On the distinction between conceptual and semantic structure

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Abstract
In Štekauer's onomasiological model of word formation, conceptual structure represents extra-linguistic information and semantic structure is linguistic in nature. Jackendoff in his Parallel Architecture assumes that there is a single level of conceptual structure.
I explain how conceptual and semantic structure are placed in Štekauer's framework. Jackendoff's argument against a separate level of semantic structure is mainly based on Occam's razor. The two models do not have the same scope. The central problem for which Štekauer devises his model is not at present covered in Jackendoff's PA. Therefore both models can be accepted for their respective set of problems.

Keywords: *word formation, onomasiological approach, parallel architecture, conceptual structure, semantic structure, speech community, native speaker*

Traditionally, conceptual structure and semantic structure are distinguished in the sense that semantic structure represents linguistic meaning and conceptual structure a type of meaning that goes beyond that in some way. In Jackendoff's Parallel Architecture (PA), we only find conceptual structure. Štekauer's onomasiological approach to word formation includes both. Here I will describe the motivation for these decisions and compare the consequences.

I will start in section 1 with a description of the position of the conceptual and semantic levels in Štekauer's framework. Section 2 explains Jackendoff's motivation for having only a conceptual structure. In section 3, I turn to a number of general differences that have to be considered when we compare the two models. Section 4 then compares the functions and expressive mechanisms used in Štekauer's and Jackendoff's conceptual structure, leading to the conclusion in section 5.

1 Conceptual level and semantic level in Štekauer's onomasiological approach

In Štekauer's (1998) theory, word formation is a mechanism for the coining of new naming units by a speech community. This immediately distinguishes his approach from overgenerating models of word formation, which since Halle (1973) have dominated much of generative morphology. In overgenerating models, word formation rules produce possible words from morphemes in a way similar to how syntactic rules produce possible sentences. In the onomasiological approach, Štekauer (1998: 8) breaks down the process of naming a concept into six "levels", as in (1).

(1) 1. Extra-linguistic reality
2. Conceptual level
3. Semantic level
4. Onomasiological level
5. Onomatological level
6. Phonological level

A speaker who uses a new word goes through the six levels in the order they are listed in (1), whereas the hearer processing such a word goes through the same levels in reverse order. Štekauer (1998) mainly focuses on the onomasiological level, introducing five Onomasiological Types, and the onomatological level, where morphemes are assigned to the individual components.

Štekauer (1998: 9) describes the conceptual level as a way of delimiting the concept to be named by means of logical predicates (so-called *noems*) and conceptual categories. The term *noem* is not defined. In a philosophical context, Husserl (1913: 182) introduces the term *Noema*, which he explains as "das Wahrgenommene als solches" ('the observed as such'). In a linguistic context, Bloomfield (1933: 264) introduces the term *noeme* in a system of other terms ending in *-eme*. In this system, the smallest meaningful lexical unit is called *morpheme* and its grammatical counterpart *tagmeme*. The hyperonym covering both, i.e. the smallest meaningful unit independent of whether it is lexical or grammatical is called *glosseme*. Each of the names of the units

also has a counterpart for the meaning they have. For morpheme, the semantic counterpart is called *sememe*. *Noeme* is the name of the meaning of a glosseme. Neither of these perspectives leads to a straightforward interpretation of *noem* at the conceptual level, but both are suggestive. Štekauer (1998: 12) gives the example of *milk*, which has the noems in (2).

(2) It is material
It is inanimate
It is liquid
It comes from female mammals
It is a foodstuff
…

Compared to Bloomfield's *noeme*, the predicates in (2) are more basic units. Given that *milk* is a morpheme, its meaning would be a sememe and therefore also a noeme. However, if we take Husserl's *noema* rather than linguistic expressions as our starting point, we can see the noems in (2) as the minimal units this noema can be analysed in.

The other component of conceptual structure in Štekauer's model is the conceptual category. Whereas noems provide the tools for the analysis of a concept, conceptual categories are used for a broad classification. Štekauer (1998: 9) gives the conceptual categories in (3).

(3)

SUBSTANCE		*milk*$_{N}$, *hat*, *databank*
ACTION	ACTION PROPER	*drive*$_{V}$
	PROCESS	*experiment*$_{N}$
	STATE	*stand*$_{V}$
QUALITY		*feature*$_{N}$, *clear*$_{A}$
CONCOMITANT CIRCUMSTANCE		*limit*$_{N}$, *curve*$_{N}$

The list of categories in (3) is intended to be exhaustive. Each category is accompanied by one or more examples from Štekauer (1998: 11-20). Only ACTION is

divided into three subcategories. CONCOMITANT CIRCUMSTANCE includes Place, Time, Manner, etc. The first three categories can be traced back to Sechehaye's (1926: 102) categories of *entité*, *qualité*, and *procès*. Dokulil (1968: 208) uses *Substanz*, *Eigenschaft*, *Handlung*, and *Umstandbestimmung*, matching the four major categories in (3). Both these lists have the equivalents of ACTION and QUALITY reversed compared to (3). In the case of the noun *milk* with the noems in (2), the conceptual category is SUBSTANCE. For mass nouns, this is intuitively obvious. However, SUBSTANCE also applies to all concrete objects. This explains why also *hat* and even the less tangible *databank* belong here.

Whereas the conceptual level is a representation based on conceptual categories and noems, the semantic level represents meaning in terms of semes. The concept of *seme* originated in the theory componential analysis. Pottier (1974: 29) uses *sème* as the name for the individual features making up the *sémème*, which in turn has the same relation to *morphème* as in Bloomfield's (1933) system mentioned above.

As an example, (4) gives the semantic level of representation for *truck driver*, from Štekauer (1998: 16).

(4) [+MATERIAL] [+ANIMATE] [+HUMAN] [+ADULT] [+PROFESSION];
[+MATERIAL] [–ANIMATE] [+VEHICLE] [+TRANSPORTATION]

Here the first line characterizes *driver* and the second line *truck*. The difference between the conceptual and the semantic levels can be illustrated with the different statements of *material*. In (2), "It is material" is a noem. It is stated at the supralinguistic level, so that it is a property of the concept to be named. In (4) [+MATERIAL] is the corresponding seme. It is stated at the highest linguistic level. At the semantic level, a selection of noems is converted into semes. Whereas the set of noems in a concept is not obviously finite, the set of corresponding semes is.

Štekauer (1998: 64) characterizes the conceptual level as "Logical structure" and the semantic level as "Semantic structure", but places both of them in the word formation component. Štekauer (2005: 213) modifies this model and moves conceptual structure outside of the language system. This results in a model as in Fig. 1.

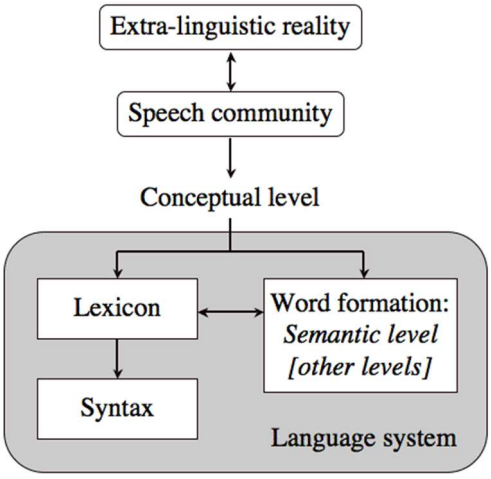

Figure 1 Conceptual level and semantic level in Štekauer's (2005) model

Of the six levels in (1), the last four are located in the word formation component. The first two are outside of the language system. The conceptual level is the language-independent representation of the extra-linguistic reality by the speech community.

2 Conceptual structure without semantic structure in Jackendoff's PA

As described in more detail in ten Hacken (2007: 245-267), Jackendoff's Parallel Architecture (PA) was proposed as a reaction to certain perceived problems in Chomskyan linguistics. One of the central problems was what Jackendoff (1997: 15) calls the syntactocentric nature of Chomsky's model of grammar. In Chomsky's models, only syntax has its own set of generative rules. Phonological and semantic representations are derived from syntax by rules of interpretation. Instead, Jackendoff proposes a model in which all three of these representations are generated by specialized sets of formation rules. In PA, no distinction is made between semantic and conceptual representations. In Jackendoff's (1997, 2002) presentations of PA, we do not

find any explicit motivation of this decision. In order to find it, we have to turn to his older works.

At the origin of PA was Jackendoff's interest in semantics. Jackendoff (1983) concentrates on the coverage of semantics and its relation to cognition, while "assum[ing] some version of the extended standard theory and its derivatives" (1983: 10) as the overall structure of the theory of language. At this stage of theoretical development, Jackendoff (1983: 16) formulates the Conceptual Structure Hypothesis in (5).[182]

(5) There is a *single* level of mental representation, *conceptual structure*, at which linguistic, sensory, and motor information are compatible.

Part of the evidence that makes (5) plausible is the observation that we can speak about what we see, hear, smell, taste, feel, and do. If there were no level at which, say, visual information were compatible with linguistic information, we could not express our visual impressions and without compatibility with motor instructions, we could not react appropriately to a request to open the window. The idea that there is only one such level of representation is motivated by simplicity. If we had separate levels for each of the senses, we would need mapping modules between each of them. With a single level, we can assume that it represents our mental model of the world. This is what Jackendoff (1983: 28) calls the *projected world*.

The hypothesis in (5) does not decide whether conceptual structure is a further representation beyond semantic structure or takes the place of semantic structure. Jackendoff (1983: 20-21) proposes two different models, one with and one without a separate semantic structure. In the model with semantic structure as a separate component, it is linked to conceptual structure and to syntactic structure as in Fig. 2.

[182] Here and in all other quotations, emphasis is as in the original.

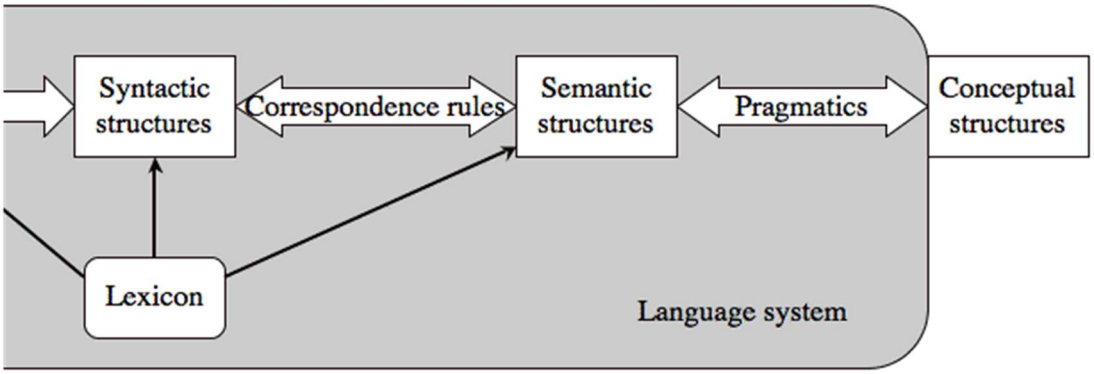

Figure 2 A model with semantic and conceptual structures separated

Fig. 2 is based on Jackendoff (1983: 20), but it is important to note that it is not the model he adopts. It is a hypothetical model set up to show the alternative with semantic structure as a separate component. Arguably, it corresponds to a rather traditional view of language, in which there is a linguistic meaning that is connected to a communicative meaning by means of pragmatic inferences, although one might quibble about the place of pragmatics inside or outside the language system. Conceptual structures in Fig. 2 are representations of thought, not of language, so they are not inside the language system. To the left of the components shown in Fig. 2, there should be the phonological component and the phonetic representation, but they are not of direct interest in the discussion here. The model in Fig. 2 does not specify how the different structures are generated. Jackendoff (1990: 19) addresses this question explicitly, but not for the model in Fig. 2. At the stage where the distinction between semantic and conceptual structure is considered as an issue for discussion, Jackendoff (1983: 20) only specifies that each of the structural representations has its own set of well-formedness conditions. They are not included in Fig. 2.

In Fig. 3, the alternative model is represented, in which semantic structures are integrated with conceptual structures. For ease of comparison, the same portion of the model is represented as in Fig. 2.

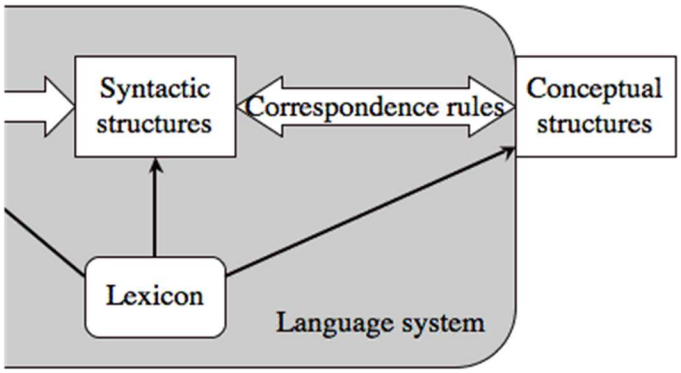

Figure 3 Jackendoff's (1983) model of the relation between syntactic and conceptual structures

Compared to Fig. 2, conceptual structure in Fig. 3 has taken the position of semantic structure in the sense that it is informed by the lexicon and has correspondence rules with syntax. At the same time, it has retained its position outside the language system, as in Fig. 2. This implies that pragmatics must now be seen as an inference mechanism on conceptual structures rather than as a part of the language system, linking semantic and conceptual structures.

Jackendoff's approach to the choice between the models of Fig. 2 and Fig. 3 can be summarized as driven by Occam's razor. The model in Fig. 2 introduces an extra representation that is absent from the one in Fig. 3. Therefore, we should only prefer the former if the latter is unable to account for our data in a satisfactory way. Jackendoff (1983) lays the foundations for an account of cognition and of the meaning of language without any need to introduce semantic structures as separate from conceptual structures. This position has then become established in PA and as yet he apparently did not find any compelling evidence for reintroduing the level of semantic structure as distinct from conceptual structure.

3 Some general differences between PA and the onomasiological approach

Before we can make a meaningful comparison between the positions of conceptual structure in Štekauer's onomasiological approach and in Jackendoff's PA, we have to address a number of general differences that are not immediately related to conceptual structure but complicate the comparison. A first difference is that Štekauer's model in Fig. 1 makes reference to the speech community, whereas Jackendoff's model in Fig. 3 does not. This is highlighted in Štekauer's (1998: 5) statement in (6).

(6) The presented theory does not rest on the intuition of a native speaker. Rather, it attempts to describe word-formation processes resulting from the *naming needs* of a given speech-community.

A related issue concerns the importance of the native speaker. In this respect, (6) stands in direct contrast to Chomskyan linguistics. Thus, in (7) Chomsky (1988: 36) emphasizes the individual nature of language and makes linguistic communication dependent on the degree of similarity between individual speakers' competence.

(7) I am using the term "language" to refer to an individual phenomenon, a system represented in the mind/brain of a particular individual. […] Two individuals can communicate to the extent that their languages are sufficiently similar.

As ten Hacken (2007: 251-258) shows, on this issue Jackendoff is in complete agreement with Chomsky. In fact, as a basis for the presentation of his PA model, Jackendoff (2002: 19-37) devotes an entire chapter to a presentation and explanation of Chomsky's (1965: 3-4) argument that language is first of all a mental phenomenon, as stated concisely in (7).

The opposition summarized in (6) and (7) is analysed in detail in ten Hacken & Panocová (2011). We compare the positions on the individual speaker and the speech community advocated by Bloomfield, Chomsky, Saussure, and the Prague School. All of these struggle to reconcile the cognitive nature of language, realized in the individual

speaker, and its social aspect, realized in the speech community. Bloomfield and Chomsky take the most radical positions. Bloomfield excludes mental aspects from the study of linguistics and Chomsky makes the mental aspect the single highest authority on the data. Saussure accepts that language is realized in the speakers' brain, but does not neglect the social aspect. The Prague School builds on Saussure's unresolved opposition. On the basis of a comparison of these positions, ten Hacken & Panocová (2011: 295) arrive at a consensus view formulated in (8).

(8) There are speech communities, but it is not possible to delimit them precisely. Therefore, the theoretical use of the notion of *speech community* should be limited. In particular, anthropomorphic references to the speech community as having an intention, or performing an action should be avoided.

In the context of Štekauer's onomasiological approach, (8) requires that the delimitation of the speech community is not a central concern and that any action, perception, or judgement attributed to the speech community can be interpreted as an action, perception or judgement by individual members of this community. This means that the language system and the conceptual structure in Fig. 1 are realized in individual speakers. Stating that naming needs are felt by a speech community means that one or more individual speakers experience these naming needs. The process leading to a name in the form of an expression that can be used in linguistic communication takes place in the mind of an individual speaker. When this speaker starts using it, it may become part of other speakers' knowledge of language. There is no particular boundary point at which we can say the word has been accepted by the speech community and become part of the language. Statements to this effect should be interpreted as a shorthand. Such practice is also commonly found in Chomsky's and Jackendoff's works. Jackendoff (2002: 260) makes the statement in (9).

(9) Inflection may alternatively express semantic roles through a system of case marking, as in German, Russian, and Latin. […] And parallel to verbs in English

that require “governed prepositions” (section 5.8), case-marking languages often have verbs that govern so-called “quirky case” on an argument.

References to named languages such as *German* should be interpreted as ‘the linguistic competence of speakers whom we classify as speakers of X’, where *X* stands for a named language such as German. As long as the theory does not depend on the possibility of determining in any given case whether someone is a speaker of German or not, this is not a problem for using statements such as (9) or including the speech community in Fig. 1.

A second point that is clear from (6) is that Štekauer’s theory has a different explanatory goal from Jackendoff’s. The problem addressed by Štekauer, as stated in (6), is how a speech community can use word formation processes to come up with a new name for a new concept as needed. The problem Jackendoff (2002) chooses is much wider, as his title *Foundations of Language: Brain, Meaning, Grammar, Evolution* suggests. His aim is to develop a theory that describes how language is encoded in the brain in such a way that we can explain the meaning of expressions, the use of language in particular situations, the acquisition of language, and the emergence of language in the evolution of the human species. Basically, Jackendoff aims to develop a theory that for all aspects of language either provides an explanation or indicates which other theory, compatible with PA, should provide an explanation.

The difference in scope is not necessarily a problem for a meaningful comparison. Štekauer’s theory of word formation is embedded in a tradition which addresses many other questions relating to language. The problem of choosing new names for new concepts is also among the problems to be explained by PA (or a compatible theory). We only need to keep the difference in mind when we compare the model of Fig. 1 with that of Fig. 3. In this way we can avoid the trap of judging a theory by criteria it was not designed to meet, a central point in my discussion of what I call *research programmes* in ten Hacken (2007).

4 Categorization and analysis in conceptual structure and semantic structure

We have now reached the point where we can compare the conceptual structure of PA with the conceptual structure in Štekauer's onomasiological approach. The questions to be addressed are listed in (10).

(10) a. To what extent do the conceptual structures express the same information?
b. Which alternative places for expressing information are used?
c. To what extent is the information expressed in the same way?

In Jackendoff's PA, information is expressed in the form of a predicate-argument structure. Predicates are functions. Arguments have a conceptual category. A predicate together with its arguments can serve as an argument itself. In the limiting case, a predicate may have zero arguments. As a result, it is the structural analysis and the relation between components that are central in Jackendoff's conceptual structure.

In the onomasiological approach, conceptual structure consists of a conceptual category and a list of noems. A list of noems, as exemplified for *milk* in (2), is typically much less structured than the complex of embedded predicate-argument structures in PA. However, it should be said that this impression is in part caused by Jackendoff's interest in more complex structures. He does not discuss examples such as *milk* in his writings. (11) gives Jackendoff's (1990: 53) representation of *drink*$_{V}$.[183]

(11) $[_{Event}$ CAUSE ($[_{THING}]^{\alpha}$, $[_{Event}$ GO ($[_{Thing}$ LIQUID],
$[_{Path}$ TO ($[_{Place}$ IN ($[_{Thing}$ MOUTH-OF ($[_{Thing}$ $\alpha]$)])])])])]

The structure in (11) can be paraphrased as 'cause a liquid to go into one's mouth'. In (11) we see a number of conceptual categories, typically appearing as subscripts. However, they do not have a status that is theoretically different from

[183] Jackendoff (1990: 53) gives a full lexical entry, which includes indices linking conceptual and syntactic structure. They are omitted in (11). The internal coindexation in conceptual structure is adapted to the system adopted by Jackendoff (2009).

predicates. THING can be used as a classifier in [$_{\text{Thing}}$ LIQUID] or as an underspecified predicate in [THING]. Here, LIQUID and THING are zero-place predicates, but MOUTH-OF is a one-place predicate of the same conceptual category. The lexical conceptual structure in (11) is part of a lexicon entry. It can be used to build up the conceptual structure of a particular expression. This means that [$_{\text{Thing}}$ LIQUID] acts as a constraint on the kind of entities that can fill this slot. In the lexical entry for *milk*, the conceptual structure should then match [$_{\text{Thing}}$ LIQUID] so that *milk* is a possible object of *drink*.

The information about *milk* in the noems in (2) is not all encoded in structures such as (11). Part of it is encyclopedic knowledge, for instance that milk comes from female mammals and is a foodstuff. Jackendoff (1990: 32-34) discusses the representation of the distinction between *duck* and *goose*. He concludes that such a distinction is encoded in a part that is accessible to the interface with vision, but not in the same way to the interface with language. In this case, that milk comes from female mammals and is a foodstuff is information that can be used in inferencing. That it is white is accessible to vision. The boundary between what is and what is not visible to the interface with language depends on what is needed rather than on any *a priori* division of the information.

Let us now turn to the conceptual categories in (3). In general, we can find equivalents in PA for each of the categories. Of course, in some cases different names are chosen. Thus, Štekauer's category of QUALITY corresponds to Property in PA. In the case of SUBSTANCE, we can align it with Jackendoff's category of Thing, which he divides into Object and Substance. In the case of ACTION, Jackendoff distinguishes Events and States. State corresponds directly to STATE, but Event encompasses both PROCESS and ACTION PROPER. For Jackendoff, Action is a subcategory of Event. Jackendoff (1990: 125-130) introduces the Action Tier to account for the relationship between them. The biggest difference between the two systems of conceptual categories is in what in (3) is labeled CONCOMITANT CIRCUMSTANCE. In Jackendoff's system, this corresponds to all other conceptual categories. Jackendoff (1990: 22) presents his set of conceptual categories as open-ended, although it is not huge. Examples of categories used in (11) are Path and Place.

When we compare Jackendoff's conceptual structure with the level of the same name in Štekauer's model, we can say that Jackendoff has elaborated the structure in more detail. This concerns both the hierarchy of conceptual categories and the way the information expressed in noems is organized.

We can now turn to Štekauer's level of semantic structure. A first observation to be made here is that the level as located in Fig. 1 is limited to word formation. It is clear that the lexicon and the syntax are also in some way linked to meaning, but the focus in Fig. 1 is only on word formation and how the meaning of units of the lexicon and structures produced by syntax is represented and calculated is not in the scope of the model.

In PA, there is no obvious correlate to Štekauer's level of semantic structure. This is not only because semantic structure and conceptual structure were merged by Jackendoff (1983), but also because there is no specific component for word formation. Elsewhere, e.g. ten Hacken (2013), I have argued for introducing such a component in PA, because the naming function it fulfils is not properly covered by the existing components of PA. Jackendoff (2002: 167-182) quite convincingly argues that words, idioms, and phrasal rules should not be distinguished as fundamentally different types of entity. All of them can be covered by lexical entries. However, whereas lexical entries encode the material that is used to build linguistic expressions, word formation rules have as their function to modify the lexicon. The two ways of underspecification seem to be complementary.[184]

As an example of a semantic structure, (4) represented the structure corresponding to *truck driver*. (12) gives Štekauer's (1998: 19) semantic structure corresponding to *hatter* and (13) the one corresponding to *blackboard* (1998: 20).

(12) [+MATERIAL] [+ANIMATE] [+HUMAN] [+ADULT] [+PROFESSION];
[+MATERIAL] [–ANIMATE] [+COVERING FOR A HEAD], etc.

[184] At the *Nederlandse Morfologiedagen* in 2011, ten Hacken & Panocová presented a model where the word formation component with its four levels from Štekauer's onomasiological approach takes the place of the newly added word formation component in Jackendoff's PA.

(13) [+MATERIAL] [+INANIMATE] [+WOOD] [+BLACK COLOUR] [+TEACHING] [+WRITING], etc.

It is important to note that (12) is not the semantic representation of *hatter*, but an intermediate stage in the process from identifying the concept to finding a name for it. This explains why there is no simple correlation between the number of items in the semantic structure and the number of stems or morphemes of the naming expression. In the semantic structure of *truck driver* in (4), we saw that there were two items in the semantic structure, one ultimately realized as *truck*, the other as *driver*. These items are separated by a semicolon. In (12), we also have two items, but in (13) only one. The resulting names are compounds in the case of (4) and (13), whereas in (12) the result is a derivation. The affix *-er* corresponds to an item in (12) but not in (4). The semantic structures represent an early stage in the gradual process of narrowing down the naming options. At this stage, it has not been determined yet how many and what kind of morphemes should be used in the name. It is only later, at the onomasiological level, that the number of morphemes is determined, which depends on the Onomasiological Type. Individual morphemes are selected at onomatological level, which is a further step towards the ultimate form.

The semes used in (4), (12), and (13) give the impression of a rather open-ended set with some more basic ones, e.g. [±MATERIAL], whereas others seem more *ad hoc*, e.g. [±COVERING FOR A HEAD]. This is very similar to Jackendoff's approach to predicates. Jackendoff (1990: 43) lists a number of basic predicates, e.g. GO ([THING], [PATH]). Others, e.g. MOUTH-OF ([THING]) as used in (11), are much more idiosyncratic.

In discussing the contrast between *duck* and *goose*, Jackendoff (1990: 33) rejects the idea of having a feature [±LONG NECK] as "patently ridiculous". Linguistically, he would have just two predicates of the conceptual category THING, [$_{\text{Thing}}$ DUCK] and [$_{\text{Thing}}$ GOOSE]. However, his perspective is not that of naming a new concept. In the naming process, any property that might be salient can be used in the choice of a name. Therefore, a rather open-ended approach is necessary in order to account for naming.

While the question of whether the information conveyed by the semes in (12) and (13) is necessary can therefore be answered in the positive, it is perhaps less obvious whether this information has to be expressed within the linguistic system and separate from conceptual structure. The question can be illustrated by the conceptual level (14) corresponding to (12), as given by Štekauer (1998: 18).

(14) It is $SUBSTANCE_1$.
$SUBSTANCE_1$ is Human. The Human performs ACTION.
ACTION is the Human's Profession.
ACTION produces $SUBSTANCE_2$.
$SUBSTANCE_2$ is a class of covering for the head.
etc.

The first line of (14) establishes the conceptual category. Subsequent lines state noems. Each noem contains at least one conceptual category. If more than one entity appears with the same conceptual category, they are distinguished by subscripts. In (14), three entities are introduced. Only two of them are selected in (12). The entity not selected is ACTION. This is not accidental if we consider the outcome of the naming process, *hatter*. Here we have a case of OT3, the Onomasiological Type in which the action is not expressed.[185] The same conceptual structure in (14) could also be lexicalized as *hat maker*, which is an example of OT1. For *hat maker*, a different semantic structure would be required, so that the ACTION is available in the subsequent decision process and can be assigned the morpheme *make*. This indicates that the transition from (14) to (12) is a stage in the stepwise narrowing-down of options that is typical of naming.

When we turn to the individual semes in (12), we see a similar type of approximate correspondence. We can recognize for each seme which noem is at its origin, but not all noems in (14) are represented in (12). Of the three noems containing ACTION, only one has a reflection in (12), namely [+PROFESSION].

[185] For a presentation of Onomasiological Types, see Štekauer (1998: 15-20, 2005: 217-219). Štekauer (to appear) gives a revised version of the set of OTs, but the revision does not affect OT1 and OT3.

In PA, there is no equivalence to the naming process. It cannot be represented unless we add a word formation component. It is especially the gradual process of narrowing down options, for which Štekauer's model provides a mechanism, that is beyond the scope of PA. At this stage it is pure speculation what a word formation component in PA might look like. However, Štekauer's model gives a good basis for the structure of such a component.

5 Conclusion

We started with the question of whether conceptual structure and semantic structure should be distinguished and if so why. This question emerged because in Štekauer's onomasiological approach there is such a distinction, whereas Jackendoff's Parallel Architecture does not include it.

The reason why PA does not include a level of semantic structure is that it is not necessary for the aims it pursues. Jackendoff (1983) discusses two models, one with and one without semantic structure, and does not give any argument against either. The only reason to choose the model without semantic structure is that it is simpler.

The reason why Štekauer's onomasiological model includes both conceptual and semantic structure is probably that this corresponds to the tradition it stems from. However, in using the distinction as a way of expressing a step in the decision process involved in naming, Štekauer operationalizes it and makes it meaningful. Whereas the conceptual structure represents perception in general, semantic structure selects and classifies elements for the purpose of naming.

The main goal of Štekauer's model is to account for the naming process underlying word formation. In PA, word formation takes up a somewhat marginal position. Jackendoff (2009, 2010) discusses the issues involved in compounding, but he does not take an onomasiological perspective. Ten Hacken (2013) proposes to introduce a word formation component for this reason.

In a sense we can say, therefore, that both models are correct, but for different purposes. In Štekauer's onomasiological approach, the distinction between semantic structure and conceptual structure is used in modeling the process of finding a name for

a new concept by means of word formation. The lack of a separate semantic structure in PA is not a problem for the purposes the theory is intended to fulfil, but these purposes have so far not included word formation in its onomasiological role. It will be interesting to see, then, whether PA can maintain its single conceptual structure when it incorporates an account of the naming process.

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