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13

Jan Nuyts, A. Machtelt Bolkestein and Co Vet (eds)

Layers and Levels of Representation in Language Theory
A functional view

LAYERS AND LEVELS OF REPRESENTATION IN LANGUAGE THEORY

A FUNCTIONAL VIEW

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Semantic Relations in Non-Verbal Predication

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0. Introduction[1]

The 'copula support hypothesis', advanced in Dik (1980), states that in those languages which make use of a copula the occurrence of that copula can be handled by means of a copula support rule. The hypothesis is based on the idea that non-verbal predicates can be represented in the lexicon in much the same way as verbal predicates. An example of a non-verbal predicate is given in (1), where the adjective *clever* is represented as a predicate with a single argument with zero function:

(1) $\text{clever}_A\ (x_i)_\phi$

Predications based on such a non-verbal predicate may serve as the input of a copula support rule, which inserts a copula under the relevant conditions. A somewhat adapted version of this rule is given in (2):

(2) **Copula support**

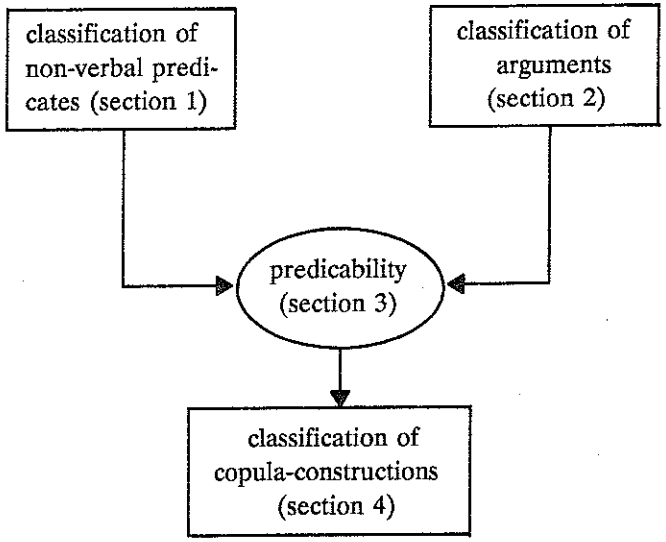
input:	π predicate$_\beta$ $(\Omega\alpha_1)_\sigma$	
conditions:	π = ...	(predicate operators)
	β = ...	(predicate type)
	Ω = ...	(term operators)
	α = ...	(argument type)
	σ = ...	(semantic function)
output:	π copula$_\gamma$ predicate$_\beta$ $(\Omega\alpha_1)_\phi$	

The conditions to be specified in the rule are language specific: in some languages certain predicate operators (π) or term operators (Ω) will trigger copula support, in others properties of the predicate (β), the argument (α), or the semantic function of the argument (σ) will be relevant. Possibly some languages will not need a copula support rule at all. If they do, the copula type

(γ) is relevant.

One of the implications of this approach is that the different meanings often attributed to the copula have to be accounted for in a way that does not make reference to the copula itself, since the copula is assumed to be a semantically empty supportive device. This paper is concerned with some of the problems related to this implication of the copula support hypothesis and can be outlined schematically as in (3).

(3)



I will claim that in order to account for the semantics of all copula constructions it is necessary to have a classification of non-verbal predicates (ß), a classification of arguments (α), and a theory on the ways in which arguments and predicates may be combined with each other, for which I will use the notion of *predicability*, taken from ontological philosophy. The result should then be a classification of copula constructions which accounts for the various semantic shades and nuances of these constructions. I use the term *copula-construction* for any construction which can be assumed to be based on a non-verbal predicate, regardless of whether or not it actually contains a copula.

1. Non-verbal predicates

So far the different semantic relations expressed by non-verbal predication types have mainly been accounted for by means of a classification of non-verbal predicates. Dik (1980) recognizes two main categories of non-verbal predicates. The first category is formed by bare predicates, which can be either adjectival or nominal, as illustrated in (4)-(5) (Basque, Isolate, Lafitte 1944):

(4) *Piarres hil da*
Pierre dead COP.PRES.3SG
"Pierre is dead"

(5) *Soldado zen*
soldier COP.PAST.IMPF.3SG
(lit. 'he was soldier')
"He was a soldier"

Example (4) shows an adjectival predicate, example (5) a nominal predicate. The latter predicate can be applied in its bare form in Basque, but has to be rendered as a term in English. This brings me to the second category of non-verbal predicates recognized by Dik: predicates derived from terms by means of a predicate formation rule of the format given in (6):

(6) **Term-predicate formation**
input: $(\text{term})_{(\sigma)}$
output: $\{(\text{term})_{(\sigma)}\}\ (x_1)_\phi$

This predicate formation rule accounts for constructions like (7)-(8) with their representations in (9)-(10):

(7) This book is a bestseller

(8) The chair is in the garden

(9) $\{(\text{i}1x_i\text{: bestseller}_N\ (x_i))\}\ (\text{d}1x_j\text{: book}_N\ (x_j))_\phi$

(10) $\{(\text{d}1x_i\text{: garden}_N\ (x_i))_{Loc}\}\ (\text{d}1x_j\text{: chair}_N\ (x_j))_\phi$

The predicate *a bestseller* in (7) is derived from a term without a semantic

function. The class-membership relation expressed in this sentence is accounted for by means of the term operators on both the argument and the predicate term, as represented in (9). The predicate in (8) is derived from a term provided with the Locative semantic function, as represented in (10). The locative relation expressed in sentence (8) can thus be seen as residing in the locative character of the predicate. It will be clear that by varying the semantic function of the predicate term many different semantic relations can be accounted for, such as location, possession, and time. In (11) a somewhat simplified classification is given of the different semantic relations expressed in non-verbal predication that can be accounted for by varying the non-verbal predicate (cf. Dik 1980: 111):

(11) **A classification of non-verbal predicates**

non-verbal predicate	semantic relation
bare predicates:	
$pred_A\ (x_1)_\phi$	property assignment
$pred_N\ (x_1)_\phi$	property assignment
derived predicates:	
$\{(x_i)\}\ (x_1)_\phi$	classification
$\{(x_i)_{Poss}\}\ (x_1)_\phi$	possession
$\{(x_i)_{Loc}\}\ (x_1)_\phi$	location
$\{(x_i)_{Temp}\}\ (x_1)_\phi$	time

Although in this way many different meanings can be accounted for without reference to the copula, there still remain several constructions which exhibit shades of meaning not captured by the formalism. The sentences in (12)-(14) illustrate only one of the problematic cases:

(12) The table is in the next room

(13) The meeting is in the next room

(14) It is in the next room that we meet

The copula in (12) can be paraphrased as 'be located', the copula in (13)-(14)

can be paraphrased as 'take place', 'occur', or 'happen'. Although the difference may seem marginal, it is important enough to be formally reflected in some languages. Japanese (Altaic), for instance, uses different locative suffixes on the predicate depending on whether the argument refers to an individual or to an event, as illustrated in (15)-(16) (from Makino 1968):

(15) *Illinois daigaku-wa Illinois syuu-ni ar-ru*
Illinois university Illinois state-LOC COP
"The University of Illinois is in the state of Illinois"

(16) *Olympics-ga Mexico-de ar-ru*
Olympics Mexico-LOC COP
"The Olympics will be held in Mexico"

The locative suffix *-ni* in (15) is used with arguments referring to entities with physical dimensions, the locative suffix *-de* in (16) is used with arguments referring to entities with temporal dimensions.

Spanish (Indo-Hittite) uses different copulas to make the same distinction[2], as illustrated in (17)-(18) (from Hengeveld 1986):

(17) *La mesa está en la sala 14*
the table COP in the room 14
"The table is in room 14"

(18) *La reunión es en la sala 14*
the meeting COP in the room 14
"The meeting is in room 14"

The copula *estar* in (17) is used for the location of individuals, the copula *ser* in (18) for the location of events.

The Turkish (Altaic) examples in (19)-(20), finally, show that the difference between these constructions does not reside in various meanings of the copula (from Lewis 1967, Gerjan van Schaaik p.c.):

(19) *Köpek bahçe-de*
dog yard-LOC
"The dog is in the yard"

(20) *Toplantï 26 numara-lï oda-da*
meeting 26 number-with room-LOC
"The meeting is in room 26"

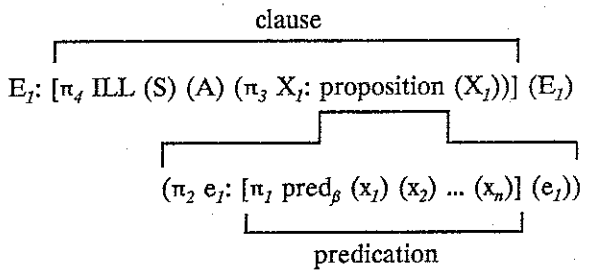
Neither of the two Turkish constructions makes use of a copula, yet the same semantic difference is present. This shows that in a typologically adequate approach the difference in meaning between the two constructions cannot be attributed to the copula, but must be interpreted as residing in the nature of the argument terms. What we need, then, besides a classification of non-verbal predicates, is a classification of arguments.

2. Arguments

In Hengeveld (1989) I argue for a hierarchical organization of the clause model in Functional Grammar (FG) and discuss the implications of such an approach for the treatment of subordinate constructions. My claim there is that arguments can be of four types of increasing complexity, depending on whether they refer to first, second, third or fourth order entities (see Lyons 1977: 442-447). The linguistic correlates of these ontological types occupy a prominent place in the model developed so far, which is given in (21) below.

The model in (21) consists of two levels, each containing several layers. The highest level is called the interpersonal level, as it is concerned with those linguistic means which are used by the speaker to evoke a certain communicative effect in the addressee. The lowest level is called the representational level, as it is concerned with those linguistic means which are used by the speaker to evoke a picture of an external situation in the addressee. The highest level is structured on the basis of an abstract illocutionary frame, which specifies relations between a speaker (S), an addressee (A) and the processed message unit or content (X). The lowest level is structured on the basis of a predicate frame, which specifies a property of an individual or a relation between several individuals (x). Starting from the outermost layer the schema in (21) states that within a speech act (E) a propositional content (X) is processed, within which reference is made to an external situation (e) in which some individuals (x) participate. All except the outermost layer in (21) can be provided with their own operators, which will not be dealt with here.

(21) **General structure of the simple utterance**



E_1:	speech act	π_1:	predicate operators
X_1:	propositional content	π_2:	predication operators
e_1:	event	π_3:	proposition operators
x_1:	individual	π_4:	illocution operators

The representation of a simple utterance thus contains four different types of variable, each referring to a different kind of entity. I have listed these entities in (22):

(22) **A classification of entities**

entity	order	clause correlate
individual	first	(x_1: $pred_N$ (x_1))
SoA	second	(e_1: predication (e_1))
propositional content	third	(X_1: proposition (X_1))
speech act	fourth	(E_1: clause (E_1))

The x-variable refers to a first order entity or *individual*. First order entities can have colour, size, and weight, can be touched, can be located in space, and can typically be evaluated in terms of their existence. The e-variable refers to a second order entity or *state of affairs* (SoA). Second order entities can be witnessed and regretted, can be located in space and time, and can typically be evaluated in terms of their reality.[3] The X-variable refers to a third order entity or *propositional content*. Third order entities can be known and forgotten, asserted and denied, can be located in neither space nor time, and can typically be evaluated in terms of their truth. The E-variable, finally, refers to a fourth

order entity or *speech act*. Fourth order entities can be uttered and understood, they locate themselves in space and time, and can typically be evaluated in terms of their felicity.

For each of the entity-types given in (22) a further subclassification could be given. The 'typology of entities' given in Dik (1987) is in fact a typology of individuals, the typology of SoAs occupies a prominent place in FG, and the typology of speech acts has been the subject of research over the last few decades. The only entity type for which to my knowledge no full subclassification has been given is the class of propositional contents, which includes such diverse members as opinions, wishes and reasons.

The reason to assume that the four variables are present in the underlying representation of every utterance is that anaphoric reference can be made to any of these variables after the production of an utterance, as illustrated in (23)-(26):

(23) A: Come here, please!
B: Is that an order? (AE_i)

(24) A: He's a liar
B: That's not true! (AX_i)

(25) A: John won't come
B: That's a pity! (Ae_i)

(26) A: Yesterday I saw a boy with a scar on his face
B: That must have been my brother! (Ax_i)

In (23) anaphoric (A) reference is made to the preceding speech act E_i, in (24) to the content X_i presented in the preceding speech act, in (25) to the external situation e_i to which reference is made within that content, and in (26) to one of the participants x_i in that external situation.

While demonstrating that the different parts of the utterance can be referred to separately, these examples show at the same time that every one of these parts can be made the argument of a higher predicate. The nature of an argument term is determined entirely by the higher predicate. Some illustrations from the verbal and non-verbal domains are given in (27):

(27)

verbal	non-verbal
$say_V\ (x_1)_{Ag}\ (E_1)_{Go}\ (x_1)_{Rec}$	$question_N\ (E_1)_\phi$
$know_V\ (x_1)_\phi\ (X_1)_{Go}$	$true_A\ (X_1)_\phi$
$see_V\ (x_1)_\phi\ (e_1)_{Go}$	$stupid_A\ (e_1)_\phi$
$give_V\ (x_1)_{Ag}\ (x_2)_{Go}\ (x_3)_{Rec}$	$green_A\ (x_1)_\phi$

With respect to the expression of the four types of argument there are two possibilities. One is to extract the corresponding clause units from (21), as listed in the second column in (28). Apart from this there seems to be a limited possibility to describe all types of entity by means of nouns, as is indicated in the third column in (28):

(28) **Variables and restrictors**

variable	restrictor		
E_1	clause (E_1)	or	$pred_N\ (E_1)_\phi$)
X_1	proposition (X_1)	or	$pred_N\ (X_1)_\phi$)
e_1	predication (e_1)	or	$pred_N\ (e_1)_\phi$)
x_1	$pred_N\ (x_1)_\phi$		

With respect to the first possibility, the expression of arguments by means of the corresponding clause units, the difference between the four kinds of argument has some formal reflection in several languages. Nama Hottentot (Hagman 1973) uses nouns for first order arguments, nominalizations for second order arguments, has a specialized complementizer for third order arguments and a quote particle for fourth order arguments. The situation is not as clear-cut in English, although examples (29)-(32) seem to point at a situation not very different from the one obtaining in Nama Hottentot:

(29) His question was **"Where are you going?"** (quote)

(30) It's true **that I don't like you** (finite complement)

(31) It's stupid **to drive without a license** (non-fin.compl.)

(32) **The grass** is green (noun)

With respect to the second possibility, the expression of arguments by means of nouns, compare the following sentences:

(33) It was a big mistake **to visit him**

(34) **The visit** was a big mistake

In (33) the argument position of the non-verbal predicate *a big mistake* is restricted by the non-finite predication *to visit him*, in (34) it is restricted by the noun *visit*, as in representations (35)-(36) of (33)-(34) respectively:

(35) $\{(e_i\text{: mistake}_N\ (e_i)\text{: big}_A\ (e_i))\}\ (e_j\text{: [visit}_V\ (x_i)_{Ag}\ (x_j\text{: him}\ (x_j))_{Go}]\ (e_j))_\phi$

(36) $\{(e_i\text{: mistake}_N\ (e_i)\text{: big}_A\ (e_i))\}\ (e_j\text{: visit}_N\ (e_j))_\phi$

Nouns such as *mistake* and *visit* designate second order entities and may therefore be called, following Lyons (1977: 446), second order nouns. Similarly, nouns such as *idea* and *fact* designate third order entities and may be called third order nouns, and nouns such as *order* and *question* designate fourth order entities and may be called fourth order nouns.

It will have been noted that nominalization is not used here as a criterion to identify arguments of any particular type. This is because in a typological perspective nominalization varies as to its domain of application. A tentative representation of this parameter is given in (37) in terms of a hierarchy (see also Lehmann 1982: 76 and Foley and Van Valin 1984: 275ff).

(37) **The nominalization hierarchy (hypothesis)**

x_1 > e_1 > X_1 > E_1

first order nominalization

second order nominalization

third order nominalization

fourth order nominalization

The hierarchy should be read in the following way: if a language allows third order nominalizations, it also allows second and first order nominalizations, or, in other words, if a language allows nominalized propositions, then it also allows nominalized predications and terms, etc.

I have no examples of languages with fourth order nominalizations[4], nor do

I have clear examples of languages without first order nominalizations. This leaves us with the following instantiations of the nominalization hierarchy:

(38) **Instantiations of the nominalization hierarchy**

	x_1	e_1	X_1	E_1
type I (example: Turkish)	+	+	+	-
type II (example: English)	+	+	-	-
type III (example: Mandarin)	+	-	-	-

To illustrate this table, consider the following examples:

(39) **The drive-r** is ill (x)

(40) **His driv-ing without a license** was a big mistake (e)

(41) ***His driv-ing without a license** is true (X)

English has first (cf. (39)) and second (cf. (40)) but no third (cf. (41)) order nominalizations. English can be considered a type II language.

Turkish (Altaic) is less restrictive than English in the domain of nominalization. Apart from first and second it also has third order nominalizations (cf. (42), from Lewis 1967). Turkish is a type I language.

(42) ***Bir parti kur-duğ-unuz*** *doğru* *mu* (X)
INDEF party found-NMLZTN-POSS.2PL true INT
"Is it true that you have founded a party?"

Mandarin Chinese (Sino-Tibetan), finally, is more restrictive than English in the domain of nominalization. It has first order nominalizations (cf. (43), from Li and Thompson 1981) only. Mandarin is a type III language.

(43) ***Mai qiche de*** *daban* *dou* *shi* *hao ren* (x)
sell car NMLZTN majorityall COP good person
"Car sellers are mostly good people"

3. Predicability

Given that not only the predicate type but also the argument type is relevant for the definition of possible copula-constructions, the question remains in what way predicates and arguments may be combined. In order to answer this question I use the concept of predicability. This notion has been the subject of study in ontological philosophy (recent contributions being Sommers 1965, 1967; and Drange 1966), cognitive psychology (Keil 1979), and linguistics (Bickerton 1981). The definition of predicability can be given in different forms. I will start with an ontologically based definition in (44):

(44) **Predicability (extralinguistic, ontological)**
The possibility of meaningful attribution of a property or relation P to an entity E: A property or relation P is predicable of an entity E if P can be meaningfully attributed to E.

This definition raises the question of what should be understood by meaningful attribution. Examples (45)-(47) may serve to illustrate the answer to that question:

(45) Grass is green

(46) Grass is blue

(47) Grass is at six o'clock

Example (45) can be seen as containing a true proposition, (46) as containing a false proposition. Example (47), on the other hand, is neither true nor false, but semantically anomalous. The difference between a false proposition and a semantically anomalous proposition is that the negative variant of a false proposition is a true proposition, whereas the negative variant of a semantically anomalous proposition is still a semantically anomalous proposition, as (48)-(49) show:

(48) Grass is not blue

(49) Grass is not at six o'clock

Drange (1966) uses the term *type crossing* for semantically anomalous propositions like (47) and (49). It should be noted that in order to determine whether a sentence contains a type crossing it should be taken litterally. In a metaphorical sense example (47) could well be acceptable, and in fact many metaphors can be seen as type crossings. I will return to metaphors after discussing the concept of linguistic predicability.

4. Copula constructions

If languages conformed fully to what is predicable in an ontological sense, we could apply the predicability test to the possible combinations of properties and relations with the four entity types and would then arrive at the classification of copula constructions given in (50). Each possible combination in (50) can be seen as expressing a semantic relation. A name has been given to each of these semantic relations.

(50) **Semantic relations in non-verbal predication**

ß \ α	$(x_1)_\phi$	$(e_1)_\phi$	$(X_1)_\phi$	$(E_1)_\phi$
ascriptive constructions				
$pred_N$	role/status	--	--	--
$\{(x_i)_{Poss}\}$	possession	--	--	--
$\{(x_i)_{Loc}\}$	location	occurrence	--	--
$\{(\emptyset)_{Loc}$	existence	reality	--	--
$\{(e_i)_{Time}\}$	--	time	--	--
$pred_A$	prop. ass.	evaluation	judgment	--
classifying constructions				
$\{(x_i)\}$	classification	--	--	--
$\{(e_i)\}$	--	instantiation	--	--
$\{(X_i)\}$	--	--	explanation	--
$\{(E_i)\}$	--	--	--	interpretation

In the upper part in (50) it is stated that a role can be attributed to first order entities only, that possession is a relation between two first order entities, that both first and second order entities can have a location. Existence is seen here, following Dik (1980), as a subclass of location in the sense that existence can

be viewed as being located at an unspecified location. The distinction made here between first order *existence* and second order *reality* is in fact a representation of the distinction made by Hannay (1985) between entity-existentials and SoA-existentials. Time can be attributed to second order entities only, and properties can be attributed to first, second, and third order entities. Most of these constructions have been illustrated in the preceding sections.

In the latter half of (50) it is indicated that first, second, third, and fourth order entities can be classified, but only in classes of their own type. Examples of these different forms of classification are (51)-(54):

(51) That man is my father (first order)

(52) To spank is to love (second order)

(53) What I mean is that I don't like you (third order)

(54) His question was "Where are you going" (fourth order)

If there were a complete correspondence between ontological distinctions and linguistic categories, I could stop here. This is, however, not the case. Many languages do not have all the constructions represented in (50), and many languages have some constructions beyond those represented in (50). This is because the definition of predicability used so far has an ontological basis, rather than a linguistic one. Let me therefore reformulate the definition for predicability in linguistic terms and contrast it with the definition given earlier:

(55) **Predicability (extralinguistic, ontological)**
The possibility of meaningful attribution of a property or relation P to an entity E: A property or relation P is predicable of an entity E if P can be meaningfully attributed to E.

(56) **Predicability (intralinguistic, semantic)**
The possibility of meaningful application of a predicate ß to an argument α: A predicate ß is predicable of an argument α if ß can be meaningfully applied to α.

Ontological predicability should be seen as language-independent, linguistic predicability as language-dependent. Given these two definitions, one can say that discrepancies may arise between the two senses of predicability. Sometimes

languages are more permissive than ontology, and the result is a metaphor. In other respects languages may be less permissive than ontology, in which case the need for a periphrastic expression arises, as represented in (57):

(57) **Discrepancies in predicability-systems**

	metaphor	periphrasis
ontologically predicable	-	+
linguistically predicable	+	-

Let me illustrate both discrepancies. Periphrastic expressions arise where a language does not permit the direct expression of an ontologically predicable relation or property. Compare the following examples from English ((58)-60)), Vietnamese (Austric) ((61)-(63), from Liem 1969), and Abkhaz (Caucasian) ((64)-(66), from Spruit 1986, p.c.):

(58) You are beautiful (x)

(59) It's stupid to drive without a license (e)

(60) It's true that I don't like you (X)

(61) *Ông.áy lanh lám* (x)
he cold very
"He is very cold"

(62) *Làm viec này hay* (e)
do business DEM well
"To do this work is good"

(63) *Ông.áy không phải là lính* (X)
he NEG right COP soldier
"He's not a soldier"

(64) *Də-bzəya-Ø-w-p'* (x)
he-good-Ø-PRES-IND
"He is good"

(65) *Á-mc-h°a-ra* *Ø-gaza-rá-Ø-w-p'* (e)
ART-lie-tell-INF it-stupid-NOM-Ø-PRES-IND
"To tell lies is a stupidity"

(66) *Yə-y-h°a-wa-z* *Ø-c'ábərgə-Ø-w-p'* (X)
REL-he-say-PRES-REL it-true-Ø-PRES-IND
"What he says is true"

In English adjectival predicates can be applied to nouns, predications and propositions, as is illustrated in (58)-(60). In Vietnamese adjectival predicates can be applied to nouns and predications, but not to propositions, as is illustrated in (61)-(63). The alternative used in Vietnamese to specify that a proposition is (not) true is the application of a modal-like element *phải* "right, indeed". In Abkhaz adjectival predicates can be applied to nouns only, as is illustrated in (64)-(66). The alternative used in Abkhaz in the case of predicational arguments is nominalization of the predicative adjective, as in (65), which turns an ascriptive into a classifying construction. In the case of propositional arguments there is no clear alternative, although the propositional content can be referred to indirectly, as in (66), where the headless relative refers to a propositional content.

In general, linguistic predicability seems to follow the hierarchy[5] given in (67).

(67) **The predicability hierarchy**
$pred_\beta\ (x_1)\ >\ pred_\beta\ (e_1)\ >\ pred_\beta\ (X_1)\ >\ pred_\beta\ (E_1)$

This hierarchy states that if a language can apply a predicate of a certain class to third order arguments, it can also apply a predicate of that class to second order and first order arguments. The adjectival cases from English, Vietnamese and Abkhaz are represented schematically in (68) and offer an illustration of the predicability hierarchy:

(68) **The predicability hierarchy in the adjectival domain**

language \ frame	$pred_A\ (x_1)_\phi$	> $pred_A\ (e_1)_\phi$	> $pred_A\ (X_1)_\phi$
English	+	+	+
Vietnamese	+	+	–
Abkhaz	+	–	–

The second possible discrepancy between the two notions of predicability mentioned in (57) arises where languages are more permissive than ontology, as in the case of a metaphor. By way of illustration I give two examples of type crossings or at least constructions which must once have been type crossings. First consider the Tagálog (Austric) examples in (69)-(70) (from Schachter and Otanes 1972):

(69) *May relos si Juan* $\{(x_i)_{Poss}\}\ (x_j)_\phi$
COP watch TOP Juan
"Juan has a watch"

(70) *May gagawin si Juan* $\{(x_i)_{Poss}\}\ (e_i)_\phi$
COP do.PROSP TOP Juan
"Juan has something to do" or "Juan is going to do something"

Example (69) is a regular possessive construction with a first order argument. Example (70) is identical to (69) except for the fact that it has a second order argument.[6] The subject is said to own a not yet realized SoA, which is ontologically non-predicable, but linguistically acceptable. The resulting meaning varies between a prospective and obligative meaning, the latter being quite similar to the English equivalent *have to*.

A second case of discrepancy, where it is the predicate term rather than the argument term that is of a type not predicted by schema (50), is illustrated by the Mandarin (Sino-Tibetan) examples (71)-(72) (from Li and Thompson 1981):

(71) *Lisi zai hai-bian* $\{(x_i)_{Loc}\}\ (x_j)_\phi$
Lisi LOC sea-side
"Lisi is at the coast"

(72) *Lisi zai jieshi wenfa* $\{(e_i)_{Loc}\}\ (x_j)_\phi$
Lisi LOC explain grammar
"Lisi is explaining grammar"

Example (71) is a regular locative construction in which both the argument term and the predicate term designate first order entities. Example (72), discussed in Hengeveld (1987), is identical to (71) except for the fact that the predicate term designates a second order entity. The subject is said to be located in a SoA, which again is ontologically non-predicable, but linguistically acceptable. This locative metaphor has in fact entered the grammatical system of Mandarin and is used to express durative aspect.[7]

What may be concluded from these discrepancies is that the schema given in (50) gives the *maximal* set of copula constructions, and that any violation of this schema can be seen as a creative manipulation of linguistic categories.

5. Further perspectives

In 2. I have extracted information from a model for the utterance in order to arrive at a classification of copula constructions. One might ask now whether the classification arrived at has something to contribute in return to the clause model. A final look at a pair of locative predicate frames, one with a first and one with a second order argument, suggests that it has. Consider the predicate frames in (73)-(74):

(73) $\{(d1x_i\text{: room } (x_i)\text{: next } (x_i))_{Loc}\}\ (x_1)_\phi$

(74) $\{(d1x_i\text{: room } (x_i)\text{: next } (x_i))_{Loc}\}\ (e_1)_\phi$

On the basis of the first predicate we can construe (75)-(76):

(75) (Pres e_i: $[\{(d1x_i\text{: room } (x_i)\text{: next } (x_i))_{Loc}\}\ (dx_j\text{: table}_N\ (x_j))_\phi]\ (e_i)$)
"The table is in the next room"

(76) (dx_j: $\text{table}_N\ (x_j)$: $\{(d1x_i\text{: room } (x_i)\text{: next } (x_i))_{Loc}\}\ (x_j)_\phi$)
"The table in the next room"

In (75) the locative predicate is used predicatively, in (76) it is used attributively, i.e. as a restrictor. The copula in (75) is triggered by the presence of a tense operator.

Similarly, on the basis of the second predicate, that in (74), we can construe (77)-(78):

(77) (Pres e_i: $[\{(d1x_i\text{: room } (x_i)\text{: next } (x_i))_{LocFoc}\}$ (Pres e_j: $[\text{meet}_V\ (dx_j\text{: 1pl } (x_j))_{Ag}]\ (e_j))_{\phi Top}]\ (e_i)$)
"It is in the next room that we meet"

(78) (Pres e_j: $[\text{meet}_V\ (dx_j\text{: 1pl } (x_j))_{Ag}]\ (e_j)$: $\{(d1x_i\text{: room } (x_i)\text{: next } (x_i))_{Loc}\}$ (e_j))
"We meet in the next room"

In (77) the locative predicate is used predicatively, in (78) it is used attributively. The copula in (77) is triggered by the (first) tense operator. Note that the predicative use of the locative predicate in constructions like (77) is possible only when it has a focal value.

The representation of the locative phrase in (78) is in fact that proposed for Locative and Temporal satellites in Vet (1986). The predicates needed for his approach to these satellites are those that take a second order argument. This is not the place to give a full account of this use of non-verbal predicates. It seems likely, however, that the classification of copula constructions arrived at has something to contribute to the description of clause structure as well.

Notes

1. I would like to thank Simon Dik, Hotze Mulder, and the editors of this volume for their comments and suggestions.

2. This is not the only difference between *ser* and *estar*. See Hengeveld (1986) for further details.

3. An individual exists if it is located someplace. A SoA is real if it occurred someplace, sometime.

4. In Lahu (Matisoff 1972) it is possible to nominalize entire independent sentences. It does, however, not follow from this fact that Lahu has fourth order nominalizations. Since the nominalizing particle in independent sentences may optionally be followed by modal adverbs, it is more likely that it is the proposition contained within the sentence that is nominalized.

5. A second predicability hierarchy can be defined in terms of the non-verbal predicate on which a non-verbal predication type is based. See Hengeveld (fc.) for discussion.

6. Cf. also Bolkestein (1983: 68-73); Seiler (1983: 54).

7. See Dik (1985) for a more systematic treatment of the use of locative metaphors in the expression of aspectual distinctions.

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