Wüster/Carnap: Vienna School/Vienna Circle

Terminology between Linguistics and Philosophy of Language

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RÉSUMÉ

Cette contribution vise à mettre en évidence certaines des affinités théoriques entre la terminologie wüstérienne et la philosophie du langage du positivisme logique. Après avoir succinctement indiqué les raisons pour lesquelles la plupart des linguistes du vingtième siècle ont été réticents à « recevoir » la théorie de Wüster en raison de ses présupposés philosophiques, on s'efforce d'étudier quelques-uns de ces présupposés en mettant en regard les conceptions de l'école de Vienne de terminologie et celles du *Cercle de Vienne* (de Carnap, principalement). On examine tour à tour le recours au *principe de parcimonie*, la question du *nominalisme* et le problème de la *définition réelle*. On termine sur les conditions d'une *culture matérielle*, telles qu'elles se dégagent d'une terminologie/ontologie des objets techniques à la Wüster.

MOTS-CLÉS

Wüster (Eugen), Cercle de Vienne, Carnap, langage de la science, principe de parcimonie, nominalisme, objet technique, culture matérielle

ABSTRACT

This paper aims at highlighting some of the theoretical affinities between Wüsterian terminology and the philosophy of language of logical positivism. After briefly indicating the reasons why most twentieth-century linguists were reluctant to 'receive' Wüster's theory because of its philosophical presuppositions, we try to study some of these presuppositions by

comparing the conceptions of the *Vienna School* of terminology with those of the *Vienna Circle* (Carnap's, mainly). We examine in turn the recourse to the *principle of parsimony*, the question of *nominalism* and the problem of *real definition*. We conclude with the conditions of a *material culture*, as they emerge from a Wüster-like terminology/ontology of technical objects.

We remember the famous article in which Benveniste denounced the illusions of the Aristotelian theory of categories.

> In elaborating this table of 'categories', Aristotle had in mind to list all the possible predicates of the proposition, under the condition that each term be meaningful in its isolated state, not engaged in a *συμπλοχή*, in a syntagm, we would say. Unconsciously he took as his criterion the empirical necessity of a distinct *expression* for each of the predicates. He was then bound to find without having intended it the distinctions which the language itself manifests between the principal classes of forms, since it is through their differences that these forms and classes have linguistic meaning. He thought he was defining the attributes of objects; he only posits linguistic beings: it is the language which, thanks to its own categories, makes it possible to recognize and specify them. (Benveniste 1966 [1958]: 70)[1]

This argument of Benveniste exemplifies the very type of objections raised by most of the linguists of the twentieth century to all the attempts to anchor the analysis of facts of language in a philosophy or a logic of the concept—more or less aimed at laying the foundations of a formal ontology or, more recently, to propose these modeled objects that are the *ontologies* ("semantic networks" as linguists would have said in the 70's)[2]—or to anchor it just in philosophy: a type of analysis supposedly dating back to Aristotle[3] and extended by the whole metaphysical tradition. Attempts proceeding from the illusion according to which classes of forms

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1. This and all other translations not referenced are ours.

2. See Rastier 2008: 16.

3. See Sager & Kageura 1994-1995.

would be independent of the particular language in which they are expressed and that they would exist before this language: an illusion *unconsciously* founded on "the empirical necessity of a distinct *expression* for each of the predicates" of the proposition.

Now, with the Wüsterian conception of terminology—and perhaps even with terminology *tout court*—, we would have to deal with this kind of analysis. Before coming to the type of philosophical anchoring which is its own characteristic and thus seeking to identify, more generally, the disciplinary status of terminology[4], on the border between linguistics (and specialized lexicology within it), applied linguistics[5], language planning and philosophy of language as well, it is useful to summarize the main arguments[6] invoked by most linguists, especially in France[7], against the General Theory of Terminology (*Allgemeine Terminologielehre*) or "Fundamental Terminological Theory"[8], as Wüster also calls it to distinguish it from

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4. The question of the contours of the field of terminology and its definition as a discipline became more insistent in the 1970s. The *Office québécois de la langue française* organized then a colloquium during which Wüster had spoken (Dupuis ed. 1976). A colloquium which, in his contribution here within, J. Humbley considers to be at the origin of French-speaking terminology, and of the very notion of *aménagement linguistique*.

5. As Danielle Candel and Gerhard Budin remind us here within, according to Wüster (in the *Internationale Sprachnormung in der Technik*, 1931), terminology is "applied linguistics" (*angewandte Sprachwissenschaft*). Wüster would be at the origin of the expression. Using the definition given by G. Kandler, the founder of the publishing series *Sprachforum* (and of the journal of the same name) in which he republished the *Internationale Sprachnormung* in 1966, Wüster states that "beyond pure linguistics, [applied linguistics] gathers linguistic knowledge in all areas of life and wants to make it usable in all areas of life" (1974: 64).

6. For more arguments, see Myking 2001.

7. Apart from some lexicologists, such as Pierre Lerat 1989. On the critical view of Wüsterian terminology by French-speaking linguists *vs.* the generally favorable reception of Wüster in Germany, Austria and the Scandinavian countries, see Humbley 2004 and 2007. See also Humbley 2022. For the reception of Wüster in German-speaking countries, see Antia 2001. A doctoral thesis was dedicated to the reception of Wüster in English, Spanish and French works, in Europe and in the Americas, between 1979 and 2009: Campo 2012.

8. *Terminologische Grundsatzlehre* (Wüster 1981 [1974]: 63).

applied terminology in a particular field[9]. We refer to linguists of the last forty years[10] : for a long time, in fact, Wüster's work was simply ignored; reviews of his work were essentially non-existent in French linguistic journals[11]. It is difficult to list in detail the many arguments mobilized against the terminology. Very briefly, we can say that they concern three main points:

1. Terminology (theory and practice taken together) would be based on a naive or unthinking conception of the sign and of designation, a conception linked to an instrumental vision of language in which the term is supposed to express in a bi-univocal way a preexisting concept. Bi-univocity would in turn be part of a classical philosophical device for organizing knowledge, a tree-like device whose model is

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9. The *allgemeine Terminologielehre* is not the "mere sum of specific terminologies. Rather, [it] relates to particular terminological theories in the same way that general linguistics relates to the sciences of different languages". (Wüster. *Ibid.*).

10. See the foreword to this book for an account of Wüster's reception in leading journals in the field.

11. A typical case is the review section in the *Bulletin de la Société de linguistique de Paris* (= *BSL*), the most important French journal of linguistics of the time. When Meillet (1931) gives a brief account of the *Internationale Sprachnormung in der Technik*, he retains, so to speak, only the criticism of languages and the call to generalize the use of Esperanto. Nothing of the specificity of this work really appears in his reading. Twenty-eight years later, Volume 2 of the *Bibliography of Monolingual Scientific and Technical Glossaries* goes even more unnoticed: it is well mentioned among the works received by the *BSL* in 1959; it is not however the subject of any review. The same could be said of the other main French linguistic journals before around 1980. Mounin's reference to Wüster, in his work dedicated to the theoretical problems of translation (1963), mentioned in his contribution by J. Humbley, remained isolated for a long time. On an international scale, among the later issues of general linguistic or applied linguistic journals in which Wüsterian terminology has been the subject of articles with a certain regularity (more than four articles in the last forty years), sometimes in contrast with other terminological approaches, we can mention *Alfa* (in particular: n° 7-8, 1994-1995), *Fachsprache* (in particular: n° 1, 1979; 2, 1980; 3, 1981; 23, 2001), the *International Journal of the Sociology of Language* (in particular: n° 23, 1980; 177, 2006), *Meta* (in particular: n° 27, 1982; 28, 1983; 45, 2000), *Langages* (in particular: n° 25, 1990; 165, 2005; 168, 2007), *Le Langage et l'Homme* (in particular: 40-2, 1979; 28-4, 1993), the *Cahiers de linguistique sociale* (in particular: n° 18, 1991) or the *Revue française de linguistique appliquée* (in particular: n° 6, 2001; 12, 2007; 14, 2009).

to be found in Porphyry: the tree of a terminological domain has the function of giving the term a monoreferential value[12]. For Wüster, this device serves as a basis for the refutation of any terminological approach in which the definition of concepts would be too indebted to a particular language. He criticizes Alfred Schlomann—acknowledging however his precursory role—because his illustrated dictionaries give too much importance to the semantics of German (Wüster 1968b: 2.19), a disadvantage all the less acceptable since Schlomann does not provide any concept definitions by considering that illustrations take their place. It is thanks to the definitions of concepts that Wüster's own onomasiological approach could take the Porphyrian tree as a model: constituting an object consists in deriving a concept from other concepts in the same domain[13]. But this is precisely problematic for a semanticist like F. Rastier, who asks the following question: "How does a concept become a concept and how does it cease to be one? The upstream criteria remain nebulous, especially since many 'concepts' are not lexicalized; at least the texts operate on semantic forms that do not necessarily have a determinable lexicalization. We cannot continue to privilege lexemes or fixed lexies." (See below, p. 318).

2. With a few exceptions[14], terminology would thus consider the term in an isolated state, outside any textual context, and without taking into account its combinatorial capacities. In so doing, moreover, it would grant an excessive privilege to naming (*Benennung*), retaining from the language only the words (or let us say *lexical units*) and from the lexicon mostly the nouns, thus subscribing to a substantialism that also remains unnoticed. It would ignore the semiotic heterogeneity of texts, the diversity of discourses

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12. "Porphyry's *Isagoge* [is] a reference text of scholasticism, propaedeutic to Aristotle's work, it is also—or it should be—so with terminology and knowledge engineering. The definition by *genus* and *differentia* relates to it as does the organization of knowledge in the form of a Porphyrian tree." (Roche 2011: 23).

13. According to H. Felber, one of Wüster's most direct heirs in the Vienna School, "a domain (or a subsection of a domain) is only mentally accessible if the conceptual field is structured, i.e., if it constitutes what is called a system of concepts. In this system, each concept reveals its relationship with the other concepts." (Felber 1987: 101)

14. Like Kocourek 1991 [1982] or Bourigault & Slozdian 1999.

and textual genres, the sophisticated links between meanings[15] in order to reduce them to a unifying "ontological" scheme. It would also stem from a naive conception of compositionality: there would be no difference of nature, but only of degree between the rules of lexical or terminological material production and those which govern the entire language, whether natural or artificial, such as Esperanto.

3. Finally, by attempting to straighten out language rather than to describe it, terminology claims to make the term the basic element of an ortholanguage, of a system of correct designations of the objects of the world. Whether this is a Cratylian illusion or a glossogonic project that is honorable in principle but doomed to failure in reality, in both cases the normative aim of terminologists (Wüster's *Soll-Normen*) is an opportunity for linguists to recall that the science of language is not primarily a normative discipline, that polysemy, synonymy, homonymy, and the ambiguities of natural language are not meant to be reduced but to be described. This reminder of the reality principle of language has naturally taken various forms, but they all lead to clearly distinguish the respective jurisdictions of science, on one hand, and of linguistic technique[16], on the other (including specialized lexicography), as well as those of linguistics on one hand, and of the philosophy of language, on the other.

Whether or not this picture is consistent with what the terminology actually was or has become is not something I plan to analyze. And in fact, it is amply discussed by others[17]. Whether we are talking about Wüster's writings, those of his successors within the Vienna School, or the creation of other post-Wüsterian, or even anti-Wüsterian, schools and currents of terminology, it could be shown that terminology did not remain a discipline fixed around the few principles I have just mentioned, which do not most often correspond to the caricatured image that we have formed of it. Changing paradigm, terminology would thus have passed in the last century or so from a rationalist, normative and idealist model to

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15. See in particular Rastier 1995, Otman 1996, Gambier 1991.

16. This is the other name that Wüster gives to the terminology: *Sprachtechnik*.

17. See the contributions of John Humbley, Danielle Candel and Martin Stegu here within.

an empiricist, descriptive and functionalist model—a model whose analytical and standardizing power would have changed scale with the automated processing of large corpora[18] and the creation of multilingual databases issued from artificial intelligence[19]. It would have shifted from a model where the equivalence of notional networks from one language to another is an unquestioned fact to another model where the difficulties raised by the notional divergences between languages, which lead to the impossibility of translation, are the object of an appropriate treatment[20].

With Wüster himself, for example, we would be well advised to measure the gap between the 1931 text, the *International Sprachnormung in der Technik*, and the articles of the 1950s and 1960s[21] or the posthumous *Einführung in die allgemeine Terminologielehre,* to show how the requirement of fixity and bi-univocity of term/ concept appears, after clarification, more as a regulative idea than as a constitutive principle of his theory[22], an idea conceived in the light of the requirement of an internationalization of the language of science[23]. John Humbley and Danielle Candel have already done so in

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18. See Enguehard 1993 or Condamines 2005.

19. Among the first computerized management systems for these databases and for modeling terminological data: *Termisti* (ISTI) founded in 1990 by Marc Van Campenhoudt and Daniel Blampain in Brussels or *Code* (University of Ottawa).

20. R. Arntz was one of the first terminologists to attempt to build a cross-linguistic notional network to solve this type of difficulty (Arntz 1993).

21. Mainly: Wüster 1959-1960.

22. One can also read such discrepancies within the same work. Thus, with regard to synonymy and polysemy: in terminology, "there should not be [...] names that have several meanings (homonyms and polysemes), nor should there be several names for a single concept (synonyms)" (Wüster 1979 : 79). But, further on: "in terminology itself, synonyms with differences in their *Sinnform* cannot be completely rejected" (Wüster 1979: 98).

23. "In the sciences, it is appropriate to use the same international abbreviations, even if the full names are different. This is considered more important today than conformity with respective abbreviations of the different national languages [...]" (Wüster 1979). But, as M. Van Campenhoudt indicates, in connection with the *Multilingual Dictionary of Machine Tools* (Wüster 1968b), "Wüster uses various symbols that allow him to announce cases of partial equivalence, but not

an issue of *Cahiers du CIEL* (Cortès 2004) and in an issue of *Langages* (Savatovsky & Candel 2007). Moreover, Wüster himself endeavors, on occasion, to place his approach and the evolution of this approach in the long history of terminological thought[24] and, on the other hand, to cross-reference his own analyses with the principal *topoi* of linguistic thought[25].

As for taking into account the phrasal and/or textual context, as it appears in the corpus linguistics in which many terminologists participate nowadays or which leads to the constitution of textual ontologies, we could show in the same way how it is prefigured in some respects in the 1979 work.

But the internal changes in linguistics itself are above all significant. This discipline has had to free itself in part from Saussurean semiology in order to make room for a full-fledged semantics and for cognitivist work[26]. This made it possible to consider that linguistics and terminology, if not adopting the same presuppositions, at least speak the same language. In this respect, I would like to mention, by way of example, the fate reserved to one of those dichotomies that are deemed to be emblematic of the gap between the approach of terminologists and that of linguists, namely the pairing of onomasiology and semasiology.

Onomasiology/Semasiology

The difference between the two disciplines is considered as having to do with the path used to link sign and concept. The terminologist follows an onomasiological path (from concept to sign) and the linguist

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to solve them. Only in exceptional cases does he use homonymic ungrouping" (Van Campenhoudt 1996: 291).

24. See Budin (1996).

25. In particular, Wüster 1959-1960. See here within D. Candel's contribution.

26. Concerning Wüster's lessons, F. Gaudin called not to "underestimate the importance of the epistemological obstacle constituted by the persistence of pre-Saussurian conceptions still alive today" (1993: 27). On the other hand, one could invoke here the importance of the epistemological break constituted today by the emergence of post-Saussurian conceptions, which could make Wüster's lessons more acceptable for linguistics.

a semasiological path (from sign to concept). This distinguishing criterion between onomasiology and semasiology was introduced at the beginning of the twentieth century by the Romanist Antoine Thomas[27], then taken up in Germany by the Romanist Vossler, the Celtist Weisgerber, and the lexicographer Dornseiff, the author of an ideological dictionary (1934), and it has since spread widely[28].

A Pottier-like semantic analysis, for example, but also—it could be said—most of the work in lexical semantics after the 1970s and 1980s, such as that on prototype semantics and many others (Shank in particular), are indeed onomasiological.

In fact, when the pairing of onomasiology and semasiology is used to explain the difference between terminology and linguistics, it is generally done all things being equal[29], neglecting the difference between the semiotic postulates of terminology and those of post-Saussurian linguistics. For those linguists who reject the autonomy of terminology as a discipline, the *term* is not a type of sign that differs from the others and has no specific formal or semantic feature allowing its theory to be singled out within a general lexicology. As a specialty language, the only real specificity recognized for a terminology would be of a sociolinguistic type: that of the particular professional or scientific community that uses it.

Now "the Wüsterian *term* is not a 'restricted word', as F. Rastier (1995) says, and the Wüsterian *concept* is not the mutilated Saussurean *signified*, deprived of its combinatorial capacities, simply *because it is not the signified*" (Savatovsky & Candel 2007: 8). And Wüster's terminology is indeed based on a typology of signs (a

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27. "When we start from a given word to group in a logical order the different meanings of this word, we are doing semasiology; when we start from a given idea to group the different words that serve to express this idea, we are doing onomasiology." (Thomas 1904: 289). The very term *semasiology* was introduced into German-language works by the Latinist Christian Reisig in 1825. It was well-known to Wüster, a reader of Marty. But for Marty, semasiology has a very general meaning, different from the one we are examining here. It refers to "the properties and genesis of language means as such" (Marty 1908: 51) which have a semantic function (*Funktion*): for Marty semasiology is a *Bedeutungslehre* ('a semantic theory').

28. See Quadri 1952.

29. We take up here an argumentation developed in the presentation of Savatovsky & Candel 2007.

theory of the different types of signs)[30] that has been refined and made more complex from the 1931 thesis to the 1979 work via the seminal article "Das Worten der Welt" (1959-1960). "This question thus refers in reality to that of knowing if an autonomous referential semantics is possible within linguistics and, if it is, to what extent it could be constituted in spite of or against the Saussurean conception of the sign, that is to say Saussurean mentalism, for which a concept is identified with the image *in abstentia* of the thing"[31] (*Ibid.*). It also refers, beyond terminology, to the rules that govern the practical devices of terminographies: for Wüster, onomasiology is first of all a principle of terminographic organization[32].

Wiener Kreis and *Wiener Schule*

But even more than his doctrine of the sign, it is—let us repeat—his anchoring in a philosophy of language that forms the strongest point of resistance to the reception of Wüster by linguists. And it is to this anchoring that I now turn. Wüster's philosophical references are quite diverse[33]. I will focus here on one of them, which appears

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30. See Ivanović 2019.

31. "Here, it is no longer up to the linguist to come and teach that we only ever know an object by the idea we have of it, and by the right or wrong comparisons we establish: in fact I know of no object to the name of which is not added one or more ideas, said to be accessory, but basically exactly as important as the main idea—the object in question being the Sun, the Air, the Tree, the Woman, the Light, etc." (Saussure 2002: 75).

32. "Each rubric originates, not from a term, but from a [concept] and the definition of that [concept]. [...] For each rubric, it was determined which term best corresponded to the definition of the [concept]" (Wüster 1968b: 2.17). See Wüster 2001 [1963] as well.

33. We will leave aside here his references to linguistics. The main nineteenth and early twentieth-century linguists and language theorists quoted or mentioned by Wüster in his 1931 work, most often about their positions on international auxiliary languages, are: C. Arendt, Ch. Bally, J. Baudouin de Courtenay, F. Boas, M. Bréal, K. Brugmann, L. Clédat, M. Cohen, W. E. Collinson, A. Darmesteter, A. Debrunner, F. Diez, E. Drezen, É. Egger, J. Grimm, V. P. Filatov, F. N. Fink, O. Funke, G. v. der Gabelenz, W. v. Humboldt, O. Jespersen, S. Karcevski, A. Leskien, J. Marouzeau, A. Marty, E. Mätzner, A. Meillet, R. Meringer, M. Müller, L. Olschki, P. Passy, H. Paul, E. Richter, K. Sandfeld-Jensen, E. Sapir, F. de Saussure,

rather late in his writings "(mostly in his *Nachlaß*)", but settles there insistently: the reference to that version of logical positivism (or logical empirism) represented by the Vienna Circle philosophers, and above all by Carnap.

First, a possible misunderstanding should be ruled out. It has been and it is sometimes said that Wüster was a member of the Vienna Circle[34]. This is not the case. The *Wiener Kreis*, which was organized in 1929 under the name of *Verein Ernst Mach*, but which was the successor of an older group, founded by Schlick, was intended to be a sufficiently open and informal society to admit not only practitioners of various disciplines, but also researchers who were not yet recognized, or even who had not yet published. A circle, perhaps, but whose center was everywhere: Vienna certainly, but also Prague, Berlin—with Reichenbach—and soon, after the Anschluss, Paris, then Cambridge, Harvard, etc. A circle, no doubt, but without a circumference, with no requirement to share the same philosophical options to belong to it[35]: what common points, for example, between the Kantian idealism of a Neurath and the dominant nominalism or realism? A group of peers, therefore, rather than a school, with masters and disciples.

The list of members of the Vienna Circle includes the names of mathematicians such as Hahn or Gödel; physicists such as Franck; sociologists such as Neurath; philosophers such as Carnap, Kraft, Schlick or Waismann, not to mention those whom the Circle wanted to annex to itself, such as Einstein or Wittgenstein, and the many "sympathizers", but no mention of Wüster's name. Wüster never appears either in the bibliographies of the works of the members of the Vienna Circle, nor in the *International Encyclopedia of*

R. de Saussure, A. Sayce, W. Schmidt, H. Schuchardt, A. Sechehaye, E. Schwyzer, H. Steinthal, H. Sweet, L. Tesnière, V. Thomsen, J. Vendryes, K. Voßler et W. Wundt. Among the names added in the 1966 reprint (*Supplementary Report*) are those of M. Alinei, R. Arntz (see *supra* note 20), F. Ellend-Seyffert, A. Gode (the promoter of interlingua), H. Holmström, J. Horecký, G. Kandler (see note 5), D. S. Lotte, A. Martinet, W. Meyer-Lübke, M. Monnerot-Dumaine, W. Porzig, A. Zischka... Among those added in the 1968 reprint: B. Pottier and L. Guilbert.

34. Rastier 1995: 35.

35. On the debates, sometimes virulent, within the Vienna Circle, see Bonnet & Wagner 2006, and Uebel 2007.

Unified Science (Neurath, Carnap & Morris), whose first issues were published much later, from 1938 onwards, then 1950 again and which welcomed the works of numerous collaborators, well beyond those of the first members of the Circle[36].

One should however pay attention to the dates: Carnap's *Aufbau*, the founding work, is from 1928, the manifesto of the Vienna Circle[37] is from 1929, and it is not until 1931 that Wüster publishes his doctoral thesis. A thesis which, despite what its title might suggest, is not a work in terminography like *The Machine Tool: an Interlingual Dictionary of Basic Concepts* published later on in 1968, but in terminology. And what does this small industrialist from Upper Austria[38], an engineer by training[39] and a self-taught philosopher, have in common with those members of the European philosophy and science Gotha gathered in the Vienna Circle? Although Wüster continued to publish for a very long time and although his later works are contemporary with those of his successors in the Viennese School of Terminology, he began his work as a maverick. It was not until after the Second World War,

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36. Wüster's name doesn't appear either in the index of the *Rudolph Carnap Papers* (mainly letters, but numerous other manuscripts as well) hosted by the University of Pittsburgh (https://digital.library.pitt.edu). The only direct and repeated contacts attested between Wüster and a philosopher belonging to the logicist movement before World War II are those he had with Ogden, the translator of Wittgenstein's *Tractatus* into English and the promoter of *Basic English*, which F. Rastier (below, p. 324) considers to be a project close, by its practical dimension, to that of Wüster, a project consisting in "taking a language [English, in the case of Ogden and Richards] and degenerating it to make a perfect language". Wüster and Ogden kept up a correspondance between 1932 and 1936. M. Slodzian calls *The Meaning of Meaning* (Ogden & Richards 1946) "the flagship theory of Wüsterian meaning" (2007: 81).

37. Carnap, Hahn & Neurath 1929.

38. The family-owned company Wüster & Co. in Wieselburg an der Er used to (still does) manufacture saw blades.

39. The connection is obvious: after his secondary education at a *Realschule* (technical school) in Linz, Wittgenstein had also trained as a mechanical engineer from 1906 onwards, at the *Technische Hochschule* in Berlin-Charlottenburg (the same place where Wüster began his higher education, in the electrical engineering section), and then in Manchester, where he specialized in aeronautics from 1908.

first within international standardization organizations[40] such as the
ISA—which became the ISO—that the originality of his contribution
was recognized. In contrast, the work of the Vienna Circle was
intended from the beginning to be a collective production. In many
aspects, despite its profound theoretical reorientation with respect
to the principles of its beginnings, the *International Encyclopedia
of Unified Science*—which, in passing, adopts a dictionnary mode of
organization—continues this plural work ethic.

Wüster's terminology does not therefore "proceed" from logical
positivism, but it joins it at a later stage. It suffices to take a look
at the 1931 thesis index to notice, in a general way, the absence of
references to works of logic, philosophy of language and semantics
that one usually places under the banner of logical positivism properly
speaking, or more broadly speaking, of the logicist movement[41], except
for those of Peirce—which only appears as a hapax—, of Couturat and
Peano[42]. Wüster's first references are above all those of the philosophy
of the concept, which was much alive in Austria and Bohemia in the
nineteenth century and until 1914. This philosophy is illustrated by
authors such as Bolzano, Brentano, Meinong or Marty, representatives
of an anti-Kantian conception of epistemology, catholic philosophers[43]
who were custodians of the logicist tradition of Scholasticism and who
sometimes claim to be Aristotelian, like Brentano[44], when, at the same

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40. On the objectives of some of these organizations, see Galinski 2003.

41. Wüster did not read the *Aufbau* until 1932, as his personal library, hosted at
the University of Vienna, attests. See G. Budin's analysis of the passages from
the *Aufbau* that Wüster underlined in pencil in the book (Budin 2007: 20)

42. Moreover, Couturat and Peano—mainly mentioned by Wüster as supporters
(and a creator, in the case of Peano) of an international auxiliary language—
had become marginal within the logicist movement, although recognized
for their pioneering role. As far as philosophers are concerned, we also find
more sporadically, in the *Internationale Sprachnormung*, the names of Bergson,
Blondel, Dewey, Funke, Humboldt, Lambert and Mauthner. Kurt Joachim Grau,
whose *Grundriß der Logik* (1921 [1918]) is quoted in Wüster 1966 [1931] about
the definition of proposition (11, § 311) and the sign of implication (15, § 322) is
his principal reference among "logicians".

43. Brentano, Bolzano and Marty had been ordained priests.

44. Since his doctoral thesis, devoted to Aristotle's ontology, where he examines
the Aristotelian system of categories, conceived not as elements of a preparatory

time, in Wilhelmian Germany, neo-Kantianism was more dominant[45]. In the *Einführung* of 1979, these references are mostly abandoned[46]. The only real constant from one work to the next, the real common thread is Anton Marty[47]. The appeal to logical positivism[48] appears most clearly in the articles of the 1960s and Carnap is cited almost constantly among the references of Wüster's writings.

To haul language before the court of science

What do terminology theory and logical positivism have in common? I will focus on three aspects: *i.* the langage reform and the use of the principle of parsimony; *ii.* the question of nominalism; *iii.* the problem of the definition of terms, i.e. the problem of the real definition.

First, there is the idea that language should be brought before the "court of science"[49]. Within analytic philosophy, this idea was never more vigorously defended than by the members of the Vienna Circle,

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conceptual scaffolding, but as "real concepts": "Die Kategorien sind nicht bloss ein Fachwerk für Begriffe, sondern sie sind selbst reelle Begriffe". ["The categories are not merely a framework for concepts, but they are real concepts themselves".] (Brentano 2014 [1862]. 81). In contrast, see Benveniste above.

45. To quote Neurath's famous phrase, Austrian philosophy, including that of the Vienna Circle, had spared itself "the Kantian intermission" (Neurath 1935: 16). On the difficulty to define what would be the "Austrian philosophy", see Bouveresse (1996-1997: 585-593).

46. But they are not in the two successive editions of the *Internationale Sprachnormung*—late editions with important additions and modifications—in 1966 and 1968.

47. Even if the notion of *Sinnform*, which Wüster borrows from Marty and which comes itself from Humboldt's *innere Form*, is only introduced in 1966, in the second edition of the *Internationale Sprachnormung*. For Marty's influence on Wüster, see Budin (2007: 14-16).

48. To the formal sciences (linguistics is one of them) and to logic, more generally: "the primacy of conceptual systems brings general [terminology] closer to contextual linguistics and structural linguistics [*der inhaltbezogene und der strukturellen Sprachwissenschaft*]. Because of the pre-eminence of conceptual research, this discipline must collaborate with other formal sciences [*formalen Wissenschaften*]." (Wüster 1979: 1)

49. To paraphrase D. Lecourt's felicitous formula. "Philosophy [...] knows a 'turning point' which makes it finally reach modernity: philosophy of sciences,

who posed themselves as advocates of a "scientific" language based on logic, whether it be, the exposition of pure formalisms, of course, or that of empirical theories. The *topos* of "language criticism" was widespread in the philosophical world of the Austro-Hungarian Empire at the beginning of the twentieth century[50], at least since the publication of Mauthner's *Beiträge zu einer Kritik der Sprache* in 1901[51], to the point that Mauthner has sometimes been considered one of the forerunners of the Vienna Circle[52]. But the critical approach proper to logical positivism, or more generally to analytic philosophy, has little to do with Mauthner's anti-logicist approach, even if the latter participates in his own way in the *linguistic turn* of philosophy by maintaining that all philosophical problems are in reality problems of language and that scientific language is entirely inadequate[53]. In the manifesto of the Vienna Circle, Carnap, Hahn and Neurath advocate the creation of a neutral form language, cleared of the forms inherited from natural languages and applicable to the expression of all sciences, whatever they are.

To this end, Carnap sets out to deduce the philosophical consequences of the theory of types, as Russell had elaborated it. He proposes, in particular, not to subscribe to the distinctions classically made by the philosophy of language between categoremes and syncategoremes and, among syncategoremes, between variables and individual constants. He also suggests that we should be careful to introduce distinctions within the parts of speech in a more precise way than the tradition does. These are two preconditions for identifying what Ryle will call "categorial errors", the main source of

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it becomes itself scientific. But to do this it transforms itself into a court of law of the language that it judges 'in the name of science'." (Lecourt 1996: 204)

50. See Johnston 1974. See also Europäisches Zentrum für Sprachwissenschaften 2017-2019 for a European perspective.

51. And even before, with Brentano. Among the books acquired early on and obviously read and used by Wüster is F. Mauthner's *Beiträge zu einer Kritik der Sprache* (Budin 2007: 20).

52. See Nedobity (1984: 42-43).

53. As Wittgenstein remarks, "all philosophy is 'Critique of language' (but not at all in Mauthner's sense). Russell's merit is to have shown that the apparent logical form of the proposition need not be its real form." (1922 [1921]: § 4.0031).

those metaphysical notions and statements that need to be eliminated from the language of science or philosophy.

> The fact that natural languages allow the formation of meaningless sequences of words without violating the rules of grammar, indicates that grammatical syntax is, from a logical point of view, inadequate. If grammatical syntax corresponded exactly to logical syntax, pseudo-statements could not arise. If grammatical syntax differentiated not only the word-categories of nouns, adjectives, verbs, conjunctions etc., but within each of these categories made the further distinctions that are logically indispensable, then no pseudo-statements could be formed. If, *e.g.* nouns were grammatically subdivided into several kinds of words, according as they designated properties of physical objects, of numbers etc., then the words "general" and "prime number" would belong to grammatically different word-categories, and "Caesar is a prime number" would be just as linguistically incorrect as "Caesar is and". (1937 [1934]: 22)

Carnap's interest that is here expressed in the notion of class, in the logic of classes, requires a quick clarification. Of course, Fregean and post-Fregean logic is based on the calculus of propositions, whose stake is not so much the extension of concepts as the truth functions, the course-of-values of propositional functions. Frege and Russell thus distance themselves from the algebraists, who, from Boole to Peano, passing by Schröder, etc., had built their formal languages on classes and the notion of inclusion in a class, however without abandoning the class calculus. It is simply subordinated to the calculus of propositions, or, in other words, it is reinterpreted in terms of the calculus of propositions, by establishing correspondence rules between the operations allowed on classes and those allowed on propositions, such as inclusion on the one hand, and formal implication on the other. Thus, for Russell, in any symbolic expression, letters can be understood as classes as well as propositions. The relation of formal implication, which characterizes propositions, then replaces the relation of inclusion which characterizes classes.

This is the reason why Carnap, in accordance with post-Fregean and post-Russellian logic, does not entirely renounce a reflection on object classes and the logic of the concept to which it belongs, even if the calculation of the truth value of logico-linguistic expressions henceforth escapes the logic of classes, such as in the most completed version of Peano. Without being able to dwell on it, we refer here

to the debates on the difference between formal implication and material implication, as well as to the question of knowing why it is appropriate to include the rule of separation, the *modus ponens*, among the first propositions of the logical formalisms[54].

In a way, in terminology à la Wüster, one does not have to ask whether it is the class or the proposition that is foundational: the proposition and propositional functions—as well as their linguistic side: the syntactic units[55]—are by nature outside the scope of terminology. The expressions of language with which terminology is concerned are infra-propositional.

What Wüster seems to find in Carnap, on the other hand, is an approach that is satisfactory for his own enterprise, i.e. an extensionalist approach to concepts and classes, useful for his conception of definition and of the term/concept correspondence. It is also useful for the methods of tyding up the descriptive language, which give a theoretical basis to his own reductionism. Wüster uses a metaphor to describe the type of reduction on which to base terminology: "in language, low energy consumption is called convenience and low 'head loss' accuracy; a means of communication is more accurate the more the set of ideas actually evoked in the partner matches the intended set of ideas."[56] (Wüster 1931: 85).

Nominalism

Logicist reductionism is usually associated with nominalism. A common view of terminology theory is that it is also a nominalism[57] insofar as it uses a principle of reduction resulting from lexical and grammatical restrictions governed by the logic and norms of a given scientific community. This view stems from a certain misunderstanding of what is meant by "nominalism". If nominalism is a doctrine for which the concept cannot be assigned independently of the *use* of the word, then we are not dealing with nominalism in terminology. What

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54. See in particular Van Heijenoort (1967: 2-4).

55. See Slodzian (1993: 226).

56. "Head loss" is borrowed from fluid mechanics and designates the loss of energy due to dissipation by friction or by flow singularities.

57. See Rastier (1995: 3 and 8).

terminology claims to assign is the word independently of its use, and that is what it calls a *term*. As Alain Rey indicates, "Terminology would [otherwise] be no more than a chapter of general lexicology, and the positions of Wüster or the Soviet terminologists would be purely illusory"(Rey 1979: 32). "Terminology is concerned with signs (words and larger units) only insofar as they function as names, denoting objects, and as indicators of concepts. Terminological systems exclude any linguistic sign whose classificatory denotative function […] is null or derivative." (*Ibid.*: 24).

Does terminology belong to nominalism? The answer is therefore no: if one constructs each term from the corresponding concept, then terminology escapes modern nominalism, for which language consists of names and descriptions. But this answer requires some clarifications. On the one hand, nominalism is a flag that covers many cargoes. On the other hand, the possible confusion comes from the fact that the theory of terminology shares a certain number of features with nominalism, but this sharing is obviously not enough to make it a nominalistic theory.

Among these features, we find an identical recourse to the principle of parsimony, which is part of the *ethics of terminology*, to use Peirce's formula, and aims at de-cluttering science and philosophy from their superfluous entities. Many logico-philosophical currents of the turn of the nineteenth and twentieth centuries, from the post-Peircean pragmatists, notably Vailati and Peano, to the various schools of Analytic Philosophy, agree on this point, but disagree on the nature of the entities to be eliminated. The question of nominalism is associated with that of ontology, and this is also the case when we speak of terminology. As a general rule, ontology is indeed placed at the center of analytic philosophy, but it is a negative ontology: the beings we are led to commit to by language are subjected to a reduction—depending on the different theories, sometimes a maximal reduction, sometimes only an optimal reduction. This has nothing to do with what has been called "ontologies" (in the plural) in the post-Wüsterian terminology, which on the contrary leads to an anti-nominalistic conceptual entropy, as can be seen in some electronic dictionaries, such as WordNet, developed since the mid-1980s.

Thus, we find a radical version of nominalism in Goodman, who, by requiring "that everything admitted as an entity be an individual" (Bochenski, Church & Goodman, 1956. 17), rejects propositions as well as classes and properties. In a perspective that in many ways foreshadows some of the current work on meronymy, Goodman admits only individuals or aggregates of individuals in his ontology. An aggregate of individuals cannot be conceived as a class: two aggregates are distinguished from each other when at least one of the objects they aggregate is different; two classes can gather the same individuals and yet differ from each other because the hierarchical relations between the whole and the part or between the *genus* and the *differentia* within the class lead us to assume properties in our ontology.

Quine's extensionalism thus leads him to assume the existence of universals that are not susceptible of being individually named. Quine does not reduce universals to words. On the other hand, he brings classes into his ontology but eliminates intensional entities, such as concepts or propositions. Extensionalism and nominalism share the refusal to multiply abstract entities with no reason.

Repositioned in this overall context of the different types of nominalisms within logical positivism and analytic philosophy[58], Carnap's intensionalism, especially developed from *Meaning and Necessity*(1947), represents a version of nominalism, probably even weaker than Quine's, and which for this reason makes it more acceptable for a terminological enterprise like Wüster's[59]. This weakening is linked, in Carnap's case, to the use of a principle of logical tolerance which amounts to admitting a plurality of logical languages within the same ontology[60].

But among all the aspects of the theory of terminology, the problem of definition must above all attract our attention if we want to try to measure its logical and ontological scope. If defining means delimiting—among linguistic signs—distinct entities whose precise value we seek to fix (the terms), the fact of creating or admitting

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58. For an overview, see Gochet, 1972.

59. For institutionalized terminology in general. According to the ISO standards, "the characters used in a definition by intension should indicate the differences that distinguish one concept from another" (ISO 704).

60. See Kutz, Mossakovski & Lücke 2010.

a term, on the one hand, and that of defining it, on the other, form one and the same operation. The question of definition is, needless to say, central to lexicography, generally speaking. But in the work of the ordinary lexicographer, defining is only one operation among others. Not to mention encyclopedic dictionaries, where recourse to definitions appears random and most often contingent. On the other hand, in specialized lexicography and even more in terminology, definition is necessary. It is the first and principal means of distinguishing a term from related terms in the same field. This does not mean that the terminologist relies on a rigorous *theory* of definition in all cases. At least in Wüster's case, we are dealing with an attempt to specify what the definition of terms should be.

This attempt must be briefly placed in the modern history of the theory of definition. In the logico-linguistic tradition, from Port-Royal at least, to Frege, Russell, Carnap and beyond, to define is first to apply a rule of rewriting allowing to establish a relation of equivalence between a sign or a term and a series of signs or terms supposed to be known. This equivalence relation is based on substitution. The substitution of *definiens* for their *definiendum*, in a recursive process, guarantees the use of terms *salva veritate. De jure,* any term can be defined, even if the terms recognized as primitive in a given domain escape definition *de facto*, because definition would be based on a circular operation, consisting in admitting within the *definiens* a *definiendum* already demarcated.

Let us note in passing that, if the logicians of the end of the nineteenth century, Frege or Peano, asked themselves anew the question of the definition of the primitive terms of their ideography, it is not only to insist on its circular character, but because such definitions cannot be constructed in the formal language of that ideography (Frege's *Darlegungssprache*)[61]. They can only be constructed in the ordinary language. This one then plays the role of an auxiliary language (a *Hilfssprache*), inevitable substitute of the formal language, but inconvenient substitute, given its imperfections. Hence the Peanian project of creating a well-made language, inspired by Leibniz, the Latino sine flexione—well-made as much as an

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61. See Savatovsky [To be published].

ordinary language can be. This point must be briefly recalled because it is an important element of the context in which Carnap and Wüster worked, each for his own account[62]. In both cases, the recourse to international auxiliary languages—it is no longer Latino sine flexione, like for Peano, or Ido, like for Couturat, but Esperanto—does not only aim at providing the scientific community with an interlanguage of communication, that is to say at rationalizing the division of scientific work. It aims, moreover, regarding languages that cannot, by nature, appeal to the canonical notation of ideographies, I mean the observational language of the physical sciences, in Carnap, or the technical terminology, in Wüster, to subject these languages to the principle of parsimony.

Unlike nomenclatures in chemistry or logical symbolism, which, as is especially the case of Frege's *Begriffsschrift*, must be understood in a double meaning, as a writing, a notation system of concepts (a *calculus ratiocinator*), and at the same time a system of conceptual notation, of a characteristic type, aiming at the conceptual content (a *lingua caracterica*), a Wüster-like terminology, forced to operate with the signs of the ordinary language, can only retain the second meaning of the *Begriffsschrift*: its definitions will be understood only as an arrangement of characteristic marks.

The real definition

But that is not all. As we know, the classical doctrine considers two types of definitions: the *nominal definition* and the *real definition* (or definition of a thing). In the real definition, *definiens* and *definiendum* are no longer in a relation of equipolence, as in the nominal definition, but they maintain a relation of container to content. The defining features, *i.e.* the real characters, and the sequence of definitions, arranged in a calculation, offer an organized and hierarchical representation of the states of the world. This image supposes a preliminary division of the world of objects and their properties, and it is from this understanding of the definition that logical positivism inherits from Leibniz through Frege and Russell. Apart from the difference—and this is important for what concerns us—that the

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62. See here within Didier Samain's contribution.

Leibnizianism of Frege and Russell, if it does consist in realizing a universal characteristic, makes the setting up of a general semantics very unlikely, if not impossible. A characteristic is indeed a project that aims at confusing classification (leading to an encyclopedic dictionary) and analysis of signifiers. As Granger indicates, "if the very nature of objects and experiences (which can be identified with the system of referents of the Peircian interpreters) is adequately represented by the articulations of language, the science of reality will be confused with a syntax and a semantics, the latter being then only a combinatorial ensemble of elementary traits from which beings would be constituted—a rigorous image of a combinatorial ensemble of elementary marks constituting syntagms." (Granger 1979: 127)

Carnap's *Explication*

But such an approach is only compatible with a realistic extensionalism, of the Platonic type (this is what we find in Frege and Russell) and it is only suitable for logical and mathematical objects. The problem becomes otherwise difficult to solve when we consider the physical objects and concepts that empirical sciences deal with, and requires that we go back to the question of the definition of terms.

This is notably the case of Carnap when he tries, in his *Logical Foundations of Probability* (1950), to base the philosophical method on what he calls a *procedure of explication*, that is to say on a revisited examination of the theory of real definition.

> The task of explication consists in transforming a given more or less inexact concept into an exact one or, rather, in replacing the first by the second. We call the given concept (or the term used for it) the *explicandum*, and the exact concept proposed to take the place of the first (or the term proposed for it) the *explicatum*. The explicandum may belong to everyday language or to a previous stage in the development of scientific language. The explicatum must be given by explicit rules for its use, for example, by a definition which incorporates it into a well-constructed system of scientific either logico-mathematical or empirical concepts. (Carnap 1950: 3, § 2 ['On explication']).

This question of explication, understood as the definition of theoretical terms, constitutes an obstacle that is difficult to overcome. For Carnap, when one sets out to *define,* the *explicandum* is not given in exact terms, because if it were, there would be no need for explication. If the terms of the *explicandum* are not exact, one cannot rigorously formulate the problem posed by its definition. But "we are asked to provide an exact solution." This is one of the reasons why the explication is enigmatic ("puzzling"). Hence Carnap's idea of not aiming at recapturing such a concept in itself, for example that of "probability", as in the 1950 work, but to construct a "quasi-concept" that takes its place and maintains an equivalence relationship with it.

But what kind of equivalence? Intensional equivalence is not possible: it would only shift the difficulty to the level of the properties of the concept. What remains is extensional equivalence. But this does not rely on a uniform procedure as initially envisaged by Carnap in the *Aufbau.* A procedure allowing to logically "constitute" the world by generating the different domains of objects, according to an ascending process—a process repeated at each ontological level, starting from the elementary experience (the *Erlebnis*) until reaching the most abstract domains, those of the logico-mathematical forms. In the *Logical Syntax of Language*, this is now an issue for Carnap, that of restricting his investigation to "theoretical terms", that is to say to those used in the sciences.

The Wüsterian definition

In relation to the difficulties of the theory of definition, as Carnap had made them explicit, Wüster's conception of the definition of terms is that of a real definition, *i.e.* a characteristic—as we have seen above. Wüster retains from the *Aufbau* the idea that the construction of terms proceeds from a successive integration of the different levels of ontological stratification. But this on the conditions (1) of multiplying the modes of relation that the real properties maintain in the terminological definition, (2) of not sticking to the container/content relations (to the hierarchical relations of genus/species, or to the integral relations between whole and part), but (3) to also admit, as we see in *The Machine Tools: an Interlingual Dictionary of Basic Concepts* (1968b), relations of a functional type, relations

directly dependent on the terminographic device, on the specific cross-referencing system of the terminological dictionary[63]. Besides, a link by references completes the organization by conceptual entries.

In this respect, the difference between nominal definition and real definition, as it is used by Wüster in his terminographic practice, seems to be distinct from the difference between *definition by extension* and *definition by intension*, to which some commentators, such as Helmut Felber (2001) and Gabriel Otman (1996), appeal when they identify Wüster's definition as a definition by intension, the only one capable of fixing the relationships between the concepts. An intensional type of definition would consist in hierarchizing, by *genus proximum* and *differentia specifica* in a way, the restrictive properties of the concept to be defined by distinguishing them, at each level of abstraction, from the restrictive properties of other concepts of the same level. An extensional definition would consist in serialising, for the same level of abstraction, all the objects of the class denoted by the concept to be defined. The intension/extension distinction, when applied to the concept, is thus insufficiently operative. And this is the lesson that Wüster draws from his reading of Carnap.

Conclusion. Terminology and material culture

The functional relations mentioned above are particularly important for Wüster, because they characterize in a privileged way the particular field to which he mainly devoted his activity as a terminographer. I am referring to the field of technical objects. Wüster's commentators do not often ask themselves what, in the *general* theory of terminology is closely related to the standardization of this *particular* field. More broadly speaking, the global name of *techno-science* used in specialty languages today—the name by which all fields of application are identified—reduces the consideration of the technical to that of the scientific. However, the first and most important fields of objects on which Wüster focused his standardization work are those of material culture. This emphasis on material culture undoubtedly

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63. "It must be clear [in the dictionary] what the relations of the concepts are to each other, i.e. what the genera are and what the species are, what the sets are and what the parts are." (Wüster 1968b: 2.19)

represents a certain risk for the consistency of a *general* theory of terminology: Wüsterian terminology and—to a large extent—contemporary terminology in general have most often dealt with concrete objects domains with easily delimited boundaries, of which the *Machine Tool* (1968b) is in a way the type. However, the solutions to the issues encountered in the terminography of these domains are most often difficult to transfer to those relating to the abstract objects that pertain to legal, philosophical or scientific domains, as is shown, for example, by the numerous reformulations proposed by Wüster, regarding the terminology of terminology itself[64]. But this is the price to pay for participating in the construction of a philosophy of everyday cultural and professional practices—a field more or less left untouched by philosophical reflection since Kant's *Anthropology from a Pragmatic Point of View* (1798).

Vienna and Austria offered a favorable terrain for the cross-fertilization of scientific and material culture, of the world of industrial production and "organic intellectuals", and this has been the case since the nineteenth century – exchanges favored by the influence of the spirit of the Enlightenment within a large population, as Carnap, Hahn and Neurath (1929) had noted in the preface to the manifesto of the Vienna Circle concerning the dissemination of scientific knowledge within popular culture. In a way, that was quite rare for the time, when it came to the preface of a *Scientific Conception of the World* (this is the real title of the manifesto), the thinkers of the Vienna Circle did not intend to limit their transformational aim to the intellectual tools put at the service of science, but to extend it to the social and economic order, to the organization of ways of life (the *Lebensfragen*) by promoting popular education and by proposing to reform the methods of scientific and technical education. It was also a question for them, two years after the publication of Heidegger's *Sein und Zeit*, of pleading in favor of a type of epistemology proper to the *Naturwissenschaften*, in particular by reforming the language and by seeking to clear it of all metaphysics.

In many respects, a terminologist who contributes to the rationalization of language and standards of industrial production

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64. On the changes in this terminology between 1931 and 1966, see Wüster (1966 [1931]. 414-415). Cf. Candel 2007.

participates in his own way in the same kind of endeavor—an enterprise that belongs to what Wüster called "language planning" and that we call now "language policy" or "*aménagement linguistique*."

Beyond the Viennese or Austrian context, the Vienna School of Terminology worked in a favorable context in this respect: the German-speaking countries differ in this regard from the other European countries, with the possible exception of Russia, in that from the end of the nineteenth century onwards, a true thought of the technical object developed there, as well as attempts to articulate cultural history, material culture and linguistic analysis. This is shown, for example, by the creation in 1909 of a journal such as *Wörter und Sachen*, in which linguists such as Hugo Schuchardt, Rudolf Meringer or Wilhelm Meyer-Lübke, linked to the "Wörter-u-Sachen" movement, published. In contrast to an atomistic approach to language, represented in Germany by the neo-grammarians who segmented their research by level of linguistic analysis, giving priority to phonetics and morphology, the linguists of the "Wörter-u-Sachen" movement which favored a holistic approach to the facts of language by insisting on their semantics and their anthropological anchorage. A similar holistic approach can be found in Weisgerber, whose influence on Wüster was even more direct[65].

To Wüster's approach to technical culture can be opposed both that of Heidegger (1927), who reduces technology to *Zuhandenheit* and technical objects to utensils, whose only purpose is practical and consists in meeting human needs, and that of Max Horkheimer (1991 [1949]) in the field of critical philosophy, who will analyze the regression of reason into an ideology controlled by technology.

Wüster is immersed in this technical culture, and his conception relies on a reciprocal relationship between language and material culture: the standardization of objects is not possible without linguistic standardization and vice versa. In the terminology of technical objects, a functional relationship is a finalized relationship. The definitions in Wüster's dictionary always lead to a *what for?* and it is probably in this aspect that Wüster as terminographer best illuminates Wüster as terminologist.

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65. See Weisgerber 1964 [1925-1933].

References

Antia, Bassey Edem. 2001. Metadiscourse in Terminology: Thesis, Antithesis, Synthesis. *Terminology Science and Research* 12(1-2): 65-84.

Arntz, Reiner. 1993. Terminological Equivalence and Translation. *Terminology: Applications in Interdisciplinarity Communication*, ed. by Helmi B. Sonneveld & Kurt L. Loening. Amsterdam / Philadelphia: John Benjamins.

Benveniste, Émile. 1966 [1958]. Catégories de pensée et catégories de langue. *Problèmes de linguistique générale* I. Paris: Gallimard. 63-74.

Bochenski, Innocent, Alonso Church & Nelson Goodman. 1956. *The Problem of Universals. A Symposium.* Notre Dame, Ind.: Notre Dame University Press.

Bonnet, Christian & Pierre Wagner dir. 2006. *L'Âge d'or de l'empirisme logique. Vienne-Berlin-Prague, 1929-1936.* Paris: Gallimard.

Bourigault, Didier & Monique Slodzian. 1999. Pour une terminologie textuelle. *Terminologies nouvelles* 21: 10-14.

Bouveresse, Jacques. 1996-1997. La philosophie autrichienne: Bolzano, Brentano, Boltzmann. *Cours au Collège de France. Philosophie du langage et de la connaissance.* Paris: Collège de France. Online: www.college-de-france.fr/media/jacques-bouveresse/UPL4676133804539887969_AN_98_bouveresse.pdf

Brentano, Franz. 2014 [1862]. *Von der mannigfachen Bedeutung des Seienden nach Aristoteles. Sämtliche veröffentlichte Schriften, Bd. IV*, hrsg. von Mauro Antonelli & Werner Sauer. Berlin: De Gruyter.

Budin, Gerhard. 1996. Evolution of Scientific Terminologies. *TKE '96. Terminology and Knowledge Engineering. Proceedings of the Fourth International Congress on Terminology and Knowledge Engineering, 26-28 August 1996, Vienna*, ed. by Christian Galinski & Klaus-Dirk Schmitz. Frankfurt am Main: Indeks Verlag. 27-34.

Budin, Gerhard. 2007. L'apport de la philosophie autrichienne au développement de la théorie de la terminologie: ontologie, théories de la connaissance et de l'objet. *Genèse de la terminologie contemporaine, 1850-1980 (sources et réception)*, dir. par Dan Savatovsky & Danielle Candel. *Langages* 168: 11-23.

Campo, Ángela. 2012. *The Reception of Eugen Wüster's Work and the Development of Terminology*. Ph.D dissertation. Montréal: Université de Montréal.

Candel, Danielle. 2004. Wüster par lui-même. *Des fondements théoriques de la terminologie*, dir. par Colette Cortès. *Cahiers du CIEL*. 15-31.

Candel, Danielle. 2007. Terminologie de la terminologie. Métalangage et reformulation dans l'*Introduction à la terminologie générale et à la lexicographie terminologique* d'E. Wüster. *Genèse de la terminologie contemporaine, 1850-1980 (sources et réception)*, dir. par Dan Savatovsky & Danielle Candel. *Langages* 168: 66-81.

Carnap, Rudolf. 1928. *Der logische Aufbau der Welt.* Berlin: Im Weltkreis-Verlag.

Carnap, Rudolf. 1937 [1934]. *The Logical Syntax of Language.* New York: Harcourt & Co.

Carnap, Rudolf. 1947. *Meaning and Necessity. A Study in Semantics and Modal Logic.* Chicago: The University of Chicago Press.

Carnap, Rudolf. 1950. *Logical Foundations of Probability.* Chicago: The University of Chicago Press.

Carnap, Rudolf, Hans Hahn & Otto Neurath. 1929. *Wissenschaftliche Weltauffassung. Der Wiener Kreis*, hrsg. von Verein Ernst Mach. Wien: Artur Wolf Verlag.

Condamines, Anne. 2005. Linguistique de corpus et terminologie. *Langages* 15: 36-47.

Dornseiff, Franz. 1934. *Der deutsche Wortschatz nach Sachgruppen.* Berlin: W. de Gruyter.

Dupuis, Henriette ed. 1976. *Essai de définition de la terminologie. Actes du colloque international de terminologie. Québec, Manoir du Lac Delage, 5-8 octobre 1975.* Québec: Éditeur officiel du Québec.

Enguehard, Chantal. 1993. Acquisition de terminologie à partir de gros corpus. *Actes de la conférence Informatique et Langue Naturelle, ILN'93, Nantes, 2-3 déc. 1993.* 373-384.

Europäisches Zentrum für Sprachwissenschaften. 2017-2019. *Handbuch Europäische Sprachkritik Online.* Heidelberg: Universität Heidelberg (Leibniz Institut für deutsche Sprache).

Felber, Helmut. 1987 [1984]. *Manuel de terminologie.* Paris: UNESCO

Felber, Helmut. 2001. *Allgemeine Terminologielehre, Wissenslehre und Wissenstechnik. Theoretische Grundlagen und philosophische Betrachtungen.* Wien: TermNet.

Galinski, Christian. 2003. International Terminology Associations and Standardization - Infoterm, TermNet, ISO/TC 37. *LSP & Professional Communication* 3(2): 111-118.

Gambier, Yves. 1991. Présupposés de la terminologie. Vers une remise en cause. *Cahiers de linguistique sociale* 18: 31-58.

Gaudin, François. 1993. *Socioterminologie. Des problèmes sémantiques aux pratiques institutionnelles.* Rouen: Publications de l'Université de Rouen.

Gochet, Paul. 1972. *Esquisse d'une théorie nominaliste de la proposition.* Paris: A. Colin.

Granger, Gilles-Gaston. 1979. *Langages et épistémologie.* Paris: Klincksieck.

Grau, Kurt-Joachim. 1921 [1918]. *Grundriß der Logik.* Leipzig & Berlin: Teubner.

Heidegger, Martin. 1927. *Sein und Zeit.* Halle: Max Niemeyer.

Horkheimer, Max. 1991 [1949]. *Zur Kritik der instrumentellen Vernunft. Gesammelte Schriften* 6. Frankfurt am Main: S. Fischer.

Humbley, John. 2004. La réception de l'œuvre d'Eugen Wüster dans les pays de langue française. *Des fondements théoriques de la terminologie*, dir. par Colette Cortès. *Cahiers du CIEL*. 33-51.

Humbley, John. 2007. Vers une réception plurielle de la théorie terminologique de Wüster: une lecture commentée des avant-propos successifs du manuel *Einführung in die Allgemeine Terminologielehre und Terminologische Lexicographie. Genèse de la terminologie contemporaine, 1850-1980 (sources et réception)*, dir. par Dan Savatovsky & Danielle Candel. *Langages* 168 : 82-91.

Humbley, John. 2022. The Reception of Wüster's General Theory of Terminology. *Theoretical Perspectives on Terminology: Explaining Terms, Concepts and Specialized Knowledge,* ed. by Pamela Faber & Marie-Claude L'Homme. Amsterdam & Philadelphia: John Benjamins. 15-36.

[ISO 704] NF ISO 704. 2001. *Travail terminologique – Principes et méthodes.* Avril 2001.

Ivanović, Marija. 2019. Eugen Wüster's Sign Typology—Some Observations. *Terminologie & Ontologie: Théories et Applications. Actes de la conférence TOTh 2019, Le Bourget du Lac, 6 &7 juin 2019*, dir. par Christophe Roche. Chambéry: Presses Universitaires Savoie Mont Blanc. 143-160.

Johnston, William M. 1974. *Österreichische Kultur- und Geistesgeschichte. Gesellschaft und Ideen im Donauraum 1848 bis 1938.* Wien, Köln & Graz: M. Bölhau.

Kant, Emmanuel. 1974 [1798]. *Anthropology from a Pragmatic Point of View* [*Anthropologie in pragmatischer Hinsicht*]. Transl. by Mary J. Gregor. The Hague: M. Nijhoff.

Kocourek, Rostislav. 1991 [1982]. *La langue française et la technique de la science: vers une linguistique de la langue savante.* Paris & Wiesbaden: Bransdstetter.

Kutz, Oliver, Till Mossakowski & Dominik Lücke. 2010. Carnap, Goguen and the Hyperontologies: Logical Pluralism and Heterogeneous Structuring in Ontology Design. *Logica Universalis* 4(2): 255-333.

Lecourt, Dominique. 1996. Le langage au tribunal de la science. À propos du Cercle de Vienne. *Sciences et langues en Europe*, dir. par Roger Chartier & Pietro Corsi. Bruxelles & Paris: EHESS, CNRS & Museum d'histoire naturelle. 195-200.

Lerat, Pierre. 1989. Les fondements théoriques de la terminologie. *La banque des mots*, n° spécial: 51-62.

Marty, Anton. 1908. *Untersuchungen zur Grundlegung der allgemeinen Grammatik und Sprachphilosophie.* Erster Band. Halle: M. Niemeyer Verlag.

Mauthner, Fritz. 1901-1902. *Beiträge zu einer Kritik der Sprache*, 3 Bde. Stuttgart: J. G. Cottasche Buchhandlung Nachfolger.

Meillet, Antoine. 1931. E. Wüster: *Internationale Sprachnormung in der Technik* [Compte-rendu]. *Bulletin de la Société de linguistique de Paris* 32: 5-7.

Mounin, Georges. 1963. *Les problèmes théoriques de la traduction.* Paris: Gallimard.

Myking, Johann. 2001. Against Prescriptivism? The "Socio-critical" Challenge to Terminology. *Terminology Science and Research* 12(1-2): 49-64.

Nedobity, Wolfgang. 1984. Eugen Wüster und die Sprachkritiker des Wiener Kreises. *Muttersprache* 95(1-2): 42-48.

Neurath, Otto. 1935. Le développement du Cercle de Vienne et l'avenir de l'empirisme logique, *Actualités scientifiques et industrielles.* Paris: Hermann.

Neurath, Otto, Rudolph Carnap & Charles Morris, eds. 1938. *International Encyclopedia of Unified Science.* Chicago: The University of Chicago Press.

Ogden, Charles K. & Ivor A. Richards. 1946. *The Meaning of Meaning. A Study of the Influence of Language upon Thought and of the Science of Symbolism.* New York: Harcourt.

Otman, Gabriel. 1996. *Les représentations sémantiques en terminologie.* Paris: Masson.

Quadri, Bruno. 1952. *Aufgaben und Methoden der Onomasiologischen Forschung.* Bern: A. Francke.

Rastier, François. 1995. Le terme. *La banque des mots*, n° spécial: 35-65.

Rastier, François. 2004. Ontologie(s). *Revue des sciences et technologies de l'information.* Série *Revue d'Intelligence artificielle* 18(1): 15-40.

Rey, Alain. 1979. *La Terminologie. Noms et notions.* Paris: PUF (coll. « *Que sais-je* ? »).

Roche, Christophe. 2011. L'*Isagoge* de Porphyre. *Terminology & Ontology: Theories and applications (TOTh 2011).* Online: https://hal.archives-ouvertes.fr/hal-01356266

Sager, Juan Carlos & Kyo Kageura. 1994-1995. Concept Classes and Conceptual Structures: Their Role and Necessity in Terminology. *Alfa 7-8 (Terminologie et linguistique de spécialité. Études de vocabulaires et textes spécialisés),* dir. par Rostislav Kocourek & Louis-Jean Rousseau. Halifax: Université de Dalhousie: 191-216.

Saussure, Ferdinand de. 2002. *Écrits de linguistique générale.* Paris: Gallimard.

Savatovsky, Dan. [To be published]. Peano et la grammaire "simplifiée" du *latino sine flexione* (1903): langue internationale auxiliaire et réductionnisme logico-linguistique. *Simplicité et complexité dans les langues construites* [provisional title]. *Actes du colloque SHESL-HTL 2020*, dir. par Jacqueline Léon, Sébastien Moret & Didier Samain. Berlin: Language Science Press.

Savatovsky, Dan & Danielle Candel, dir. 2007. *Genèse de la terminologie contemporaine, 1850-1980 (sources et réception). Langages* 168.

Schuchardt, Hugo. 1912. Sachen und Wörter. *Anthropos* 7: 827-839.

Slodzian, Monique. 1993. La V.G.T.T. (Vienna General Theory of Terminology) et la conception scientifique du monde. *Le Langage et l'Homme* 28(4): 223-232.

Slodzian, Monique. 2007. Rationalisation des langues et terminologie. D'Ogden à Catford. *Hermès* 49: 59-68.

Thomas, Antoine. 1904. Dott. Clemente Merlo, *I nomi romanzi delle stagioni e dei mesi studiati particolarmente nei dialetti ladini, italiani, franco-provenzali e provenzali* [Compte-rendu]. *Romania* 3: 289-291.

Uebel Thomas. 2007. *Empiricism at the Crossroads. The Vienna Circle's Protocol-Sentence Debate.* Chicago & La Salle, Ill.: Open Court.

Van Campenhoudt, Marc. 1996. Réseau notionnel, intelligence artificielle et équivalence en terminologie multilingue: essai de modélisation. *Lexicomatique et dictionnairiques. Actes des 4e Journées scientifiques du réseau thématique "Lexicologie, Terminologie, Traduction", 28, 29, 30 sept. 1995, Université Lumière (Lyon)*, dir. par André Clas, Philippe Thoiron & Henri Béjoint. Beyrouth & Montréal: FMA & AUPELF-UREF. 281-306.

Van Heijenoort, Jean. 1967. *From Frege to Gödel. A Source Book in Mathematical Logic.* Cambridge, Mass.: Harvard University Press.

Weisgerber, Leo. 1964 [1925-1933]. *Zur Grundlegung der ganzheitlichen Sprachauffassung, Aufsätze 1925-1933…*, hrsg. von Helmut Gipper. Düsseldorf: Schwann.

Wittgenstein, Ludwig. 1922 [1921]. *Tractatus logico-philosophicus.* Transl. to English by Charles K. Ogden & Franck P. Ramsey. London: Kegan Paul, Trench & Trübner.

Wüster, Eugen. 1931. *Internationale Sprachnormung in der Technik, besonders in der Elektrotechnik (Die nationale Sprachnormung und ihre Verallgemeinerung).* Berlin: VDI-Verlag. —. 1966. *Internationale Sprachnormung in der Technik* (…). *Zweite, ergänzte Auflage.* Bonn: H. Bouvier u. Co. Verlag —.1968a. *Internationale Sprachnormung in der Technik (…). Dritte, abermals ergänzte Auflage.* Bonn: H. Bouvier u. Co. Verlag.

Wüster, Eugen. ed. 1955-1959. *Bibliography of Monolingual Scientific and Technical Glossaries/Bibliographie de vocabulaires scientifiques et techniques monolingues.* 2 vol. Paris: UNESCO, Département des sciences exactes et naturelles.

Wüster, Eugen. 1959-1960. Das Worten der Welt, schaubildich und terminologisch dargestellt. *Sprachforum* 3(3-4): 183-204.

Wüster, Eugen. 1968b. *Dictionnaire multilingue de la machine-outil. Notions fondamentales définies et illustrées. Présentées dans l'ordre systématique et l'ordre alphabétique/The Machine Tools: an Interlingual Dictionary of Basic Concepts—Comprising an Alphabetical Dictionary and a Classified Vocabulary. With Definitions and Illustrations. English-French Master Volume.* London: Technical Press.

Wüster, Eugen. 1979. *Einführung in die Allgemeine Terminologielehre und Terminologische Lexikographie (Schriftreihe der Technischen Universität Wien* 8-1). Wien & New York: in Kommission bei Springer Verlag.

Wüster, Eugen. 1981 [1974]. L'étude scientifique de la terminologie, zone frontalière entre la linguistique, la logique, l'ontologie, l'informatique et les sciences des choses. *Textes choisis de terminologie* I : *Fondements théoriques de la terminologie*, dir. par Guy Rondeau & Helmut Felber. Québec: Université Laval – GIRSTERM. 55-113. [Wüster Eugen. 1974. Die Allgemeine Terminologielehre – ein Grenzgebiet zwischen Sprachwissenschaft, Logik, Ontologie, Informatik und den Sachwissenschaften. *Linguistics. An Interdisciplinary Journal of the Language Sciences* 119: 61-106].

Wüster, Eugen. 2001 [1963]. Die Struktur der sprachlichen Begriffswelt und ihre Darstellung in Wörterbüchern. *Terminologie und Wissensordnung. Ausgewählte Schriften aus dem Gesamtwerk von Eugen Wüster*, hrsg. von Heribert Picht & Klaus-Dirk Schmitz. Wien: TermNet. 53-79. [Originally published in the *Proceedings of the 3rd Congress of International Federation of Translators.* 415-443].