Summary: The paper concerns paradigmatic-syntagmatic composition of language. The system is classified into horizontal and vertical dimensions, which are analyzed. The conclusion is made that it is necessary to distinguish between a syntagm and a structure of language. A syntagm is a linear string of classes. A structure is an ordered (non-linear) set of functions.

Key words: horizontal dimension, paradigmatic-syntagmatic composition, structure of language, syntagm of language, vertical dimension.

The paper deals with paradigmatic–syntagmatic composition of language. There are some ideas of the scale of the task that is faced by someone learning a foreign language—a task which seemed to people remarkably ill-defined. The computer had to become a meaning machine, and so needed to model a language in the form of a meaning potential.

The nearest anyone came to spelling this out was by counting the number of the words listed in a dictionary. But meaning was not made of words; it was construed in grammar as much as in vocabulary, and even if we could assess the quantity of words the learners knew it would give little indication of what they could do in the language. By the same token, the idea that a machine translation program consisted largely of a bi- or multi-lingual dictionary was not going to take us very far.

Typically in linguistics the paradigmatic dimension has been reduced to the syntagmatic: that is to say, sets of items (usually words) have been assigned to classes on the grounds that they occur at the same place in the syntagm—represented as a linear string or, more abstractly, as a structural configuration. This is, of course, an essential component in the overall organization of the system. But meaning is choice: selecting among options that arise in the environment of other options; and the power of a language resides in its organizations as a huge network of interrelated choices. There can be represented in the form of system networks
(from which “systemic theory” gets its name) in a system network, what is being modeled is the meaning potential of the overall system of a language, irrespective of how or where in the syntagm the meanings happen to be located [5, p. 8].

Represented graphically, the system network has a horizontal and vertical dimension (proposition: polarity, mood; polarity: positive, negative; mood: declarative, interrogative).

The vertical dimension represents combinatorial possibility: if you choose “proposition”, you select simultaneously for POLARITY and for MOOD. There is no ordering on this vertical axis; system related along this dimension are freely associated and it does not matter in which order the systems themselves, or their terms (features) are set out. The horizontal dimension, on the other hand, is ordered in delicacy, whereby entry into one choice depends on another, or on more than one other. Interpreted procedurally (as in a text generation program), the output feature of one system becomes the input feature to another. A selection expression is the set of all the features chosen in one pass through the network; this is the systemic description of the type—clause type, group type etc.—in question [5, p.18].

The most general options, at this level (the stratum of lexicogrammar), are those that we recognize readily as grammatical systems: small, closed, sets of contrasting features which are implicated in very large numbers of instances, like POLARITY (positive/negative), MOOD (indicative/imperative), TRANSITIVITY (types/ of process: material/semiotic/ relational), TENSE (time relative to some reference point: past/present/future) and so on/ system of kind, exemplified here from English, are central to the organization of meaning in every languages.

By contrast, people think of lexical items as occurring in ill-defined, open sets with highly specific discursive domains; and so, in fact, they do. But they are not different in kind. They simply occupy the more delicate regions of one continuous lexicogrammatical space; and they can be networked in the same way as grammatical systems. But the systemic organization of the vocabulary is in terms not of lexical items (words) but of lexical features [2, p. 47]. In other words, those regions of the meaning potential that are crafted lexically organized in networks of more of less domain-specific features; certain of the combinatorial possibilities are taken up—that is, are represented by words, or lexicalized—while others are not.

Comprehensive in coverage; but not exhaustive in depth of detail. In practice, of course, we know that there are different occurrences of ‘the same thing’—of a word, a phrase and so on, and we know when they arise; the best evidence for this is the evolution of writing systems, which require such decision to be made: if two instances are written the same way, then they are tokens of the same type. But this also shown up the anomalies: for example, the writing system does not mark intonation, so clause types which are widely different in meaning when combined with different tones are treated as if they were identical [1, p. 10].

There is one further dimension in the organization of language to be taken account of here, and that is that of syntagmatic composition: constructing larger units out of smaller ones. This is the simplest and most accessible form of
organization for any system whether material or semiotic. The principle guiding this form of organization in language is again a functional one, that of rank. Units of different ranks have different functions within the system of a language as a whole.

The principle of rank is fundamental to the two "inner" strata, that of lexicogrammar and that of phonology. In grammar, it seems to be true of all languages that there is one rank which carries the main burden of integrating the various kinds of meaning—that is, selections in the various metafunctions—into a single frame. This is what we call the clause. The clause, in turn, consists of a number of elements of lower rank that present structural configurations of their own. In evolutionary terms, we can think of these smaller elements as words: the origin of constituency in grammar was a hierarchy of just two ranks, clause and word, with a clause consisting of one or more than one word. Again this can be observed in the language of infants as they move into the mother tongue. As languages evolved this basic pattern was elaborated in a variety of different ways. We can model its evolution in outline, in a theoretical reconstruction, as follows [4, p. 89].

1. Words expand to form groups: e.g. nominal group a man, that tall middle-aged man; verbal group was cleaning, must have been going to clean.
2. Clauses combine to form clause complexes, e.g. he used a hosepipe and cleaned/to clean his car.
3. Clauses contract to form prepositional phrases, e.g. (he cleaned his car) with a hosepipe.
4. Clauses and phrases get embedded inside (nominal) groups, e.g. the middle-aged man who had a hosepipe/with the hosepipe.
5. Words get compounded out of smaller units (morphemes), e.g. cleaning, hosepipe.
6. Units other than clauses combine to form their own complexes, e.g. nominal group complex the middle-aged man and his son, verbal group complex was preparing to start cleaning.
7. Groups and phrases "meet in the middle", in such a way that each can be embedded inside the other, e.g. the car outside the gate of the house with the green roof....

We thus arrive at a typical "rank scale" for the grammar of a language (configurative structures: clause, phrase/group, world, morpheme; iterative structures: clause complex, phrase/group complex, world complex, morpheme complex) [1, p. 120].

This enables us to model syntagmatic composition in theoretical terms. Every text consists exhaustively of configurations and iterations, at each rank, with the limiting case of one element at each structural node. We can then express the "output" of any systemic feature in terms of the contribution it makes to the functional organization of the syntagm – to the structure.

It is helpful to distinguish terminologically between a syntagm and a structure, making a distinction that is analogous to that between a paradigm and a
system. A syntagm is a linear string of classes, like "nominal group + verbal group + prepositional phrase", "free clause + dependent clause". A structure is an ordered (non-linear) set of functions, like "Process - Medium - Manner" or "Outcome - Cause". There is, of course, no bi-unique relation between syntagms and structures—if there was, we should not need to recognize the two as different orders of abstraction [3, p. 56].

But, equally clearly, the relationship between them is not random. A functional element "Process" is likely to appear in the syntagm as a verbal group. What there is, is a relation of congruence.

Thus, our networks are still some way off from reaching the degree of delicacy where such indeterminacy becomes problematic. A language will always be bigger than we are able to make it appear.

References