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Sign Models in Terminology: Tendencies and Functions[1]

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1. Introduction

The current interest in semiotic issues within the research community of terminology is partly motivated by practical needs for developing analytical tools for terminology work and terminology science. Partly it is also theory-driven by the need for reflection on the fundamentals of terminology. It was one of Eugen Wüster's merits to initiate a theory of signs within terminology. This paper offers a descriptive and critical framework for viewing much of the work on semiotics in terminology (particularly work inspired by Wüster), and it is an attempt at providing a basis for engaging with semiotic accounts within other paradigms.

By 'sign' in this context I refer to the Peircian tradition of "something which stands to somebody for something in some respect or capacity", taking into consideration the inherent semiotic problem of deciding whether 'sign' is to be interpreted as 'sign vehicle' or the combination of expression, content and reference. Consequently, the first part of the paper will deal with:

a) the sign typologies (classifications) of terminology that emerged from Wüster's own work but were later developed in accordance with broader tendencies within LSP research and linguistics in general;

b) the conception of the linguistic sign, taking into account Wüster's efforts at providing a conception proper to terminology of the relationship between language and the world outside language.

In the second part of the paper I seek answers to the seemingly rhetorical but nevertheless fundamental question of what there is to gain from sign models. This question is motivated by the fact that the purpose of sign models and classifications do not seem to be universally accepted within terminology, nor is there any obvious impact from the models

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outside terminology. The conclusion offers an opportunity to comment on the fortunes of Wüster's two semiotic projects.

2. Sign typologies

In this section I present some important sign typologies with a special view to Wüster's conceptions.

2.1 Wüster

In his *Einführung* (Wüster 1985), Wüster published an extensive sign typology on the basis of his terminological principles. Beginning with the criterion of "causality/effect" ("Ursprung und Wirkung") and a set of 8 other characteristic types ("Merkmalarten") an extensive yet classification incomplete (according to Wüster) is given. It is synthesized in a matrix of types of characteristics ("Merkmalträgertafel") (Wüster 1985:142-143), and also established as a DIN standard (DIN 1971a): see figure 1 p. 47. .

This model is to some extent inspired by scholars such as Peirce and Bühler. The typology is 'semiotic' in the sense that linguistic and non-verbal sign types are integrated. Linguistic signs ("Schreibzeichen") are further subdivided, and due to the integration with non-verbal signs they are placed in various fields of the matrix; there is no section exclusively meant for linguistic signs as such.

In this way the typology can be seen as an early attempt to avoid restricting the domain of terminology to verbal language. The typology opens up terminology to the broader perspective of communication. Similarly, applied to the domain of linguistics, this typology implies a broadening of perspective from the lexical and systematic levels to the pragmatic level. Although Wüster states (1985:2) that only the (verbal) lexical level is relevant to terminology, this approach would be insufficient because signs manifest themselves on various linguistic levels: sentence, utterance and text. This extension to the pragmatic level (1985:62f) is based on Bühler's distinction between the symbol and signal functions. There is a distinction between

- **representative signs** ("darstellenden Zeichen", i.e. symbols), that are intended for naming or demonstrating ("dient zum bloßen Nennen oder Auszeigen des Bezeichneten"), and
- **signal signs** ("Beeinflußungszeichen"), the purpose of which is to cause a response or action from the communicative partner ("einen angesprochenen partner *zu* etwas zu veranlaßen").

Signal signs are, for example, questions and commands manifested in sentence or one-word utterance form: ("Löschet das Feuer!", "Feuer!"). Whether or not such expressions should be classified as "terms" or not has been discussed to some extent within the literature on terminology. They are of a "terminological nature" due to their placement within a specific system of content or functions; however, they are not lexemes but speech acts (cf. Laurén et al. 1998, ch. 4). In a semiotic framework this is obviously less of a problem.

Ursprung und Wirkung	Merkmalarten: Zeichenkörper		Bedeutung		Anwendungsbereich		Zuordnung zwischen Zeichen und Bedeutung		Eintahung der Schreibzeichen (b 1.3.1.1)		
									Kombinationen mit den Merkmalarten		i, d
	Sinnesorgane	Struktur	Sprachbezogenheit	Sachzeichen nach der Natur der Sache	Häufigkeit, Wichtigkeit	Fachzugehörigkeit	Merkhilfe des Zeichenkörpers	Eindeutigkeit der Bedeutung	c, f	d, h, i	
a	b	c	d	e	f	g	h	i	j	k	l
1. Anzeichen 2. konventionelles Zeichen 2.1. darstellendes Zeichen 2.1.1. Nennzeichen	1. Sichtzeichen 1.1. Lichtzeichen 1.2. Farbezeichen 1.3. Gestaltzeichen 1.3.1. Formzeichen ..... 1.3.2. Größezeichen 1.4 kombiniertes Sichtzeichen 2. Hörzeichen 3. Nachsinnzeichen 4. Gegenstandszeichen	1. elementares Zeichen 1.0.1. Zeichen mit einfachem Körper 1.0.2 Zeichen mit zusammengesetztem Körper .... 1.1. selbständiges elementares Zeichen 1.2 Ergänzungszeichen 1.2.1. Zusatzzeichen 1.2.2. Gliederungszeichen 2. Zeichenverbindung	1. Lautungszeichen 1.1. Zeichen für eine Grundlautung 1.2. Zeichen für eine überlagerte Lautung 1.2.1 Betonungszeichen 1.2.2. Pausenzeichen 2. Sinnzeichen 2.1. darstellendes Sinnzeichen 2.1.1 Begriffszeichen .... 2.1.2. Sachverhaltszeichen .... 2.2. Beeinflussungszeichen 2.2.1. Anweisungszeichen 3. Gedankenzeichen	1. Zeichen für einen Sinneseindruck 1.1. Zeichen für einen Gesichtseindruck 1.1.1. Farbenzeichen 1.2. Schallzeichen 2 Dingzeichen 2.1. Schaltzeichen 3. Zeichen für Nichtmaterielles 3.1. Zahlzeichen	1. Grundzeichen 2. Sonderzeichen	1. nichtfachliches Zeichen 2. fachliches Zeichen *Auswahl:* 2.1. Rechenzeichen 2.2. Verkehrszeichen 2.3. elektrotechnisches Zeichen	1. Nachahmungszeichen 1.1. Abbildungszeichen 1.1.1. unmittelbares Bild 1.1.2. mittelbares Bild 2. nicht-abbildendes Schreibzeichen	1. primäres Zeichen 2 sekundäres Zeichen	1. elementares Schreibzeichen 1.1. vereinzeltes Schreibzeichen 1.2. Schriftzeichen 1.2.1. Schriftgrundzeichen 1.2.2. Schriftsonderzeichen ... ... 2. Schreibzeichenverbindung	1. Lautungsschreibzeichen 1.0. Lautzeichen 1.1. abbildendes Lautungszeichen 1.2 nicht-abbildendes Lautungszeichen 1.2.1. primäres nicht-abbildendes Lautungszeichen 2. Sinnschreibzeichen 2.1. abbildendes Sinnzeichen 2.1.1. primäres abbildendes Sinnzeichen	2.1.1. sekundäres abbildendes Sinnzeichen ... ... 2.2. nicht-abbildendes Sinnschreibzeichen 2.2.1. primäres nicht-abbildendes Sinnschreibzeichen 2.2.2. sekundäres nicht-abbildendes Sinnschreibzeichen 2.0. bildförmiges Sinnzeichen	1. primäres Schreibzeichen 1.1. primäres Lautungszeichen 1.2. primäres Sinnschreibzeichen 2. sekundäres Schreibzeichen 2.1. sekundäres Lautungsschreibzeichen 2.1.1. Rebuszeichen 2.2. sekundäres Schreibzeichen 2.2.1. Buchstabenzeichen

In der Tafel bedeutet:
... } = ausgelassene Unterbegriffe
... } (mit 4- oder 5-stelliger Nummer)

***Figure 1**: The "Merkmalträgertafel" of Wüster*

2.2 Schröder

According to Budin (1997:81), the sign typology of Wüster was remarkable but remained unknown for many years until it was rediscovered and modified by Schröder (1993):

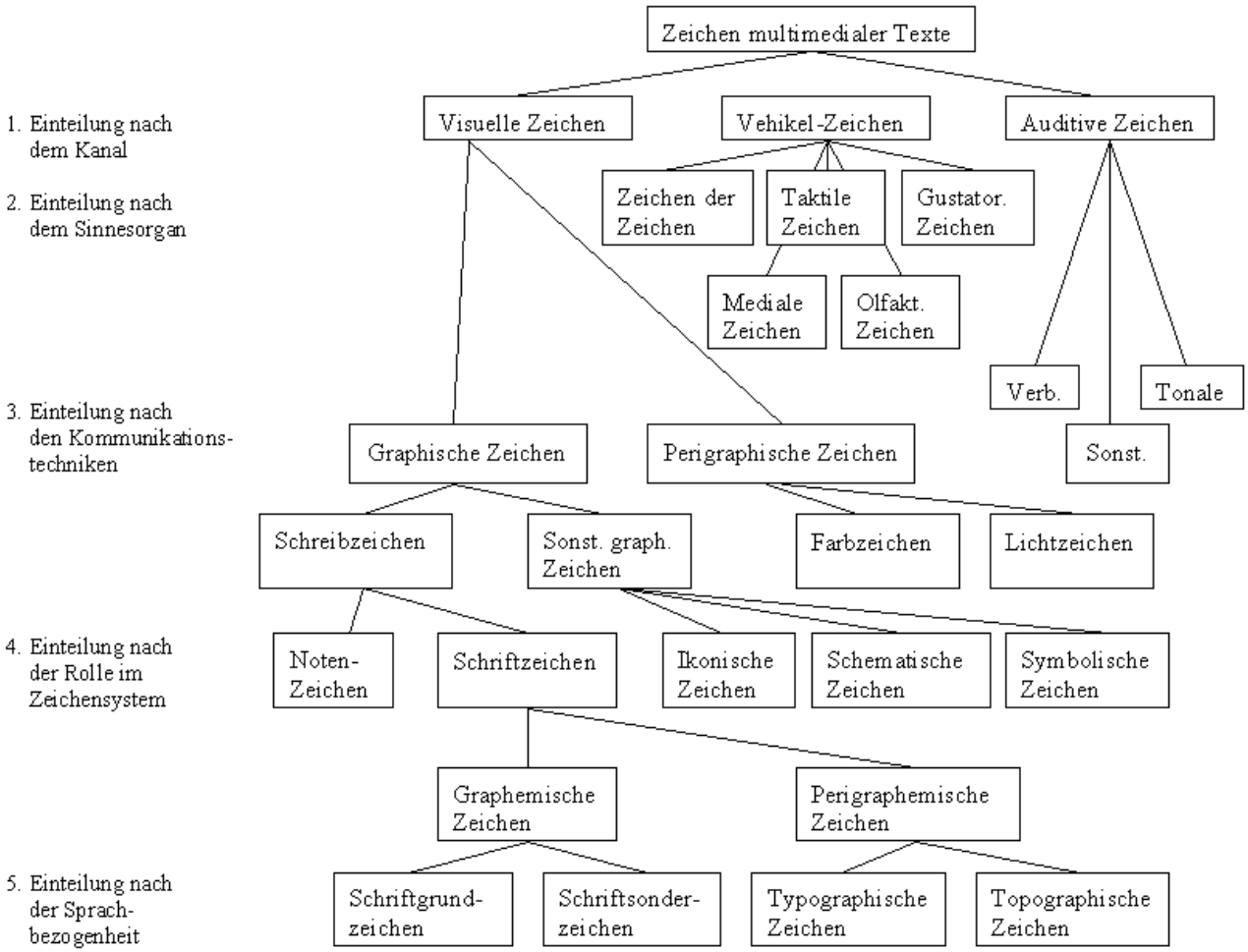

Figure 2: *Schröder's "multi-medial" typology*

This model is motivated by practical needs (translation theory and intercultural analysis of advertising) and it is largely inspired by Wüster's approach, although the two models are not completely identical.

The focus of Schröder's work is the interaction of various media in communication, and he argues that many texts can only be understood as a communicative integration of verbal and non-verbal means. Non-verbal elements are not additions to texts but integral parts, thus leaving a purely verbal text conception implausible. This is why "text linguistics" in LSP is moving towards a "Fachtextpragmatik".

This sign classification is perhaps first and foremost an interesting demonstration of the "pragmatic turn" of terminology and LSP. Many authors have pointed to the need for "integrative" approaches to LSP, that is, from system features to text

features and further on to contextual and extra-verbal features. The increased interest in pragmatic and contextual aspects of language is a significant trend of linguistics in general, not only LSP research. The trends within terminology and linguistics thus seem to be parallel.

2.3 Budin

Within terminology it has become more common to speak of representations and not signs or sign vehicles. The interest in representations has resulted in a number of other classifications in which the non-verbal types have been largely emphasized (e.g. Picht 1994), thus extending the communicative perspective mentioned above.

With this in mind it does not seem feasible that one "universal" sign typology is likely to occur, as the number of types would have to be very large. Budin (1996:128ff) takes a different perspective, making an attempt to classify the parameters underlying representations and not the representations themselves (Budin 1996:131):

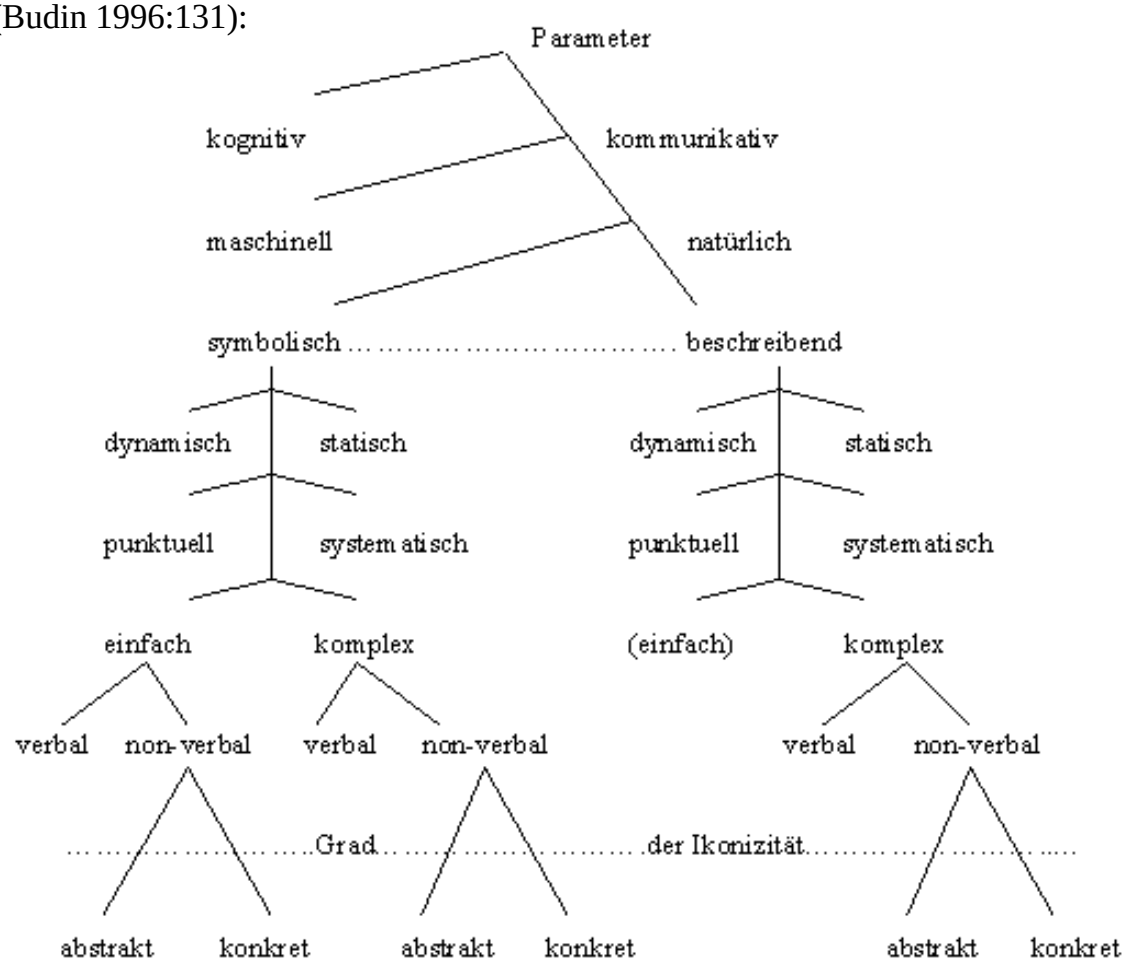

Figure 3: *The representation parameters of Budin*

This is in accordance with his view (1997:81f.) that sign classifications are still needed for practical, semio-terminological analyses. Such typologies, then, would be manifestations on a "parole" level of the "langue" of the parameters.

2.4 (From Peirce to) Järvi

Whereas the sign matrix of Wüster can be viewed as an internal heritage of terminology inspired by semiotics, the original sign typologies of semiotics may also constitute a basis for practical analysis and be taken over by terminology. The most widely accepted set is that of Peirce, distinguishing between symbols, indexes and icons. An elaborated model following this line of thought has recently been applied by Järvi (1997:67) for terminological analysis of graphical computer user interfaces:

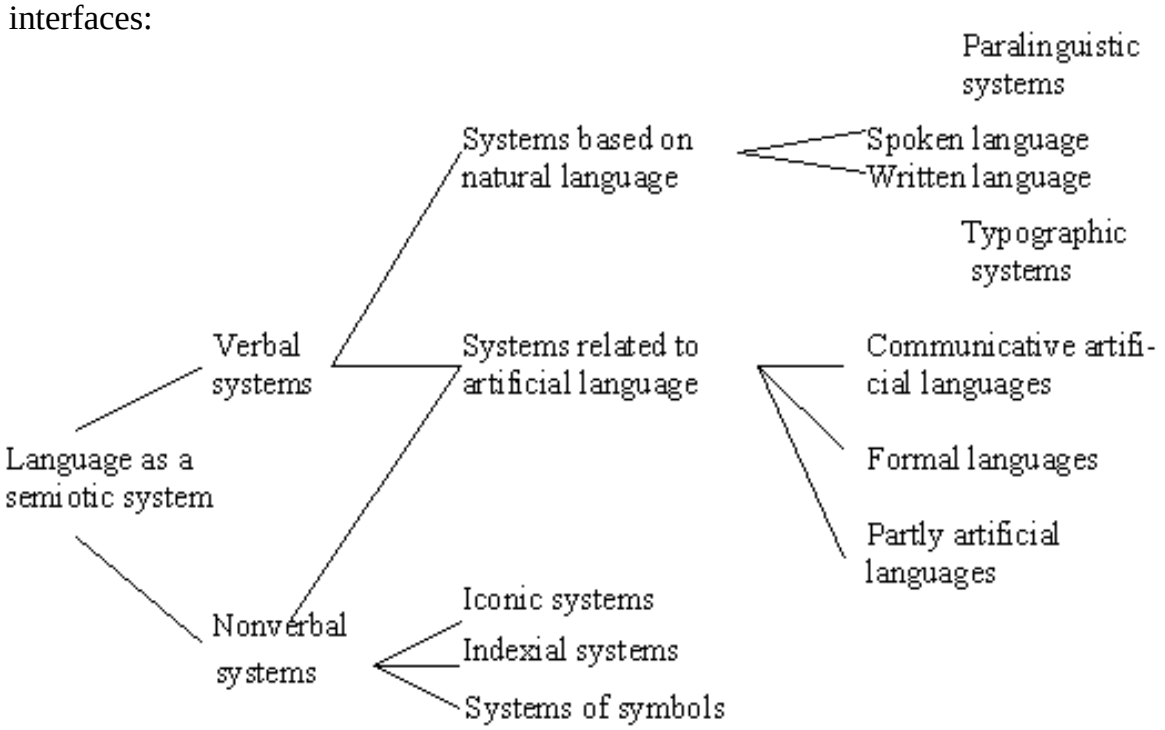

Figure 4: *Järvi – Language as a semiotic system*

The graphical computer interface constitutes a significant "text type" characterizing the new media of specialized communication. The analysis of such interfaces requires a semiotic view of language, because they are composed of signs and function through sign processes. According to Järvi, a Peircian approach is able to handle the dynamic character of signs on computer interfaces in a better way than Wüster's, due to the dynamic character of Peirce's conception of semiosis as "the sign process". This approach is, accordingly, also better able to handle the problem of the referent, because no physical referent exists on such interfaces (cf. below).

3. The sign models

3.1 Dyadic or triadic models?

The sign models used by terminologists can be divided into binary, triadic and four-field models, according to the number of important parameters represented in the models. In general semiotics scholars (e.g. Nöth 1995:83–91) have pointed to the problem of choosing between dyadic and triadic sign models when searching for the most adequate description or explanation of semiosis. Another problem concerns whether or not triadic models are genuinely triadic or merely extensions

of dyadic models, and a third problem is that of the language user, whether the user is a part of semiosis or not.

Nöth's answer to this question is that the user (or interpreter) is always an "additional relatum" (1995:83) and that neither solution necessarily neglects the pragmatic dimension of semiosis. In terminology the choice has been between triadic models such as the semiotic triangle and four-field models of the Wüsterian type, which might, however, be considered as extended triadic models. Both types appear in reference works such as *Terminology Manual* (Felber 1984:100 and Wüster's *Einführung* (1985:156).

3.2 The semiotic triangle

There are two well-known triadic models in semiotics. Peirce's approach has not been extensively dealt with in terminological contexts, with the exception of contributions by Outi Järvi (1997). Ogden/Richards' semantic triangle is, however, well-known in many versions. As a didactic device for practical purposes, the model has, for example, been included in Heidi Suonuuti's *Guide to Terminology* (1997:10), extended by two elements, that of the definition and the language user (as an "additional relatum"). This seems to add a certain pragmatic dimension to the model. On the other hand, nothing would prevent us from extending the triangle *ad hoc* with other aspects according to the research topic in question (e.g. to a pentagon incorporating the aspect of term motivation, Myking 1997:54). So basically, it is still a triangle:

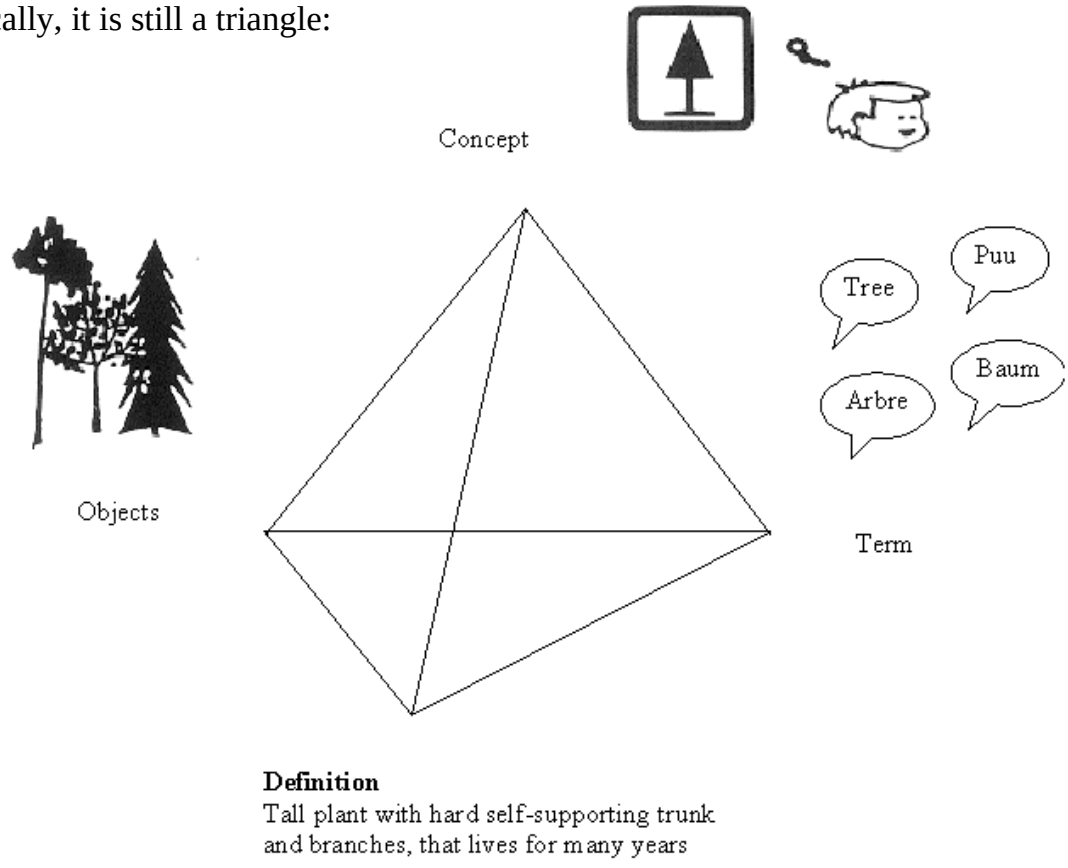

Figure 5: *The extended semantic triangle*

The main merit of the triangle is perhaps to be found in its simplicity, providing it with some sort of creative power at least at a general level. On the other hand, the triangle has been subject to serious criticism for being simplistic, static and behavioristic (cf. below).

3.2.1 Wüster

Wüster's four-field-model appears to be a synthesis of Saussure's and Ogden/Richards' models (Wüster 1985:76ff). The main merit compared to the triangle seems to be that the dichotomy of langue–parole can be accounted for, and compared to Saussure the referent has been included (cf. below):

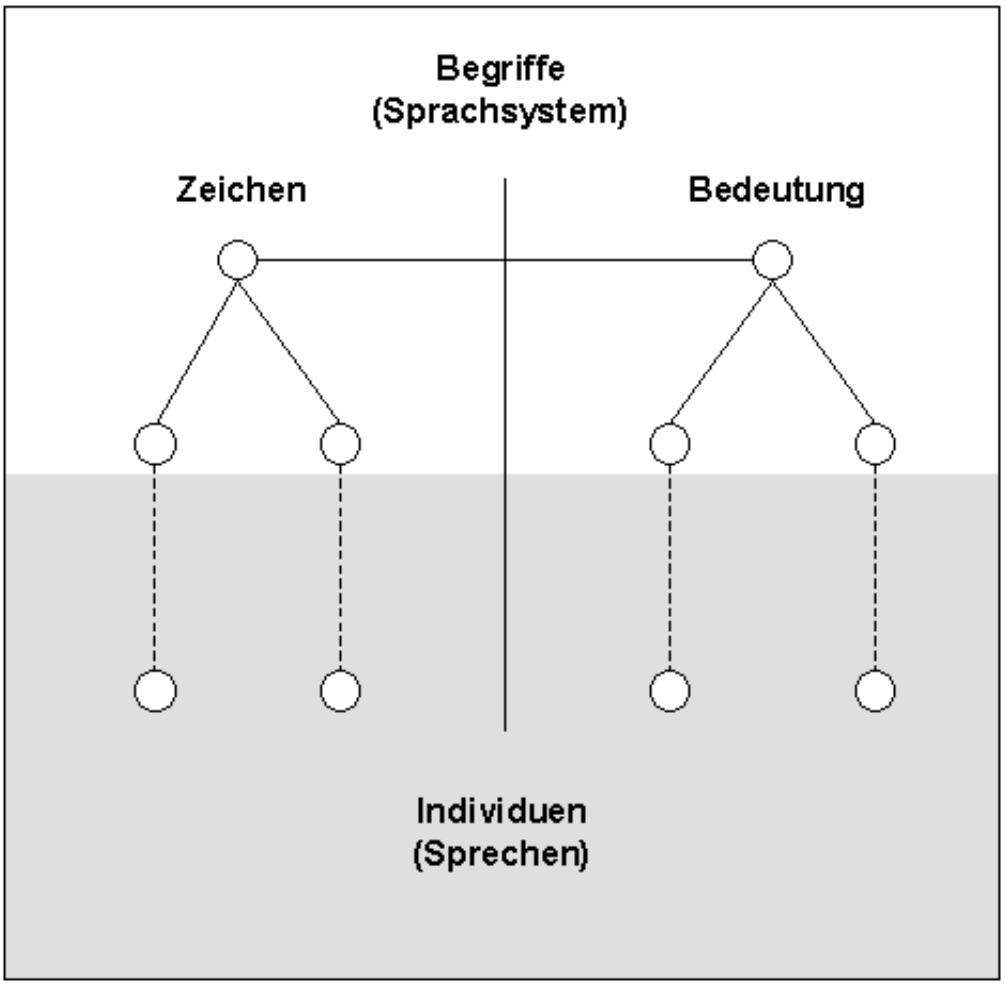

Figure 6: *Wüster's four-field-model*

Despite these obvious merits, Wüster's model also has a number of problems, such as the identical iconic representation of non-identical phenomena. Wüster uses the term "parole" to refer to linguistic as well as non-linguistic phenomena. At the lower right we find the (classes of) referents, non-linguistic but observable or postulated phenomena. The "parole" level is then constituted by both lower fields.

Further, polysemy results when the term "Begriff" refers to the traditional terminological "Begriff" as well as to the linguistic "lexeme" (an essential point made by Weissenhofer (cf. below). And despite the degree of elaboration compared to its predecessors, the model still displays a simplicity which from a linguistic angle has been felt as an inadequacy and thus triggered further attempts at elaboration.

It is interesting from the point of view of the history of terminology that Wüster termed his model "Wortmodell" and not "Terminusmodell". By using the word "Wort" instead of "Terminus" the suggestion is that the model can be generalized to language in general and not exclusively applied to special language or terminology. Further, as is also mentioned by Wüster, verbal as well as non-verbal representations can occupy the field of "Zeichen".

As a consequence, Wüster's model carries the ambition of being a *general* semiotic sign model. It is, however, not easy to discover any influence of this model outside writings on terminology. So far, the main function of the model seems to have been that of an 'external' scientific criterion assuring a scientific identity to terminology. Its influence on linguistics or semiotics in general seems to have been modest. Even within terminology itself, not all writers fully embrace the four-field model. The historical reasons for this have been outlined by Budin (1997:81), who points to the obsolete semantic theory of Weisgerber that had largely inspired the model.

3.2.2 Post-Wüster four-field models

According to criticism put forward notably by Weissenhofer (1995) and Gerzymisch-Arbogast (1996), the Wüster model offers a (still, even if compared to the triangle) simplistic and idealized image of language. Results of standardization, such as monosemy, are interpreted as properties of natural language, and it is assumed that delimitation of concepts can always be made in a clear-cut and unambiguous way. The model is also said to be static and insensitive to the important role of the context in determining the meanings of terms.

This appears as a serious shortcoming of Wüster's model if assessed as a general semiotic or semantic model. If correct, this restrains the usefulness of the model for practical and normative purposes, because practical terminology work – and perhaps standardization in particular – has to pay great attention to the constraints created by properties and features of natural language.

To overcome these shortcomings, the solution of Weissenhofer (1995:28) is to incorporate elements from recent semantic theory in an extended four-field-model. By incorporating prototype and fuzziness theory into the model, Weissenhofer tries to ”save” the model from general semantic criticism and to extend its usefulness for practical purposes.

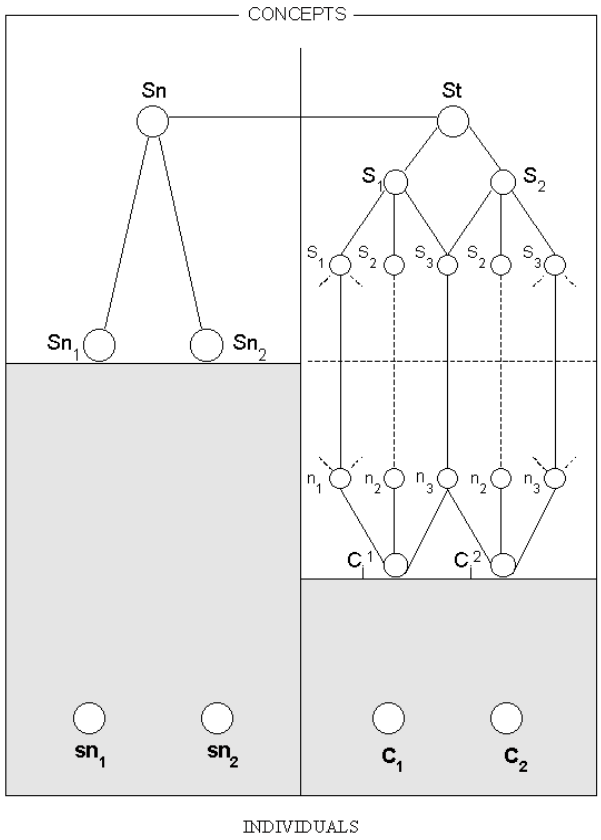

Figure 7: *Weissenhofer's extended four-field-model*

While Wüster's model does not allow for semantic features, this is one of the most important contributions by Weissenhofer. The dotted lines between *seme* and *noeme* (*s* and *n* in the upper-right field) are meant to indicate that the model is open and flexible and takes account of the distinction between linguistic and conceptual knowledge. The number and assignment(s) of semes and noemes may vary according to the degree of concept delimitation and fixation. This means that a contextual aspect is integrated into the model. The model provides, according to the author, an opening towards viewing the lexeme from both descriptive and prescriptive points of view.

By including linguistic phenomena such as vagueness, prototype theory and polysemy, Wüster's model can, according to Weissenhofer, be applied more satisfactorily to all terminological subfields, that is, even to "vague", culture-bound and language-bound fields as law and the soft sciences, whose referents are of a non-physical nature. It is then possible to avoid any accusation of behaviorism and a narrow perspective of the status of the 'referent' as a physical entity, and a better terminological analysis of non-physical subject fields.

The contribution of Gerzymisch-Arbogast (1996:36) is similar to Weissenhofer's in pointing out that Wüster's model is static, normative and too system-oriented. In Gerzymisch-Arbogast's model, the contextual dimension is even more clearly incorporated.

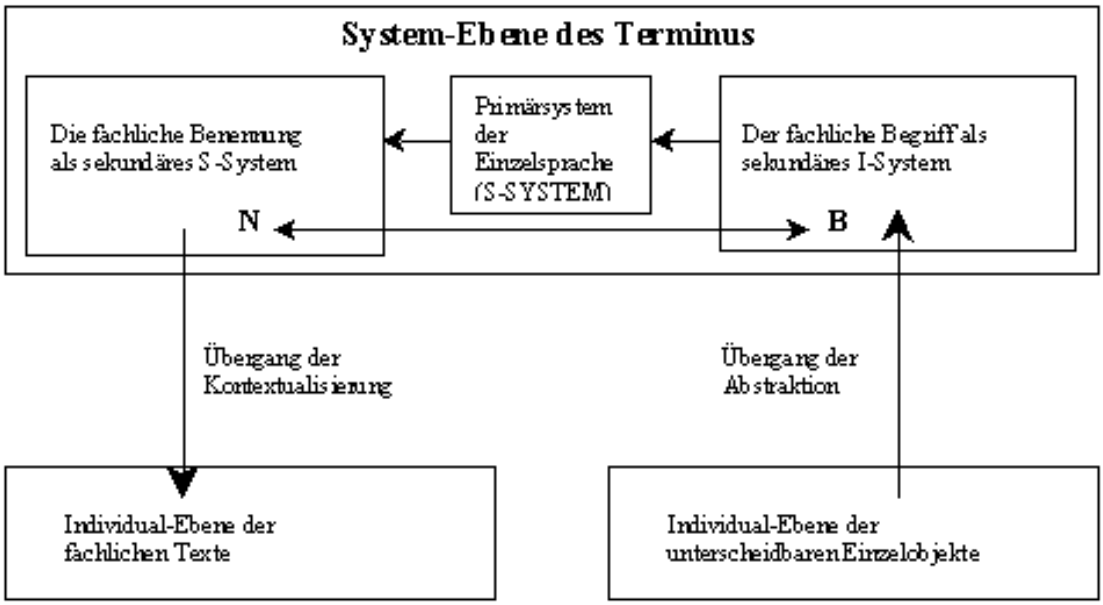

Figure 8: *The contextual model of Gerzymisch-Arbogast*

The iconic connection to Wüster is not present in this model, but I think her model deserves attention for the same reason as Weissenhofer's. Her criticism aims at making Wüster's model applicable for practical purposes, i.e. in LSP translation.

Situating himself at the intersection of knowledge engineering and philosophy of science, Oeser (1993:474) has transferred Wüster's model into a model of conceptual change. The synchronic and static point of view can, according to Oeser, easily be transformed into a dynamic one, emphasizing the procedural aspect of concept formation, fixation and transformation. In Oeser's dynamic transformation of the model, all static relations have been transformed into processes, but the general iconic picture of Wüster's model has been preserved, and each field corresponds to its Wüsterian counterpart:

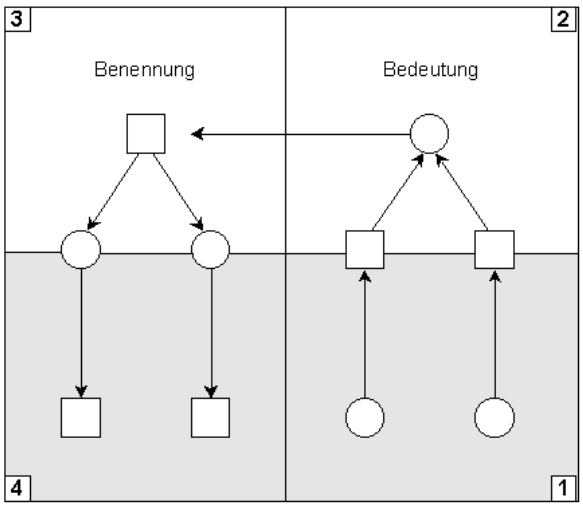

Figure 9: *Oeser's dynamic transformation*

The purpose of Oeser's model is to represent a "controlled concept dynamics". This dynamics expresses a repetitive process, and it allows for viewing concept formation and change as controlled operations.

Perhaps the most important consequence of Oeser's model applies to practical terminology work. According to Oeser, the value of terminology work does not decrease if the static perspective is replaced by a dynamic one, but rather vice versa. The model shows that the sign relation and formation of concepts can never be made permanently valid. The main point of the model, therefore, is to illuminate the dialectics between "free" conceptual development and controlled "freezing" in terms of normative acts such as language planning, terminographical analysis, standardization etc.

4. Functions

Now that the variations and tendencies as regards the architecture of the models have been examined, we continue by discussing some critical issues that have been pointed out.

4.1 Shortcomings

In addition to the various criticisms on the philosophical level as well as the semiotic and linguistic levels, it may also be pointed out that at least some of the models have never actually been used in practical work and that their empirical value remains to be tested. In the case of Wüster's model, it is suggested (Nistrup Madsen 1991:83) that the didactic value and clarity of the model are not satisfactory.

On the philosophical level, perhaps most important to terminology is the point made by John Lyons concerning the fundamental behaviorism expressed by the semiotic triangle (Lyons 1977:98), despite such non-behavioristic elements as "thought" or "concept". An essentially one-way causal relationship seems to exist between the language-external ’referent’ and the mental ’concept’ and the model does not easily work the other direction – from language/thought to referent.

On the semiotic level the triangular models have, further, been said to assign a fuzzy status to the nature and function of the referent or 'object', and to oversimplify the complex nature of semiosis (see for instance Eco 1977:31). The latter point is primarily a warning against equating the sign with the object itself. To represent the complex nature of semiosis a "complex polyeder" instead of a triangle would be needed (Eco 1994:70). The semiotician Deely (1990:78–79) demonstrates how a pentagon representing semiosis as discourse would have to be redistributed in no less than 10 triangles to account for the whole range of phenomena.

As regards the linguistic level, the neglect of the contextual factor and other important linguistic aspects have been demonstrated in the cited contributions by Weissenhofer, Gerzymisch-Arbogast and Oeser. It would be reasonable to claim, as has been done elsewhere (Laurén et al. 1997, ch. 4), it would be a reasonable claim that terminological sign models should be compatible with basic insights of linguistics, even if intended to apply to non-verbal signs as well. And this would mean 'linguistics' in some pragmatic variant, in other words a type of linguistics that takes a communicative approach and is not solely concerned with the language system.

The various criticisms are interrelated. If, for instance, the assertion about the behaviorism of the triangle is correct, it also undoubtedly applies to Wüster's model. Then Weissenhofer is right in pointing to the fact that non-physical referents and the soft sciences would be impossible or at least difficult to handle in terminological analyses. Terminology then must put a considerable effort in clarifying the functional and the ontological status of the referent, which need not be identical (as pointed out by Budin 1997:80. cf. also e.g. contributions by Picht 1997, Laurén et al. 1998 ch. 5).

The combined insights from modern semiotics, pragmatics and cognitive science tell us that language is a means of shaping reality and not only of representing it. This must lead to the conclusion that all relations within the sign models are in principle arbitrary (in contrast to the triangle in its traditional variant) and that these relations can work either way according to the intention and point of view (cf. Eco 1977:31). In various operationalizations of the triangle Budin has demonstrated that it is feasible and possible to add a dynamic and two-way perspective to the triangular model (Budin 1993a:82ff, 1993b) by including the element of *ordering* ("Ordnung") as a constitutive factor within the triangle (Budin 1993b:69), and that this semiotic model may be extended to an epistemological model of terminology (1993b:71):

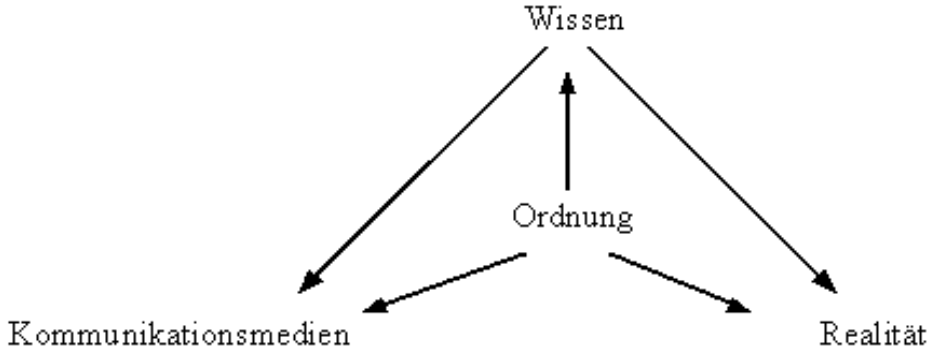

***Figure 10:** "Ordnung" as a constitutive element of terminology*

4.2 The criterion of "fruitfulness"

To the extent that the question of actual usefulness of semiotic models has been answered the conclusion seems to be rather negative. Budin (1997:81) warns against over-emphasizing the usefulness of such models, and this is supported by

Brekke (1997:95), who states that the idea of an all-purpose sign-model lacks realism as well as motivation. Terminology then has to manage with models having simplistic or reductionist properties of some kind. Instead of a negative conclusion, it is perhaps important to bear in mind that reductionism may be of two kinds, epistemological and methodological. Methodological reductionism appears legitimate and necessary for analytical purposes, and there should, consequently, be nothing wrong with using "simplistic" models if they serve their purpose in a given context.

Further, to gain a better assessment of the merits and functions of sign models in terminology, it appears useful to contrast the two criteria of truth value and fruitfulness assigned to theories and models. The concepts of 'theory' and 'model' can themselves be defined in various ways. I agree with Dyvik (1986) that models should be seen as representations and descriptions which may be useful and ”fruitful” for a given purpose, but never true or false. As Brekke (1997:85) puts it, models are "skewed oversimplifications" able or less able to illustrate certain aspects of reality. The criterion of truth value, on the other hand, applies to theories, which may be true or false.

On this basis we may then briefly state that the elements *'term', 'concept' and 'referent'* of the semiotic triangle (irrespective of the variety of terms assigned to them) should be assigned the status of *useful* and *fruitful* metaconcepts for terminology. These elements can be applied to construct a model of the sign which may count as one of the fundamental components of the theory of terminology (cf. on this issue also Budin 1993b:68; and from text linguistics Lundquist 1980:8).

In the history of terminological semiotics initiated by Wüster, these three elements have formed a basis for continuous reflection, as proven by numerous applications and attempts at theorizing, for example the relational model of Felber (1994:212ff.) and the various models by Budin (above cited works). The recent "Language-World-Model" of Toft (1997:77) is aimed at analysis of soft-science terminology combining the triadic elements with Beaugrande's concept of 'indeterminacy'.

As regards the semiotic problem of choosing between dyadic and triadic models (cf. Nöth, above), this means that operational sign models for LSP and terminology have to be at least triadic. In our context this simply means that the dyadic models of Saussure and Horecky (1979) are not sufficient (cf. Laurén et al. 1998, ch. 4).

4.3 Potential functions

In spite of the rather sceptical attitude expressed by many authors several possible functions of sign models have been outlined. Brekke (1997:95) suggests that identity marking or "diagnostic value" of language professionals is perhaps the most immediate merit of such models. If interpreted literally, this suggestion leads to the conclusion that sign models be developed for "external" scientific purposes and not according to "internal" criteria such as formulating basic assumptions or hypotheses according to a theory. Various didactical applications for standardizers

or textbook authors also form a part of this, and the didactical merits of the triangle in standardization (as e.g. in Suonuuti 1997) may also be mentioned.

Such functions are, nevertheless, secondary and rather unsatisfactory if models are not intended for, as well as applicable to, scientific purposes – in our case, terminological analysis of some kind. This is the motivation behind the modifications by the above-cited authors (Weissenhofer, Gerzymisch-Arbogast and Oeser). The criticism mainly seems to be directed against the pretentions of the models of the linguistic sign rather than against the sign typologies. Sign typologies are, according to e.g. Budin (1997:81) and Grinev (1998:306) increasingly needed in the analysis of scientific communication.

The purely epistemological function is also worth mentioning. Budin (1997:81) points out that this is the main function of the sign models. The assumed or empirically proven merits of the models seem to rest not only in how they are able to describe semiosis at a given time, but in what they demonstrate about crucial issues in a process of reflection within terminology: how to conceive of the referent, how to cope with semantic features or non-verbal signs, how to combine the static vs. the dynamic dimension, etc. The models themselves become epistemological indexes. Even if Wüster himself did not perhaps succeed in designing a generally accepted model of the linguistic sign it appears to be a historical merit that through his model he was able to generate and establish this line of thought as one important subfield of terminology.

5. Conclusions

The debate on sign models and sign typologies of terminology and the various attempts of modifying and developing the models prove that the fate of Wüster's two initial efforts are quite different:

It seems that Wüster's ambition of developing a general semiotic model of the sign has failed, at least as far as a general approval from the research community is concerned. The interest attributed by current terminology to his model seems, consequently, primarily historical in nature. It also seems that developing one comprehensive sign model able to handle all the relevant problems of terminology then simply would imply revolutionizing general semiotics, a task probably exceeding the level of ambitions of terminologists alone.

It also seems that Wüster's sign classification is gaining increased esteem and importance insofar as it is supplying a basis, and pointing out a direction, for future research of practical importance – and, in which semiotics, terminology and notably, linguistics – may fruitfully interact to provide a theory of representations. Apparently, the criterion of fruitfulness is less of a problem when discussing typologies and classifications of signs as vehicles than when reflecting on the nature of semiosis. The classifications are neither intended nor believed to tell any "truth" about the nature of language, but are on the contrary designed to meet specific goals and tasks.

Incidentally, these contrasting fates of Wüster's attempts in semiotics are further manifestations of two contrasting tendencies in terminology. On the one hand, there is a tendency of establishing terminology as an interdisciplinary field of research transcending the limits of linguistics but without excluding it. This is where Wüster succeeded, as illustrated by his sign classification. On the other hand, there is a need for providing a semiotic common ground for terminology and linguistics. The very wording of Wüster's headline of "Das Worten der Welt" signals a dialogical relationship between language and the world in which natural language plays a crucial part. The various attempts at updating his model according to recent developments in linguistics is perhaps a sign of failure of his original model as far as design is concerned, but at the same time a confirmation of its underlying intention. The Post-Wüster sign models illustrate a current and remarkable tendency of re-thinking and re-establishing terminology as a linguistic discipline.

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ABSTRACT

Sign Models in Terminology: Tendencies and Functions

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The aim and scope of this paper is to assess some aspects of Wüster's work on signs and the influence of his works on terminological semiotics. The discussion deals with two aspects:

- The sign typologies (classifications) of terminology, and
- The conception of the linguistic sign within terminology

I wish to outline some developments and the state-of-the-art in the way signs are conceived within terminology, as well as some answers to the fundamental question of what there is to gain from sign models.

The sign typologies proposed by Wüster, Schröder, Budin and Järvi are reviewed. The sign models used by terminologists are then discussed according to the number of important parameters represented in the models, whether binary (Saussure), triadic (Ogden/Richards) or four-field (Wüster). Further developments of Wüster's model are then assessed, the models proposed by Weissenhofer, Gerzymisch-Arbogast and Oeser.

Several shortcomings and criticism are reviewed and discussed, with reference to the philosophical, semiotic and linguistic levels. Implications for practical work are outlined, and a progression from behaviorism towards constructivism, contextual aspects and dynamism is identified. It is suggested that all models be assessed according to their usefulness and fruitfulness for applied purposes.

Finally, I suggest that Wüster's sign may fruitfully contribute to providing a theory of representations. The Post-Wüster sign models illustrate a current tendency of "re-thinking" and re-establishing terminology as a linguistic discipline.

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