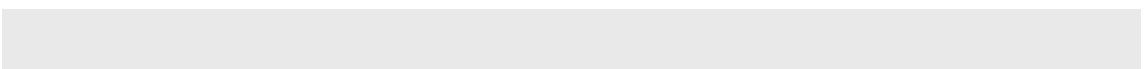


**SYSTEMIC FUNCTIONAL
GRAMMAR:
A FIRST STEP INTO THE
THEORY**

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iii/97

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1. Into systemic-functional theory of grammar

1.1 General: [lexico]grammar & the study of grammar ('grammatics')

This is an introductory account of a particular theory of grammar, namely systemic-functional theory. Grammar is one of the subsystems of a language; more specifically, it is the system of wordings of a language. It is a phenomenon that can be studied, just like light, physical motion, the human body, and decision-making processes in bureaucracies; and just as in the case of these and other phenomena under study, we need theory in order to interpret it. So for instance, the physical phenomenon of the atom has been interpreted theoretically in terms of Democritus' theory, Rutherford's theory, Bohr's theory, and so on. We distinguish between the phenomenon itself (the atom) and various theoretical models of it. What kind of thing the atom is thought to be will of course vary considerably as we move from one theory to another. Democritus' atom was very different from Bohr's atom, in that it was indivisible, not a configuration of subatomic particles; that is, Democritus' theory allowed us to see much less of the atom than Bohr's theory does. A well-known example of the way theory determines how we interpret phenomena is light. Light can be interpreted either as particle or as wave; there are two alternative theories. In this case, the alternatives turn out to be complementary, in the sense that each reveals something about light that we need to account for. This situation is quite typical in science: we need complementary theoretical perspectives to account for the rich diversity of properties we uncover in the phenomena being studied.

Grammar as a phenomenon of study is thus interpreted according to different theories. So as to maintain the distinction between grammar and theories of grammar, we shall call theory of grammar **grammatics**. The distinction is analogous to that between language and linguistics, or between society and sociology. The difficulty is that people often use the same term for both the phenomenon and its study: e.g. we speak of the "grammar of English" (the phenomenon) but also of "traditional grammar" (one theory of the phenomenon). We could clarify this situation if we called the second "traditional grammatics". Our concern here is thus with **systemic-functional grammatics**; and we shall illustrate how it can be used in the study of **grammar** with examples from the grammars of Chinese, English, and Japanese.

Grammar (as a phenomenon) is part of language; it is the "system of wordings", as we put it above. But how it is conceptualized will depend on our grammatics. In the history of thinking about language in the West, there have been two somewhat different theoretical perspectives. Both have their origins in Ancient Greece; there have been many variations, but we can still trace these two strands of thinking today. In one, language is a set of rules — rules for specifying structures; so grammar is a set of rules for specifying grammatical structures, such as the construction of a transitive sentence with 'verb + object'. This perspective is that of logic and philosophy, e.g. in the foregrounding of the sentence as the basic unit of language, organized on a logical model into Subject + Predicate. Since the sentence is the basic unit, it is studied in isolation. In the other view, language is a resource — a resource for making meanings; so grammar is a resource for creating meaning by means of wording. This perspective is that of rhetoric and ethnography, e.g. in the foregrounding of text (discourse) as the basic unit of language, organized according to the rhetorical context. Since text is the basic unit, the sentence is studied in its discourse environment.

The kind of grammatics that is usually presented in school is a diluted version of the 'grammar as rule' type of theory. It presents rules of grammar in terms of words in sentences, with words serving functions such as Subject, Predicate, Object, and Adverbial. As a theory, it falls far short of the demands that are now being made on grammatical theories. On the one hand, it takes over too much from the European languages it was first applied to, starting with Greek and Latin; hence it is of limited value in interpreting the grammars of non-European languages such as Chinese, Japanese, Indonesian, Tagalog, Thai, Vietnamese or the languages of other regions and continents. On the other hand, it builds in too little of the overall grammatical system of language. It allows us to see only a small fragment of grammar and does not provide us with a way of interpreting the overall organization of the grammar of a language as a system of information. At this stage in history we need a richer theory of grammar to meet the challenges of the age of information — e.g. in education (how to organize

and give access to knowledge) and in computation (how to achieve the automatic processing of text). We are also in a position to learn more about grammar thanks to technical innovations: the tape recorder allows us to store and examine spoken language, and the computer allows us to manipulate vast amounts of text (spoken or written) for the purpose of grammatical study.

Systemic-functional theory is one response to these demands. The theory was first developed in work on the grammar of Chinese; and it has been used in educational and computational contexts from an early stage. Unlike the theory of grammar that is still the received tradition in school, systemic-functional grammatics takes the resource perspective rather than the rule perspective; and it is designed to display the overall system of grammar rather than only fragments. We hope to bring this out in the discussion which follows.

1.2 Grammar as resource; systems & their realization in structure

We use language to interact with one another — to construct and maintain our interpersonal relations and the social order that lies behind them; and in doing so we interpret and represent the world for one another and for ourselves. Language is a natural part of the process of living; it is also used to 'store' the experience built up in the course of that process, both personal and collective. It is (among other things) a tool for representing knowledge — or, to look at this in terms of language itself, for constructing meaning.

Grammar is 'part of' this resource. But the relation of grammar to other 'parts' of the linguistic system is not a part to whole relation; rather, it is a symbolic one. Grammar is **a resource for creating meaning in the form of wordings**. Let us illustrate this point by reference to one broad area of semantics and grammar — an area that we shall characterize as **interpersonal**: this is one of three such general areas, the other two being **ideational** and **textual**.

In interacting with one another, we enter into a range of interpersonal relationships, choosing among semantic strategies such as cajoling, persuading, enticing, requesting, ordering, suggesting, asserting, insisting, doubting, and so on. The grammar provides us with the basic resource for expressing these speech functions, in the form of a highly generalized set of clause **systems** referred to as MOOD.

A system, in this technical sense, is a point of choice. In the grammars of Chinese, English, and Japanese, the most general choice in mood is that between 'indicative' and 'imperative' clauses. These two are the options or **terms** in the system. The following examples illustrate the contrast between 'indicative' and 'imperative' in English:

systemic option (term)	example
'indicative'	the spy/ I/ you <u>came/ comes/ will</u> come in from the cold; who <u>came &c</u> in from the cold?; <u>did/ does/ will</u> the spy/ I/ you come in from the cold?
'imperative'	[You] come in from the cold!

Any grammatical choice can be represented as a system with two or more alternative **terms** or **features**, as shown graphically in Figure 1.

entry condition	system name	terms
clause	MOOD TYPE	indicative imperative

Fig. 1: A system

This graphic representation shows (i) the system name (MOOD TYPE)¹; (ii) the terms from which one has to be chosen ('indicative' / 'imperative'); (iii) the condition under which the choice is available, the **entry condition** ('clause'). The full set of conventions for the systemic representation is given in the Appendix.

How do we know that this system is part of the grammar of English? There are three parts to the answer. (i) If we look at the wording of the examples given in the table above, we can see that there are systematic differences between the 'indicative' ones and the 'imperative' ones. The former have a Finite verb, whereas the latter do not; and the former have a Subject, whereas the latter may or may not have one — it is typically absent. (ii) If we look at the system itself to consider what choices are available for 'indicative' clauses, we find that they have a choice in tense ('past/ present/ future'), expressed through the Finite verb; and also in person, expressed through the Subject. In contrast, if we look at the system to consider the choices that are available for 'imperative' clauses, we find that they have no choice in tense and the Subject can (in principle) only be the addressee, 'you'. (iii) If we look at the distinction in meaning that the system makes, we find that the choice has to do with the nature of what is being negotiated in the dialogue: either information ('indicative', e.g. *Did the spy come in from the cold? — Yes, he did.*), or goods-&-services ('imperative', e.g. *Come in from the cold! — OK.*). These three parts to the answer illustrate three general angles of approach to any system in the grammar: (i) '**from below**', (ii) '**from around**', and (iii) '**from above**' — see Figure 2. (We return to this point below in Section 3.3.) We now explore the system from different angles, beginning 'from below' — from the point of view of how the systemic contrast is created in the wording.

¹ The system name is not a formal part of the system; it is merely a convenient index.

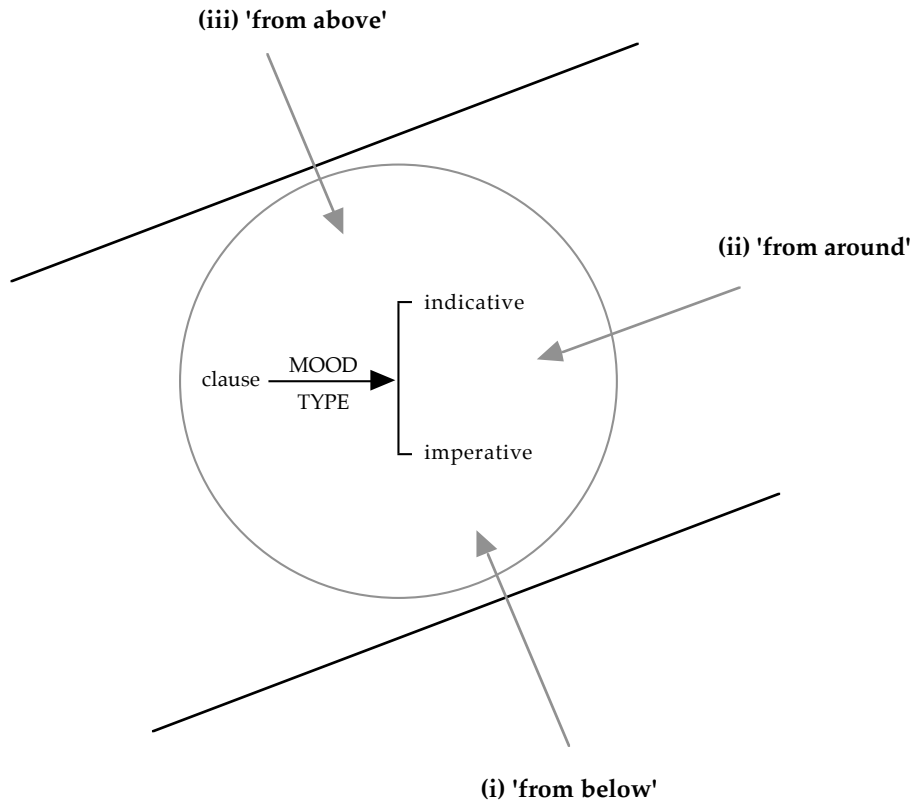


Fig. 2: Perspectives on a system

(i) Systemic contrasts are created by some aspect of the wording: the terms of the system are differentiated by means of grammatical structure (e.g. the absence vs. presence of an element of structure such as Subject), by means of grammatical or lexical items (e.g. the grammatical item *ka* in Japanese indicating interrogative clauses), or, as a further step, by means of a phonological feature (e.g. rising vs. falling intonation). We say that systemic terms, or features, are **realized** (expressed, coded) by aspects of the wording. The choice in the MOOD system between 'indicative' and 'imperative' is realized **structurally**: only indicative clauses normally have a Subject. We can indicate the presence of the grammatical function Subject in indicative clauses as in Figure 3.

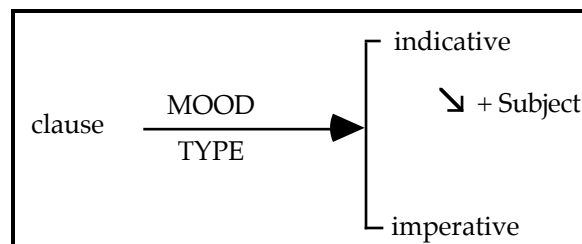


Fig. 3: System with associated realization statement

The arrow (\ll) represents the relation of **realization**: the feature 'indicative' is realized by the presence of the function Subject, stated as +Subject. The different types of **realization statement** are summarized in the Appendix. The presence of Subject is one step in the specification of the **function structure** of an indicative clause, i.e. of the organization of the clause as a configuration of functions.

(ii) When we come to explore 'from around', we find that, through their entry conditions, a number of systems come together as an inter-related set, called a **system network**. We can illustrate again from the grammar of MOOD. The choice between 'indicative' and 'imperative' is

the most general one in this area of the grammar; but each alternative leads to further choices. For instance, indicative clauses are either 'declarative' (*they rode horses*) or 'interrogative' (*did they rode horses; who rode horses*); declarative clauses are either 'untagged' (e.g., *they rode horses*) or 'tagged' (e.g., *they rode horses, didn't they*), and interrogative clauses are either of the wh- type (e.g., *who rode horses?*) or the yes/no type (e.g. *did they ride horses?*). See Figure 4.

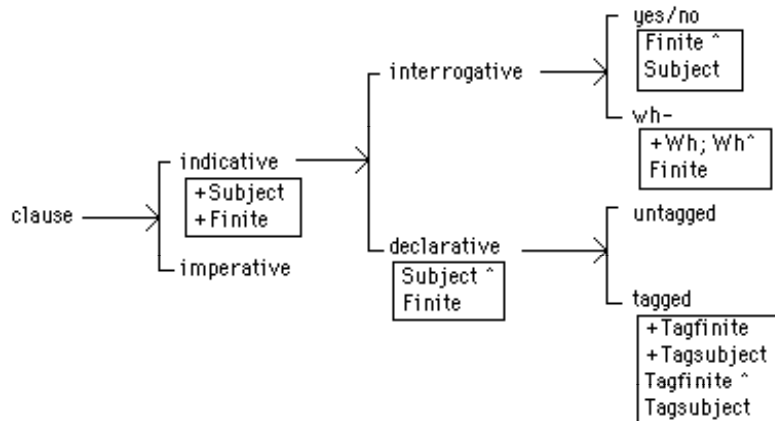


Fig. 4: Network of MOOD systems (realization statements in boxes)

In the diagram in Figure 4, the grammatical resources are represented as a network of interconnected systems, each of which is a choice point. The systems in the network are ordered from left to right, starting with the most general option and moving towards more specific ones: if 'clause', then 'indicative' or 'imperative'; if 'indicative', then 'interrogative' or 'declarative'; if 'declarative', then 'tagged' or 'untagged'; if 'interrogative', then 'yes/no' or 'wh-'. This is the scale of **delicacy** (degree of detail, specificity, granularity).

In the example in Figure 4, each entry condition is a simple feature, 'clause'; but entry conditions can also be complexes of features, involving conjunction and/or disjunction. Such features likewise are always terms in other systems. Let us illustrate disjunction in an entry condition. Consider again the MOOD grammar of Figure 4. It has one system, MOOD TAG, whose entry condition is 'declarative'. However, this system is actually not restricted to declarative clauses; it is also open to imperative ones (e.g., *[you] saddle the horses, will you; let's saddle the horses, shall we*). Consequently, we need to be able to state "if **either** 'declarative' or 'imperative', then 'tagged' / 'untagged'". That is, we need a disjunctive entry condition: see Figure 5.

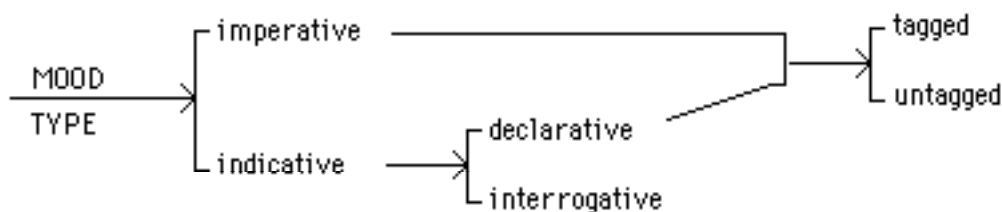


Fig. 5: Disjunctive entry condition

The same systemic feature or complex of features may occur as the entry condition to more than one system in the system network. In this case, the systems are **simultaneous**. For example, the primary MOOD system (MOOD TYPE) is simultaneous with the system POLARITY — the choice between 'positive' and 'negative' clauses: see Figure 6.

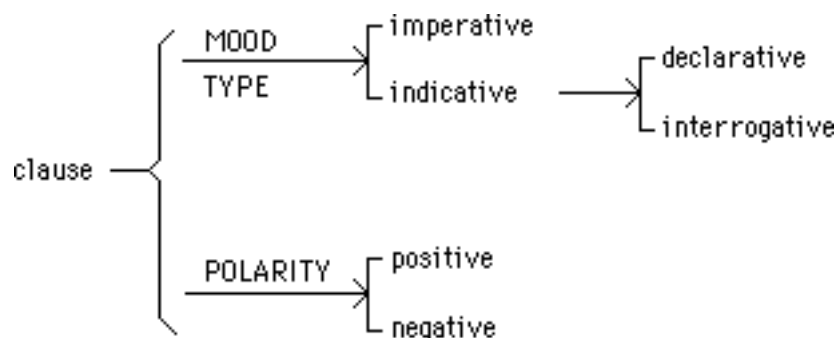


Fig. 6: Simultaneous systems

Two simultaneous strands in a system network define a two-dimensional paradigm. It is often useful to present examples in the form of a matrix table, with one system represented by the columns and another by the rows. Thus MOOD TYPE and POLARITY intersect as follows:

		MOOD TYPE:	
		indicative	imperative
POLARITY:	positive	The spy came in from the cold.	Come in from the cold!
	negative	The spy didn't come in from the cold.	Don't come in from the cold!

Such matrices can be used in probing the accuracy of a complex system network: if it is not possible to find examples for one or more of the cells of a matrix, this means that the system network predicts a combination of systemic terms that does not exist.

Let us summarize what we have shown about the concepts of system and structure, and the relation between them. These concepts theorize the axes of organization in language, the paradigmatic and syntagmatic. The systemic, paradigmatic, axis is primary in the particular sense that it defines the overall organization of the grammar of a language; and the structural, syntagmatic, axis is secondary in the particular sense that it is specified locally in the environment of the various terms of the systemic axis. Figure 7 shows the intersection of the two axes in the grammar of MOOD, with the systemic axis providing the overall organization. This bifurcation into the paradigmatic axis and the syntagmatic axis makes it possible for the system to relate both to what is above and to what is below — in other words, both to what the system realizes and to what it is realized by.

(iii) Looking at the system from above, we are asking what it means: in other words, what semantic features are being realized by this particular set of options in the grammar. As already noted, in the case of MOOD the meaning has to do with the negotiation of speech-functional roles in dialogue: with basic categories such as statement and question (exchange of information), command and offer (exchange of goods-&-services), and the complex network of variable and more delicate categories of verbal interaction. We shall not pursue the semantic analysis here; but we may note that the resources and methods for representing semantic categories are formally identical with those used in the lexicogrammar.

1.3 Example: MOOD

The grammar of a language is a very rich and complex system; the grammatics must bring out that richness and complexity, and not obscure it. This means recognizing the different vectors along which the complexity is ordered, and exploring one step at a time.

Here we have introduced only one 'corner' of the grammar, and only in the most general terms: the primary systems of MOOD, as these are found in English. Because grammar is viewed as a resource rather than as a set of rules, it is interpreted in systemic-functional theory as a system network; this represents the grammatical potential available to the language user. The system network allows us to map out the overall organization of the grammar of a language, with delicacy as the main principle for ordering the various systems relative to one

possible realizations. Similarly, while all languages probably have a basic opposition between statements and yes-no questions (polarity questions), which it is often (though not universally) possible to express by means of the distinction between falling and rising intonation, questions demanding a specific element of information (other than the value of the polarity) may be grouped systemically either with statements or with yes-no questions. It is easy to see why: they are like statements in that their polarity is certain, but at the same time they are like yes-no questions in that they demand information. Different languages organize their MOOD grammars around different generalizations in this way. Furthermore, languages differ considerably with respect to more delicate options, such as those concerned with how interactants position one another in dialogue (e.g. by indicating expected responses) and with how they assess the information being exchanged (e.g. by indicating degree of probability or source of evidence).

At the least delicate end of the grammar, Chinese, English, and Japanese have similar MOOD systems. All three distinguish 'indicative' vs. 'imperative' clauses, and within the former, 'declarative' vs. 'interrogative', with one interrogative subtype for querying elements and another for querying polarity. Examples are tabulated below:

			Chinese	English	Japanese
indic.	decl.		Tailang shang xue qu	<u>Taro is</u> going to school	Taroo wa gakkoo e <u>ikimasu</u> .
	interrog.	elemental	Tailang dao nali qu?	Where is <u>Taro</u> going?	Taroo wa doko e <u>ikimasu ka?</u>
		polar	Tailang shang xue qu ma?	Is <u>Taro</u> going to school?	Taroo wa gakkoo e <u>ikimasu ka?</u>
imper.			Shang xue qu!	<u>Go</u> to school!	Gakkoo e <u>ike!</u>

But while the three MOOD systems are congruent up to the point in delicacy shown in the table above, they also differ from one another in more delicate terms. For instance, in (Mandarin) Chinese, 'polar' interrogatives are further differentiated according to the speaker's expectation regarding the polarity of the proposition: they are biased (positive or negative) or unbiased; e.g. 'Do you want it?', positive bias *Ni yao ma?*, negative bias *Ni buyao ma?*, unbiased *Ni yao buyao?*. English has only the biased forms: positive (semantically neutral) *did you see him?*; negative (semantically, positive bias) *didn't you see him?* English has no unbiased form, other than the highly marked (peremptory) *did you see him or not?*

The basic MOOD system we have discussed is concerned with (i) the nature of the commodity being exchanged (information vs. goods-&-services) and (ii) the orientation of the exchange (giving vs. demanding). But there are other aspects of the exchange that may be grammaticalized in this part of the grammar, in particular aspects of the tenor of the relationship between the interactants engaging in the exchange, i.e. between speaker and addressee. In Japanese, this area is perhaps more highly codified in the grammar than in either Chinese or English. For instance, alongside the "plain" imperative (as in *Hanase!* "Talk!"), there are also polite options for situations where the speaker is superior to the addressee (as in *Hanashi-nasai!*) or inferior to the addressee (as in *Hanashite-kudasai!*). The elaboration of the grammar of Japanese in the areas of politeness and honorification is well-known. It is an important characteristic of the grammatical system — one that makes very good sense in terms of the interpersonal metafunction. At the same time, we have to recognize that the grammars of both Chinese and English also have created considerable potentials for enacting a wide range of subtly different tenor relationships. These potentials are perhaps not immediately obvious because they rely to a large extent on a cryptic feature of the system, viz. grammatical metaphor. Thus alongside the congruent *Come in from the cold!*, there are also various metaphorical variants where the command is realized not as an imperative clause but as if it was a statement or a question. For example: *I'd like you to come in from the cold; I want you to come in from the cold; you should/ must /will come in from the cold; Would / Could you come in from the cold.* Such expansions of the system are of course characteristic of Japanese as well.

What generalizations can be made about the *realization* of systemic options in mood? MOOD options are typically realized in various ways, including intonation (direction of pitch movement), mood particles, relative sequence of elements (usually involving a finite verb), and

special verbal categories. It seems that interpersonal systems in general tend to be realized by some **prosodic** mode of expression; and the realizations of MOOD that we find across languages can often be shown to be prosodic (e.g., interpersonal mood particles that serve as juncture prosodies). These particulars are not, of course, part of the general theory of grammar — they are empirical descriptive generalizations covering a number of different languages. And here Chinese, English, and Japanese illustrate nicely a general principle of crosslinguistic similarity. While their basic mood systems are congruent with one another, their systemic contrasts are created in different ways, deploying somewhat different subsets of the realizational resources. The basic patterns are tabulated below (leaving out realization by intonation, which is used by all three languages):

MOOD TYPE	imperative	indicative		
English		+ Mood (Subject, Finite)		
Chinese				
Japanese	(Predicator: "imperative" verb-form)			
INDIC. TYPE		declarative	interrogative	
English		Subject ^ Finite		
Chinese				
Japanese			+ Negotiation = <i>ka</i> ^ #	
INT. TYPE			polar	elemental
English			Finite ^ Subject	+ Wh; # ^ Wh ^ Finite
Chinese			+ Negotiation = <i>ma</i> ^ # OR: + Predicator2: negative; Predicator ^ Pred.2	+ "Wh"
Japanese				+ "Wh"

As the realizational table indicates, English differs from Chinese and Japanese in its mood structure. It has a Mood element, which consists of Subject + Finite. This Mood element plays a central role in the realization of mood options, in terms of both its presence and its internal organization. In the unmarked cases tabulated above, it is present in 'indicative' clauses (e.g. Mood: *You will / Will you + come in from the cold*), but not in 'imperative' ones (e.g. *Come in from the cold*). Further, 'declarative' clauses are distinguished from 'polar' ones by the relative ordering of Subject + Finite — Subject ^ Finite (*will you*) and Finite ^ Subject (*you will*), respectively. The significance of the Mood element in English is also shown e.g. in tags, where the Mood element is picked up at the end of the clause as the Moodtag, consisting of Tagfinite ^ Tagsubject (e.g. *You will come in from the cold, won't you?*) Neither Chinese nor Japanese has a distinct Mood element. It follows that they do not rely on the sequence of Subject + Finite in realizing mood options. In fact, neither language has a separate function Finite in the mood structure of the clause. Chinese has no system of verbal finiteness at all, and Japanese does not separate out finiteness from the rest of the verbal group in its clausal structure as English does. Instead, both languages deploy mood particles at the end of the clause serving the function we have called Negotiation, since it determines the clause's negotiatory value in dialogic interaction. The difference is that Japanese Negotiation = *ka* is a property of 'interrogative' clauses in general, whereas Chinese Negotiation = *ma* is a property of 'polar' interrogatives in particular. (Chinese also has another type of 'polar' interrogative, where the Predicator is repeated with a negator as in *shi bu shi*. We referred to it above when we discussed differences in more delicate mood systems.) In fact, these mood particles are part of more extensive sets of interpersonal particles in both languages, including *ne, ba* in Chinese and *ne, yo* in Japanese; the closest equivalent of the English option of tagging a clause is a particle of this kind. The generalization is that the grammars of Chinese and Japanese provide the resource for indicating how the speaker intends the addressee to take his/ her move in the dialogue as s/he is about to 'hand over' to the addressee. (Such interpersonal particles are common around the languages of the world; for example, we find them clause-initially in Arabic (*hael, ?a*) and in French (*est-ce que*), and we find them in various (South-)East Asian languages, e.g. in Korean, Thai (clause final *máy, rii; na* etc.), Vietnamese (clause final *phong, a, u, chu, di* etc.). Such particles may also

realize options in interpersonal systems having to do with tenor, such as the sex of speaker and addressee and the status and power relations between them.)

The function Subject is not referred to in the table above in the realization statements of Chinese and Japanese. Does this mean that these languages do not have a Subject; or that their Subjects derive from different metafunctions? Asking these questions is in fact not the best way of exploring the grammars of Chinese and Japanese. The category of Subject was posited in the description of English and other languages; and in English its interpersonal nature is very clear once you begin to study dialogue. However, this does not mean that we should go looking for Subject in Chinese, Japanese or any other language we interpret systemic-functionally. Rather, we should ask more abstract questions that are less likely to prejudge the answer. Thus we ask how the clause in Chinese or Japanese is organized as an interactive move in a dialogue, as an exchange between speaker and addressee; and we can go on to ask whether there are elements in the clause that are given some special status in this interaction, as when an element is given the status of being the point of information demanded from the addressee in an 'elemental interrogative' clause. In English, the Subject is such an element: it is the element given the status of modal responsibility; that is, it is responsible for the success of the clause as an interactive move. This is perhaps easier to see in 'imperative' clauses than in 'indicative' ones; but it applies to both types. In an 'imperative', modal responsibility means responsibility for complying with or refusing to comply with the command, as in: *Behave yourself!*, *Be polite!*; *Don't be fooled by his pleasant demeanour!*; *Be guided by your parents!* — *I will/ I won't*. As these examples indicate, modal responsibility is quite distinct from actorhood; it can even be assigned to an element in a passive clause. It is also in the environment of an 'imperative' clause that we are perhaps most likely to find a similar type of status in Chinese and Japanese (and in other languages as well): they both give one element in the clause the special interpersonal status of responsibility for complying with the command in an 'imperative' clause. The question is then whether there is an indicative variant of this status of modal responsibility assigned to a clausal element in dialogue — or some other status of special interpersonal significance. Since this would require a lengthy exploration, we leave the issue open.

2. Expanding the (dimensions of) lexicogrammatical space

Figure 8 locates the MOOD 'corner' of the grammar in relation to the other most general systems, according to the two dimensions of **metafunction** and **rank**. Metafunction refers to the different modes of meaning construed by the grammar; rank refers to the different 'sizes' of the grammatical units (layers of constituency). We shall discuss each of these concepts in turn (Sections 2.1 and 2.2), followed by a short account of the third dimension, that of **delicacy** (Section 2.3).

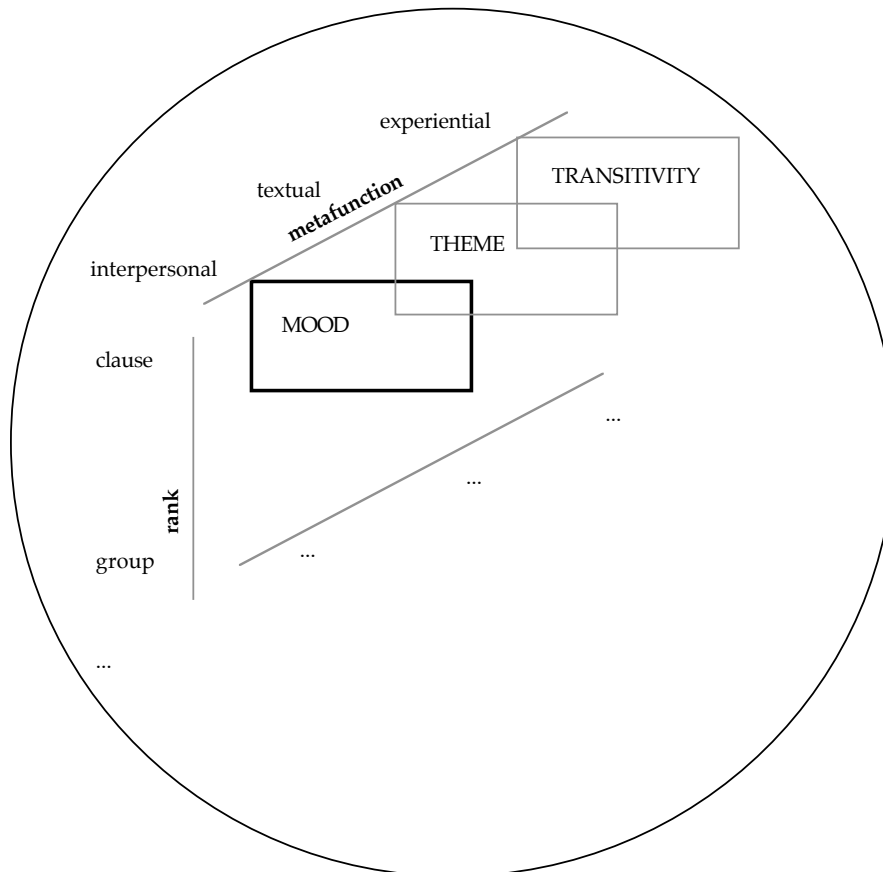


Fig. 8: The view of the grammar so far, relative to expansion by metafunction and rank

2.1 (1) By metafunction: from MOOD to TRANSITIVITY & THEME

We begin our move from the MOOD corner of the system located at the intersections of 'clause' rank and 'interpersonal' metafunction by moving along the dimension of metafunction.

2.1.1 The three metafunctions

Let us introduce these **metafunctions** in two steps. The grammar creates meaning within two highly generalized metafunctions that relate to phenomena outside language: (i) interpersonal and (ii) ideational.

- (i) The **interpersonal** metafunction is concerned with the interaction between speaker and addressee(s) — the grammatical resources for *enacting* social roles in general, and speech roles in particular, in dialogic interaction; i.e. for establishing, changing, and maintaining interpersonal relations. One of its major grammatical

systems is MOOD, the grammaticalization of speech function that we have already met.

(ii) The **ideational** metafunction is concerned with 'ideation' — grammatical resources for *construing* our experience of the world around us and inside us. One of its major grammatical systems is TRANSITIVITY, the resource for construing our experience the flux of 'goings-on', as structural configurations; each consisting of a process, the participants involved in the process, and circumstances attendant on it. For example: [Location:] *in the open glade* [Actor:] *the wild rabbits* [Process:] *danced* [Accompaniment:] *with their shadows*.

These two metafunctions orient towards two 'extra-linguistic' phenomena, the social world and the natural world; we construe the natural world in the ideational mode and to enact the social world in the interpersonal mode. For instance, we can construe a picture of what can participate in an action (ideational) and we can enact who gives orders to whom (interpersonal). In addition, there is a third metafunction, intrinsic to language (that is, orienting towards the phenomena created by language itself, viz. meanings) — the textual metafunction.

(iii) The **textual** metafunction is concerned with the creation of text — with the *presentation* of ideational and interpersonal meanings as information that can be shared by speaker and listener in text unfolding in context. One of the major textual systems is THEME, the resource for setting up a local context for a clause by selecting a local point of departure in the flow of information (or perhaps rather 'swell of information', since it is not a uniform flow). Thus the spatial Location is given thematic status in the example analysed for TRANSITIVITY above: [Theme:] *in the open glade* [Rheme:] *the wild rabbits danced with their shadows*.

The role of the textual metafunction is an enabling one. It serves to enable the presentation of ideational and interpersonal meaning as information that can be shared: it provides the speaker with strategies for guiding the listener in his/ her interpretation of the text.

As Figure 8 suggests, the three metafunctions are simultaneous; this simultaneity applies to both axes of organization, the systemic and the structural. **(i) Systemically**, this means that MOOD (interpersonal), TRANSITIVITY (ideational), and THEME (textual) are simultaneous strands within the system network of the clause: see Figure 9. That is, the metafunctions are manifested as clusterings in the overall system network of the clause (and other grammatical units). The figure shows a fragment of the English network; similar simultaneous strands are found in Chinese and Japanese — although, as we shall see below, MOOD and THEME relate in somewhat different ways in the three languages, and the operation of the system of VOICE in mapping structural functions from the different metafunctions onto one another is also varied. Around the languages of the world, we can expect considerable variation in these systems which relate the different metafunctions to one another. There are languages which have no equivalent of the VOICE system we find in e.g. Chinese, English, and Japanese;² and where languages have both VOICE and THEME, we find variation in the division of labour between them, in particular in how the choice of an unmarked thematic status is achieved. Further, systems deriving from the different metafunctions may also be distributed along the rank scale (constituency hierarchy; see below) in different ways, particularly across the ranks of clause, verbal group and verb.

² That is, no system which is functionally similar enough to suggest that it should be called by the same name.

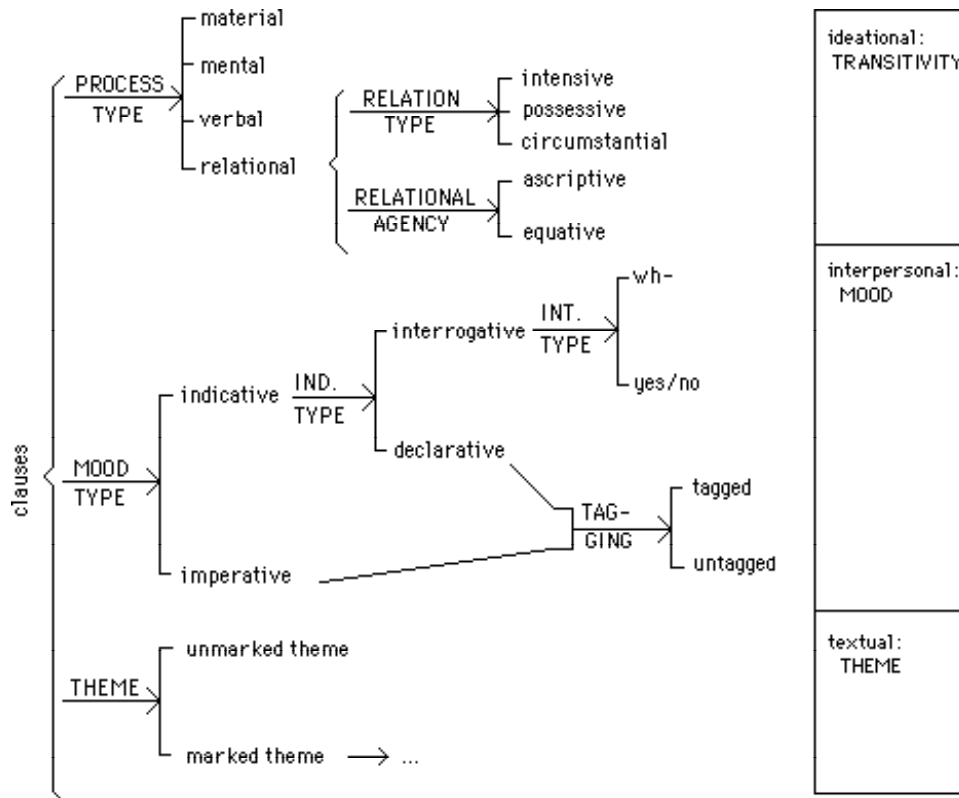


Fig. 9: Metafunctions as manifested in the system network of the clause (English)

(ii) **Structurally**, the metafunctional simultaneity is manifested as three simultaneous strands or layers in the structure of the clause: see Figure 10, which shows the three metafunctional perspectives on our earlier example. The structural functions from the different metafunctional strands are conflated with one another; for example, Subject is conflated with Actor (represented as Subject/ Actor; see the Appendix). The example of structural simultaneity is from English. Structures are also metafunctionally layered in this way in Chinese and Japanese, but the organization within each strand may be different from what we find in English. We referred above to the differences in the interpersonal layer, which is probably where the main structural differences lie. Figure 11 presents an example from Japanese of an 'elemental interrogative' clause. There is no Mood element and we have not posited a Subject function, but the clause ends with the Negotiation function where its negotiatory or interactional contribution is realized. Negotiation is preceded by Predicator, the interpersonal perspective on the verbal group serving in the clause: the Predicator carries assessments of mood and polarity; and it also carries degrees of 'politeness' and 'formality' (such as the difference between *desu* and the plain form *da*). The Wh element³ is in the position it would have in an unmarked declarative clause; Wh and Theme are not conflated 'by default', as they are in English. Chinese is like Japanese in this respect. The two are also similar in that functions that are recoverable from the text or the context for the addressee may be left implicit; for example, a Theme that is continuous with preceding Themes is likely to be left implicit. This also means, of course, that any structural functions from the other metafunctional layers which are conflated with it are also left implicit.

Around the languages of the world, we can expect to find considerably more variation in the way the three metafunctional contributions to structure are mapped onto one another. The main variable here is most probably rank. Languages differ in the way that the realizational domains of THEME, MOOD, TRANSITIVITY, and related systems are distributed across ranks. For example, many languages do much more work in the verb or verbal group than languages such as Chinese and English.

³ It would be more appropriate to call this the "D element", since most interrogative items begin with d- in Japanese.

metafunction:	system:	<i>in the open glade</i>	<i>the wild rabbits</i>	<i>danced</i>	<i>with their shadows.</i>
textual	THEME	Theme	Rheme		
interpersonal	MOOD	Adjunct	Subject	Finite/ Predicator	Adjunct
		Residue (1)	Mood		Residue (2)
ideational	TRANSITIVITY	Location	Actor	Process	Accompaniment

Fig. 10: The simultaneous metafunctions in the structure of the clause (English)

metafunction:	system:	<i>Kore wa</i>	<i>nan</i>	<i>desu</i>	<i>ka</i>
textual	THEME	Theme			
interpersonal	MOOD		"Wh"	Predicator	Negotiation
ideational	TRANSITIVITY	Carrier	Attribute	Process	

Fig. 11: The simultaneous metafunctions in the structure of the clause (Japanese)

2.1.2 Ideational (at clause rank): TRANSITIVITY

The ideational metafunction engenders resources for construing our experience of the world around us and inside us; the ideational system at clause rank is TRANSITIVITY. TRANSITIVITY is concerned with construing one particular domain of our experience — our experience the flux of 'goings-on', as configurations of a process (of some general type: material, mental, relational), the participants involved in it (Actor, Goal; Senser, Phenomenon; Carrier, Attribute; and so on), and the circumstances attendant on it (Cause, Location, Manner (including means and instrument), Accompaniment, and so on).

There are two types of variable in systems of transitivity:

- (i) The type of process.
- (ii) The type of participation in process.

(i) The **type of process** is represented in the system network in Figure 9. The transitivity system of a language will construe experience into a small set of domains of meaning which differ according to the process itself and the nature of the participants involved in it.

In English, the primary options in PROCESS TYPE are 'material/ mental/ verbal/ relational': for a more detailed account of the transitivity system, see Figure 12. This system is motivated by criteria (i) 'from above', (ii) 'from below', and (iii) 'from around'. Some of these criteria are set out and illustrated in the following table:

PROCESS TYPE	(i) from above:	(ii) from below: structural realization				(iii) from around:	
	category meaning					PROJECTION	TENSE ⁴
material	doing & happening	Actor <i>the company</i>	Process <i>is giving</i>	Goal <i>a new teapot</i>	Recipient <i>to my aunt</i>		present -in- present
mental	sensing	Senser: conscious <i>my aunt</i> <i>my aunt</i>	Process <i>wants</i> <i>wants</i>	Phenomenon <i>a new teapot</i>		+ projection <i>them to buy a new teapot</i>	present
verbal	saying	Sayer: symbol source <i>the company's letter</i> <i>the company's letter</i>	Process <i>says</i> <i>says</i>	Verbiage <i>kind things</i>	Receiver <i>to my aunt</i> <i>to my aunt</i>	+ projection <i>that she is entitled to a new teapot</i>	present
relational	being & having	Carrier <i>this teapot</i>	Process <i>is</i>	Attribute <i>beautiful</i>			present
		Identified <i>this</i>	Process <i>is</i>	Identified <i>the teapot</i> <i>the company</i> <i>gave my aunt</i>			

These are different clause types; a number of verbs can serve in more than one type, in different senses. For example, the verb *make* can serve in a material clause in the sense of 'produce' and in a relational clause in the sense of 'be' (or 'cause to be'). Thus *it made a good drink* is ambiguous between material 'it (e.g. the appliance) produced a good drink' and relational 'it (e.g. the mixture) was a good drink'. Such ambiguous instances can always be probed 'from above', 'from below' and 'from around'. Let us take 'material' and 'mental' in the system of PROCESS TYPE as illustrations of the three perspectives that motivate this system.

⁴ Unmarked tense for representing present time.

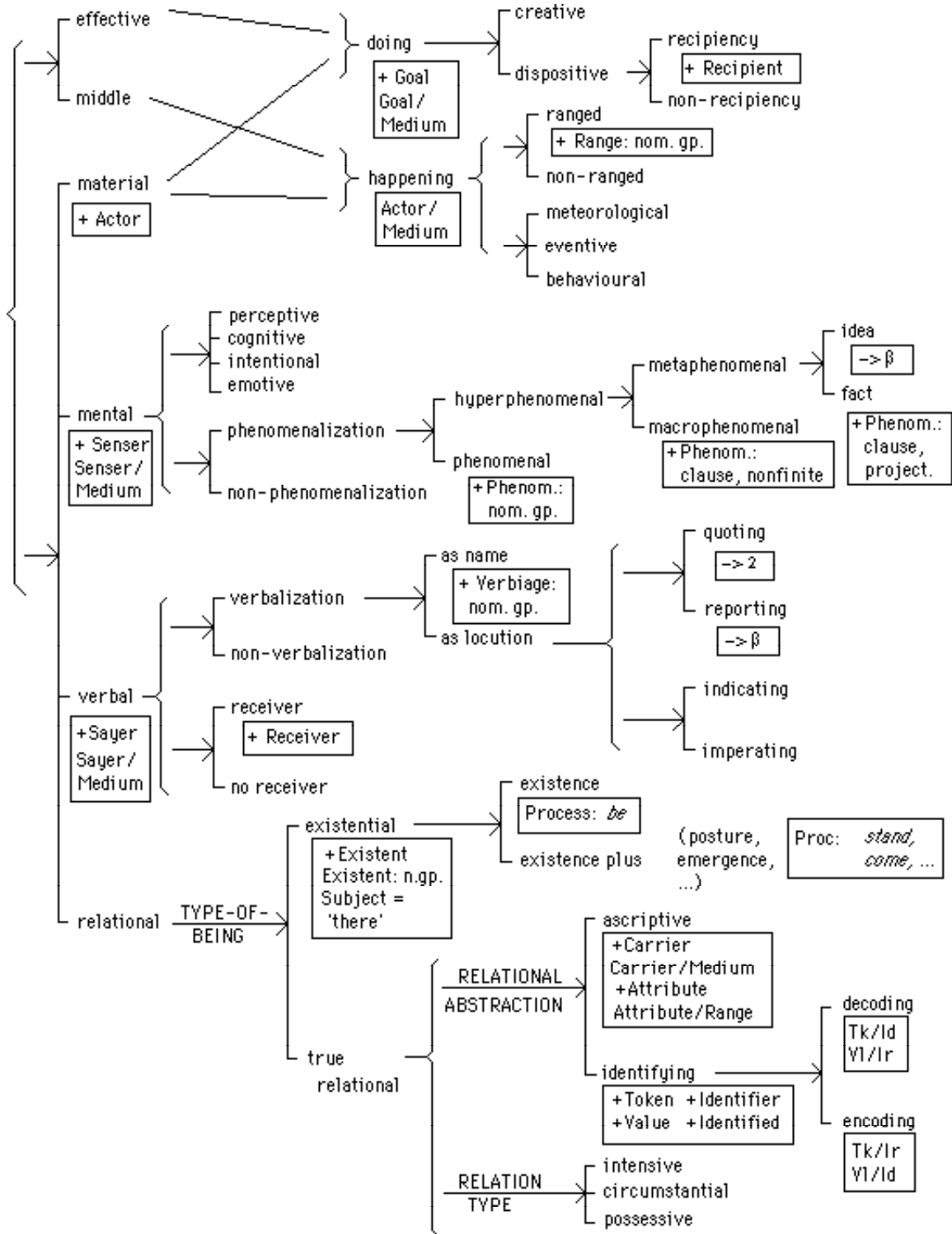


Fig. 12: TRANSITIVITY system network

(1) PROCESS TYPE: 'material'. (i) Looked at 'from above', a material clause construes doings & happenings — including actions, activities, and events; configurations of a process and participants involved that require some input of energy to occur and where one participants is likely to undergo a change. (ii) Looked at 'from below', a material clause is characterized by particular structural configurations, such as Process + Actor + Goal (+ Recipient), and Process + Range. There is always an Actor, which can be realized by a nominal group representing any 'thing' or even a non-finite clause representing a 'macro-thing' (as in *the boy with green hair broke the window*, and *the earth moving broke the window* respectively), but not by a 'meta-thing' (a fact

— *that the earth moved broke the window* is not possible). Further options determine whether the process is 'directed', in which case there is a Goal as well ([Actor:] *the policeman* [Process:] *hunted* [Goal:] *the demonstrator*), or not ([Actor:] *the policeman* [Process:] *ran*). If the process is directed, it may be 'benefactive'; and if it is, there may be a Recipient ([Actor:] *the judge* [Process:] *gave* [Recipient:] *the demonstrator* [Goal:] *a legal document*). (iii) Looked at 'from around', a material clause is the entry condition to a number of further systems; we have already referred to directedness and benefaction as two examples. It does not lead to a system of PROJECTION (a system with an option of reporting or quoting speech or thought, which we find with verbal and mental clauses, as in *The paper said "The building collapsed"*); it is thus not possible to say *the earth moved: "The building collapsed"*: there can be a causal relation between these two clauses (*the earth moved so the building collapsed*), but not a semiotic one where the clause *the earth moved* would project the clause "*The building collapsed*" onto a more abstract plane as its content. If we explore around PROCESS TYPE but outside the TRANSITIVITY systems themselves, we find that in reports of present time, there is an unmarked correlation with different TENSE selections for the different process types. In material clauses, the unmarked tense is the present-in-present rather than the simple present, as in *The cat's waving its tail* rather than *The cat waves its tail*. (The simple present is used to construe a different time frame, such as generic or habitual time, as in *The cat waves its tail whenever it's uncertain*.) This systemic association between PROCESS TYPE and TENSE is semantically motivated: processes are phenomena that unfold in time and hence have a tense system; but different process types have different temporal profiles and hence different unmarked present tense selections.

(2) PROCESS TYPE: 'mental'. (i) Looked at 'from above', a mental clause construes sensing — perception, cognition, intention, and emotion; configurations of a process of consciousness involving a participant endowed with consciousness and typically a participant entering into or created by that consciousness. (ii) Looked at 'from below', a mental clause is characterized by a particular structural configuration, Process + Senser + Phenomenon. There is always a Senser, which is realized by a nominal group denoting a being endowed with consciousness (e.g. *she in she saw them crossing the road*). It is thus much more constrained than the Actor; in fact, it is the most constrained of all the participants in any of the process types.⁵ In contrast, the Phenomenon can be not only any kind of thing or macro-thing, but also a meta-thing (as in *she saw them, she saw them crossing the road, she saw [the evidence] that they had crossed the road*). (iii) Looked at 'from around', a mental clause leads to a system of PROJECTION. A mental clause can project the content of consciousness, 'thought' or 'ideas', as another, separate clause (as in *He thought —>the moon was a balloon*). Such a clause is not a participant within the mental clause; for example, it cannot serve as the Subject in a passive variant (we do not get *That the moon was a balloon was thought by him*). Further, unlike a material clause, a mental clause does not lead to a benefactive option (there is no *He thought me —> the moon was a balloon*; examples such as *He thought to himself —> "The moon is a balloon"* are not prototypical, but are 'mental as if verbal' — inner speech). With respect to TENSE, the unmarked selection for present time is the simple present rather than the present-in-present (for example, *He thinks the moon is a balloon* rather than *He is thinking that the moon is a balloon*).

TRANSITIVITY, then, offers a network of inter-related options for representing different types of experience — our experience of the material world, of the world of our inner consciousness, of the world of symbolization, and so on. The criteria from above, from below, and from around which we have illustrated together motivate the PROCESS TYPE system in the grammar of transitivity. That is, in our description of this area of the grammar, these types yield the most powerful generalizations. But their differences in the overall system are not immediately obvious. There are no *overt* markers differentiating the process types; for example, there are no transitivity particles at the end of the clause realizing the selection in process type (as we illustrated for MOOD in Section 1.3 above), and there are no differences in verbal morphology. The process types are *covert* systemic types in the transitivity system — in many cases, **cryptotypes** in Whorf's terminology. We recognize that they are 'in the system' exploring them from the three perspectives we have illustrated. When we explore them in this way, we see how the overall system is 'affected' by their presence — how it 'reacts' to their

⁵ In an example such as *The building saw them leave in a hurry*, the nominal group *the building* comes to be interpreted metaphorically as representing a conscious being by virtue of being construed as the Senser in a mental clause.

presence.⁶ For example, we find that the TENSE system 'reacts' to the distinction between the material and non-material process types. Whorf called such properties **reactances**. We have exemplified some reactances to PROCESS TYPE such as TENSE and PROJECTION. Others include classes of verb that can serve as the Process in clauses of the different process types, and a set of reactances outside the ideational metafunction. For example, the textual metafunction includes the option of substitution whereby one piece of wording is substituted for by a particular substitute form (such as nominal *one* and verbal *do* in English) to present that information as continuous (in the environment of contrast, as in *Which towel would you like? – The red one, please*). The verbal substitute *do* (*to/ with*) can only be used in material clauses, not in mental, verbal or relational ones. Thus we can get 'material' *What the company did with the teapot was give it to my aunt*, but not 'mental' *What my aunt did with the teapot was want it*, 'verbal' *What my aunt did with the story was tell it*, and 'relational' *What my aunt did with the director was be her*. Reactants are often outside the metafunctional domain of the system they 'react to', and even when they fall within the same metafunction, they can be a considerable distance away from the system they 'react to'.

Chinese and Japanese seem to have the same primary PROCESS TYPE system as we have just illustrated in English. They differ in the kinds of reactance that provide evidence for the different process types. For example, the temporal issues are different for English and Chinese since English construes time in the process on a tense model whereas Chinese construes it on an aspect model. They also differ in more delicate process types. For example, both Chinese and Japanese bring possession and existence closer together than English does.

In Japanese, material, mental, verbal and relational clauses differ for example with respect to patterns of postpositional marking, options in voice and the resultative construction, and projection. There is always one participant marked by the postposition *ga* (or *wa* if it is thematic); and there may be one or two more participants marked by the postpositions *o* (or *wa* if it is thematic) or *ni* (or *ni wa* if it is thematic) or left without a postposition if the clause is an unmarked relational one. Thus in an active material clause the Actor is marked by *ga*, the Goal by *o*⁷ and the Beneficiary by *ni*:

Sensei ga	watakushi ni	hon o	kudasaimashita
'teacher'	'I'	'book'	'give'
Actor	Beneficiary	Goal	Process

'The teacher gave me a book'

whereas the Attribute or Value of an unmarked relational clause is without a postposition:

Watashi wa	sensei	desu
I	'teacher'	'be'
Carrier	Attribute	Process

'I am a teacher'

PROJECTION is an option for mental and verbal clauses. They can project a clause as the 'content' of the mental or verbal processing and the projected status of this clause is marked by *to*, *ka* or the like. For instance, the following example is a combination of two clauses, a projecting mental one of thinking and another one representing the idea projected by thinking:⁸

⁶ We should note that these are correlations, not relations of cause-&-effect.

⁷ Unless the Process has a feature such as desire or potentiality which lowers the actual impact on the Goal, in which case it is marked by *ga* rather than *o*.

⁸ As in English, the projected clause is not a constituent part of the projecting mental clause. This is shown for example by the fact that it cannot be the focus of THEME IDENTIFICATION (a textual construction of pattern 'X no wa Y da'). In contrast, this textual option is available for a clause serving as the Phenomenon of a mental clause downranked in a nominal group with a Head such as *no*, *koto*, *shirase*.

	Watashi wa	basu de	ikoo	to	omou
	'I'	'bus'	'go'		'think'
α [mental]	Senser				Process
β [projected idea]		Manner-means	Process		
				Negotiation	

'I think I will go by bus'

Verbal clauses are similar with respect to projection; but in addition, they can have a Receiver (marked by *ni*) representing the addressee of a move in dialogue.

Around the languages of the world, we can expect more variation in process type than is evident with Chinese, English or Japanese. It seems plausible that we will find prototypical material, mental, and relational process types in the transitivity systems of most languages, but there will be considerable variation in how they construe more intermediate categories (such as behavioural and existential) precisely because of their more indeterminate status. The central reason for recognizing verbal processes as a distinct type in e.g. Chinese, English and Japanese is their ability to project quoted or reported clauses. However, some languages such as Tagalog may use a relational strategy (cf. English *his statement was that the moon is a balloon*) while others may enact projection interpersonally as "mood projection" with a special quotative mood. And just as we find considerable variation in the realization of mood types across languages (as illustrated above), we will find considerable variation in the overt markers and covert reactances of process types. The criteria we tabulated above are thus specific to English (as we already noted with respect to unmarked present tense selection).

(ii) The second major variable is the **mode of participation** in the process — how participants affect one another through their involvement in a process. The interpretation in traditional grammar is in terms of the concept of transitive derived mainly from material clauses. We have in fact already alluded to it: it is concerned with whether the Actor impacts another participant (the Goal) through the process — transitive — or not — intransitive. Since this model is oriented towards one type of clause, it leads to an interpretation in which process types are have to be differentiated. That is, while the material model operates with an Actor potentially impacting a Goal, once the description is broadened, other process types have to be recognized: these are mental, verbal, and relational (in e.g. Chinese, English, French, Japanese and Tagalog).

But there is an alternative to the type of model that was recognized in traditional grammar — the ergative model of transitivity. This represents a process not in terms of impact but in terms of causation. There is always (in all process types) one participant that is most closely associated with the process, the Medium (since it is the medium through which the process is manifested); and the basic option is whether to represent the combination of Medium + Process as being externally caused by an Agent or not. So the combination 'door + open', can be represented as (say) [Medium:] *the door* [Process:] *opened*, without specifying what brought the occurrence about, or as [Agent:] *the wind* [Process:] *opened* [Medium:] *the door*, with a specification of the Agent bringing about the occurrence. A clause with Process + Medium without the Agent is known as 'middle', and a clause with an Agent (explicit or implicit) is known as 'effective'.

These two transitivity models do not represent mutually exclusive sets of phenomena, but rather complementary perspectives on the same set of phenomena. In any given language, some areas will display more features of the transitive and others more features of the ergative. The balance between them is clearly a major point of variation in transitivity systems around the world. English is a typically mixed system. The ergative pattern, with the contrast between 'middle' and 'effective', is found with all the process types except for verbal processes, which are 'middle' only; for example (Agent in bold, Medium in italics):

PROCESS TYPE	AGENCY	
	middle (Medium + Process)	effective (+ Agent)

material	<i>The door opened</i>	The wind opened <i>the door</i>
mental	<i>She</i> liked the new musical	The new musical pleased <i>her</i>
verbal	<i>She</i> told them a story	
relational	<i>He</i> was mad	She made him <i>mad</i>
	<i>He</i> was Henry	She called <i>him</i> Henry

We can now see that the existence of pairs of mental clauses such as *she liked the new musical* : *the new musical pleased her* can be accounted for by reference to the system 'middle' vs. 'effective' of the ergative model. They manifest the same ergative pattern as we find in material and relational clauses. They differ in one respect. Both middle and effective mental clauses have the same set of participants, Senser + Phenomenon; and the difference lies in the assignment of ergative roles: in the effective the Phenomenon is construed as an Agent bringing about the Senser's sensing (emotion of pleasure in our example), whereas in the middle it is construed non-agentively. Middle and effective thus constitute two complementary perspectives on mental processes; they can be seen from two different angles — either as the Senser engaging in sensing which ranges over (or creates) a Phenomenon, or as the Phenomenon bringing about sensing which impinges on a Senser.

Around the languages of the world, the degree to which one of the two models of transitivity dominates may be different, and we can see this variation in the increasing foregrounding of the ergative model in the history of English. Chinese and English are very similar in the balance between the models in their transitivity systems; but Chinese does not have a systematic contrast between 'middle' and 'effective' mental clauses — these exist only in the middle type. Japanese and English also appear to be very similar in the balance of the transitive and the ergative.

There is variation across transitivity systems beyond what we have suggested so far. On the one hand, there may be yet other transitivity models. In his interpretation of the transitivity of Tagalog, Martin (to appear) identifies a transitive pattern where different process types are distinguished, and a complementary one which construes a clause nucleus consisting of the Process and one participant, the Medium, through which it is actualized. There may or may not be another participant; if there is, it is either drawn into the clause nucleus or repelled by it. The common theme seems to be that transitivity systems embody a complementarity between two perspectives on experience: one in which happenings are distinguished into different types, the other in which they are treated as all alike.

2.1.3 Textual (at clause rank): THEME

The textual metafunction engenders resources for presenting interpersonal and ideational meanings as information organized into text that can be ongoingly exchanged between speaker and listener. This involves transitions in the development of text (conjunctive relations) and the assignment of different textual statuses (thematicity, newsworthiness, continuity and contrast, recoverability). These transitions and statuses enable the exchange of information; the speaker is guiding the listener in interpreting the unfolding text. At clause rank the major textual system is THEME.

THEME is a resource for organizing the interpersonal and ideational meanings of each clause in the form of a message. Each clause will occur at some particular point in the unfolding of the text; this is its textual environment. The system of THEME sets up a local environment, providing a point of departure by reference to which the listener interprets the message. With this system the speaker specifies the place in the listener's network of meanings where the message is to be incorporated as relevant. The local environment, serving as point of departure, is the Theme; what is presented in this local environment is the Rheme. The clause as a message is thus a configuration of two thematic statuses, Theme + Rheme.

In English, thematic status is expressed by position in sequence. Theme is realized by initial position and Rheme is realized by non-initial position: e.g. [Theme:] *In 1791* [Rheme:] *John Macarthur arrived in Sydney*. There are a number of thematic options, including (i) the choice between 'marked theme' (as in the example above) and 'unmarked theme' (the Subject in a declarative clause: [Theme:] *John Macarthur* [Rheme:] *arrived in Sydney in 1791*.); (ii) the option

of theme predication (e.g., *It was John Macarthur who arrived in Sydney in 1791*), typically to identify a particular theme out of a(n implicit) set of potential candidates; and (iii) the option of theme identification, foregrounding some part of the message by means of nominalization (e.g., *what John Macarthur did in 1791 was arrive in Sydney*). Since THEME is a textual resource, it relates the clause to the overall development of text in context in particular: here the text in question was being developed as a chronological sequence.

We have just presented the organization of the textual organization of the clause as a configuration of two discrete constituents, Theme ^ Rheme. This makes it possible to show how they map onto functional elements within the other metafunctional strands of the clause. However, all textual statuses are really degrees of prominence; what we have here is a cline, a gradual move from thematic prominence to non-prominence. We can thus construe the clause as a 'wave' in the flow of information, starting with a thematic peak and moving into a thematic trough. Such wave-like or periodic organization is the mode of expression engendered by the textual metafunction: see further Section 3.1 (ii) below.

Thematicity is one of a set of textual statuses or kinds of prominence. The clause also displays a complementary kind of prominence — degree of newsworthiness. This is a cline from given information to new information, represented as a configuration of Given + New. Prominence as news is realized by intonational prominence: while the movement of pitch in a tone group (intonation unit) is a continuous contour, there will be some major movement, e.g. a major rise or a major fall; and this major movement is prominent against the background of the movement overall.

Clause and tone group are not necessarily co-extensive; one clause may be realized by more than one tone group, and one tone group may realize more than one clause. This in fact reveals the existence of another grammatical unit alongside the clause — the information unit. This unit is realized by the tone group; and it is the domain of the system of INFORMATION FOCUS, realized by Given + New. In the unmarked case, a clause is co-extensive with an information unit, so that Theme + Rheme and Given + New complement one another within the domain of a single clause. While Theme is realized sequentially, New is not; it is realized intonationally. Consequently, thematicity and newsworthiness are independent variables. In the unmarked case, the New is mapped onto the last element within the Rheme that has a lexical content. Consequently, the unmarked message is a combination of two textual waves: Theme shading into Rheme and Given shading into New, with Theme falling within Given and New falling within Rheme. See Figure 13 for an example (assuming a moment in the information flow corresponding to 'where did John Macarthus go in 1791?').

	In 1791	John Macarthur arrived	in Sydney
THEME	Theme	Rheme	
INFORMATION FOCUS	Given	—————>	<————— New

Fig. 13: Theme + Rheme and Given + New in unmarked combination

In the unmarked case, the clause thus unfolds from prominence as Theme to prominence as New. From the listener's point of view, s/he is thus given guidance as to where to integrate the message with his/her interpretation of the text so far and what to zoom in on as the main point. This swell of information within the clause also tends to correlate with a move within the elements of the clause from elements whose referents are presented as specific and so recoverable to the listener to elements presented as non-specific and so non-recoverable to the listener. But, in English, choices in REFERENCE vary independently of thematicity and newsworthiness, so the pattern just described is only a tendency.

The distribution of information in the clause we have just discussed also helps explain the textual aspect of VOICE, 'active/ passive', in English. From a textual point of view, this system provides alternative options for participants as unmarked Theme and unmarked New. Thus for example in an 'effective' clause (see Figure 12 above), the active version will have Agent/Subject as unmarked Theme and Medium as a candidate for unmarked New, whereas the passive version will have Medium/ Subject as unmarked Theme and Agent (if present) as a candidate for unmarked New. Thus VOICE has to be understood in relation to the textual metafunction.

All languages will have textual resources for organizing the presentation the clause as a message, assigning different textual statuses to different parts of the clause. When we explore the clause from a textual point of view, we have to study it as a message in the unfolding text — a message that is adjusted to, and which helps create, the 'flow of information' in the text. Because this view has only rarely been taken in reference grammars, there is lack of information on textual systems. No doubt a good deal of insight into various languages is lost through claims that they are "free word order" languages since textual options are often realized by sequence (as we indicated for English above) and through absence of accounts of intonation systems. But textual statuses can also be indicated by other means such as adpositions (e.g. the preposition *ang* in Tagalog and the postposition *wa* in Japanese).

There is variation in how textual systems relate to clausal systems from the other metafunctions. On the one hand, languages differ in how they relate the textual metafunction to the interpersonal one. As we have indicated, unmarked Theme in English is determined by the mood type (declarative: Subject, wh-interrogative: the Wh-element, yes-no interrogative: Finite ^ Subject, and imperative: Predicator); but many languages do not orient THEME to MOOD in this way: this is true of Chinese, Japanese and Tagalog. On the other hand, languages differ in how they relate the textual metafunction to the ideational one. As we have indicated, English has a system of VOICE for giving participants different textual potentials. Many other languages have a similar system, but they may take up the passive option less frequently than English does or restrict the system of voice more in relation to transitivity. But a language may also achieve the mapping between textual systems and transitivity roles without a separate voice system. For instance, Tagalog has a general system for selecting different participants and circumstances as Theme; but there is no separate system of voice. In English, Theme generalizes across the interpersonal and ideational metafunctions and it may also contain contributions from within the textual metafunction itself — conjunctive and continuative parts of the Theme. Other languages may separate out ideational Themes (i.e. thematic participants and circumstances), giving them a clearly distinct status — as in Tagalog (where ideational Themes are marked by *ang*) and Japanese (where ideational Themes are marked by *wa*).

There is also variation in the division of labour among different textual systems. We suggested that there is a tendency in English for Themes also to be given and specific. This tendency may be stronger in a language where there is no obligatory marking of specificity within nominal groups, as in Chinese. In such languages there may be a closer relationship between 'participant tracking' in discourse and textual systems within the clause than there is in English.

2.1.4 Ideational: logical (at clause rank): COMPLEXING

The metafunctional components of the grammar discussed in 2.1.1 to 2.1.3 have one significant feature in common: their structural reflexes are in the broadest sense *configurational*. That is to say, the structural realization of selections in the systems of transitivity, of mood, and of theme is some organic configuration of distinct functions, like Actor + Process + Goal, or (Subject + Finite) + (Predicator + Adjunct). We have pointed out that these are not always clearly defined, or bounded, as segmental constituents; the critical characteristic that they share is that of organic solidarity — each part fulfils a distinctive function with respect to the whole.

There is one further component in the grammar, one whose structural reflex is of a different order: this is what we refer to as the **logical** metafunction. There are in every language systems of logical relations: relations such as 'and' and 'or' and 'if ... then' and 'because ... so', which construe the links between one piece of the discourse and another. These systems are realized not by configuration but by **iteration**: one clause bonded with another clause, or one group or phrase with another group or phrase. The characteristic feature of these relationships is that they do not create closure; each element (each clause, each group, and so on) can always be followed by another one of the same. We refer to these structures as **complexes**: clause complexes, group complexes, and so on. Each bond in such a complex is called a **nexus**.

Here, as elsewhere in this chapter, we shall direct our attention to the clause — which means, in the present section, to the clause complex. The general form of systems of this "complexing" kind, known as **recursive** systems, is shown in Figure 14; a set of options *x/y/ ...* is combined

with a simultaneous choice of 'stop' or 'go round again'. As far as the clause complex is concerned, the former is itself a combination of two simultaneous systems: (1) interdependency and (2) logical-semantic relation.

The system of interdependency specifies the relative status of the two clauses in a nexus. (A prototypical nexus consists of just two elements; we shall assume this for purposes of discussion.) The two may have equal status, neither being dependent on the other (hence each in principle independent); this relationship is **paratactic**. Or, one may be dependent on the other, where the relationship is **hypotactic**. In our notation, parataxis is shown by Arabic numerals, hypotaxis by letters of the Greek alphabet.

The system of logical-semantic relations specifies what its name suggests: the particular kind of logical interconnection. It is important to stress that "logical" here refers to the logic of natural languages, a common-sense logic characterized by flexibility and "fuzz". This is, of course, the ultimate source of logic in its formal and symbolic sense; but since such systems of logic are derived from natural language, not the other way round, it is not very profitable to try and interpret natural-language logic as an imperfect copy of a logic that has been designed. The basic distinction in the English system, in the logical-semantic relations of the clause complex, is between the two types **expansion** and **projection**.

In a nexus related by expansion, the secondary clause picks up the message of the primary one and expands on it. It may do this in any one of three ways: by **elaborating**, by **extending**, or by **enhancing**. Elaborating means saying the same thing over again, either by direct repetition (the limiting case!) or, more "elaborately", by rewording it, clarifying it, or giving an example. This is the relationship that is signalled by expressions such as *in other words*, *that is to say*, *for instance*; or by abbreviations such as *i.e.*, *e.g.* and *viz.* Extending means adding something, varying, replacing or taking away — expressed by *and*, *or*, *instead*, *except*, and also *but* in its adversative sense. Enhancing means giving some further information that is related in a systematic way by a semantic feature of (typically) time, cause, condition, or concession: here we find conjunctions such as (*and*) *then*, (*and*) *so*, *in that case*, *otherwise*, *nevertheless*, and *but* in its concessive sense. All of these may be combined with both types of interdependency, parataxis and hypotaxis. We have illustrated so far with paratactic conjunctions; but enhancing relations, in particular, are often construed hypotactically, with conjunctions such as *when*, *because*, *if*, *unless*, *although*.

In a nexus related by projection, the secondary clause is instated by the primary clause as what somebody said (**locution**) or thought (**idea**). This relationship is the "direct and indirect speech and thought" of our traditional grammars. Here also the interdependency may be paratactic ("direct") or hypotactic ("indirect"); in other words, projection, like expansion, may combine with either of the two relationships in status.

An example of a clause complex is given in Figure 14. The system network, showing just these first steps in delicacy, is shown in Figure 15.

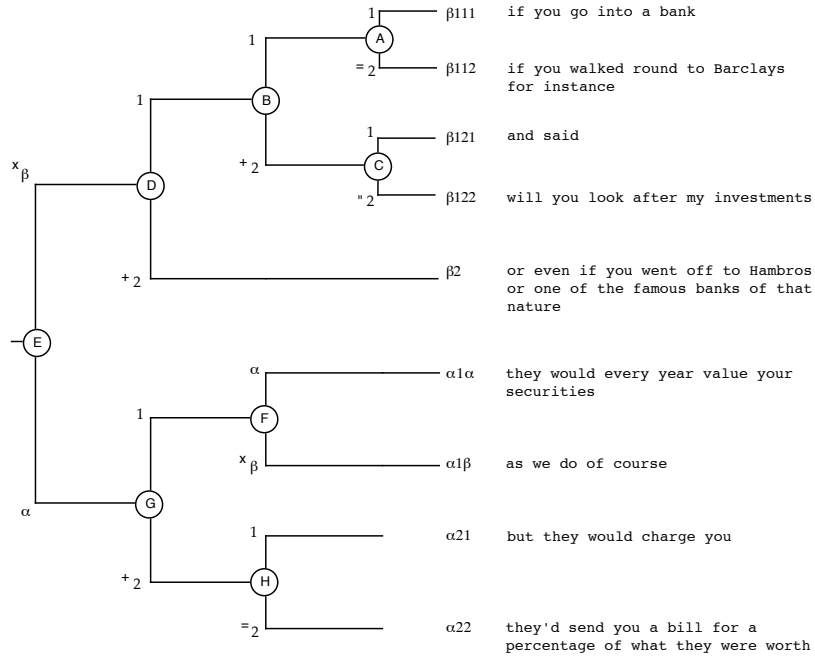


Fig. 14: Analysis of clause complex from casual conversation (Svartvik & Quirk, 1980)

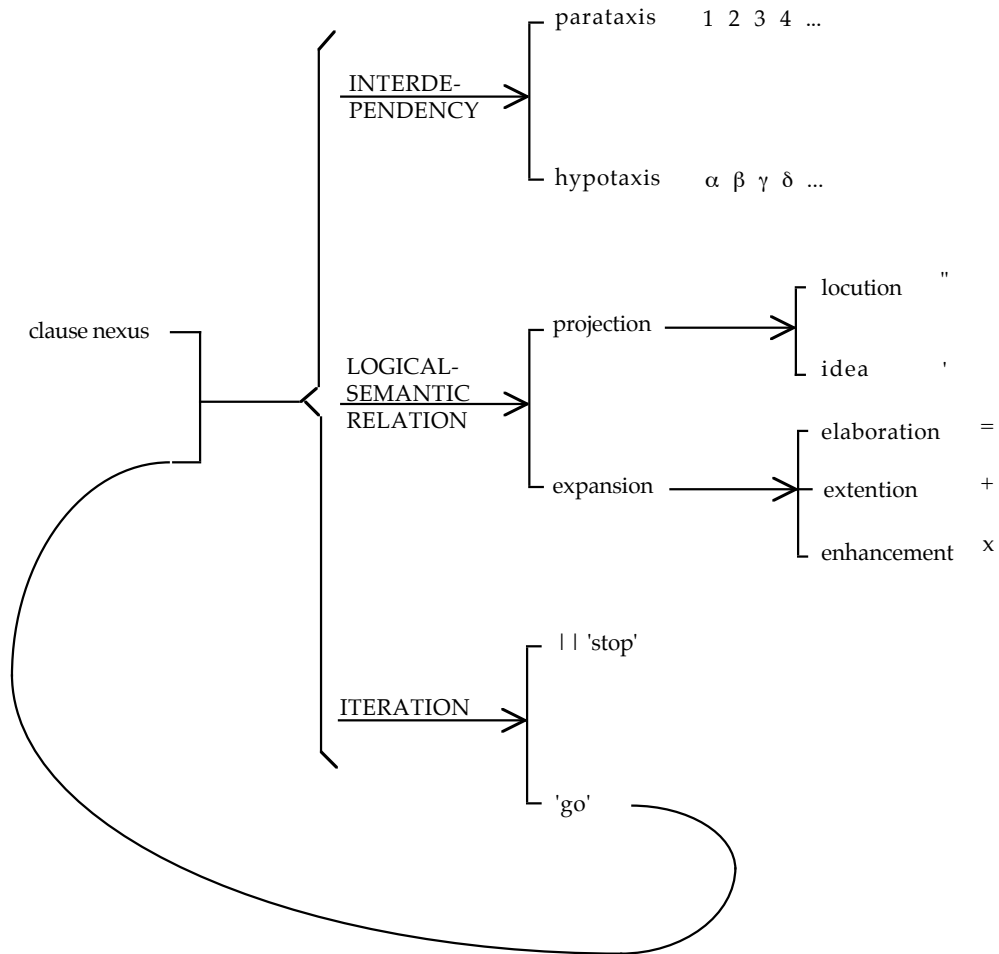


Fig. 15: System network for the clause complex (excluding more delicate options)

2.2 (2) By rank: from clause to phrase and group

Constituency is built on the part-whole relation; it presupposes a whole of which we identify constituent parts. Wholes which display an organic constituency structure are called grammatical **units**. Units have syntagmatic integrity: they are fully accounted for by their structures, and they are not structurally mixed with other units.

Grammatical units are identifiable in functional terms. This means that (i) they are the points of origin of system networks (such as those of transitivity and mood in the clause) and (ii) they function as constituents in their entirety. We can arrive at functionally determined units if we adopt a rank-based type of constituency.

Rank orders units into a hierarchy according to their constituency relation: the highest-ranking units consist of units of the rank immediately below, these units consist of units at the next rank below, and so on, until we arrive at the units of the lowest rank, which have no internal constituent structure. Rank is thus a theory of the global distribution of the units of the grammar. The English grammatical rank scale is

clause
group/ phrase
word
morpheme

That is, a clause consists of groups, a group of words, and a word of morphemes. (For more on the phrase, see below.) For instance, the ranked constituency structure of *newborn calves are easy prey* is as shown in Figure 16. Figure 17 shows the analysis of a clause with systemic features, function structure and preselections of group features.

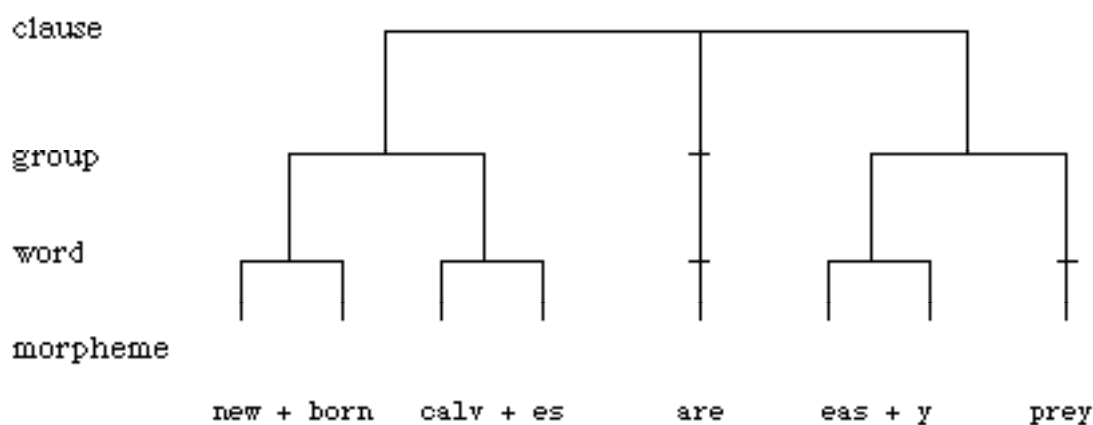


Fig. 16: Rank-based constituency

rank:	axis:	metafun:	Skies	will	be	clear to partly cloudy	over the rest of California
clause	system	textual:	[unmarked theme, unmarked culmination, non-conjuncted;				
		interspers.:	indicative: declarative: untagged & temporal & non-interactant & positive;				
	ideational:	relational: ascriptive & intensive & middle & locative ...]					
	structure	textual:	Theme	Rheme			
interspers.:		Subject	Finite	Predicator	Complement	Adjunct	
ideational:		Carrier	Process		Attribute	Location	

group/ phrase	system		[nom. gp.]	[verb. gp.]	[nom. gp.]	[prep. phrase]
	structure	<i>etc.</i>

17: Systemic and structural analysis of clause with preselections at rank below

We can treat the type of constituency tree above as the norm: all constituents of a units of the rank next below. However, the theory also needs to allow for **rankshift**, whereby a unit one rank serves *as if* it were a unit of a lower rank — i.e., it is *downranked*. For instance, a clause may serve as if it were a group as in (double-barred square brackets, [[]], mark the rankshifted clause):

They'd send you a bill for a percentage of [[what they are worth]]

Rankshifted units differ from ranking ones in various ways — both in their own make-up and in the selections that are open to them. For example, a rankshifted clause is typically not available for argument — it cannot be confirmed or denied. It is thus important that the theory should distinguish between ranking units (units functioning according to their rank) and rankshifted ones (units serving as if they were units of a lower rank).

The metafunctional organization of the grammar that we illustrated above for the clause applies to the other ranks as well. For example, the nominal group has ideational systems of THING TYPE, CLASSIFICATION, EPITHESES and QUALIFICATION, interpersonal systems of PERSON and ATTITUDE, and textual systems of DETERMINATION (cf. Figure 19 below). But the way the metafunctional contributions map structurally one onto another varies; in particular, groups are organized both as organic wholes and as logical complexes. Figure 21 below shows an example of an English nominal group.

Languages differ both with respect to the number of ranks and with respect to the division of grammatical labour between the different ranks. For example, Chinese and English do fairly little grammatical work at word rank — and Vietnamese even less. In contrast, many languages favour word rank as the domain of realization for e.g. nuclear transitivity and modality. Languages also differ with respect to the nature of the rank that is intermediate between words and clauses. Both Chinese and English 'derive' the units of that rank from both ends, as it were: groups are expansions of words (groups of words, with a Head and Modifiers) whereas phrases are contractions of clauses (mini-clauses, with a configuration of Process + Range). The preposition is thus a verbal kind of word, as is shown by English prepositions such as *regarding*, *concerning*). In Chinese this principle is even more pronounced; items such as *zai* serve either in phrases or in clauses: we can interpret the items in phrases as a class of verb, postpositive verb (cf. Figure 20 below). Japanese also has phrases, but the phrasal relation comes after the nominal group (i.e. nominal group + *wa*, *ga*, *o*, *ni*, *o*, *kara*, *made* etc.), just as the Process of a clause comes at the end of the clause; the phrasal relation is a post-position rather than a preposition. Some languages have both phrases and nominal affixes for realizing the function served by the nominal group, morphological cases, often using cases alone for participants and preposition or postposition (adposition) + nominal group marked by case for circumstances (as is the tendency in German). Other languages tend to use case-marked nominal groups for both, as Finnish does. Yet other languages have no phrases at all, but draw on logical sequences of dependent verbs instead to bring certain participants or circumstances into the clause (e.g. Akan). Languages may also use the Process of the clause as the site for marking transitivity roles, as Tagalog does for the Theme of a clause.

As grammars evolve, there is a tendency for items to move down the rank scale, becoming phonologically reduced in the process. For example, pronouns (word rank) may slide down the rank scale to become pronominal affixes (morpheme rank) serving as parts of verbs, and auxiliaries (word rank) may similarly be reduced in rank to become affixes (morpheme) rank serving as parts of verb to indicate tense/aspect, modality and the like. As an intermediate step, such items may be cliticised to other elements before they become bound morphemes. This downranking over time is one aspect of grammaticization, a process whereby categories become more tightly integrated into the grammatical system and the lexicogrammatical system

creates new meanings within some grammatical subsystem. Another aspect of grammaticization is reduction in delicacy: see below.

2.3 (3) By delicacy: from more general to more particular

Rank can be interpreted as a principle for distributing a lexicogrammatical system into a number of different domains or units organized into a constituency hierarchy, or hierarchy of organic wholes and their parts (a "holarchy", as it has been called with reference to biological and other non-semiotic systems). This factoring of the overall system into subsystems according to rank makes the overall system both simpler and more powerful. It makes the overall system simpler precisely because it is factored or partitioned into subsystems that are relatively independent of one another and interact through preselection rather than 'wiring' in a system network. Each subsystem thus has its own domain of responsibility. It makes the overall system more powerful because since each subsystem has its own domain of responsibility, the different subsystems are in principle freely variable with respect to one another so that the overall potential of the lexicogrammatical system is the total intersection of all possible features within all subsystems. This total intersection is, in fact, infinite since, when a system is ranked (i.e. factored into subsystems according to rank), its potential can expand through rankshift (see above): for example, a clause can serve as if it were a group or word, thus opening up the full clausal subsystem at group or word rank.

As an organizational principle, rank is reasonable easy to detect (although, in linguistics, it has sometimes been confused with other principles of organization, notably stratification: sometimes morphemes have been wrongly thought to consist of phonemes instead of being realized by [sequences of] phonemes); rank represents a fairly overt or explicit kind of order — that of a whole to its parts, and it is even reflected partially in many writing systems. However, lexicogrammar is also organized in a more covert or implicit kind of way. We have already referred to this kind of organization: the ordering of the systems of a system network in a relation of **delicacy**. For example, the systems PROCESS TYPE, TYPE-OF-BEING, and RELATION TYPE in Figure 12 are ordered in increasing delicacy. This kind of lexicogrammatical order is more covert in that it is not directly reflected in the wording of a grammatical unit; rather, it is a more abstract kind of order that is imposed on the systems whose options that wording realizes.

Delicacy is a very simple yet powerful principle of organization. It orders systems on a cline from the most general systems of options to the most specific ones; and at the same time, it orders realizations of these options according to their systemic environment. This means that the realizational properties of a clause or any other grammatical unit can be 'placed' in the system so that it applies only to the appropriate subset of units. For example, only 'yes-no interrogative' clauses have the realizational property of Finite preceding Subject (i.e., Finite ^ Subject); it does not apply to interrogative clauses in general, nor to indicative clauses in general, nor to major clauses in general. By the same token, if 'indicative' clauses have the realizational property of having an explicit Subject (i.e., + Subject), then all more delicate options accessible from 'indicative', such as 'yes-no interrogative' also have that property (cf. Figures 4 and 7 above). That is, realizational properties are **inherited** along the cline of delicacy from less delicate to more delicate. Delicacy can thus be interpreted as a general principle for organizing lexicogrammar, just like rank; more specifically, it is a principle for distributing information in lexicogrammar according to taxonomic domain of application.

But delicacy is, in fact, more than an ordering of systemic options and, by implication, the realization statements associated with them. It is also the principle according to which the two 'parts' of lexicogrammar, lexis (vocabulary) and grammar are related. Looked at from the point of view of grammar, lexis is most delicate grammar; and looked at from the point of view of lexis, grammar is least delicate (most general) lexis. In other words, the systemic options of the more general systems in the system network (such as 'declarative/ interrogative'; 'wh-/ yes-no'; 'material/ mental/ verbal/ relational'; 'existential/ expanding relational'; 'intensive/ possessive/ circumstantial'; 'specific/ non-specific') are realized by grammatical structure fragments (e.g. Subject ^ Finite, Process + Existential) or grammatical items (e.g. interpersonal particles *ka, ne, yo* in Japanese or *ma, ne, ba* in Chinese; determiners such as *the/ this/ that* and auxiliary verbs such as *do, be, have* in English), whereas the more delicate options are realized by lexical items (e.g. lexical verbs *be/ represent/ mean/ indicate/ symbolize*; and lexical nouns *man/*

boy/woman/ girl). As we have noted, delicacy is a cline, so there are regions intermediate between grammar and lexis, such as prepositions in English and phase in Chinese. Such intermediate regions serve to reveal the gradual move between grammar and lexis along the scale of delicacy. And one aspect of the semogenic process of **grammaticization** is the move over time of items from lexis to grammar as they are generalized; for example, it is common in languages for some lexical items of motion to be generalized in delicacy to serve as grammatical items realizing options in tense systems (cf. English *going to*, French *venir de*, Swedish *komma att*) and for some lexical items of material manipulation: grabbing, taking to be generalized in delicacy to serve as grammatical items marking Goals (under certain conditions; cf. Chinese *ba*, originally a lexical verb 'take'). Figure 18 gives a very simple example of the move towards lexical delicacy in the system of PROCESS TYPE in English within relational clauses.

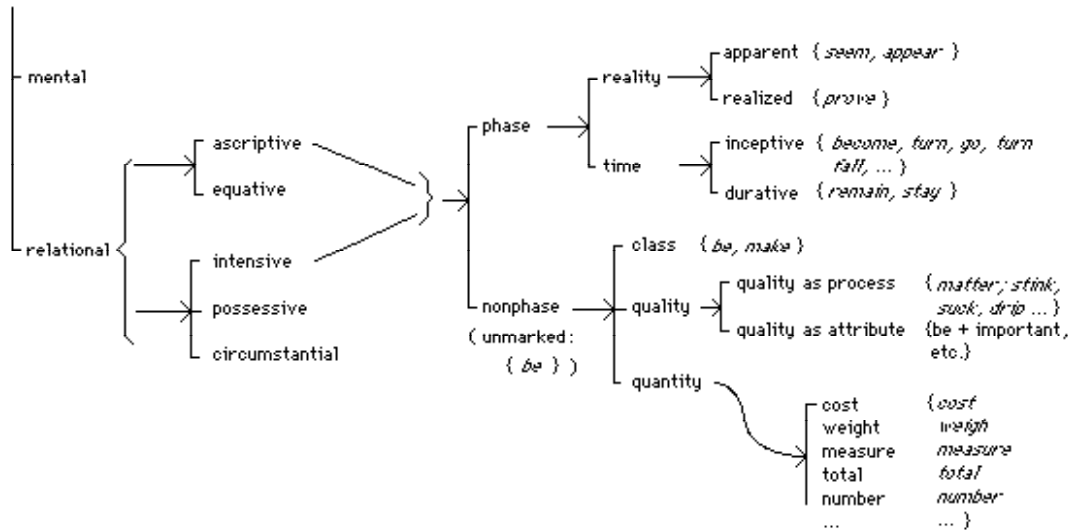


Fig. 18: Towards lexical delicacy in intensive ascriptive relational clauses

Grammar and lexis are never totally divorced from one another. On the one hand, small lexical sets are often associated with little 'local grammars', i.e. delicate variations in grammatical potential, as is the case with the lexical set of perceptive processes in English (*see, notice, glimpse, espie, hear, overhear, feel, taste, smell; sense, experience*), which can combine with different kinds of Phenomenon than cognitive or affective processes. (For example, we can say *I saw somebody crossing the street* but not *I thought somebody crossing the street*.) On the other hand, collocations between small lexical sets typically occur between lexical items realizing closely bonded grammatical functions such as Process + Medium (*neigh + horse, bark + dog; age + wine, mature + cheese*), Process + Range (*wreak + havoc, do + dance, make + mistake; go + mad/ crazy/ insane/ bananas/ bonkers; fall + ill/ sick*), Process + Manner (*regret + deeply, understand + completely*), and Facet + Thing (*gaggle + geese, school + fish, flock + birds*); and in Chinese also Event + Result and Measure + Thing.

In the description of the lexicogrammatical systems of various languages, delicacy has proved a helpful conceptual resource for managing complexity. Lexicogrammatical systems are explored and mapped out at a fairly low degree of delicacy so that the overall distribution and organization of the system can be established. This overview that is limited in delicacy provides the map that can guide subsequent excursions into more delicate systems. This also applies to the move from grammar to lexis: lexical organization can be investigated in terms of the categories of the grammatical part of the system; that is, grammar construes the general parameters in terms of which lexical distinctions are made.

3. System and text

3.1 Function and rank

The grammatical system of every natural language can be summarily presented as a function/ rank matrix, where function is used in the sense of metafunction (see Section 2.1). So for English we can construct such a matrix as in Figure 19.