrow*	**spora**	= *spore*
carborunda	= *emery*	**tribuna**	= *court; tribunal*
ecclesia	= *church*	**turra**	= *tower; turret*
lacuna	= *pit*	**xyla**	= *wood*

zyma = *yeast*

(b) If the root comes from a Greek or Latin noun of which the nominative masculine singular ends in any consonant other than **n** or **m,** add **-i** to the stem, e.g. :

arci	= bow; arc	**lecithi or**	= ;yolk (of egg)
cirri	= curl	**vitelli**	
cocci	berry	**matri**	= mother
crossi	= fringe ; tassel	**meli**	= honey
foci	= focus	**patri**	= father
hieri	= priest	**pharyngi rhipi**	= pharynx ; throat
inquili	= tenant	**rhipi**	= fan

salpingi = *trumpet*

Our choice of terminals **-i** or **-a** for the substantives listed by number in Chapter IX is generally consonant with the preceding conventions of international technology ; but it is occasionally necessary to transgress the rules to avoid the use of homophones. For example *-piera,* which occurs in the names of nearly all orders of insects such as *Lepidoptera,* would be a homophone of **terra** (663). The terminal of **pteri** {535) is thus to prevent confusion with **terra** in speech.

We have here discussed residual word-lists with an eye on root material of wide international currency at present available ; and all the roots employed in the preceding are widely current in international technical, more especially biological, terms. From the same source we have an ample choice of * synonyms, e.g. for the seasons :

aestiva   hiberna
autumni   verna

Other synonyms worth considering as alternatives to words on our essential list of numbered items are :

alveoli (= **sphena**)   **maculo** (= **stigmo**)

arbori (= **dendra**)   **opistho** (= **retro**)

arcti or **nordi** (= **boreo**)   **stega** (= **tecti**)

australi (= **meridio**)   **styla** (= **columni**)

The introduction of **aepyo** (in *Aepyornis,* the fossil tallest bird) for *tall* 6r *high* and **dolicho** (in *dolichocephalic)* **for** *long* would permit the reservation of **alto** and **longo** respectively for *height* or *level* and *length* (see remarks on p. **94).**

Greetings, etc.

It is necessary to have certain conventional phrases for conversation or correspondence.   Essential ones are :

Saluto = *How do'you do?* **or** *good-bye; good day; goodnight,* etc.
Verito = *Yes*
Assure = *By all means*
No = *No*
Zero = *By no means, not at all*
Peti = *Yes, please*
Gratio, no = *No, thank you.*
Gratio = *Thanks*
Pardo = *Excuse me*

For the beginning of a letter :

    (a) Formal:

        X.Z! = *Dear X* (local title, *Dr., Mrs., etc.) Z* (surname)

    (b) Cordial:
        Z ! = *Dear Z* (surname)

    (*c) Intimate :*
        Y ! *Dear Y* (Christian name)

    (d) Endearment:
        Ge philo Y! = *Dearest Y*
        Mi ge philo amico-pe ! = *My beloved friend*

For the end of a letter :

    (a) Formal:
        Plu saluto = *Yours truly, Yours faithfully*

    (b) Cordial:
        Plu amico saluto = *Yours (very) sincerely*

    (c) Endearment
        Plu philo saluto   *'* = *Yours affectionately*

CHAPTER XI

SAMPLES OF TRANSLATION FROM
ENGLISH TO INTERGLOSSA

The translations of the first three samples which follow are not based on the original sources. With the aid of the English version of *(d)* the reader can judge how far the word-economy of *Interglossa* is also compatible with economy of *space,*

(a) **Canto 23**

1. U Theo eque mi Ovi-pe.   Mi post habe pan necesso Re.

2. An date preparo mi Clinica in phi chloro Agri. An acte controlo mi Pedi littora paco Hydro.

3. An date sano mi Logo. An acte dirigo Mi a Via de Verito pro an Nomino.

4. Cleisto chron Mi acte grado in Valli de Umbra de Morto ; Mi non esthe phobo u Malo ; causo Tu habe syn Mi. Tu Rhabdi plus tu Ovi-ru stimule consolo Mi.

5. Tu date preparo u Trapeza pro Mi contra mi Anti-pe. Tu stimule rheo un Olea epi mi Cephali. Mi Calyci acte rheo supero Ora.

6. Certo, un Eu plus u Pardo post kine retro Mi pan Di de Bio.   Plus Re, Mi habe eco in Domi de Theo holo tem.

(b) **U Petitio de Christi**

Na Parenta in Urani :

Na dicte volo ; tu Nomino gene revero ;

Plus tu Crati habe accido ; plus u Demo acte harmono tu Tendo epi Geo homo in Urani.

Na dicte petitio : Tu date plu di Pani a Na ; plus Tu acte pardo plu malo Acte de Na ; metro Na acte pardo Mu ; Su acte malo de Na.

Peti Tu non acte dirigo Na a plu malo Offero ; Hetero, Tu date libero Na apo Malo.

Causo Tu tene u Crati plus u Dyno plus un eu Famo pan Tem.—Amen.

(c) **U Proto plus u Fino de communisti Manifesto**

U Mytho-pe stimule phobo Euro'pa—u Communismo. Singulo Crati de palaeo Europa eque u Mero-pe de hagio Grego tendo u Balle Pe apo, u Papa syn Tsar, Metternich syn Guizot, plu Radicalisti de France syn plu espio Polizi de Deutschland.

Quo loco un anti Partio habe eco; Su no g;ene aetio e Crati causo auto Communismo. Quo loco un anti Partio habe eco; Su no dicte protesto per iso pyro Verba allo de plu major laevo Partio allo de Mu major dextro comparo Auto.

Causo Re, Na vise bi Sequo :

(i) Pan europa Crati nu dicte confessio ; u Gommunismo

habe gravo.

(ii) Harmono u nun Occasio, plu Communisti debito date

publico mu Piano; plus Mu debito date phanero mu Credo contra holo Geo. Mu necesso acte necro u para infanti-ca Historo de communismo Mytho per auto Manifesto. Sequo, piu Communisti de plu hetero Natio acte unio in London. Plus Mu pre facte u para Manifesto tendo u Typo per plu Glossa de England, France, Deutschland, Italia,, Nederland syn Danmark.

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Per oligo verba, mu Piano eque u para Re.

Plu Communisti in pan Loco acte catalyso singulo laevo Partio anti u nu Civilisatio plus u nu politica Systemo.

Syn singulo homo Partio, Mu date phanerb u duco Gravo de propria Privilegio, cleisto major cleisto minor ge maturo.

Fino, Mu acte ergo tendo u Zygo de plu democrati Partio de singulo Natio pan-lo.

Plu Communisti esthe arrogo de No-crypto de plu Credo syn plu Piano de Auto. Phanero, Mu dicte ; plu Tendo de Mu poto gene pronto per zero Methodo no-cleisto u violo Victo anti pan nu grego Physio.

Plu archo Classi debito esthe phobo u communisti Revolutio. Plu Proletari poto perde zero Re no-cleisto plu Catena de Auto.   U Geo posso eque u Pronto.

Pan Proletari de pan Natio : gene zygo.

(d) **Un Atlantic Promisso**

U President de United States syn duco Commissari-pe, Mr. Churchill, ge electio e regi Crati de United Kingdom, pre acte unio. Plus Mu esthe credo; Mu debito date publico plu communo Piano de singulo Natio ; Su date eu baso un Espero de major eu Geo post nu.

Mono: Bi para Natio tentato gene zero major Terra zero hetero Pronto.

Bi: Mu volo vise zero terra Muto no-cleisto harmorio plu Volo, libero ge dicte, de singulo loco Demo.

Tri : Mu esthe revero u Privilegio de Electio e singulo Demo de geno Crati; Mu volo habe. Plus Mu volo vise u Verso de natio Privilegio plus Auto--crati pro singulo Demo; Su pre perde Mu per Violo.

Tetra : Harmono plu nu Promisso de Auto, Mu tentato acte catalyso pan Natio, cleisto mega cleisto micro, cleisto victo cleisto no-victo, de Gene occasio de Vendo allo de Merco syn iso Privilegio, plus de Habe u communo Via a plu geo Proto-ma necesso de Pluto.

Penta : Mu volo stimule communo de Ergo e pan Natio de Industri plus de Vendo tendo u major eu ergo Normo pro pan Pe plus u major Pluto plus u ge societo Immuno pro singulo Homini.

Hexa : Post fino Necro de nazi Oppresso, Mu esthe espero de Vise u Paco ; Su date posso pan Natio de no--viro Eco in mu terra Limito; plus Su stimule assuro de pan Homini in pan Loco duro habe bio minus Phobo minus No-pluto.

Hepta : Geno para Paco debito acte catalyso pan Homini de non-inhibito Itinera trans plu mega Mari plus plu Oceani.

Octa : Causo plu Baso, cleisto de Politica cleisto de Persona, Mu esthe credo; pan Natio de Geo hecesso date fino u Violo. Causo zero post nu Paco poto habe duro; tem plu Natio duro tene plu Arma-ru de Mari plus de Terra plus de Aero tendo u Violo extra plu Terra de Auto; Mu esthe credo u Necesso de tracte plu Arma-ru apo plu iso Natio pre Proto de Systemo de universo Immuno. Harmono Re, Mu acte catalyso plus Mu stimule pan hetero Piano de tracte u fracto Masso de plu Arma-ru apo plu Homini; Su esthe volo u Paco.

(d) **The Atlantic Charter**

The President of the United States and the Prime Minister, Mr. Churchill, representing His Majesty's Government in the United Kingdom, being met together, deem it right to make known certain common principles in the national policies of their respective countries on which they base their hopes for a better future for the world :

First : Their countries seek no aggrandisement, territorial or other.

Second : They desire to see'no territorial changes that do not accord with the freely expressed wishes.of the peoples concerned.

Third : They respect the right of all peoples to choose the form of government under which they will live ; and they wish to see sovereign rights and self-government restored to, those who have been forcibly deprived of them.

Fourth : They will endeavour, with due respect for their existing obligations, to further the enjoyment by all States, great or small, victor or vanquished, of access, on equal terms, to the trade and to the raw materials of the world which are needed for their economic prosperity.

Fifth : They desire to bring about the fullest collaboration between all nations in the economic field, with the object of securing for all improved labour standards, economic advancement, and social security.

Sixth : After the final destruction of Nazi tyranny, they hope to see established a peace which will afford to all nations the means of dwelling in safety within their own boundaries and which will afford assurance that all the men in all the lands may live out their lives in freedom from fear and want.

Seventh : Such a peace should enable all men to traverse the high seas and oceans without hindrance.

Eighth : They believe all the nations of the world, for realistic as well as spiritual reasons, must come to the abandonment of the use of force. Since no future peace can be maintained if land, sea or air armaments continue to be employed by nations which threaten, or may threaten, aggression outside of their frontiers, they believe, pending the establishment of a wider and permanent system of general security, that the disarmament of such nations is essential. They will likewise aid and encourage all

other practicable measures which will lighten for peace-loving peoples the crushing burden of armaments.

(e) U Mytho Historo ex Alexander Woollcott[1]

U para Historo dicte de Cosette syn Anthropi de Saint Cyr ; homo Mu pre dicte Re ; plus homo Mu pre duro dicte de Re in phi fumo *Popotes* de. francais Arma poly Anni. Tem Pe pre acouste u minor no-callo Mixo de plu xeno Glossa in plu via Phago-do; plu Verba de *aperatif* Hora necesso gene tropo a Cosette, allo proto allo fino. Harmono pan Historo, Mlle. Cosette de *Varietes* eque u Gyna; Pe esthe maxima volo in holo France. Plu Urba-pe de Fe date publico syn Hedo ; Fe non eque u claustro Amico-fe de geno Regi. Mlle. Cosette eque u communo Du Barry, u *chere amie* de Democrati.

U Proto de Fe habe homo Nebuli Mero Demo dicte : Fe pre gene nato e plu Pisci-pe de Plonbazlanec littora Mari de Brittany. Plu hetero Pe dicte electio un hetero Historo. Harmono Re, Fe eque un Infanti de famo Dramo-fe no ge gameo de forto famo Regi. Assuro, Fe nun eque u natio Mytho. U francais Demo, holo Tem syn Esthe nocuo, pre poto gene reparo de Vulno de Auto-revero causo un eu Famo de Fe. Pe pre acte secto plu Picto de Fe e *L'Illustration* tendo Adhesio per Acu epi arma-do Mura. Frequo, Re pre date prospecto Fe, *chic* ge Sedi epi Trapeza de geno Phago-do. Pan francais Pedio-an vise Fe tem Soporo. Singulo francais Pedio-fe esthe holo logo auto Amico-pe; Su pheno dicte; *causo Mi non espero gene Cosette; peti Tu kine a Mi proximo Potami; chron un Heli kine ad-hypo.* Fe esthe sapio u Significo holo.   Fe no dicte aetio An.

Pan Pe pre vise plu Picto .de micro Domi de Cosette topo Saint Cloud, plu pendo Viti, un alto horti Mura, un Avi-do syn poly micro vibro Phono. Anti plu apo Mura, alto supero Espero, Mu esthe arrogo causo plu duro Micro-re de Mytho. Mu dicte ; zero Anthropi no-cleisto An; Su acte phoro penta kilo franc ; pre poto gene eco mono Nocti in Domi, Holo Re pre habe accido tem deca fino Anni de centi Anni pre nu ; chron u franc pre eque mono franc. Causo u gluco Zygo de Accido, major frequo pre nu, un Anthropi pre eque un Anthropi.

U rura Mixo de Tracte syn No-dissipo de Cosette date pleno plu Cadets de Saint Cyr per non-activo Non-hedo. Mu dicte de Fe holo

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[1] From *While Rome Burns* (Penguin Series).

hemi-photo Hora de Libero apo Scholo. Causo un Arma-pe gene un homo micro Pecunio ; zero Pe; Su post necesso acte controlo mega *Revanche;* posso acte phoro a Milito u Mnemo de Gyna, major callo de singulo residuo Fe in holo France. Pan Pe esthe credo ; Re habe mal-accido. Assuro Re habe zero Gluco. Fino, mono Pe dicte per turbo Voco syn plu pyro Oculi. *Kilo Discipuli*

habe eco in Saint Cyr. Postulo satio Tem, singulo Pe habe satio Cerebra de gene penta Franc.

Causo plu para Verba, u communo *Cosette Divino-valuta* proto gene accido syn Phobo de plu necesso Methodo, syn plu homo Acte de Sparta, syn plu homo damon-syn-pythias Credito, plus plu homo phanero Gramma de; pseudo Petitio a plu parenta Parenta plus a plu fe parenti Sibi. Zero chron Saint Cyr pre habe un homo Accido. U debito Hora, singulo Anthropi habe penta franc, allo de Auto allo de hetero Pe.

Tem u billeta Electio habe duro ; u no-logo Scholo-pe kine ad-in. An dicte a palaeo General de an detecte. U General acouste. An reacte Re forto. An tene paco Re mega Tem. Fino, An dicte :

Pan Pe de Bio-tem post volo eque u Pedio-pe; Su gene victo de communo Divino-valuta. Plus Re, u para Pedio-pe; Su date nato un homo Proposo; post eque u Marechal de France.

Post Re, An proto acte riso causo u Picto de Pedio-pe syn plu astra Oculi kine a prosceni Porta de *Varietes* syn zero Re no-cleisto u Pedio plus Valuta. U Pecunio de Paris Itinero non habe in Detecte numero de An. An habe zero Argenta de equi Vagoni, de Flora-fa, de posso phago Unio. Fino, u Commandant dicte; An volo date pleno u Vacuo ex auto parenta Marsupia.

An non habe satio Valuta de plu residuo Re. Balle a Mi a Pedio-pe ; Su gene victo ; pre Itinero a Paris.

Post meso-di, u Cadet de *Vendee* acte visito u Commandant. An pheno habe forto systemo syn erythro Poda-ve plus cyano testa. An habe plu leuco Chiri-ve minus Stigmo ; plus u Lophi de Mitra date mega assuro Auto. Holo tem, u Cardia pheno acte vibro in Ora. U Commandant dicte zero Verba. Vice Re, An date ad An micro Bursa syn plu aura Louis per mono chiri. An dicte eu volo per Osculo epi bi Bucca. Post Re, An duro habe ortho proximo Fenestra syn bi liquo Oculi syn riso Facia. An duro vise u Lophi perde prospecto epi Dendra-via.

Post-eo, plu heli Radio, ge secto per *jalousies,* facte u Carta de Photo epi Tapea de Cosette. Fe gene hemi ortho syn Cogito de Duro de neo Di. Micro Cadet de Fe habe horizo syn gluco Stato de Infanti, minus soporo Picto. Causo un homo no-frequo Pedio ; Fe esthe amico.- Necesso, Fe proto esthe cogito de auto Pedio, de plu lyso Methodo; Fe pre kine a-supero u classi Scala per. Nu, Fe esthe cogito de plu pedio Di de Infanti. Fe esthe mnemo ; An nu acte itinero meso Mu. Celero, Fe proto esthe miro. Causo Fe eque geno Gyna; Su aete; Fe mote An per Chiri.   Fe dicte :

Mi Palaeo-pe; acouste. Quo Methodo u Saint Cyr Cadet poto gene penta kilo Franc pro Auto.

Ge questio minus pre Sympto, An perde sopho. Plu Verba de communo Divino-valuta gene rheo. Posso, An esthe cogito ; Re no nu poto acte nocuo. Tem Re, Fe duro acouste syn Libido, Fe dicte laudo An per plu micro In-pneumo. Fe date phanero auto Miro per heli Vibro de Riso. Causo Re, An gene thermo de Historo. Chron An proto dicte de palaeo Commandant; Fe gene ortho. Fe acte grado per longo Kine proximo plus apo. U Reti-te de Vesto acte vibro retro Fe.   Plu Lacrima date pleno plu iodeo Oculi.   Fe dicte :

Saint Cyr pre date a Mi u maxima gluco Verba de Laudo de holo Bio de Mi. Nu-di, Mi eque u Gyna, major arrogo de residuo Pe in France. Verito, Mi debito acte congruo. Tu post kine verso. Tu dicte a pan Pe; Cosette eque u Gyna; Su reacte. Tem Tu eque u palaeo Anthropi in Vendee; Tu dicte plu para Verba a tu fili-Fili. Mono chron, tem Pedio, Tu pre gene u Date, maxima premio in France. Plus Re, Tu no pre necesso acte pecunio.   Zero sou.

Post Re, Fe acte foramino u Theca ; topo An vise Fe date crypto plu Billeta per Cleidi pre-nocti. Fe dicte syn callo Kine :

Mi date a Tu holo Valuta de Tu. Fe date ad An penta Franc verso.

CHAPTER XII ALPHABETICAL LIST OF VOCABLES (INCLUDING SYNONYMS) ; MNEMOTECHNIC NOTES
I. ALPHABETIC LIST

A

(483)	abdomini	(554)	anseri	(635)	baia
(551)	acantha	(77)	antero	(705)	balconi
(141)	accido	(785)	anthraci	(464)	balle
(784)	acidi	(103)	anti	(813)	banca
(483)	acoustev	(810)	anthropi	(157)	baro
(142)	acro	(556)	api	(158)	baso
(464)	acte	(78)	apo	(159)	batho
(143)	activo	(734)	ara	(28)	bi
(733)	acu	(275)	arbitro	(814)	bibli
(144)	acuto	(153)	archo	(160)	bibo
(76)	a(d)	(736)	argenta	(815)	billeta
(180)	adapto	(811)	arma	(161)	bio
(145)	adhesio	(329)	aromo	(738)	blada
(146)	aero	(154)	arrogo	(162)	blasto
(147)	aetio	(484)	arthri	(739)	bomba
(809)	agenda	(812)	arti	(79)	boreo
(456)	aggresso	(735)	artilleri	(558)	bovi
(631)	agri	(669)	asci	(485)	brachi
(148)	algo	(556)	asini	(163)	bronto
(149	alieno	(772)	aspi	(558)	brya
(102)	allo	(155)	assuro	(486)	bucca
(633)	alluvia	(633)	astra	(560)	bulba
(150)	alto	(634)	asyla	(816)	bureau
(151)	amico	(704)	atria	(671)	bursa
(703)	amorphi	(157)	attendo	(672)	butyri
(669)	ampulla	(334)	attitudo		
(552)	amygda	(463)	audie		**C**
(670)	amyla	(787)	aura	(673)	caca
(4)	an	(153)	authorito	(674)	cafa
(553)	ana	(9)	auto	(487)	calca
(152)	anemo	(557)	avi	(196)	callo
(175)	angio	(736)	axi	(675)	calyci
			B	(861)	cambio
(61)	anni	(737)	baci	(561)	cameli

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(47)	**CAmeri**	(170)	**certifo**	(823)	**commisari**
(676)	**campani**	(154)	**certo**	(824)	**commita**
(562)	**canabi**	(568)	**cervi**	(181)	**communo**
(636)	**canali**	(492)	**cervica**	(825)	**compani**
(563)	**canceri**	(862)	**charito**	(106)	**comparo**
(564)	**cant**	(494)	**chiri**	(182)	**competo**
(488)	**cantha**	(171)	**chloro**	(839)	**computo**
(164)	**canto**	(678)	**choani**	(864)	**concessio**
(460)	**capacito**	(172)	**cholo**	(530)	**concha**
(546)	**capilla**	(495)	**chondra**	(107)	**conditio**
(817)	**capitali**	(173)	**choro**	(680)	**confecti**
(818))	**capituta**	(820)	**christi**	(183)	**confessio**
(819)	**capsa**	(174)	**chrome**	(871)	**confusio**
(165)	**captivo**	(62)	**chron**	(108)	**congruo**
(788)	**carba**	(569)	**chyma**	(709)	**coni**
(489)	**cardia**	(863)	**cido**	(573)	**coniferi**
(740)	**cardo**	(789)	**cigara**	(184)	**consolo**
(565)	**cari**	(790)	**cigaretta**	(639)	**continenti**
(682)	**carni**	(570)	**citra**	(80)	**contra**
(566)	**carpa**	(821)	**classi**	(185)	**controlo**
(490)	**carpi**	(175)	**claustro**	(745)	**copa**
(637)	**carta**	(742)	**clavi**	(505)	**copra**
(874)	**cartoni**	(743)	**cleidi**	(746)	**copula**
(677)	**casea**	(105)	**cleisto**	(514)	**cornua**
(166)	**catalyse**	(176)	**clepto**	(681)	**corona**
(741)	**catena**	(638)	**clima**	(541)	**corpora**
(548)	**cauda**	(679)	**clinica**	(875)	**corpuscula**
(567)	**caula**	(177)	**clino**	(747)	**coryna**
(104)	**causo**	(571)	**cochlea**	(640)	**cosmi**
(167)	**cavito**	(572)	**cocoa**	(496)	**costa**
(168)	**celebro**	(167)	**coelo**	(534)	**coxa**
(169)	**celero**	(178)	**cogito**	(497)	**crania**
(37)	**centi**	(179)	**coito**	(826)	**crati**
(706)	**centra**	(744)	**colea**	(682)	**crea**
{491)	**cephali**	(791)	**colia**	(186)	**credito**
(707)	**cera**	(822)	**coloni**	(187)	**credo**
(492)	**cerebra**	(708)	**columni**	(792)	**creta**
(168)	**ceremonio**	(180)	**comico**	(188)	**critico**

277

(710) **cruci**	(642) **detriti**	(214 **ergo**
(189) **cryo**	(81) **dextro**	(518) **eri**
(190) **crypto**	(63) **di**	(215) **erro**
(793) **crystali**	(468) **dicte**	(216) **erythro**
(748) **cteni**	(353) **dieto**	(130) **espero**
(711) **cuba**	(865) **diffusio**	(217) **espio**
(574) **cucurbi**	(110) **digito**	(470) **esthe**
(191) **culino**	(297) **diiuto**	(158) **evido**
(192) **culto**	(185) **dirigo**	(218) **en**
(794) **cupra**	(750) **disca**	(83) **e(x)**
(193) **euro**	(828) **discipuli**	(219) **examine**
(206) **curso**	(201) **disputo**	(220) **excesso**
(194) **curvo**	(202) **dissipo**	(221) **expecto**
(195) **cyane**	(203) **divino**	(219) **experimento**
(712) **cycli**	(204) **diviso**	(222) **experto**
(575) **cygni**	(48) **domi**	(163) **explosio**
(713) **cylindri**	(97) **dor si**	(84) **extra**
(498) **cysti**	(205) **dramo**	**F**
(499) **cyti**	(206) **dromo**	(579) **faba**
	(207) **duco**	(223) **fabrico**
D	-64 **duro**	(504) **facia**
(500) **dactyli**	-208 **dyno**	(224) **facile**
(827) **data**		(470) **facte**
(465) **date**	**E**	(752) **falci**
(109) **de**	(551) **echini**	(829) **famili**
(129) **debito**	(209) **eco**	(225) **femo**
(36) **deca**	((84)) **ecto**	(315) **fantaso**
(196) **decoro**	(751) **elasti**	(643) **farina**
(197) **defecto**	(210) **electio**	(49) **fascio**
(198) **demo**	(211) **electro**	(226) **fatigo**
(199) **demonstro**	(212) **elemento**	(5) **fe**
(576) **dendra**	(577) **elepha**	(505 **feci**
(501) **denti**	(503) **entera**	(580 **feli**
(749) **dentili**	(65) **eo**	(714 **fenestra**
(501) **dermi**	(82) **epi**	(227 **fero**
(641) **deserta**	(213) **equatio**	(795 **ferra**
(200) **desicco**	(468) **eque**	(228 **fertilo**
(467) **detecte**	(578 **equi**	(50) **fi**

278

(622) fici
(830) fili
(581) filici
(229) fino
(230) fisco
(231) fissuro
(232) fixe
(233) flagello
(234) flavoro
(866) flexio
(582) flora
(644) fonta
(867) foramino
(715) forma
(583) formici
(831) formula
(235) forto
(236) fortuno
(716) fossa
(237) fracto
(238) frequo
(239) frictio
(240) frigo
(241) frustro
(242) fugo
(243) fume
(111) functio
(753) furca

G

(584) galli
(244) gameo
(796) gasi
(506) gastri
(832) gaveta
(471) ge
162) gemmo
(472) gene
(245) geneto

(18) geno
(683) geli
(645) geo
(876) glacia
(754) gladi
(507) glandi
(246) glauco
(508) glena
(509) glossa
(247) gluco
(585) gluma
(510) glutea
(664) glypha
(511) gnatha
(248) gono
(586) gossypi
(249) grado
(717) grami
(587) gramini
(833) gramma
(250) grapho
(251) gratio
(252) gravito
(253) grave
(254) grego
(834) gyna
(255) gyro

H

(473) habe
(512) haema
(256) hagio
(797) halt
(212) haplo
(588) harengi
(112) harmono
(131) hedo
(207) hegemo

(646 heli
(755) helica
(258) helico
(626) helminthi
(258) helo
(40) hemi
(513) hepa
(33) hepta
(66) hespero
(259) hetero
(32) hexa
(260) historo
(21) holo
(589) homari
(590) homini
(113) homo
(67) hora
(591) hordea
(261) horizo
(647 horti
(262 humano
(263 hydro
(85 hypo

I

(178) ideo
(868) idio
(264) immuno
(265) impacto
(836) imperia
(266) impero
(86) in
(756) inci
(110) indico
(837) industri
(835) infanti
(267) inflatio
(85) infra
(268) inhibito

279

(51) **instRUmenti**
(269) **insuro**
(87) **inter**
(270) **investo**
(271) **iodeo**
(172) **iro**
(44) **iso**
(272) **itero**
(273) **itinero**

J
(832) **journali**
(274) **judico**
(275) **juro**

K
(514) **kerati**
(38) **kilo**
(474) **kine**

L
(515) **labi**
(516 **lacrima**
(517) **lacti**
(88) **laevo**
(757) **lamina**
(718) **lampa**
(518) **lana**
(758) **lancea**
(276) **lapso**
(89) **latero**
(592) **latici**
(396) **latrio**
(277) **laudo**
(278) **lavo**
(279) **lecto**
(280) **lego**
(593) **legumi**

(594) **lepi**
(519) **lepidi**
(281) **leuco**
(332) **liabilo**
(282) **liberalo**
(283) **libero**
(284) **libido**
(285) **ligato**
(286) **limito**
(648) **limni**
(595) **lina**
(287) **lineo**
(520) **lipi**
(288) **liquo**
(52) **Lithi**
(719) **litri**
(95) **littora**
(53) **loco**
(289) **logo**
(290 **longo**
(521) **lophi**
(166) **lubrico**
(873) **luciferi**
(291) **luco**
(649) **luna**
(596) **lupi**
(292) **luteo**
(759) **lyra**
(293) **lyso**

M
(760) **machina**
(294) **magico**
(295) **magneto**
(45) **major**
(761) **mallea**
(296) **malo**
(297) **mano**

(798) **margara**
(650) **mari**
(684) **marsupia**
(869) **massage**
(298) **masse**
(54) **MAteria**
(299) **mature**
(55) **MEchani**
(22) **mega**
(300) **melano**
(308) **memo**
(68) **mensi**
(301) **merco**
(91) **meridio**
(19) **mero**
(92) **meso**
(799) **metali**
(638 **meteori**
(302) **methodo**
(720) **metri**
(114) **metro**
(1) **mi**
(23) **micro**
(303) **milito**
(39) **million**
(762) **mimi**
(651) **mina**
(69) **mini**
(304) **ministro**
(46) **minor**
(115) **minus**
(305) **miro**
(306) **miso**
(763) **missili**
(685) **mitra**
(307) **mixo**
(308 **mnemo**
(56) **MObili**

(309)	**monito**	(321)	**neo**	(331)	onero
(27)	**mono**	(656)	**nepheli**	(332)	oppresso
(652)	**monti**	(524)	**nephri**	(528)	ora
(310)	**mordo**	(655)	**nesia**	(596)	orangi
(132)	**moro**	(524)	**neura**	(333)	ordino
(311)	**morpho**	(623)	**nicoti**	(877)	organa
(312)	**morto**	(70)	**nocti**	(334)	orientatio
(475)	**mote**	(322)	**nocuo**	(94)	oriento
(8)	**mu**	(323)	**nomino**	(335)	orno
(653)	**muci**	(324)	**nomo**	(336)	ortho
(721)	**mura**	(43)	**no(n)**	(453)	oscillo
(597)	**muri**	(35)	**nonnea**	(337)	osculo
(838)	**musea**	(325)	**normo**	(529)	ostea
(313)	**musico**	(839)	**nota**	(530)	ostraca
(314)	**muto**	(326)	**nullo**	(531)	oti
(539)	**mya**	(327)	**numero**	(532)	ova
(39)	**myria**	(71)	**nu(n)**	(722)	ovali
(315)	**mytho**			(599)	ovi
	N		**O**	(338)	oxidatio
(3)	**na**			(144)	oxyo
(316)	**narco**	(328)	**occasio**		
(522)	**nari**	(93)	**occidento**		P
(523)	**nasa**	(765)	**occlu**	(339)	pachyo
(317)	**natio**	(657)	**oceani**	(340)	paco
(318)	**nato**	(34)	**octa**	(341)	paleo
(764)	**navi**	(526)	**oculi**	(699)	pallia
(655)	**nebuli**	(329)	**odoro**	(15)	pan
(319)	**necro**	(527)	**oesophagi**	(687)	pani
(133)	**necesso**	(330)	**offero**	(600)	panica
(870)	**necto**	(686)	**olea**	(342)	papillo
(320)	**negotio**	(14)	**oligo**	(800)	papyri

(95)	para	(355)	philo	(16)	poly
(343)	parallelo	(878)	phlogista	(607)	pomi
(344)	paralyso	(356)	phobo	(722)	ponti
(345)	parasito	(602)	phoeni	(723)	porta
(346)	pardo	(357)	phono	(136)	posso
(840)	parenta	(358)	phoro	(72)	post
(254)	partio	(359)	photo	(844)	posta
(347)	patho	(658)	phrea	(119)	postulo
(748)	pectini	(360)	phreno	(659)	potami
(348)	pecunio	(603)	phylla	(608)	potati
(533)	pedi	(361)	physio	(137)	poto
(349)	pedio	(604)	phyta	(370)	praxo
(766)	peleci	(362)	picto	(73)	pre
(534)	pelvi	(535)	pinna	(371)	premio
(116)	pendo	(605)	pisa	(138)	preparo
(350)	penito	(606)	pisci	(724)	prisma
(767)	penna	(768)	pista	(372)	privilegio
(351)	peno	(688)	placa	(102)	pro
(31)	penta	(363)	piano	(373)	producto
(117)	per	(802)	plasti	(374)	profito
(476)	perde	(364)	plato	(342)	projectio
(383)	perforato	(365)	pleno	(845)	proletari
(96)	peri	(366)	plico	(375)	promisso
(134)	permito	(13)	plu	(846)	propaganda
(871)	perplexo	(803)	plumba	(376)	proposo
(332)	persecuto	(118)	plus	(847)	propria
(601)	persica	(367)	pluto	(848)	prosa
(7)	pe(rsona)	(368)	pluvio	(725)	prosceni
(41)	peti(tio)	(369)	pneumo	(377)	prospecto
(801)	petrolea	(536)	poda	(378)	protesto
(352)	phaeo	(841)	poeti	(139)	proto
(353)	phago	(246)	polio	(121)	proximi
(354)	phanero	(842)	politica	(609)	pruni
(135)	pheno	(843)	polizi	(661)	psamma

(379)	**pseudo**	(390)	**recto**	(771)	**sagitta**
(537)	**pteri**	(391)	**reflecto**	(614)	**salmi**
(380)	**publico**	(849)	**regi**	(403)	**salto**
(381)	**pudo**	(392)	**religio**	(404)	**saluto**
(538)	**pulmoni**	(524)	**rena**	(405)	**sano**
(689)	**pulvini**	(850)	**rentieri**	(406)	**sapio**
(382)	**puro**	(393)	**reparo**	(804)	**saponi**
(510)	**pygea**	(209)	**resido**	(407)	**sapro**
(383)	**pylo**	(394)	**residuo**	(539)	**sarca**
(726)	**pyrami**	(395)	**resisto**	(615)	**sardin**i
(610)	**pyri**	(369)	**respiro**	(25)	**satio**
(384)	**pyro**	(396)	**revero**	(729)	**scala**
		(769)	**reti**	(540)	**scapa**
	Q	(97)	**retro**	(408)	**schizo**
(727)	**quadra**	(612)	**rhabd**i	(409)	**scholo**
(385)	**qualito**	(397)	**rheo**	(852)	**scientia**
(42)	**QUEstio**	(613)	**rhiza**	(410)	**sclero**
(326)	**quito**	(398)	**rhodo**	(411)	**scopo**
(24)	**quo**	(399)	**rigo**	(772)	scuta
		(400)	**riso**	(616)	**secala**
	R	(168)	**rituo**	(74)	**seci**
(386)	**radio**	(770)	**rota**	(853)	**secretari**
(611)	**rami**	(51)	**ru**	(412)	**secto**
(387)	**rapo**	(401)	**rugo**	(691)	**sedi**
(388)	**raso**	(660)	**rura**	(617)	**selachi**
(389)	**ratio**			(413)	**semao**
(6)	**re**		**S**	(414)	**sensitive**
(476)	**reacte**	(690)	**sacari**	(805)	**sepia**
(413)	**recepto**	(671)	**sacci**	(440)	**sepso**
(728)	**recessi**	(841)	**sacramenta**	(721)	**septa**
(10)	**recipro**	(256)	**sacro**	(122)	**sequo**

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(415)	serio	(232)	stabilo	(156)	tardo
(258)	servo	(426)	stalagmo	(543)	tarsi
(773)	seta	(806)	stanna	(779)	taxi
(416)	severo	(777)	stapi	(696)	tea
(854)	sibi	(427)	stato	(222)	techno
(774)	signa	(520)	stea	(731)	ecti
(417)	significo	(428)	stereo	(855)	telefon
(661)	sill	(429)	stigmo	(856)	telegram
(618)	simi	(478)	stimule	(75)	tem
(17)	singulo	(528)	stoma	(126)	tendo
(418)	siphono	(693)	strata	(479)	tene
(715)	skeleta	(430)	strategico	(434)	tensio
(419)	societo	(11)	su	(140)	tentato
(420)	solemno	(620)	suberi	(663)	terra
(428)	solido	(541)	sudori	(697)	testa
(20)	solo	(621)	sui	(435)	testimonio
(421)	solutio	(807)	sulphi	(30)	tetra
(541)	soma	(431)	summatio	(57)	TExti
(423)	somno	(694)	supa	(305)	thaumo
(422)	sopho	(98)	supero	(698)	theca
(423)	soporo	(622)	syca	(543)	thela
(775)	spatula	(432)	sympto	(857)	thema
(424)	specio	(123)	syn	(436)	theo
(662)	spectra	(778)	syringi	(437)	thermo
(619)	sperma	(433)	systemo	(544)	thoraci
(776)	sphena			(699)	toga
(730)	sphera		**T**	(441)	traumo
(879)	sphinctra	(623)	tabaca	(749)	trepana
(692)	spiriti	(124)	tacto	(29)	tri
(257)	spiro	(389)	talo	(546)	tricha
(425)	sporto	(695)	tapea	(625)	tritica

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(442)	**tropo**	(314)	**vario**		**X**
(2**)**	**tu**	(58)	**VAsa**	(292)	**xantho**
(732)	**tubi**	(782)	**vecti**	(149)	**xeno**
(701)	**tunica**	(783)	**vela**		
(664)	**tunneli**	(169)	**veloco**		**Z**
(443)	**turbo**	(451)	**vendo**	(26)	**zero**
(780)	**tympan**a	(860)	**verba**	(60)	**ZOna**
(444)	**typo**	(452)	**verito**	(630)	**zoa**
		(626)	**vermi**	(462)	**zygo**
		(126)	**verso**		
	U	(627)	**vespi**		
(99)	**ultra**	(59)	**VEsto**		
(445)	**umbro**	(668)	**via**		
(12)	**un**	(453)	**vibro**		
(547)	**ungua**	(127)	**vice**		
(446)	**uniformo**	(454)	**victo**		
(447)	**unio**	(544)	**villi**		
(880)	**unita**	(702)	**vini**		
(858)	**universita**	(455)	**violo**		
(872)	**universo**	(456)	**viro**		
(548)	**ura**	(481)	**vise**		
(665)	**urani**	(457)	**visito**		
(666)	**urba**	(628)	**viti**		
(549)	**urini**	(808)	**vitri**		
(550)	**uteri**	(458)	**vivo**		
(873)	**utilo**	(459)	**voco**		
(448)	**vacuo**	(128)	**volo**		
(781)	**vagoni**	(460)	**volumo**		
(667)	**valli**	(461)	**vulno**		
(449)	**valo**	(629)	**vulpi**		
(859)	**valuta**				
(450)	**vaporo**				

International Words
mentioned in the
Text (74)

acarina

alfalfa

alga

alkali

anguilla

anura

anus

araneida

area

arteria

avena

brassica

camera

capra

branchia

brassica

camera

capra

carina	leo	pterygia
cetacea chela	lepidoptera	pyrexia
chelonia	libra	reptilia
coleoptera	mamma	sago
corolla	manifesto	saliva
coryza	maxima	scorpionida
crocodilia	mica	sex
diptera	minima	silica
dyspepsia	nausea	siphanaptera
embryo	ophidia	soya
erica	oryza	trachea
fungi	ostrea	ursa
gemini		vena
inertia	pediculina	vertebra
insecta	pelecypoda	violin
lacertilia	piano	virgo
lactuca	picea	viscera
larva	porlfera	zea
lens	protesta	

II. MNEMOTECHNIC NOTES

The reader can amplify the ensuing notes abundantly by reference to the three-shilling *Everyman's English Dictionary* (Dent), Webster, *then Concise Oxford*, or any technical glossary such as *Beadnall's* inexpensive *Dictionary of Scientific Terms* in the Thinker's Library (Watts). International terms riot liable to local variation of spelling appear in **black type.**For (i), (2), (3), see note on pp. 81-82.

(4) **an** *polyandry;* **androecium** (stamens—male part ofa flower).
(5) **fe** *feminine; feminism; female.*
(6) **re** Latin *res* in *republic* (public *affairs*) and in *reality***,**also in title of the great sixteenth-century treatise on mining technology, the **De Re Metallica** of Agricola (see 109). *Things* as opposed to *appearances* are *real.*
(7) **PErsona** *personality; personify; impersonal.*
(8) **mu** *multitude; multifarious; multiply.*
(9) **auto** *automobile; automatic; autosuggestion.*
(10) **recipro** *reciprocity; reciprocal.*

(11) **su**   *subject.*

(12) **u** or **un**   *unity; unify;* **unilocular** *(one-chambered*—seebelow).
'

(13) **plu**   *plural;* **plurilocular** (of seed-chamber with*several* compartments—-53).

(14) **oligo**   *oligarchy;* **oligochaeta** (earthworms, distinguished from sea-worms or *Polychaeta* by having; *few* locomotory bristles).

(15) **pan**   *pan-American; pantheism* (436) ; *pmtisocrat* (44)(826).

(16) **poly**   *polygamy (m-any* marriages—244)/ *polygyny* (834) ;**polychaeta** *(sea-worms—see note to CI4))**

(17) **singulo**   *singular.*

(18) **geno**   *generic;* **genus.**

(19) **mero** *meristic* (of variation with   respect to number of*parts);* **metamerism** (of body, if divided into a succession of like *parts*) ; **isomer** (with equal *parts*—44), **polymer** (16) are common terms in elementary chemistry. In 'elementary biology we have **pentamerous** (31), **tetram-erous** (30), etc. (of flowers with *parts* in fives, fours, etc.).

(20) **solo**   *solo; solitary.*

(21) **holo**   *holocaust (wholesale* sacrifice); **holozoic** (completely animal—630) ; **holophytic** (completely plant-like—603).

(22) **mega**   *megaphone* (358); *megalith* (bronze-age stone monu-ment—52).

(23) **micro**   *microscope* (412); *micrometer*   (114)   ; *microbe;microphone* **(358).**

(24) **quo**   See (42).

(25) **satio**   *satiate; satisfy.*

(26) **zero**   **zero.**

(27) **mono**   *monogamy* (244); *monologue;* **monocotyledon**(flowering plant with a *single* seed leaf).

(28) **bi**   *bigamy* (244); **bicycle** (712).

(29) **tri**   *tricycle* (712); *triangle; trisect* (413) ; *trinity.*

(30) **tetra**   *tetrahedron;* **tetramerous** (19); Herod the*tetrarch* (153)*

(31) **penta**   *pentagon*   (248);   *Pentateuch;*   **pentamerous** (19);*pentameter* (114).

(32) **hexa**   *hexagon* (47) ; *hexamerous* (19) ; *hexameter* (114).

(33) **hepta** ,   *heptarchy* (153); **heptamerous** (19).

(34) **octa**   *octameter* **(114)**; **octagon** (248).

(35) **nonnea**   *nonagenarian.*

(36) **deca**   *decalogue;* **decimetre (114).**

(37) **centi**   *centurion;* **centimetre (114)***

(38) **kilo**   **kilogram** (717) **; kilometre (114).**

(39) **myria**   *myriads;* **myriopoda** (centipedes and millipedes' which have a very large number of legs—535).

(40) **hemi**   *hemisphere* (730); **hemiplegia** (paralysis of one side, i.e. *half* of the body).

(41) **peti(tio)**   *petition***..**

(42) **que(stio)** *question; query.*

(43) **no(n)**   *non-intervention; non-aggression (455).*

(44) **iso**   *isosceles; isomerism* (with *same* parts—19); *isomorphic* (of crystals with *same* geometrical form (311) ; *pantisocrat* (15) (826).

(45) **major**   *major; majority;* **Ursa Major** (constellation of Bigger Bear).

(46) **minor**   *minor; minority;* **Ursa Minor** (constellation of Lesser Bear).

(47) **CAmeri**   *in camera; chamber.*

(48) **DOmi**   *domicile; domesticity (house*craft).

(49) **FAscio**   *Fascist*—so-called after the Roman *fasces*, a *bundle* of rods carried by the Lictors, an appropriate symbol of the essential brutality of Fascism.

(50) **fi**   *filament; filamentous; filar; filigree*

(51) **instRUmenti** *instrument*

(52) **LIthi**   *neolithic* (321); *palaeolithic* 341) ; *lithography* (250); *monolith* (single *stone* monument of bronze age—27).

(53) **LOco**   *locality; locomotive* (475) ; *locus* (of a point) ;allocate.

(54) **MAteria** *material; materialism.*

(55) **MEchani** *mechanic; mechanical; mechanism.*

(56) **MObili**   Furniture — *movables,* i.e. *mobile*   possessions— French *meubles.*

(57) **TExti**   *textile; texture.*

(58) **VAsa**   *vase; vessel* (from Latin diminutive) ; **vasa deferentia** *(vessels* which convey semen from the testicles to the urethra) ;*vasectomy* **is** sterilization by section of t h e *vasa   deferentia* ;**vasomotor** (moving the walls of the blood *vessels*—475).

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(59) **VEsto**   *vesture; divest; vest.*

(60) **ZOna**   *zone.*

(61) **anni**   *anniversary*; *annual.*

(62) **chron**   *chronicle; chronology* (289); *chronometer* **(114);***synchronize* (123).   ;   >

(63) **di**   *diurnal; sundial* (for keeping track of *day* light).

(64) **duro**   *duration; endure; durative; durable.*

(65) **eo**   **Eoanthropus** (Piltdown Man—810) **; eohippua** (three-toed horse) ; **eocene** (geological period of *daivn* of modern mammals and birds) ; **eolith** (early stone imple-ment—*dawn* of craftsmanship—52).

(66) **hespera**   *Hesper* (Venus as evening star); *Hesperides* (Greek mythology—daughters of the evening star).

(67) **hora**   *horoscope* (*birth-hour* prospect—411) ; *horology* (clock technology).

(68)**mensi**   **menses** (*monthly* sexual cycle of human female) ; *men-opause* (cessation of monthly cycle).

(69) **mini**   *minute.*

(70)**nocti**   *nocturnal;* **equinoctial** (the Equinoxes are the times when night and day are of equal length— 468).

(71) **nu(n)**   pan-Aryan root in *now*—**"Nunc Dimittis** (= *now* lettest thou thy servant depart—Lu. 2,29).

(72)**post**   *postpone; postdate; posthumous.*

(73) **pre**   *previous; presuppose; preconception; prehistory.*

(74) **seci**   *second.*

(75) **tem**   *temporal; temporary*; *contemporaneous.*

(76) **a(d)**   **afferent** (of nerves or vessels taking impulses or fluid *towards* a centre) ; *adduct.*

(77) **antero**   *anterior.*

(78) **apo**   **apocarpous** flowers are flowers with ovaries *apart,* hence with styles *away from* one another, like those of delphinium or buttercup ; *apostasy* is putting oneself *apart* from, going *away from* one's faith or tradition ; *apostle* (one sent *away* on a mission).

(79) **boreo**   **aurora borealis** (*Northern* Lights).

(80) **contra**   *contraposition.*

(81) **dextro**   *ambidextrous;* **dextro-rotatory** (of solutionswhich ro-tate the plane ofpolarization of a beam of light to the

right) ; **dextrose** (a dextro- rotary sugar, synonymous with **glucose).**

(82) **epi**   *epicycle* (circle with centre *on* boundary of another); **epiphyte** (plant which grows *on* another, e.g.i   ivy); **epigvnous** (of flowers like daffodil, with petals and stamens lying *on top* of the female parts—834) ; **epidermis** *(surface* layer of shin —-501) ; *epitaph* (words *on* gravestone). ,

(83) **e** *or* **ex**   *extract; exodus;* **efferent** (of nerves or vessels taking impulses or fluids *from* a centre) ; *exit* (way *from).*

(84) **extra** *or*   *extraneous; extradition; extraordinary.*
    ecto   *ectogenesis* (development of embryo *outside* body of mother—*Brave New World).*

(85) **hypo** *or*   *hypodermic (under* the skin—501) ; **hypogynous** (of flowers like buttercup or primrose with stamens and petals *below* womanly parts—834). infra   *infra-red; infra dig. (beneath* one's dignity).*

(86) **in**   *insert; inject.*

(87) **inter**   *international (between* nations—31*J) ; interpose* (come *between); insterstice* (gap *between).*

(88) **laevo**   **laevo-rotatory; laevose** (a laevo-rotatory sugar abundant in honey, suitable for diabetics : best source, Jerusalem artichoke).

(89) **latero**   *lateral; bilateral.*

(90) **littora**   *littoral (shore-dwelling).*

(91) **meridio**   The celestial **meridian** is the imaginary great circle passing through the zenith and the *south* point of the horizon. Sailors speak of the *southing* of a star when it crosses the meridian. The .terrestrial meridian of an observer is a line joining his position to the *south* point on the horizon.

(92) **meso**   **Mesopotamia** (between the rivers—659) ; **meso-zoic** *(middle* of three main geological divisions of time—the secondary era of animal life—630); **mesocephalic** (head of *middling* size and breadth—400); **mesophyll** *(middle* part of leaf —601); **mesogloea** (*middle* layer of jelly between outer and inner body wall of jelly-fish- .• or polyp).

(93) **Occidento** *Occident; occidental.*

(94) **oriento** *orient; oriental.*

(95) **para** What is *here* is what is near *; parasite* (a creature which lives with its food *here); parallel* lines are always equally *near* to one another. v

(96) **peri** *perimeter* (114) ; *periphery; periscope (411);* perigynous (of flowers—see 82 and 85).

(97) **retro** *or* *retroactive; retrospect; retrogression.*
    dorsi *dorsal.*

(98) **supero** *supranational; superior; insuperable* (what you can't get *on top of).*

(99) **tele** or *telephone* (357)» *telegram* (833) ; *telescope* (481).
    ultra *ultraviolet; ultramicroscope* (23) (411).

(100) **topo** *topography* (250); *toponymy* (study of *place* names).

(101) **trans** *irans-Atlantic; transfusion.*   *

(102) **allo** **allergies** (such as asthma and hay-fever, so named because the same constitutional defect expresses itself in one or *other* of several forms, i.e. *works*—, 214—in *alternative* ways) ; allotropy (power of same substance to turn into *alternative* forms—- 442. Diamond and Carbon are allotropic modifications, i.e. *ternative* forms of carbon).

(103) **anti;** **anti-Nazi;** *antivivisection* **(458) (413)7** *antiseptic* **(440);** *antimony***'(324).:**

(104) **causo** *cause; causal.*

(105) **cleisto** **cleistogamous** flowers, like the winter flowers of some violets, mature without unfolding, so that marriage— (244)—occurs while the stamens are closed in *(included* by) the petals.

(106) **comparo** *comparison; comparable.*

(107) **conditio** *condition.*

(108) **congruo** *congruent; incongruous.*

(109) **de** With the same meaning in the titles of   books which have been landmarks of science, e.g. *De Revolu- tionibus* of Copernicus, *De Fabrica Humani Corporis* (223) (540) of Vesalius **;** *De Motibus* (475) of Kepler, and *De Generatione Animalium* of Harvey *; De Re Metallica* (6) (799) of Agricola,

(110) **digito** *or* *digit* (finger with which we *point* things out).
    indico *indicate***.**

(111) **functio** *function.*

(112) **harmono** *harmony; harmonize.*

(113) **homo** *homogeneous* **(i3)** *; homology* (289); *homophone (358)* **homozygote** (pure genetic type, formed from union of *like* gametes).

(114) **metro.** *metric; metronome*; *gasometer* (796); *hexameter*(32).

(115) **minus** *minus***.**

(116) **pendo** *pendulum; pendulous; depend; suspender.*

(117) **per** *per rail; per   steamer;   per bearer.*

(118) **plus** *plus.*

(119) **postulo** *postulate.*

(120) **pro** *pro-Nazi; pro-Fascist; pros and cons; provide.*

(121) **proximo** *proximity; approximate.*

(122) **sequo** *consequence;   sequel.*

(123) **syn** *synchronism*   (timing *together);***syndrome** (of symptoms which run *together*—206) **; syncar- pous** (of flowers with ovaries fused *together*— **565) ; synapsis** (coming *together* of chromosomes in the reduction division) ; **synergic** (of drugs which work *together).*

(124) **tacto** *contact; tactile.*

(125) **tendo** *tendency; tendentious; intend.*

(126) **verso** *reverse; converse; inverse.*

(127) **vice** *viceroy ; vicar* (God-siibstitute) **;**   *vice-president;* vice-chancellor.

(128) **volo** *volition; voluntary.*

(129) **debito** *debit; indebtedness* (what we *ought* to pay)**;** *duty* (corruption of same root).

(130) **espero** *Esperanto* (an unduly *hopef ul* pioneer contribution to language-planning) **;** *desperate* **(**= de-hoped) .

(131) **hedo** *hedonism.*

(132) **moro** *mores* (social *custom); morality* (conformity to *usual habits* of fellow human beings).

(133) **necesso** *necessity; necessary.*

(134) **permito** *permit; permission.*

(135) **pheno** *phenomenon* (because Greek idealists called reality *appearance*and *vice versa)*   *;* **phenotype** (individuals with same outward *appearance* but different hereditary constitution).

(136) **posso** *possible.*

(117) **poto**   *potential; impotent.*

(138) **preparo** *preparation; preparedness.*

(139) **proto**   *protocol (first* draft) ; *prototype;* **protoplasm** (cell sub-
stance, supposedly   most *primitive*   form of living
matter) ; **protozoa** (supposedly most *primitive* animals—
630); **protogynous** (of flowers in which the female
organs *first* ripen—834).

(140) **tentato** *tentative; tentacle* (whatan animal or plant uses to *try*
to catch hold of something).

(141) **accido**   *accident.*

(142) **aero**   **acropolis** (part of city   on *top* of hill)   ; **acro megaly**
(gigantism with enlargement of bones at *ends).*

(143) **activo**   *activity; active.*

(144) **acro** *or* *acute.*
     oxyo   **oxygen**; *oxalic acid* (based on metaphorical usage for
sharpness of taste).

(145) **adhesio** *adhesion; adhere.*

(146 **aero**   *aerial; aeronautics; aeroplane.*

(147) **aetio**   *aetiology* (study of what to *blame* for a disease).

(148) **algo**   *neuralgia (524) ; analgesic* (deadening pain).

(149) **alieno** *or* *alien.*
     xeno   *xenophobia* (fear of *foreigners*—356).

(150) **alto**   *altitude.*

(151) **amico**   *amicable; amiability.*

(152) **anemo**   *anemometer (wind gauge***—114); anemophilous** (of
flowers which conduct their lovemaking by *wind*—355).

(153) **archo** *or* *monarchy* (272); *autarchy* (9); *heptarchy* (33).
     authorito *authority,*

(154) **arrogo**   *arrogant.*

(155) **assuro** *or* *assurance***.**
     certo   *certainty; ascertain.*

(156) **attendo** *or* *attendance.*
     tardo   *tardy; retard.*

(157) **baro**   *barometer* (114) ; *barograph* (self-recording baro-
meter—**250)**; **isobar (44).**

(158) **baso** *or* *basis; basic.*
     evido   *evidence.*

(159) **batho**   *bathos***.**

(160) **bibo**   *bibulous; imbibe;* **imbibition.**

(161) **bio** *amphibious; bioscope* **(411) ; biology (289).**
(162) **blasto** Many international' embryological terms, e.g.
blastoderm (disc-like embryo or *bud* seen oa the surface of a fertile hen's egg as a red speck).
  or **gemmo** *gemmation* (budding) *; gemmule* (bud).
(163) **bronto** *or* **brontosaurus** (largest known animal. Since it died out in the Cretaceous (792), we cannot hear the *thunder* of its tread to-day),
  explosio *explosion.*
(164) **canto** *chant; canticle; incantation.*
(165) **captivo** *captive.*
(166) **catalyso** *or catalyst* (reagent which *lubricates* or *helps* chemical-reaction)
  lubrico *lubricant* (to help the wheels to go round).
(167)**cavito** *or cavity.*
  coelo **coelom** (body *cavity*) ; **hydrocoele** (263*);* **acoelous,** and many other international anatomical terms.
(168) **celebro** *or* celebration. **ceremonio** *or ceremonial.* **rituo** *r i t e ; ritual.*
(169) **celero** *or celerity; accelerate.* **veloco** *velocity.*
(170) **certifico** *certify; certificate.*
(171) **chloro** **chlorine** (a *greenish* gas); **chlorophyll** *(green* pigment of leaves—602).
(172) **cholo** *or choleric* (because *anger* once believed to be connected with the *bile*); **taurocholates** and **glycoebo- lates** (*bile* salts),
  iro *irate.*
(173) **choro** *choric; chorus* (originally singing dancers) ; *terpsi-*
chore an.
(174) **chromo** *panchromatic* (of photographic plates responsive to light of all *colours*—15) ; *polychrmne* (films— 16); **chromo-somes** (cell organs which carry the genes of heredity, *colour* deeply with certain dyes—540).
(175) **claustro** *or* cloister; *claustrophobia* (fear of *confinement*— 356).
  angio **angiosperms** (flowering plants with *closed* ovaries in contradistinction to Gymnosperms, like pine and fir, with seeds *exposed* on the leaves of the cone—618).
(176) clepto *cleptomania.*

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(177) **clino**   *incline;* **declination** *(slope* of star with reference to the plane of the equator, tabulated for finding latitude at sea). Many international geological words, e.g. **syncline.**
(178) **cogito**   *excogitate.*
(179) **coito**   *coitus.*
(180) **comico**   *comic; comedy.*
(181) **communo**   *communal.*
(182) **competo**   *compete.*
(183) **confessio**   *confess.*
(184) **consolo**   *consolation.*
(185) **controlo** *or*   *control.*
    dirigo   *direction; dirigible* (a balloon with movement under a pilot's *direction).*
(186) **credito**   *credit.*
(187) **credo**   *credo; credible; creed.*
(188) **critico**   *criticism*
(189) **cryo**   *cryolite* (sodium * aluminium fluoride, imporant aluminium ore with *snowy* appearance. **Cryo- hydric** point is the lowest temperature to which a given salt can depress the *freezing* -point—263).
(190) **crypto**   *cryptic; crypt;* **cryptogams** (flowerless plantssuch as ferns or mosses, so-called because their marriage arrangements are hidden from the eye— **244).**
(191) **culino**   *culinary.*
(192) **culto**   *cultivation; culture* (e.g. of bacteria)..
(193) c**uro**   *curator; curate (concerned* with the souls of his clients).
(194) **curvo**   *curve; curvature.*
(195) **cyano**   *cyanosis (blueing* of skin when cold, etc.); **cyanophyceae** *(blue*-green algae) ; **haemocyanin** *(blue* pigment in blood of snails, lobsters, etc., but not detectable in that of aristocracy—511).
(196) **decoro** *or decorative*
    callo   *calligraphy (beautiful* handwriting—250) **;** *callisthenics* (girls' gymnastics alleged to promote a good figure).
(197) **defecto**   *defect.*
(198) **demo**   *democracy* **(826);** *endemic; epidemic.*
(199) **demonstro**   *demonstrate; demonstrable.*
(200) **desicco**   *desiccate.*
(201) **disputo**   *disputatious.*

(202) **disslpo**   *dissipate.*
(203) **divino**   *divination.*
(204) **diviso**   *divisor.*
(205) **dramo**   *dramatic; drama.*
(206) **dromo** *or dromedary; hippodrome* (where horses run around —see note on 659).
      curso   *cursive; cursorial* (of limbs adapted to running) **;** course.
(207) **duco** *or*   *Duce* (title of Mussolini who *led* Italy into evil ways)**;** *induce.*
      hegemo *hegemony.*
(208) **dyno**   *dynamic; dynamo* (electrical *power* generator) ; **dyne** (international unit of force).
(209) **eco** *or*   *ecology* (study of where plants and animals reside),
    resido   *residence.*
(210) **electio**   *election.*
(211) **electro**   *electric; electromagnetic* **(295) ;** *electrostatic* **(427).**
(212)**elemento** *or*   *element; elementary.*
      haplo   **haploid,** international technical term in genetics eaning *simple***,** in opposition to **diploid** (double).
(213) e**quatio**   *equate.*
(214) **ergo**   *energy;* **erg** (international unit of *ivork).*
(215) **erro**   *error; err.*
(216) **erythro**   **erythrosin** (a *red* dye) **; erythrocyte** *(red* blood corpuscles—**498) ; erythema** (local *reddening* of skin).
(217) **espio**   *espionage.*
(218) **eu**   *euphemism; eupeptic; eulogy; euthanasia* **(killing** for the *good* of the victim).
(219) **examino** *or*   *examination.* **experimento**   *experiment.*
(220) **excesso**   *excess* (nothing succeeds like it).
(221) **expecto**   *expect;* **expectation** (of life).
(222) **experto** *or*   *expert.*
     techno   *technician.*
(223) **fabrico**   *fabricate;* the title of the great sixteenth-century ork on anatomy mentioned in (109) means ' concerning the *structure* of the human body **"**
(224) **facilo**   *facility.*
(225) **famo**   *fame; infamy.*
(226) **fatigo**   *fatigue; indefatigable***.**
(227) **fero**   *feral.*

(228) **fertilo** *fertilize.*
(229) **fino** *final; finish; finis.*
(230) **fisco** *fiscal.*
(231) **fissuro** *fissure.*
(232) **fixo** *or* *fixed.*
     stabilo *stability.*
(233) **flagello** **flagellum** *(whip*-like tail of the sperm by which it moves); **flagellata** (micro-organisms which move by means of one or more *flagella); flagellation***.**
(234) **flavoro** *flavour.* **,**
(235) **forto** *fortissimi* (organ stop) **;** *aqua forhs* (old name for nitric acid because of its *intense* activity)* Cf. Frcnch *fort(e).*
(236) **fortuno** *fortune-teller.*
(237) **fracto** *fracture.*
(238) **frequo** *frequency.*
(239) **frictio** *friction.*
(240) **frigo** *frigid.*
|241) **frustro** *frustration.*
(242) **fugo** *fugitive.*
(243) **fumo** *fumes.* **.**
(244) **gameo** *polygamy* **(16);** *monogamy* **(27);** *bigamy* **(28); gamete** (sex cells—sperm and egg—from whose *marriage* a new life begins); **phanerogams (354); cryptogams (190).**
(245) **geneto** *genetics.* **.**
(246) **glauco** or *glaucous* (of stems or leaves with a *greyish* bloom), **polio** *poliomyelitis* (infantile paralysis) is due _ to inflammation of the *grey* matter of the spinal cord.
(247) **glueo** *glucose* (a sugar—international root in many sugary substances, i.e. substances with a *pleasant* taste*);* **glyco-suria** (diabetes-condition characterized by presence of *sugar* in urine).
(248) **gono** *octagon* **(34);** *hexagon* **(32);** *pentagon* **(31).**
(249) **grado** *digitigrade* (of animals which *walk* on their toes, like the horse—110); *plantigrade* (of animals that *walk* on the soles of their feet, like, the cat).
(250) **grapho** *telegraphy* **(9g)***; calligraphy* **(196);** *photography* (359) *lithography* **(52),**
(251) **gratio** *gratitude; ingratiate.*

(252) **gravito** *gravitation* (*falling* is acceleration in virtue of the earth's gravitational field).

(253) **gravo** *grave; gravity.*

(254) **grego** *or* *gregarious.*
      partio *party.*

(255) **gyro** *gyrate; gyroscope* (411).

(256) **hagio** *or* *hagiolatry* (worship of samts, i.e. *sacred* persons— 396); *hagiography* (writing about saints—**250). sacro** *s a - cred.*

(257*)* **helico** *or* *helicoid* (mathematical term for *spiral).*
      spiro *spiral.*

(258) **helo** *or* *helot.*
      servo *servitude.*

(259) **hetero** *heterogeneous* (18); *heterodoxy* (having opinions *different* from those of the herd); **hetero- zygote** *(hybrid*—see note on p. 129**).**

(260) **historo** *story; history.* **.**

(261) **horizo** *horizontal* (the plane bounded by the *honzonf.*

(262) **humano** *humane* letters or the *humanities* are *polite,* (as opposed to useful) learning.

(263) **hydro** *hydrant;* **hydrogen; hydrophobia (**357**);** *dehydrate.*

(264) **immuno** *immunity:*

(265) **impacto** *impact.*

(266) **impero** *imperative.*

(267) **inflatio** *inflate.*

(268) **inhibito** *inhibit.*

(269) **insuro** *insurance.*

(270) **investo** *investments.*

(271) **iodeo** *iodine* (so-called because it has a *violet* vapour).

(272) **itero** *reiterate; iteration* (method   of solving equations by *repetitive* approximation).

(273) **itinero** *itinerant.*

(274) **judico** *or* *judicious; judgment.*
      arbitro *arbitration.*

(275) **juro** *jury* (ostensibly to see *fair-play).*

(276) **lapso** *lapse* **(***slip* of memory)**;** *lapsus linguae (slip* of the tongue).

(277) **laudo** *applaud; laudatory.*

(278) **lavo**	*lave; lavatory* (actual); **lava** (*washes* down the slopes of a volcano) ; *laver* (Biblical name for vessel for Jewish priest's ablutions).
(279) **lecto**	*lectern* (reading-desk); *lecture* (too often read in universities).
(280) **lego**	*legal.*
(281) **leuco**	**leucocyte,** *white* blood cells—498, including *phagocytes* (354), in contradistinction to *erythrocytes* (216) ; **leucorrhoea** (398); many other medical and biological terms.
(282) **liberalo**	*liberality.*
(283) **libero**	*liberate; liberty.*
(284) **libido**	International technical term for *lust*; *libidinous.*
(285) **ligato**	*ligate; ligature.*
(286) **limito**	*limit.*
(287) **lineo**	*linear.*
(288) **liquo**	*liquid.*
(289) **logo**	*horology* (67); *zoology* (630); *geology* (645);. *palaeontology* (342) ; *pathology* (348).
(290) **longo**	*elongate.*
(291) **luco**	*translucent.*
(292) **luteo** *or*	**corpora lutea** (discharged follicles of egg cells in Ovary of human being or other mammal, so- called because charged with a *yellow* pigment); **lutein** *(yellow* pigment of yoke),
xantho	Many medical and biological terms, e.g. **xanthin** (soluble *yellow* pigment of flowers); **xanthophyll** *(yellow* colouring matter of autumn leaves— 602); **xanthophore** (contractile *yellow* pigment cells in skin as opposed to *melanophores*— see 300); **xanthoderma** *(yellowing* of skin—a disease— 501).
(293) **lyso**	*analysis* (separation into parts); *hydrolysis* (separating organic compounds into constituent parts by the action of water—263) ; *lipolysis* (separation of fats into glycerine and fatty acid —519**).**
(294) **magico**	*magic.*
(295) **magneto**	*magnetic.*
(296) **malo**	*malefactor; maledictory* (467); *malevolent* (128); *malign***.**
(297) **mano** or	manometer (pressure gauge tor registering rarefaction of gas—114).

| | **diluto** | dilute. |

diluto dilute.
(298) **masso** mass (in chemical sense of the term).
(299) **maturo** *maturation; mature.*
(300) **melano** melanic; **melanophore** (black pigment   cells in skin of chameleon and other animals which change colour because of their behaviour— **358) ; melanesia (654).**
(301) **merco** *mercenary; commerce; merchandise.*
(302) **methodo** method.
(303) **milito** *military; militant.*
(304) **ministro** *minister; administration.*
(305) **miro** *or* miracle; the network of blood-vessels in the gas gland of the swim bladder of Fishes is called the **rete mirabile** (769).
  thaumo thaumaturgy **(**wonder-working—214).
(306) **miso** misogynist (834)**;** misanthropist (810).
(307) **mixo** *mix; mixture***.**
(308) **mnemo** *or* mnemonic. ' ■ ■
  memo *memorandum; memory***.**
(309) **monito** admonition.
(310) **mordo** mordant.
(311) **morpho** amorphous; isomorphic (of crystals with i d e n t i c a l shape—44)**;** morphology (study of form as opposed to function—389).
(312) **morto** mortality**.**
(313) **musico** music.
(314) **muto** *or* *mutable; mutation; mutant* (new type   resulting from hereditary *change).*
  vario *variable; variation.*
(315) **mytho** *or* myth.
  fantaso *fantasy.*
(316) **narco** *narcotic; narcotize; narcosis***.**
(317) **natio** nation**.**
(318) **nato** *natal; native; natality; prenatal***.**
(319) **necro** necrosis (tissue-destruction) **;**   necromancy (com mu-nication with the dead).
(320) **negotio** *negotiate; negotiable.*
(321) **neo** *neolithic (new* stone age—52) **;** *neologism.*
(322) **nocuo** *nocuous; innocuous.*
(323) **nomino** nominate.

(324) **nomo** economy (origina&y stewardship—209) **;** agronomy (631) ; astronomy (633); bionomic (161).

(325) **normo** norm; normal**.**

(326) **nullo** *or* nullify.
  quito *quittance; acquit; quit.*

(327) **numero** *numeral; enumeration.*

(328) **occasio** occasion.

(329) **odoro** *or* *odour; malodorous* (296).
  aromo *aroma; aromatic.*

(330) **offero** offer.

(331) **onero** *or* onerous**.**
  liabilo *liability.*

(332) **oppresso** or oppress. **persecuto** persecute**.**

(333) **ordino** ordinal.

(334) **orientatio** or orientation**. attitudo** attitude**.**

(335) **orno** *ornate; ornament.*

(336) **ortho** *orthopedic* (349); *orthogonal* (of *vertical* projection. **-**248)**;** orthotropous (of ovules with micropyie —383— vertically above the stalk, i.e. turned upwards—442**).**

(337) **osculo** *osculation.*

(338) **oxidatio** oxidation.

(339) **pachyo** *pachydermatous (thick-skinned*—501).

(340) **paco** *pacify.*

(341) **palaeo** *palaeolithic* **(***old* stone age—52)**;** *palaeontology* (289).

(342) **papillo** *or* papilla.
  projectio *projection.*

(343) **parallelo** parallel.

(344) **paralyso** paralysis.

(345) **parasito** parasitism.

(346) **pardo** pardon.

(347) **patho** *pathology* **(289);** *pathogenic.*

(348) **pecunio** pecuniary.

(349) **pedio** *pediatrics; paediogenesis* (of animals which reproduce in the larval condition).

(350) **penito** penitent.

(351) **peno** penal.

(352) **phaeo** **phaeophyceae** (brown algae, in contradistinction to **chlorophyceae,** green algae—171—**cyano- phyceae,** blue algae—195—and **rhodophyeeae,** red algae—398).

. (353) **phago** *or* **phagocytes—**name for white blood corpuscles which eat bacteria.

      dieto *dietetics.*

(354) **phanero** **phanerogams** (flowering plants and conifers—so-called because their marriages are manifest to the eye—see note on 211).

(355) **philo** entomophilous (of flowers which make love by insect messengers)**;** anemoptylous (of flowers which make love by wind—152)**;** philoprogenitive; philanthropist (810).

(356) **phobo** *phobia; claustrophobia* (175); *agrophobia* (631)**.**

(357) **phono** *gramophone* (833) ; *dictaphone* (467) **;** *telephone* **(**99); microphone (23 ; phonograph (250).

(358)**phoro** Many international biological terms, e.g. melanophore (299) and xanthophore (292), so-called because of pigments they carry **;** also **semaphore** (414)**.**

(359) **photo** *photic; photography* (250); *photoelectric* (211); *photometer* (114); *photosynthesis.*

(360) **phreno** *schizophrenia (split personality-*—**409);** *oligotphrenia (mental* defect—14).

(361) **physio** physiocrat **(826);** physics.

(362) **picto** **picture; pictogram (833).**

(363) **piano** plan.

(364) **plato** platitude (a flat saying)**;** plateau**; platyhelminthes** (flat worms—626).

(365) **pleno** *plenary; plenitude.*

(366) **plico** plicate (folded).

(367) **pluto** plutocrat **(826.**

(368) **pluvio** *pluvial; pluviometer (rain* gauge).

(369) **pnenmo** *or* pneumatic; pneumonia.

      respiro *respiration.*

(370) **praxo** *practical.*

(371) **premio** premium.

(372) **privilegio**privilege.

(373) **producto** product

(374) **profito** profit.

(375) **promisso** *promise; promissory***.**

(376) **proposo** proposal.

(377) **prospecto** prospect (" where every prospect pleases").

(378) **protesto** protest; **Protestant.**

(379) **pseudo** *pseudonym (false* name) ; *pseudo-Gothic (sham* Gothic); **pseudopodium** (sham foot of microorganism—535).

(380) **publico** publicity.

(381) **pudo** **pudenda** (privy parts of body, customarily regarded as disgusting to exhibit)-

(382) **puro** *purity; purification***.**

(383) **pylo** *or* **pylorus** (aperture from stomach to intestine) ; **micropyle** (perforation in the wall of the ovule for entry of pollen tube), **perforate** perforate.

(384) **pyro** pyre (funeral fire); pyrex (glass to withstand fire); pyro-technics (fireworks) ; pyrkeliometer (instrument to measure heat of sun's flame—646 and 114) ; pyrometer (high temperature measurer- 114); empyrean.

(385) **qualito** qualitative.

(386) **radio** radio; radium; radiation.

(387) **rapo** *rapacious; rape; rapine (seizure* of goods by force).

(388) **raso** *or* razor.

    talo *talon.*

(389) **ratio** *ratio.*

(390) **recto** *rectilinear* (387) ; *rectangle.*

(391) **reflecto** *reflector; reflect.*

(392) **religio** religion.

(393) **reparo** *reparations; repair; irreparable.*

(304) **residuo** residual.

(395) **resisto** resistance (electric or tensile).

(396) **revero** *or* revere.

    latrio *idolatry; hagiolatry* **(256);** *Mariolatry*.

(397) **rheo** rheostat (electric current regulator) ; diarrhoea; amenor-rhoea (cessation of monthly flow); **rheotaxis** (orientation of aquatic animal to current) ; rheoscope (device for watching a stream of images—precursor of cinema—411).

(398) **rhodo** **rhododendron** (575) ; **rhodophyceae** (red algae).

(399) **rigo** rigid; **rigor mortis** (death stiffness).

(400) **riso** *risible; derision.*

(401) **rugo** rugose (botanical term of stems or leaves of coarse texture).

(402) **sado** *sadist.*

(403) **salto** *saltation; saltatory* (of *jumping* animals).

(404) **saluto**   salutation.

(405) **sano**   *sanity; sanatorium.*

(406) **sapio**   sapient; **homo sapiens** (the most knowing of the ground apes).

(407) **sapro**   **saprophyte** (plants which live on decaying organic matter, e.g. mushrooms.—603).

(498) **schizo**   **schizophrenia** (see 360 above) ; schizocarpous (of fruits which split like those of the geranium—565).

(409) **scholo**   *scholastic; school.*

(410) **sclero**   **sclerenchyma** [hard tissue of plants) ; **sclerosis** (hardening of skin) ; **sclerotic** (hard layer of eyeball).

(411) **scopo**   *periscope* (96); *epidiascope; telescope* (99).

(412) **secto**   *section; dissect.*

(413) **semao**   semaphore (transmitting signals—358) ; s e - mantics (study of words as signals of meaning).

(414) **sensitivo** *or sensitively.*

    recepto   **receptor** (*sense* organ); *receptivity.*

(415) **serio**   serial.

(416) **severo**   severity.

(417) **significo** *significance; signify.*

(418) **siphono**   siphon.

(419) **societo**   society.

(420) **solemno**   solemn.

(421) **solutio**   solution.

(422) **sopho**   philosophy (often wrongly so-called—355**) ;** sophisticated.

(423) **soporo** *or soporific.*

    somno   *insomnia; somnolent.*

(424) **specio**   specimen; **species;** specify.

(425) **sporto**   sport. **.**

(426) **stalagmo** stalagmite (icicle-like deposit m caves due to dripping of water with dissolved salts) ; stalag- mometer (114)-

(427) **stato**   static; **statocyst** (sense organ which records bodily displacement from resting position).

(428) **stereo**   stereoscope (arrangement of lenses to give solid picture— **411)** ; **stereotaxis** (animal reaction to contact with solids); **stereoisomers** (optically active molecules with same solid—i.e. three- dimensional—orientation—19 and 44).

(429) **stigmo**   stigmatize (stain the character).

(430) **strategic** *stratagem.*

(431) **summatio** *summation.*
(432) **sympto** *symptomatic.*
(433) **systemo** *system; systematic.*
(434) **tensio** *tension; tensile.*
(435) **testimono** testimony.
(436) **theo** theology (289) ; theocracy (826).
(437) **thermo** thermometer (114); **isotherm** (44).
(438) **tolero** tolerance (to opinion or to a drug).
(439) **tono** tone.
(440) **toxo** *or* *antitoxin; toxic; toxicology* (289).
   sepso *sepsis; antiseptic.*
(441) **traumo** traumatic; **trauma.**
(442) **tropo** In international botanical words which describe orientation of plants to external agencies, e.g. **heliotropism** (turning sunwards like the sunflower—646) ; **geotropism** (turning earthwards like roots of a germinating seed—645).
(443) **turbo** turbulent (motion).
(444) **typo** typography (250); **isotype** (Neurath's international picture-language, with the printer's sign as near as possible like what it stands for—44).
(445) **umbro** *penumbra* (half-shadow) ; *umbrage; adumbrate* (fore-shadow). ;
(446) **uniformo** *uniformity.*
(447) **unio** *union; reunion*
(448) **vacuo** evacuate; vacuous; **vacuum.**
(449) **valo** *value; monovalent* (27) *; polyvalent* (»6).
(450) **vaporo** *evaporate; vapour.*
(451) **vendo** vendor,
(452) **verito** *verity; veritable.*
(453) **vibro** *or* *vibration; vibratile.*
   oscillo *oscillate; oscillatory; oscillograph* (250).
(454) **victo** victory.
(455) **violo** *or* *violence; violate.*
   aggresso *aggressor.*
(456) **viro** virulent; **virus.**
(457) **visito** visit.
(458) **vivo** *vivisection; vivacious.*
(459) **voco** vocal.
(460)**volumo** *or volume; volumetric* (114)**.**

    capacito   *capacity.*
(461) **vulno**   vulnerable.
(462) **zygo**   **zygote** (fertilized egg produced by fusion of two **gametes); homozygote** (pure-bred **individual** produced by union of like gametes) ; **heterozygote** (hybrid produced by connexion **between** unlike parents).
(463) **acouste** *or* acoustics.
    audie   *audience; audible; audiometer* **(114).**
(464) **acte**   *act; actor.*
(465) **balle**   *ballistics; ball.*
(466) **date**   dative; data (what you are given).
(467) **detecte**   *detection; detectable.*
(468) **dicte**   dictaphone (357).
(469) **eque**   equation.
(470) **esthe**   *aesthetics; anaesthesia.*
(471) **facte**   factory; artefact (812).
(472) **ge**   See **gene.**
(473) **gene**   *genesis.*
(474) **habe**   Habeas corpus.
(475) **kine**   kinetic; kinema. (moving pictures).
(476) **mote**   *motor; motion.*
(477) **perde**   *perdition.*
(478) **reacte**   react.
(479) **stimule**   stimulate.
(480) **tene**   *tenure; tenacity.*
(481) **tracte**   *tractor; extract; attraction.*
(482) **vise**   *visible; vision; visual.*
(483) **abdomini**abdominal.
(484) **arthri**   *arthritis;* **arthropoda** (see p. 85).
(485) **brachi**   *amphibrach* (in prosody a   foot of two short arms with a long waist: ∪ — ∪); *brachial* (of main arm nerve, artery or vein).
(486) **bucca**   buccal (of cheeks or mouth).
(487) **calca**   **calcaneum** (heel bone).
(488) **cantha**   *epicanthial* (fold "of eyelid characteristic of Mongolian peoples).
(489) **cardia**   cardiac; **pericardium** (cavity'around heart).
(490) **carpi**   **carpus** (wrist).
(491) **cephali**   *cephalic* (of *head).*

(492) **cerebra**   *cerebral* lobes **;** *cerebration.* **.**
(493) **cervica**   cervical vertebrae.
(494) **chiri**   *chiromancy; chiropodist* (536) *;* **chiroptera** (bats, of which the wing is the greatly elongated hand —537).

    Note.—*Hand* in technical terms is always the Greek **chir-**, scarcely ever Latin **man-.**

(495) **chondra**   **chondrocranium** (cartilage skull of embryo— 493)-
(496) **costa**   intercostal muscles (between the ribs).
(497) **crania**   cranial surgery.
(498) **cysti**   cystitis (inflammation of bladder).
(499) **cyti**   cytology (study of cells—289) ; erythrocyte (353)-
(500) **dactyli**   *pentadactyl* (31) ; *polydactyly* (16).
(501) **denti**   *dentist.*
(502) **dermi**   *dermis; epidermis* (82) ; *dermatitis.*
(503) **entera**   **enteron** (international synonym).
(504) **facia**   *facial.*
(505) **feci** *or*   **faeces ;** defecate.
      copra   **coprophilia** (355)-
(506) **gastri**   *gastric; gastritis; gastronomic (*324).
(507) **glandi**   gland.
(503) **glena**   glenoid (socket of jaw).
(509) **glossa**   *hypoglossal* nerve (85) ; *glossary; polyglot* (16) ;' *Inter-glossa* (87).
(510) **glutea** *or* *gluteal* muscle (of *rump*).
      pygea   pygeal (of rump of bird).
(511) **gnatha**   agnathous (without jaws, like lampreys and hags, see 528) ; **gnathostomata** (vertebrates with jaws, in contra-distinction to **cyclostomata**— 528).
(512) **haema**   haemoglobin (red blood pigment of the **erythro** cytes—216) ; haemal, and all other international technical terms referring to blood.
(513) **hepa**   hepatic (of the liver).
(514) **kerati** or **keratin** (horn protein); **rhinoceros**   (horny snout).
      cornua   bicornuate (of a two-horned uterus, e.g. of dog or rat); cornucopia (horn of plenty); tricorn(three-cornered hat).
(515) **labi**   *labial.*
(516) **lacrima**   *lachrymose;*   *lachrymal.*

(517) **lacti**   lactic acid;   lactose (milk sugar);   lacteal (of tubules of the. breast) ; lactation.

(518) **lana** *or*   In a few zoological terms, e.g. lanate (woolly) ;**lanolin** (wool grease),

  eri   Common in international zoological and botanical names of woolly creatures.

(519) **lepidi**   **lepidoptera** (butterflies and moths, because of the fine-coloured scales on the wings—537).

(520) **lipi** *or*   lipoid (fat); lipolysis (*fat*-splitting—293); lipase (*fat*-splitting enzyme),

  stea   **stearin** (mutton fat);   stearic acid.

(521) **lophi**   lophodont (type of molar teeth with ridges characteristic of vegetarian mammals such as horse, cow, rabbit).

(522) **nari**   narial; **nares**   (nostrils).

(523) **nasi**   *nasal.*

(524) **nephri** *or* nephritis (inflammation of kidneys).

  rena   *renal.*

(525) **neura**   *neural.*

(526) **oculi**   oculomotor muscles (of eye socket) ; oculist.

(527) **oesophagi**   *oesophagus; oesophageal.*

(528) **ora** *or*   *oral; aboral.*

  stoma   **cyclostomata** (lampreys and hags, in   contra distinction to **gnathostomata**—713).

(529) **ostea**   *osteology; periosteum* (tissue around *bone).*

(530) **ostraca** *or* Common in sub-classes of Crustacea, e.g. **malacostraca** (crabs, shrimps, etc.), **ostracoda,** etc.

  concha   conch; conchology.

(531) **oti**   otic; periotic (bone enclosing inner ear—**96)** ; otitis.

(532) **ova**   International biological term (plural form)*

(533) **pedi**   *pedal; pedestrian; biped.*

(534) **pelvi** *or* **pelvis.**

  coxa   coxal (of hip segment of insect leg).

(535) **pinna**   pinnate (of feathery leaves like those of mimosa).

(536) **poda**   In international biological terms the Latin root **ped-** stands for foot, but the equivalent Greek **pod-** for limb, e.g. **arthropoda** (484) ; **isopoda** (wood lice—44) ; **brachiopoda** (lamp shells— 484); **gastropoda** (snails, limpets—506).

(537) **pteri**	Usual root, e.g. **chiroptera** (537) and insect orders, e.g. **lepidoptera** (519) ; **coleoptera** (745) ; **orthoptera** (grasshoppers—336); **dip- tera** (flies).
(538) **pulmoni**	pulmonary, (lung) tuberculosis.
(539) **sarca** *or*	*sarcolemma* (sheath of *muscle* fibre); *sarcolactic* acid (lactic acid in muscles). **mya** myomere (19) or myotome (segmental muscles of fish or human embryo); myonemal junction of nerve and muscle (525).
(540) **scapa**	Abbreviation for scapula, shoulder-blade.
(541) **soma** *or*	*somatic; chromosome* (175).
corpora	*corporal.*
(542) **sudori**	sudoriferous glands (= sweat glands).
(543) **tarsi**	**tarsus** (ankle).
(544) **thela** *or*	**thelin** (hormone activating milk secretion).
villi	Anatom, term for minute papillae on inner wall of gut.
(545) **thoraci**	*thoracic.*
(546) **tricha** or	atrichous (bald) ; **trichogyne** (filamentous female organ of some algae), **capilli** capillary.
(547) **ungua**	**ungulata** (hoofed mammals).
(548) **ura** *or*	cynosure (original meaning pole star in tail of Little Bear, hence focus of attraction) ; **uropods** {tail fan of lobster—536) ; **urostyle** (fused tail vertebrae of frog),
cauda	caudal.
(549) **urini**	*urinal.*
(550) **uteri**	**uterus** ; uterine.
(551) **acantha** *or*	**hexacanth** (6-hooked) embryo of tapeworm (32); acanthocarpus (with prickly fruit like horse- chestnut—566).
echini	**echinus** (sea-urchin—covered with spines); echinodermata (sea-urchins, starfishes, with a spiny skin—502).

Where the name of an animal or plant is based on the international binomial epithet, an asterisk follows it.

(552) **amygda**	**amygdalus communis.**
(553) **ana**	**anatidae** (*duck* family); **.**
(554) **anseri**	**anserinae** (*goose* sub-family of above).
(555) **api**	**apis** *(bee* genus) ; *apiary; apiculture* (192).
(556) **asini**	**equus asimis ;** asinine.
(557) **avi**	**aves** (birds) **;** aviary.
(558) **bovi**	**bovidae** {*cattle* family) **;** *bovine; Bovril.*

FIG. 12

A LESSON IN ZOOLOGY IS A LESSON IN INTERGLOSSA

A sponge is a porous structure, most of the solid part (top figure) being a **non-cellular** (43) jelly, the **mesenchyme** (92) (569*),* strengthened by horny fibres and spicules of **silica** (661) or calcareous **crystals** (793) secreted by cells embedded therein. Minute pores in the **dermal** (501) layer lead into the **incurrent canals** (86) (206) (636). Water circulating continuously in the latter emerges by the large **orifices** (528) of the **excurrent canals** (83) (206) (636). Its motion is due to cells lining the **flagellated chambers** (233) (47) which link the incurrent and excurrent **systems** (433). The left bottom figure of a single flagellated chamber shows the collar cells or **choanocytes** (678) (499) whose **vibratile flagellae** (453) (233) flick the water from the **afferent** (76) to the **efferent** (83) aperture called the **apopyle** (78) (383). The apopyle is the **perforation** (383) through which the water flows *away.* In the mesenchyme between this flagellated chamber and its neighbour we see a crystalline spicule still attached to the **scleroblast** (410) (162), i.e. cell which *buds* off *hard* material. The bath sponge has horny fibres but no **skeletal** (715) spicules ; but most other sponges have them. Those of different species are of various shapes, the simplest or **mon- axon** (27) (736) type having a single *axis.* The bottom right- hand figure is a **microscopic** (23) (411) view of a single choanocyte with its cuticular*collar around the base of the flagellum, whose *whip-like* **motion** (475) maintains the circulation of water containing food particles.

a(d)	(76)	**chyma**	(569)	**in**	(86)	**pylo**	(383)
apo	(78)	**crystali**	(793)	**meso**	(92)	**sclero**	(410)
axi	(736)	**curso**	(206)	**micro**	(23)	**scopo**	(411)
blasto	(162)	**cyti**	(499	**mono**	(27)	**secto**	(412)
cameri	(47)	**dermi**	(501)	**mote**	(475)	**sili**	(661)
canali	(636)	**e(x)**	(83)	**no(n)**	(43)	**skeleta**	(715)
choani	(678)	**flagello**	(233)	**ora**	(528)	**systemo**	(433)
						vibro	(453)

The Sponge

ORIFICE of EXCURRENT CANAL

EXCURRENT CANAL

EXCURRENT CANAL

INCURRENT CANAL

Pore

Pore

DERMAL layer

Pore of INCURRENT CANAL

MESENCHYME

SCLEROBLAST

MONAXON

FLAGELLATED CHAMBER

AFFERENT aperture

APOPYLE
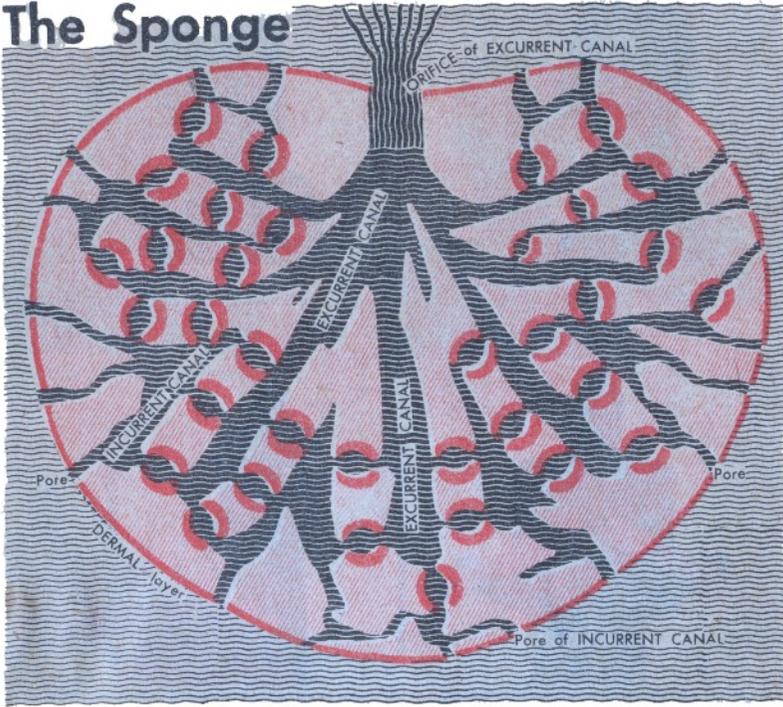
Single collar cell or CHOANCYTE

FLAGELLUM

Collar
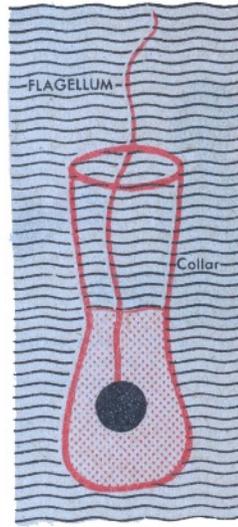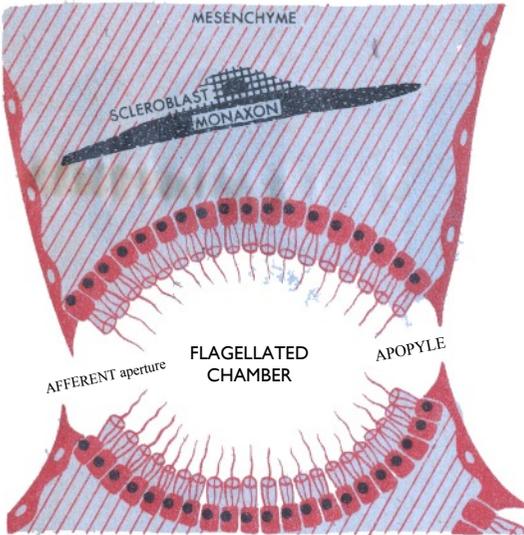
U GYNA REACTE ODORO U ROSA.
U ROSA STIMULE U NASA DE GYNA

UN ANTHROPI REACTE FLAVORO U CITRA
U CITRA STIMULE U GLOSSA DE ANTHROPI
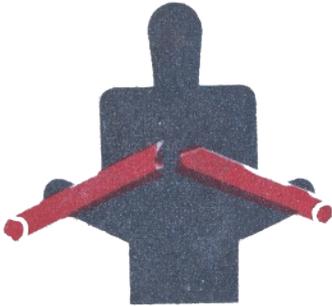
U MELANO ANTHROPI STIMULE FRACTO UN
ERYTHRO BACI
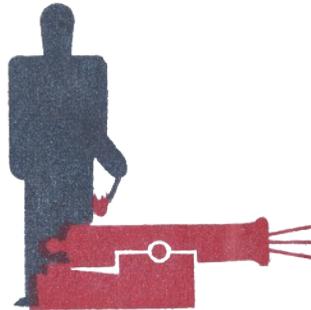
UN ANTHROPI STIMULE BRONTO UN
ARTILLERI

UN ANTHROPI DATE UN ERYTHRO VINI EX
AMPULLA A GYNA
U GYNA GENE UN ERYTHRO VINI EX AMPULLA
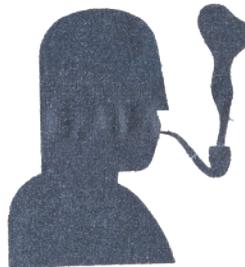
UN ANTHROPI BALLE FUMO AD EXTRA

312

UN ANTHROPI ACTE PHAGO

U GYNA ACTE PER CTENI
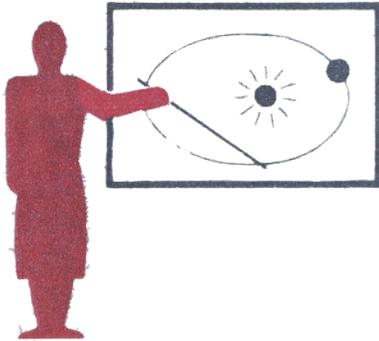
UN ERYTHRO GYNA ACTE SCHOLO DE GEO PLUS HELI
AD MELANO MICRO ANTHROPI
U MELANO MICRO ANTHROPI GENE SCHOLO DE GEO PLUS HELI
EX UN ERYTHRO GYNA

U GEO KINE PERI HELI

313

URANI

AERO NAVI

MONTI

MONTI

HELI

MARI

BAIA

MONTI

MONTI

NESIA

VALLI

VIA

DOMI

DENDRA

VIA

VIA

ANTHROPI

AGRI

DENDRA

AGRI

GYNA

PYRAMI

EQUI

CAMELI

DESERTA

PONTI

FE BOVI

POTAMI

LEO

VIA

DESERTA

OPHIDIA
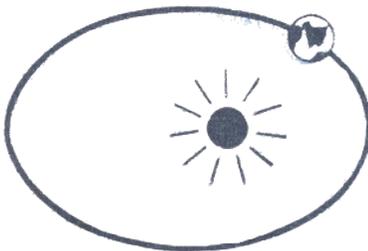
SIMI
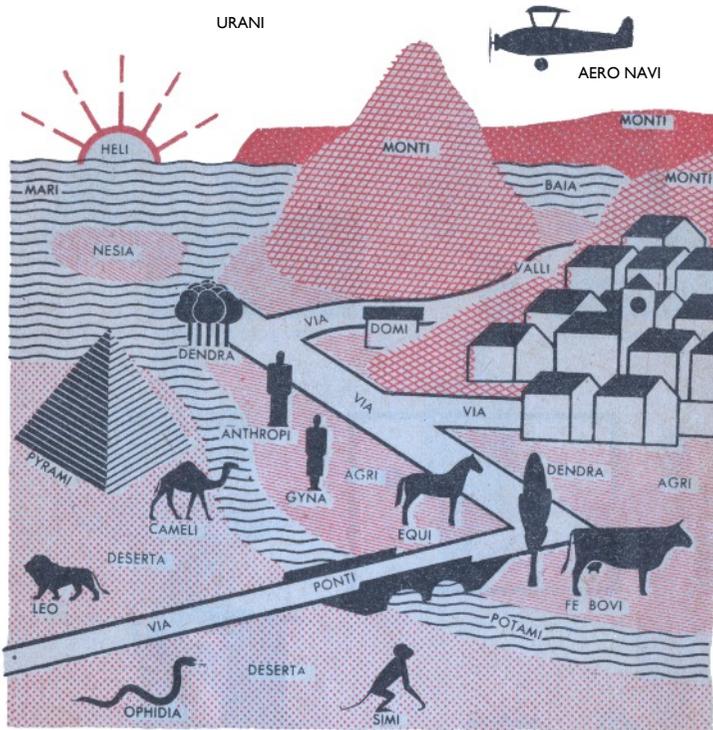
CARTA
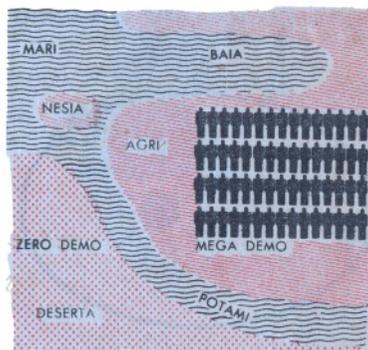
LEARNING BY EYE

In TWELVE charts such as this one it is possible to exhibit the meanings of the 385 substantives which make up nearly half of the essential word list.

MARI

BAIA

NESIA

AGRI

ZERO DEMO

MEGA DEMO

DESERTA

POTAMI

Because Interglossa resembles Chinese languages in having no dead affixes or flexions, it is able to exploit a technique of instruction specially adapted to the needs of children and of pre-literate peoples as yet outside the pale of civilization. The meaning of each vocable becomes explicit through the medium of *visual aids*. Starting with familiar objects, colours and numbers (Chart i), we have no difficulty in presenting the basic time markers which do all the work of a tense system (Chart 2), or the articles which do the work of number flexions (Chart 4). We add to our vocabulary for picturable objects *pari passu* in a few charts like Chart 5, showing the abstract relations of space, or, like Charts 10 and 11, displaying the meaning of the twenty operative words which, in combination with such abstractions and names of qualities, do all the work of hundreds of verbs in an Aryan language. Three of out charts, respectively showing a flower, the human ear and the structure of a sponge, are here to remind us of another fact relevant to the teacher's task. Any page of a high-school text-book of science teems with truly international words which furnish the bricks of our list of about 900 essential vocables.

(559) **brya**   **bryophyta (mosses and** liverworts—**604).**
(560) **bulba**   *bulb.*
(561) **cameli**   **camelidae** (camehfamily).
(562) **canabi**   **cannabis sativa.***
(563) **canceri**   Zodiacal constellation of the Crab (Cancer).
(564) **cani**   **canidae** (dog family) **;** canine.
(565) **cari**   This is the international root for the various tribes of
                    shrimps and their allies, e.g. **pericarida**; **hoplocarida**;
                    syncarida, etc.
(566) **carpa**   **pericarp** (skin of apple—96); **mesocarp** (flesh, ditto—91)
                    endocarp (core); **syncarpous/   (**123**); apocarpous (**75**).**
(567) **caula**   *cauliflower.*
(568) **cervi**   **cervidae** (deer family).
(569) **chyma**   **parenchyma** (juicy core of   stem).
(570) **citra**   **citrus** (lemon genus) ; citron; citric   acid.
(571) **cochlea**   International name for the sound-box of the internal ear,
                    because coiled like a snail's shell.
(572) **cocoa**   **cocos nucifera.***
(573) **coniferi** *conifers.*
(574) **cucurbi**   **cucurbitaceae** (squash   family, i.e.   marrows   and
                    cucumbers).
(575) **cygni**   **cygnus** *(swan genus).*
(576) **dendra**   dendrite (branching process of nerve cell) ; many generic
                    names, e.g. **lepidodendron** (fossil tree fern with scaly
                    bark—519).
(577) **elepha**   **elephantidae**   family).
(578) **equi**   **equidae** (horse family).
(579) **faba**   **vicia faba.***
(580) **feli**   **felis domesticus * ;**   feline.
(581) **filici**   **filices** (fern tribe).
(582) **flora**   *floral.*
(583) **formici**   **formica** (one genus of ants); formic acid.
(584) **galli**   **gallus domesticus.***
(585) **gluma**   *glume* (botanica.1 name for chaff).
(586) **gossypi**   **gossypium** (*cotton* genus).
(587) **gramini**   **graminaceae** *(grass* family);   *graminivorous.*
(588) **harengi**   **clupea harengus.***
(589) **homari**   **homarus** (one genus of *lobster*).

(590) **homini**   **hominidae** (including besides, **homo sapiens** fossil species of **homo,** e.g. **homo neander- thaleosis,** and the genera **eoanthropus,** Pilt- down Man, **sinanthropus,** Peking Man, and , J **pithecanthropus,** the Java Ape Man).

(591) **hordea**   **hordeum** (*barle*y genus).

(592) **latici**   **latex** (milky fluid in the stems of lettuce, sunspurge, dandelion—rubber is made from **latex** of , various plants, formed in *laticiferous* cells).

(593) **legumi**   **legummosae.**

(594) **lepi**   **lepus** (hare genus).

(595) **lina**   **linaceae** (*flax* family).

(596) **lupi**   **canis lupus** * ; *lupine.*

(597) **muri**   **muridae** *(mouse-rat* family).

(598) **orangi**   This form has wide international currency through commerce.

(599) **ovi**   **ovis** *(sheep* genus).

(600) **panica**   **panicum** (*millet* genus).

(601) **persica**   **amygdalis persica.***

(602) **phoeni**   **phoenix dactylifera.***

(603) **phylla**   **mesophyll** (internal tissue of *leaves)* ; **phylloclade** *(leaf*-like stem); **chlorophyll**   (green   pigment   of *leaves*—171).

(604) **phyta**   *phytology* (syn. *botany) ;* **bryophyta**   (559); **spermaphyta** (seed *plants*—619).

(605) **pisa**   **pisum** *(pea* genus).

(606) **pisci**   **pisces** ; *piscine.*

, (607)**pomi**   *pome* (botanical term for fruit like *apples).*

(608) **potati**   This is of wide international currency through commerce.

(609) **pruni**   **prunus** *(plum* genus).

(610) **pyri**   **pyrus** *(pear* genus).

(611) **rami**   *ramification; biramus* (with two *branches).*

(612) **rhabdi**   *rhabdite* (roaMike bodies in cells, especially of skin of flat worms).

(613) **rhiza**   **rhizostome** (underground roof-like stem); **rhizoids** *(root* hairs); **mycorrhizae** (symbiotic fungi associated with *roots* of grasses and other plants).

(614) **salmi**   **salmo** *(salmon* genus).

(615) **sardini**   **clupea sardinus.***

317

(616) **secala**   **secale cerealae.***

(617) **selachi**   **selachii** (class name of *sharks,* skates, rays). .

(618) **simi**   **simiidae** *(ape* family).

(619) **sperma**   **spermaphyta** *(seed* plants, i.e. conifers and angiosperms— 604) ; **angiosperm** (flowering plants so-called because the *seeds* are in a *closed* ovary —175) ; **endosperm** (food store inside *seed); **sperm** (male gametes of seminal fluid, or *seed* of Bible English).

(620) **suberi**   **suberin** *(cork* cellulose) ; *suberose.*

(621) **sui**   **suina** *(pig* tribe) ; **suidae** *(pig* family).

(622) **syca** *or*   **sycosis** (barber's itch—a *fig-like* ulcer) ; *sycophant* (original meaning—informer against plunder of sacred *fig*-trees), **fici**   based on the *fig* genus, **ficus.**

(623) **tabaca** *or* Widely current through commerce, **nicoti nicotiana** (genus of *tobacco* plant).

(624) **tomati**   Widely current through commerce, from Mexican Indian *tomatl.*

(625) **tritica**   **triticum** *(wheat* genus).

(626) **vermi** *or* *vermiform* appendix (usually called appendix) of intestine, so called because worn-shaped; *vermicide (worm-*killer),

   helminthi *helminthology* (study of parasitic *worms*—288); *anthelmin-thic* (purge to cure ?*ww-infection— 103) ; **platy-helminthes** (flat *worms,* e.g. liver fluke of sheep, or tape-worm—363).

(627) **vespi**   **vespa** *(wasp* genus) ; *vespiary* (a wasps' nest, cf. *apiary*— 553, and *aviary*—555)*

(628) **viti**   **vitis vinifera.***

(629) **vulpi**   **canis   vulpus** * ;   *vulpine.*

(630) **zoa**   *zoologist   (*288); *zoophilist   (animal* lover, all too often a misanthrope—354*);* **protozoa, bryozoa,** and many other zoological classificatorv terms given on pp. 82-89**.** (631) **agri** *agriculture* (191); *agronomy (***324).**

(632) **alluvia**   *alluvial* deposits.

(633)   **astra** / *astronomy (*324) ; *astrology* (288); *asteroid;* **asteroidea** (star-fishes).

(634) **asyla**   .   *asylum.*

(635) **baia**   *bay.*

(636) **canali**   *canal.*

(637) **carta**   *cartography* **(240).**

(638**) clima** *or*   *climate.*
      meteori   *meteorology* (288).

(639) **continenti**   *continental*

(640) **cosmi**   *cosmopolitan; cosmography* **(249).**

(641) **deserta**   *desert.*

(642) **detriti**   **detritus** (geological term for *muddy* deposits).

(643) **farina**   *farinaceous";•> farina* itself is the old name for *pollen.*

(644) **fonta**   *fountain; font.*

(645) **geo**   *geography* (249); *geocentric* (706) ; *geology* (288) ;
           geodesy.

(646) **heli**   *heliocentric* (706); *heliotropism* (441) **helium**   (recog-
           nized to exist by lines in *sun's* spectra before its discovery
           on earth) ; *heliography* (*sun-* mirror signalling—249).

(647) **horti**   *horticulture* **(191).**

(648) **limni**   *limnology* (branch of ecology—208—dealing with life
           in *lakes*—288).

(649) **luna**   *lunar.*

(650) **mari**   *mariner; maritime.*

(651) **mina**   *mine.*

(652) **monti**   *mountain; Mont Blanc.*

(653) **muci**   **mucus** (phlegm).

(654) **nesia**   **Polynesia** (16); **micronesia** (23); **melanesia** (299)-

(655) **nebuli**   *nebulous.*

(656) **nephela**   *nephelometer* (114); *nephology* (288).

(657) **oceani**   *ocean.*

(658) **phrea**   Some international   zoological   names, e.g. a
           well- shrimp,   **phreatocus**; *phreatic.*

(659) **potami**   **Mesopotamia** (mid-region between *rivers* Tigris and
           Euphrates—91) ; **hippopotamus** *(river- horse,* cf. *hip-
           podrome—205).*

(660) **rura**   *rural.*

(661) **sili**   From *silica* (p. 232), chief constituent of *sand.*

(662) **spectra**   **spectrum** (artificial *rainbow) ; spectral; spectro scope*
           (410).

(663) **terra**   *terrestrial; subterranean.*

(664) **tunneli** *or*   *tunnel.*

    glypha   **tyroglyphe** (mites which *tunnel* in cheese); **siphonoglyph** (ciliated *tunnel* fringing the gullet of sea-anemones and corals for sucking in food— 417). The original Greek verb means both to hollow out (i.e. *tunnel)* or to engrave, hence *hi-eroglyph* or priestly engraving, cf. *hierarchy* (priestly authority—153).

(665) **urani**   *ataman;* **uranus; uranium.**

(666) **urba**   *urban.*

(667) **valli**   *valley.*

(668) **via**   *via; viaduct.*

(669) **ampulla** *or*   International anatomical term for *flask*-like bases of semicircular canals of internal ear, and for other *flask*-like sense organs,

    asfci   **ascus** is the international botanical name for the *flask-like* vessel which contains the spores of certain fungi, e.g. Ergot. This group of fungi is called the **ascomycetes.**

(670) **amyla**   *amylase* (stofcfc-splitting enzyme, e.g. of saliva, pancreatic juice or malt extract).

(671) **bursa** *or* *bursar* (man with the money *bag);* various biological names, e.g. **bursa pastoris** (shepherd's purse).

    sacci   *sac;* **saccus** (sound *bag* of internal ear).

(672) **butyri**   **butyrin (***butter* fat)**;** *butyric* acid (which gives stench to rancid *butter).*

(673) **caca**   **theobroma cacao** * (from Mexican Indian kakantl).

(674)**cafa**   *cafe.*

(675)**calyci**   **calyx** (sepals of flower often form a *cup* hence so called) ; *chalice.*

(676) **campani** *campanology;* **campanulaceae** (an order of flowers which includes the harefo//, Canterbury *bells*, etc.).

(677)**casea**   **casein** *(cheese* protein   used for manufacture of some plastics).

(678) **choani**   **choanocytes** (flagellated cells with membraneous *collar* lining the canals of sponges—497); **choanoflagellata** (micro-organisms like the *collar* cells of sponges—232).

(679) **clinica** *clinic* (a place to decide hospital *bed-worthiness* of patient); *clinical* thermometer (thermometer for use in *bed).*

(680) **confecti** *confectionery.*   *****

(681) **corona** *coronation; coronet.*

(682) **crea** *or* **creatin** (a nitrogenous constituent of *meat* extract) **creodont** (early *meat-e*ating mammals, including the sabre-toothed tiger), **carni carnivora** *(flesh-eating* mammals).

(683) **geli** **gel** (international technical term for *jelly)*; hence hydrogel (262), etc.

(684) **marsupia marsupiaiia** (mammals like the kangaroo which carry their young in a *pocket* of skin).

(685) **mitra** *mitre.*

(686) **olea** *oleaginous; oleic* acid (from lipolysis of olive *oil).*

(687) **pani** The *Oxford Dictionary* and Webster's both give *panification* as a name for *bread*-making, but do not state who uses it or where. A happy association for those who do not know a Romance language is **panica** (598), because millet was probably the first cereal used by mankind for *bread*-making. This is admittedly a poor root, but anyone who knows any French will recognize it in *pain.*

(688) **placa** From Latin **placenta,** now international biological term for the afterbirth, which is cake-shaped.

(689) **pulvini** **pulvinus** (little *cushion* or pad at base of leaf stalk) ; *pulvinate* (architectural term for *cushion*-like projection).

(690) **sacari** *saccharine.*

(691) **sedi** *sedentary.*

(692) **spiriti** *spirits.*

(693) **strata** *stratification* (arrangement of rocks in shelf-like layers, or process of forming same); *stratigraphy* (249); **stratum** (layer or *shelf* of earth's crust) ; **stratosphere** (top *shelf* of atmosphere).

(694) **supa** *soup; sup.*

(695) **tapea** *tapestry.*

(696) **tea** **thea sinensis.***

(697) **testa** International term for *seed-coat.*

(698) **theca** By itself international term for spore-box ; *thecate* (of *boxed-in* structures); as suffix this root occurs in many words for thecate organs.

(699) **toga** *or*   Loose Roman outer *garment.*
      pallia   International zoological name (plural form) for the mantle that lines the shell or *tunic* of molluscs or *TuniccUa* (701).

(700) **trapeza**   **trapezium** (geometrical term).

(701) **tunica**   **tunicata** or sea-squids, near-allies of Vertebrates, with a tadpole-like larva, settle down to a sedentary adult life, enclosed in a *tunic* of cellulose.

(702) **vini**   *vine; wine; vinometer* (for measuring alcohol content of *wine*—114) ; *vinegar.*

(703) **amorphi** *amorphous.*

(704) **atria**   **atrium** *(outer chamber)* into which water flows from the gills of *Tunicates* (701) and *Amphioxus.*

(705) **balconi** *balcony.*

(706) **centra** *centre; heliocentric* (606) ; *geocentric* (645).

(707) **cera** *ceramics*   (making of pottery or *tiles).*

(708) **columni** *column.*

(709) **coni** *conical.*

(710) **cruci** *crucify; cruciform.*

(711) **cuba** *cube.*

(712) **cycli** *cyclical; cyclometer* (114).

(713) **cylindri** *cylindrical.*

(714) **fenestra** *fenestrated* (of membranes with *windows) ;* **fenestra rotunda** *and* **fenestra ovale** are the two *windows* in the periotic bone which invests the internal ear.

(715) **fossa** *fossorial* (of *burrowing* animals) ; *fosse.*

(716) **grami** *gram.*

(717) **lampa** *lamp.*

(718) **litri** *litre.*

(719) **metri** *metre.*

(720) **mura** *or* *mural.*
      septa   **septum,** international technical term for *partition.*

(721) **ponti** *pontoon;* **pons varoli** (region forming a *bridge* between the brain and spinal cord).

(722) **porta** *portal; portcullis; portico.*

(723) **prisma** *prismatic.*

(724) **prosceni** **proscenium.**

(725) **pyrami** *pyramid.*

(726) **quadra** *quadratic; quadrangle.*

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(727) **recessi**   *recess.*

(728) **scala**   *scale* (marked off in *steps).*

(729) **skeleta**   **skeleton ;** *skeletal.*

(730) **sphera**   *sphere; hemisphere.*

(731) **tecti**   *tectorial;* **sempervivum tectorum (house-leek** which grows on *roofs).*

(732) **tubi**   *tube; tubiferous; tubicoloas.*

(733) **acu**   *aculeate* (possessing a sting or prickle, i.e. an anatomical *pin).*

(734) **ara**   *arable.*

(735) **artilleri**   *artillery.*

(736) **axi**   *axis.*

(737) **baci**   **bacillus** (so-called because it is rod-shaped); hence *bacilliform.*

(738) **blada**   *blade.*

(739) **bomba**   *bomb.*

(740) **cardo**   International zoological name for *hinge* of shells of bivalves, e.g. *oyster.*

(741) **catena**   *catenary* (curve which follows the line of *chain* attached by both ends at same level).

(742) **clavi**   *clavichord* (early stringed instrument with *keys).*

(743) **cleidi**   A *cleidoic* egg is an egg *locked* in a shell which protects it against water loss.

(744) **colea**   **coleoptera (535)** beetles, so-called because forewings form a hard *sheath* for hind ones.

(745) **copa**   In international zoological names of many swimming animals with <w-like limbs, e.g. **copepoda** (534), small shrimps abundant in surface layers of sea, chief food of herrings.

(746) **copula**   *copula* (grammatical term for *be* as link between topic and attribute) ; *copulation.*

(747)**coryna**   In many international zoological names, e.g. **corynidae,** a family of polyps with *club*-shaped *tentacles.*

(748)**cteni** *or*   **etenidia**   *(comb*-like gills of molluscs); **cteno-phora** *(comb* jellies—jellyfish with comb-like ciliated ridges for swimming—357); **ctenoid** scales of fishes have *comb*-like ridges.

'   **pectini**   *pectinate;* **pecten** (the *scallop)* has a shell with *comb*-like ridges.

(749) **dentili** *or* This is suggested by the tooth-like nature of a saw, and is artificial.

     trepana Surgical saw, *hence trepanning* of skull by early peoples.

(750) **disca** *disc.*

(751) **elasti** *elastic; elasticity.*

(752) **falci** *falciform (hook*-like) ; *falcon* (with *hook-like* or *sickle-like* beak).

(753) **furca** International zoological name for *forked* tail processes of insects, e.g. *earwig.*

(754) **gladi** *gladiator;* **gladiolus** (so-called because of shape of leaves).

(755) **helica** *helicopter* **(**535**).**

(756) **inci** The **incus** is the *anvil,* base of the three ear ossicles which connect the eardrum (*tympanum*) with the internal ear.

(757) **lamina** International term with same general meaning; hence *laminated* (of material which peels off in sheets, e.g. *slate).*

(758) **lancea** *lancet; lanceolate* (of leaves).

(759) **lyra** *lyre.*

(760) **machina** *machine.*

(761) **mallea** The **malleus** is the outermost *hammer*-shaped bone of the three ear ossicles lying against the eardrum and articulating with the **incus.**

(762) **mimi** *mime; mimicry.*

(763) **missili** *missile.*

(764) **navi** *navy; naval.*

(765) **occlu** *occlude* (a *burr* or *nut occludes* by action of the *screw* or *bolt).*

(766) **peleci** **pelecypoda** (bivalve molluscs, so called because of the *axe-like* locomotory organ—536).

(767) **penna** *pen.*

(768) **pista** *piston.*

(769) **reti** *reticulate.*

(770) **rota** *rotary.*

(771) **sagitta** The zodiacal constellation **sagittarius** (the *Archer)* ; *sagittate* (of *arrow*-like leaves).

(772) **scuta** *or* International zoological name for hard *shield*-1ike integument of segments of insects,

      aspi In names of many fossil fishes with a head *shield*, e.g. **cephalaspis,** one of the earliest known vertebrates.

(773) **seta** International zoological term for *bristles* of worms, and insects.

(774) **signa** *signal; ensign.*

(775) **spatula** *spatulate.*

(776) **sphena** Common root in international anatomical terms for *wedge*-like processes and bones, e.g. **alisphenoid** and **basisphenoid** bones of skull; **zygasphene** *(wedge-like* processes peculiar to snake's vertebrae) ; **sphenodon,** nearly extinct New Zealand lizard, a lone survivor of a Coal Age class of reptiles with *wedge-like* teeth.

(777) **stapi** The **stapes** is the innermost of the three ear ossicles (so-called because like a *stirrup).*

(778) **syringi** **syrinx** (voice-box of birds, responsible for *flute-like* notes of same).

(779) **taxi** *taxi.*

(780) **tympana** **tympanum** (ear-*drum).*

(781) **vagoni** Thomas Cook and Son *Wagons-lits* the world over ; our word *wagon.*

(782) **vecti** **vector** (magnitude with specified direction—the action of the *lever* depends on the equilibrium of two vector magnitudes). .

(783) **vela** *velar;* **vel** is the common international root in names for organisms which float with the wind by a sail-like projection, e.g. **veliger; velella.**

(784) **acidi** *acid.*

(785) **anthraci** *anthracite.*

(786) **argenta** *argent.*

(787) **aura** **aurum** (international name for *gold).*

(788) **carba** **carbon.**

(789) **cigara** *cigar*.

(790) **cigaretta** *cigarette.*

(791) **colla** **colloid** (international chemical **term**—originally for *gluish* residues), and in several international biological terms such as **collenchyma,** a tissue of sponges, so-called because its cells are *glued* together at the edges.

(792) **creia** **cretaceous** *(— chalk)* age, when the great reptiles flourished.
(793) **crystali** *crystalline.*
(794) **cupra** *cupric; cuprous.*
(795) **ferra** *ferric; ferrous;* jfem>concrete.
(796) **gasi** *gas.* ∫
(797) **hali** **halogen** *(salt*-making) family of elements—*chlorine, iodine,* etc.
(798) **margara** In the Christian name *Margaret*; the *pearl* oyster is **ostrea margarifera.**
(799) **metali** *metallic.*
(800) **papyri** *papyrus; paper.*
(801) **petrolea** *petroleum.*
(802) **plasti** *plastic.*
(803) **plumba** **plumbum** (international chemical term for *lead)..*
(804) **saponi** *saponification* (break-down of fat by alkali, originally in soap-making).
(805) **sepia** International zoological name for the cuttle-fish, which exudes a cloud of *ink* when disturbed.
(806) **stanna** **stannum** (International chemical term for *tin).*
(807) **sulphi** *sulphide.* ,
(808) **vitri** *vitreous.*
(809) **agenda** Widely current with same meaning.
(810) **anthropi** *anthropology* (288) ; *philanthropy* (354) ; *misanthrope* (305).
(811) **arma** *armaments; army; armour.*
(812) **arti** *artistic; art.*
(813) **banca** *bank.*
(814) **bibli** *Bible; bibliography* (249) ; *bibliophile* (354).
(815) **billeta** Internationally widespread word for *ticket* (Russian, French, Swedish, etc.).
(816) **bureau** Widely current with the same meaning.
(817) **capitali** *capitalist; capital.*
(813) **capitula** *chapter* is a corruption of the Latin word.
(819) **capsa** *capsule; encapsulate.*
(820) **christi** *Christian.*
(821) **classi** *classify; class.*
(822) **coloni** *colonial.*
(823) **commisari** *commissariat; commissary.*
(824) **comita** *committee.*

(825) **compani** *company.*

(826) **crati** *autocratic* (9) ; *democratic* (197) ; *plutocratic* (366) ; *theocratic* (435).

(827) **data** Widely current with the same meaning.

(828) **discipuli** *disciple.*

(829) **famili** *family; familial.*

(830) **fili** *filial;* **F.l** (first filial generation—international *genetic* symbol).

(831) **formula** Widely current with the same meaning.

(832) **gazeta** *or* Both have wide international currency, **journali**

(833) **gramma** *.telegram* (99) ; *cryptogram* (190); *anagram; cablegram; gramophone* (356).

(334) **gyna** *misogynist* (305) ; *gynaecology* (288) ; *polygyny* (16) ; *protogynous* (of flowers with *female* parts which ripen first—139).

(835) **infanti** *infantile.*

(836) **imperia** *imperial,*

(837) **industri** *industrial.*

(838) **musea** museum.

(839) **nota** *or* A **bill is a** *note* **of what one owes.**
  computo *computation,* cf. Spanish *cuento***,** Ital. *canto,* Swed.*räkning,* German *Rechnung.*

(840) **parenta** *parental.*

(841) **poeti** *poetic.*

(842) **politica** *political.*

(843) **polizi** *police.*

(844) **posta** *postal.*

(845) **proletari proletariat.**

(846) **propaganda** Widely current with the same meaning.

(847) **propria** *expropriate.*

(848) **prosa** *prosaic; prose.*

(849) **regi** *regicide; regal.*

(850) **rentieri** *rentier.*

(851)**sacramenta** A *sacrament* is a ritual act of a sacred character, in so far comparable to the Roman *Sacramentum* or military oath.

(852) **scientia** *scientific.*

(853) **secretari** *secretarial.*

(854) **sibi**   In the international terminology of genetics **sib** stands
              for brother or sister and is derived from the equivalent
              Old English *sibbling.* This Teutonic root is still alive in
              Scottish dialects, where a *sibman* is a near relation, and
              sibness means relationship.
(855) **telefon**   Widely current with the same meaning.
(856) **telegram** Widely current with the same meaning.
(857) **thema**   *theme; thematic.*
(858) **universita**   *university.*
(859) **valuta**   Widely current with the same meaning.
(860) **verba**   *verbal.*
(861) **cambio**   *cambist* (expert on bills of *exchange*) ; **cambium** (layer
              of stem or roots where cells *exchange* function of mul-
              tiplying for that of protection or transport of sap).
(862) **charito**   *charity; charitable.*
(863) **cido**   *patricide; regicide; infanticide; fratricide*
(864) **concessio** concession (lease of mines, land, etc.).
(865) **diffusio** *diffusion; diffusible.*
(866) **flexio**   *flexion; flexible.*
(867) **foramino foramina** *(openings* for nerves in skull or vertebrae).
(868) **idio**   *idiosyncrasy; idiopathic;   idiom.*
(869) **massage**   *massage.*
(870) **necto**   Many zoological names,e.g. of water boatman
.   **(notonecta),** a pond bug which *swims* on its back.
(871) **perplexo** *or   perplexity.*
      confusio *confusion.*
(872) **universo** *universal.*
(873) **utilo**   *utilization.*
(874) **cartoni**   *carton.*
(875) **corpuscula**   *corpuscle; corpuscular.*
(876) **glacia**   *glacial* (ice) epoch *; glacier; glaciatio*
(877) **organa**   *organ*; *organic; organization.*
(878) **phlogista** *or phlogiston* (alchemical *fire* principle, supposed to
                  escape during burning),
      luclferi *lucifer*.
(879) **sphinctra***sphincter* muscles of stomach, anus, etc., acting as taps
                  for gut,
(880) **unita**   *unit*.

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Two other specimens of translation from English into Interglossa here follow. The first is based on the original text of the *Unanimous Declaration of the Thirteen United States in America*. The second follows that of the *Declaration of the Rights of Man and of Citizens by the National Assembly of France,* as rendered in Postgate's *Revolution from 1789 to 1896.*

U Manifesto e mono Voco de mono tri ge zygo Natio in America

Tern u Rheo de homini Accido, Mono Demo posso esthe necesso de Fracto de plu politica Copula inter Auto syn plu hetero Demo. Harmono plu Nomo de Cosmi plus de Theo, Mu j*ene lyso plus gene occasio de plu iso Privilegio de plu residuo Natio de Geo. Un homo Chron, Mu debito dicte baso de Lyso harmono u congruo Revero pro plu Credo de Homini.

Na esthe credo ; plu para Nomo habe phanero Verito. Chron u Proto, pan Homini habe iso. U Theo date a singulo Homini plu no-verso Privilegio, cleisto de Bio, cleisto de Libero, cleisto de tentato gene hedo. Plu Homini acte societo plu Crati tendo un Immuno de plu iso Privilegio ; plus pan Crati debito gene archo e Volo de Demo. Postulo u Crati non acte harmono plu para Tendo ; u Demo debito acte per Privilegio allo de Muto allo de Necro Re. Post Re, Mu debito acte societo u neo Crati harmono plu para Nomo syn plu geno de Archo; su pheno date offero de Immuno plus de Hedo syn maxima Fortuno.

Harmono u Sapio de pre Accido, u Sopho acte inhibito u Muto de Crati, mega tem ge revero, causo plu no-gravo plus no-duro Baso. Tem Mu poto acte tolero vice acte necro plu societo Organa ; su non habe alieno ; plu Homini duro esthe algo. Anti Re, Mu permito balle, plus Mu debito balle, apo Mu u Crati; plus Mu debito acte societo plu neo Geno de Immuno ; chron u longo Serio de Oppresso syn Clepto tendo morid Sequo date digito u Viro de Helo. Minus Protesto, plu para Coloni pre acte tolero major de satio Tem. Na nu necesso gene u neo geno de Crati.

(Here follows the list of grievances.)

Manifesto de Privilegio de Demo syn Homini e natio Commita de France

U No-sapio de plu Privilegio de Homini, plus Non-activo pro Mu, plus Arrogo anti Mu, eque solo Proto de communo

Mal-accido plus de Auto-profito e pin Crati. Causo Re, plu Electio-pe de Demo de France pre acte judico de Dicte per solemno Manifesto de plu para hagio plus no-verso Privilegio. Per no-muto Mnemo de iso Manifesto, plu Mero-pe de homini Grego post reacte debito plus post acte harmono plu Privilegio de Auto. Causo u duro Posso de Scopo de plu Acte de Lego plus Controlo e Crati comparo plu debito Tendo de plu societo Organa, u debito Arclio post gene major revero. Causo plu para elemento Nomo minus Baso de Protesto date digito plu neo Privilegio de Demo ; Mu post tene immuno u Systemo de Lego plus universo Hedo holo Tem. Harmono plu para Baso, u natio Commita esthe logo plus dicte serio de plu hagio Privilegio de Demo syn Homini contra Theo syn Espero de Laudo e Theo.

(1)   Chron u Nato, plu Homini habe iso ; plus Mu duro habe libero plus iso de Privilegio/ Causo Re, zero Functio no- -cleisto u communo Functio debito date normo de plu hetero Ordino de plu Persona.

(2)   U Tendo de pan politica Organa eque un Immuno pro plu no-verso Privilegio de Homini, harmono plu Nomo de Cosmi. Plu para Privilegio eque u Libero, u Propria, un Immuno plus u Resisto de Oppresso.

(3)   U Demo debito eque u Proto de holo Archo. Zero Persona, zero Fascio de Persona, debito habe archo ex hetero Baso.

(4)   U politica Libero eque u Privilegio de singulo geno de Acte; su no stimule nocuo de plu residuo Persona. Solo Limito de debito Utilo de Privilegio de singulo Homini eque u Necesso de tene Immuno plu iso Privilegio de singulo residuo Persona. U Lego debito acte limito plu Privilegio de Persona harmono u para Nomo.

(5)   U Lego debito dicte impero anti zero geno de Acte no-cleisto un Acte anti Grego. Plu Persona no debito acte inhibito Recipro no-cleisto chron u Lego dicte impero anti plu iso Acte. Minus Impero de LegQ, zero Persona debito acte caugo u DynQ.

(6)   U Lego dicte volo de Grego. allo Auto allo per Electio-pe, singulo Natio-pe debito habe Priviiegio de Electio de plu neo Lego.

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Cleisto de Profito cleisto de Peno, u Lego debito acte per iso Methodo de singulo Persona. Causo u Lego acte de singulo Persona per iso Methodo ; singulo Pe debito habe iso occasio de Ergo plus de Ordino plus de Laudo harmono plu idio Poto de Auto minus Hetero no-cleisto harmono plu Experto plus eu Qualito de Auto.

(7) Minus Archo de Lego minus Methodo harmono Re, zero Homini debito gene aetio, zero Homini debito gene captivo zero Homini debito duro habe eco Peno-do. Plu Persona: su acte catalyso, allo dicte petitio allo acte harmono, plu Impero minus Archo de Lego; debito gene peno. Chron u Lego dicte impero de Captivo allo acte captivo u Natio-pe; un iso Persona debito reacte impero minus Attendo minus Resisto.

(8) U Lego no debito acte peno major de phanero Necesso. Zero Persona debito gene peno no-cleisto harmono u Lego, ge publico pre Mal-acte, plus harmono u Methodo de Lego.

(9) U Lego debito acte harmono u Postulo de Non-aetio pre Judico anti; plus debito acte minus Severo major de Necesso tendo u tene ge captivo un iso Persona pre Judico.

(10) Chron u Publico de Credo, cleisto religio Credo, non acte anti u societo Organa, ge immuno e Lego ; zero Homini debito gene oppresso causo un iso Credo.

(11) U Publico de Cogito plus Credo minus Inhibito eque u forto valo Privilegio de Homini. Singulo Natio-pe permito dicte, singulo Natio-pe permito acte grapho, singulo Natio-pe permito date publico auto Credo conditio de acte per iso Libero harmono plu Limito de Lego.   .

(12) Un Arma syn Polizi necesso tene immuno plu Privilegio de Homini cleisto Natio-pe. Plu para Organa de Dyno no debito acte pro idio Profito de plu Persona ; su habe onero de Mu ; vice pro Demo.

(13) U Crati necesso gene pecunio pro plu Organa de Dyno plus pro plu hetero Onero per Fisco. Singulo Mero-pe de Natio necesso acte pecunio harmono auto Poto.

(14) Allo per auto Voco allo per Voco de Electio-pe, singulo Natio-pe debito habe privilegio de Judico de plu Fisco, cleisto de Summatio, cleisto de persona Metro, cleisto de Functio de Duro.

(15) U Natio debito habe occasio de Examino de plu Acte e singulo Persona ; su gene archo allo gene onero e Natio.

(16) U Demo; su non habe plu para Poto plus un iso Immuno de plu Privilegio ; debito gene u neo Systemo de Lego.

(17) U Privilegio de Propria habe hagio plus no-verso. Chron u para Privilegio non acte anti communo Necesso ge dicte per Lego ; zero Persona debito perde Re. Chron u Lego tracte u Propria apo Persona, u Lego debito acte pecunio de Re.

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