

PIUS TEN HACKEN (SWANSEA)

RENÁTA PANOCOVÁ (KOŠICE)

INDIVIDUAL AND SOCIAL ASPECTS OF WORD FORMATION

Language can be seen as a knowledge component in the speaker's mind. It can also be seen as a system of communication shared by a speech community. Combining these two perspectives into a coherent framework for linguistic theorizing is a challenge. In the American tradition, Bloomfield argued that mental aspects should be ignored, whereas Chomsky argued that they are the only valid perspective for the study of language. In the latter approach, named languages such as English do not really exist. In the European tradition, Saussure proposed that *langue* is social and realized in the brains of its speakers. This view also underlies the Prague School's approach. Although it seems contradictory, a discussion of word formation shows that it offers a more complete perspective on the nature of language. This is illustrated by a comparison of Štekauer's onomasiological approach to word formation and Jackendoff's approach within his Parallel Architecture.

INTRODUCTION

Throughout the history of linguistics, linguists have struggled to combine two fundamental insights about the basis of language. On one hand, language is based in the speaker's mind. Speakers have to know the language they use. On the other hand, language is based in a speech community, a group of people speaking the same language.

The European and American traditions diverge in the way they use these insights. Whereas the European tradition tends to reconcile them, the American tradition tends to choose one rather than the other as fundamental. The domain of word formation presents a particularly interesting area for studying this distinction. In word formation, the lexicon is extended by applying rules to existing lexical entries. This raises the questions of how the lexical entries and the word formation rules are realized in the speech community and in individual speakers.

In this paper, we will first consider the American tradition, presenting the Bloomfieldian and generative concepts of *language* and discussing how they influence the conception of word formation. Then we will turn to the European tradition, presenting Saussure's model and Štekauer's onomasiological approach

as two representative systems. Finally, we will consider to what extent the different approaches are compatible and supplement each other.

THE BLOOMFIELDIAN NOTION OF *LANGUAGE*

In the history of American linguistics we can observe a shift of attention from *a language* to *language*. The American tradition of linguistics was originally shaped by the anthropological perspective, studying languages spoken by indigenous communities. Bloomfield (1926) provides a systematic background for this type of study by listing definitions and assumptions. The first four of these are given in (1).

- (1) a. 'An act of speech is an *utterance*.'
 b. 'Within certain communities successive utterances are alike or partly alike.'
 c. 'Any such community is a *speech-community*.'
 d. 'The totality of utterances that can be made in a speech-community is the *language* of that speech-community.'

Whereas (1b) is labelled as 'assumption', the other three are stated as 'definitions' (Bloomfield 1926: 154-5). Together these four statements define the concept of (a) *language*. They link a language explicitly to a speech community, but do not mention the speaker's mind. The individual aspect of language is reduced to utterances. This decision is in line with the stimulus-response model in Fig. 1.

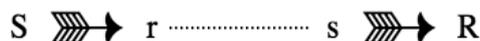


Fig. 1: Stimulus-response model (Bloomfield 1933: 26)

In a psychological model in which every action is considered a response (R) to a stimulus (S), Bloomfield (1933: 25) considers a linguistic utterance as a 'linguistic substitute response' (r) by the speaker to a practical stimulus (S). This *r* serves as a 'linguistic substitute stimulus' (s) to the hearer, who can process it to come up with a 'practical reaction' (R). According to Bloomfield (1933: 31), 'The happenings which in our diagram are represented by a dotted line are fairly well understood. [...] The happenings, however, which we have represented by arrows, are very obscure.' The dotted line in Fig. 1 represents the utterance, whereas the arrows represent processes in the speaker's and hearer's minds.

A problem with the definition in (1) is that the notion of *language* depends on the identification of a speech community. As Bloomfield (1933: 45) recognized, cf. (2), this notion is difficult to define.

- (2) The difficulty or impossibility of determining in each case exactly what people belong to the same speech-community, is not accidental, but arises from the very nature of speech-communities. If we observed closely enough, we should find that no two persons [...] spoke exactly alike.

Perhaps as a reaction to these problems, Bloch and Trager (1942: 5) propose a different definition, given in (3), that puts less emphasis on the speech community.

- (3) A LANGUAGE is a system of arbitrary vocal symbols by means of which a social group cooperates.

Compared to (1), the definition in (3) shows a change of perspective. In explaining their definition, Bloch and Trager (1942: 5-7) elaborate on the conditions that a language is a system, that it consists of symbols, that these symbols are vocal, and that they are arbitrary. However, they say very little about the ‘social group’ in (3).

Research in Bloomfieldian linguistics concentrated mainly on phonetics, phonology, and inflection. This is not surprising, as the model in Fig. 1 invites a pure bottom-up approach starting from the analysis of a linguistic signal as found in an utterance. Statements about word formation can be found mainly in general overviews such as Bloomfield (1933) and Bloch and Trager (1942). They do not concentrate on the word formation process but rather on the system. Bloch and Trager (1942: 55) discuss the meaning of the statement that *song* is derived from *sing* and they categorically exclude an event-based, historical interpretation of such a statement in (4).

- (4) We do not mean that in the chronological development of English one of these words appeared later than the other and was originally introduced into the language as a modification of the older word. [...] for our purpose [...] all historical considerations are irrelevant.

In Bloomfieldian linguistics, the speech community is invoked in the definition of language, but the complications involved in determining its boundaries reduce its practical role in linguistic research. The study of word formation is not undertaken from the perspective of the speech community.

THE GENERATIVE NOTION OF *LANGUAGE*

Generative linguistics emerged in the late 1950s in reaction to some perceived shortcomings of the then-prevailing Post-Bloomfieldian linguistics. For our purposes here, the most important innovation is based on the distinction between *competence* and *performance*. Chomsky (1966: 3) describes this distinction as in (5).

- (5) A distinction must be made between what the speaker of a language knows implicitly (what we may call his *competence*) and what he does (his *performance*).

Making the distinction in (5) is itself not a major innovation. Competence and performance are also in different positions in Fig. 1. Chomsky (1965: 4) describes performance as ‘the actual use of language in concrete situations’, which means that it corresponds to the dotted line in Fig. 1. Competence belongs to the mind of the speaker and the hearer, so that it is part of the arrows in Fig. 1. What is innovative is that Chomsky proposes to make competence the focus of attention and to study it as a naturalistic entity. Instead of the utterances in a speech community or the sentences of a language, it is the underlying mental system that is the object of description in Chomskyan linguistics.

This shift of attention has several consequences. One is a fairly radical break with the earlier framework. Whereas Bloomfield and others had argued that no scientific study of mental entities is possible, Chomsky proposes to make a mental entity, competence, the main object of study. Conversely, whereas previous representatives of American linguistics took utterances, i.e. performance, as the data to be studied, Chomsky argued that performance is derived from competence in a less than straightforward way.

A consequence that is more important for our purposes here is the shift in status this implies for the speech community. Chomsky (1980: 217) argues that *language* in the countable sense is not a well-defined concept of linguistics. When he refers to ‘a language’ in (5), this should be taken generically, not as a reference to any specific language. Uriagereka (1998) pointedly expresses this as ‘English doesn’t really exist.’ As explained by ten Hacken (2007: 274-81), Uriagereka’s statement should be interpreted as the claim that named languages, such as English or Polish, do not exist as entities in the real world. Perhaps the easiest way to understand this is by observing a dialect continuum. On a language map, Polish, Slovak, and Czech will have different colours and their extension will correspond roughly to the boundaries of Poland, Slovakia, and the Czech Republic. The transition between the languages, however, is much more gradual than such a map can represent. The language spoken in Northeastern Slovakia is in some respects more similar to that spoken in the adjacent region of Poland than to the Slovak as spoken in Bratislava. Whether someone’s language is classified as (a dialect of) Polish or Slovak depends at least in part on whether they are at the Polish or the Slovak side of the border. The idea of Polish and Slovak as separate languages is arguably as much political as linguistic.

There is of course the sense of named languages as standards. However, standard languages are consciously created. They are not natural objects. An interesting example illustrating this is Serbo-Croatian. As Greenberg (2008: 168) states, ‘[s]cholars and other observers from outside the former Yugoslavia now speak of three or four languages, when prior to 1991 these same individuals considered Serbo-Croatian to be a single language’. As also explained by

Hawkesworth (2006), to the extent that Bosnian, Croatian and Serbian have in fact become different languages, this is at least as much the result of political considerations as of an actual linguistic process.

Chomsky (1986) introduced the contrast between *I-language* and *E-language*. This contrast has sometimes been interpreted as the successor to the competence vs. performance distinction, but as explained by ten Hacken (2007: 49-51) this is not entirely correct. Although I-language is the same object as competence, E-language is *not* the same as performance. Chomsky (1986: 20) takes E-language to be a 'construct [that] is understood independently of the properties of the mind/brain.' Whereas performance is a real-world entity, the direct result of the use of competence/I-language, E-languages are, as Chomsky (1986: 26) states 'not real-world objects but are artificial, somewhat arbitrary, and perhaps not very interesting concepts.' It is possible to see the artificial standards imposed on named languages, for instance by language academies, as E-languages. While we actually think these concepts are potentially very interesting, it is obvious that their study does not directly contribute to theory development in the Chomskyan perspective of language.

Research in Chomskyan linguistics concentrates on syntax. The study of the lexicon and of word formation has always been subordinated to syntactic research. Throughout the history of Chomskyan linguistics, there have been attempts to reduce word formation to the status of a special kind of syntax. The first example of this was Lees (1960). In Lees's approach, word formation was accounted for by transformations. Chomsky (1970) argued for the Lexicalist Hypothesis, which excludes a transformational account of word formation. Selkirk (1982) proposes to account for word formation by means of rewrite rules. Distributive Morphology, as originally proposed by Halle and Marantz (1993), aims, in the words of Harley (2009: 129), 'to present a fully explicit, completely syntactic theory of word formation.' What all of these theories have in common is that they completely disregard the role of the speech community. Moreover, the theories based on the Lexicalist Hypothesis largely disregard the semantic component of word formation. They concentrate on generating the right form and assume that the meaning is derived in some way from the ensuing structure or specified in the individual lexical entry.

Compared to this background, Jackendoff's (2002) Parallel Architecture (PA) offers a much more flexible framework. Rather than concentrating on syntax as the only generative component of language, with phonology and semantics derived from the syntactic representation, Jackendoff proposes that phonological, syntactic, and conceptual structures of an expression are each generated by their own set of formation rules and linked to each other by linking rules. The lexicon is the home of both the linking rules and the formation rules. There is no strict separation between these two types of rule, and lexical entries for certain types of multi-word units present intermediate cases, as in (6).

- (6) When they finally made up their minds, the patient had succumbed to his injuries.

In order to generate phonological, syntactic, and conceptual structures for (6), we need lexical entries for individual words such as *patient*. Such entries specify the pronunciation, the syntactic category, and the meaning of the word. We also need entries in the lexicon for formation rules such as the one combining *the* and *patient*. Such entries specify only the syntactic structure. Intermediate entries are needed for *make up one's mind* and *succumb to one's injuries*. The entry for *make up one's mind* will specify *make*, *up*, and *mind* at phonological structure, give a structure with *one's* coindexed with the subject at syntactic structure, and specify the non-compositional meaning at the conceptual structure.

Whereas PA gives meaning and form equal status, there is no obvious place for the speech community. In this sense, it is no different from other generative approaches. In fact, Jackendoff's (2010) discussion of word formation rules integrates them into the lexicon in the same way as linking and formation rules. In this sense, his approach is not altogether different from Distributed Morphology.

Compared to Bloomfieldian linguistics, the generative approach shifts the focus of attention away from the speech community and onto the individual speaker. In Chomskyan linguistics, the study of word formation concentrates largely on the rule-based generation of the resulting forms. Jackendoff's PA offers the possibility of treating form and meaning more equally, but it is still restricted to the individual speaker's perspective.

SAUSSURE'S NOTION OF LANGUE

The European tradition of linguistic research is founded on the thoughts of Saussure, mainly as they were collected after his death (Saussure 1916). A central distinction in his system is the one between *langue* and *parole*. Saussure (1916: 30) describes this as in (7).

- (7) En séparant la langue de la parole, on sépare du même coup : 1° ce qui est social de ce qui est individuel; 2° ce qui est essentiel de ce qui est accessoire et plus ou moins accidentel.¹

The distinction between *langue* and *parole* in (7) has often been compared to the one between competence and performance in (5). The crucial difference is that *langue* is stated to be social, whereas competence is individual. Another

¹ "By distinguishing between language itself and speech, we distinguish at the same time: (1) what is social from what is individual, and (2) what is essential from what is ancillary and more or less accidental." Translation by Roy Harris, Saussure (1983).

difference is that *langue* is said to encompass all that is essential about language. This seems to align Saussure with a definition of *language* along the lines of (3). However, immediately before the statement in (7), we find the statement in (8).

- (8) Si nous pouvions embrasser la somme des images verbales emmagasinées chez tous les individus, nous toucherions le lien social qui constitue la langue. C'est [...] un système grammatical existant virtuellement dans chaque cerveau, ou plus exactement dans les cerveaux d'un ensemble d'individus; car la langue n'est complète dans aucun, elle n'existe parfaitement que dans la masse.²

First of all, by referring to the brains as the location where the language system exists, Saussure adopts a mentalist position. This position is clearly not compatible with the approach in (1). The utterances mentioned in (1a) belong to *parole*, and are therefore, as (7) states, more or less accidental. At the same time, Saussure refuses to draw the conclusion that 'English does not really exist'. What is individual about language is unambiguously assigned to *parole* by (7).

Saussure assumes that the *langue* is a grammatical system realized in the brains of a group of individuals. This raises a number of problems. Bloomfield's observation in (2) can in part be attributed to language use of the type that can be accounted for as *parole*. However, if we equate 'un système grammatical' with *langue*, we have to assume that this system includes the lexicon. Two speakers of English will not have exactly the same lexicon. Therefore, we have to concede that the system of the *langue* is not fully identically implemented in each of the speakers. If the full system of *langue* is not realized in an individual speaker, the question is where else it should be realized. It is not obvious how Saussure would have answered this question. Perhaps it is even unfair to require an answer, as the question only arises much later. As argued by ten Hacken (2007: 145-8), the question of the reality of the grammatical system arose in American linguistics in the middle of the 20th century and, in connection with the non-uniqueness problem, played a major role in triggering the Chomskyan revolution. It would be anachronistic to expect Saussure to have an answer.

In the context of Saussure's approach to language, word formation can be considered under two quite different perspectives. The first is as a mechanism for the extension of the lexicon. Saussure (1916: 117) makes a quite rigorous distinction between synchronic and diachronic linguistics, giving priority to the former. As the creation of new lexicon entries changes the system, this aspect of word formation belongs to diachronic linguistics. Saussure (1916: 225-6) suggests for at least some word formation mechanisms that they work as analogies. The other perspective on word formation is as a structuring device of the lexi-

² "If we could collect the {verbal images} stored in all those individuals, we should have the social bond which constitutes their language. It is [...] a grammatical system existing {virtually} in every brain, or more exactly in the brains of a group of individuals; for the language is never complete in any single individual, but exists perfectly only in the collectivity." Translation by Roy Harris, Saussure (1983), modified by the authors to be more literal in the parts in curly brackets.

con. Saussure (1916: 176) introduces the term *solidarité syntagmatique* for this phenomenon. The idea is that word formation elements, e.g. the suffix *-eux* in *désireux*, do not exist as separate entities, but only emerges because of the existence of a range of other items in *-eux*. If word formation is based on analogy and emergent generalizations, no word formation rules are necessary.

THE PRAGUE SCHOOL'S NOTION OF LANGUAGE

The English version of Vachek's *Dictionary of the Prague School of Linguistics* (2003) collects a number of definitions viewing language from different perspectives such as language – complex of inseparable facts, language – a functional system, language – a non-static system, language – a norm, language – a sum of two norms, language and society. Interestingly, it does not give a definition of *language* only. This may be because a definition of language is always seen in relations.

It is generally accepted that Saussure's view of language as a system of signs influenced the description of language as presented by the Prague linguists. The language system in the sense of Saussure's *langue* was understood "as a set of levels, ordered either from meaning to expression (close to the speaker's view, stressed by Mathesius), or in the opposite direction" (Hajičová 2006: 63). Each level has a well-defined basic unit(s) and the relations between them were described in terms of *oppositions*. As pointed out by Čermák (1995: 1), "while de Saussure never explicitly tried to specify them, Prague linguists did and their findings seem to have gained a general usage nowadays". A detailed elaboration of the levels of the language system was reflected first of all in a special attention given to the lexical level, which was considered one of the fundamental levels of language. This led, apart from other developments, to Dokulil's (1962) onomasio-logical theory of word formation with application to the Czech language. Dokulil's theory provided the basis for Štekauer's (1998) theory of English word formation. Following Saussure's understanding of *parole*, the Prague school of linguistics researched the use of language in discourse with emphasis on dependency, valency and the functional sentence perspective also known as topic and focus theory or theme and rheme dichotomy. As pointed out by Firbas (1992: xi), who presented the most consistent development of the theory, he was "inspired by the work of Vilém Mathesius, Josef Vachek, Fantišek Daneš and Maria Schubiger".

An interesting relation of Saussure's *langue*, Chomsky's I-language, and the Prague school's understanding of language is presented by Hajičová (2006: 63):

- (9) Following de Saussure, the Prague linguists have always understood the language system in a sense similar to 'I-language,' i.e., neither as just a set of sentences, nor as a set

of rules of an individual (ideal) speaker, but rather as a hierarchy of the building blocks of lexical and other complex units, with their features of different layers, which has been understood as shared by a body of speakers in general.

As (9) suggests, in a set of sentences it is possible to recognize Chomsky's E-language, i.e. external language exemplified by named languages. A set of rules of an individual speaker, on the other hand, corresponds to Chomsky's definition of I-language. What makes (9) more interesting is that it gives grounds for comparison with Jackendoff's and Saussure's lexicon. Jackendoff's lexicon contains words and multi-word units parallel to Praguian lexical and other complex units. However, for Hajičová, this lexicon is shaped by a body of speakers. This view is in line with Saussure's view of *langue* as social, but not with Jackendoff whose lexicon is the individual speaker's mental lexicon. In this context, it is interesting how Saussure (2002: 289-290) relates the speech community to the individual speaker's brain in (10).

- (10) 'C'est seulement le système de signes devenu chose de la collectivité qui mérite le nom de, qui est un système de signes [...] si ce milieu de la collectivité change toute chose pour le système des signes, ce milieu est aussi dès l'origine le véritable endroit de développement où tend dès sa naissance un système de signes: un système de signes [n'est] proprement fait que pour la collectivité comme le vaisseau pour la mer. [...] la collectivité sociale et ses lois est un de ses éléments internes et non externes, tel est notre point de vue.'³

As shown in (10), for Saussure the speech community takes priority over the individual. This is in line with the idea of the *langue* being linked to the community and the individual speaker to the *parole*. This view is elaborated in the Prague school's notion of language as norm and a sum of two norms. Vachek's (1939: 100) definition in (11) is taken from the Dictionary of the Prague School of Linguistics (2003).

- (11) The ... term "la langue" does not denote an abstract, universal norm but a sum [of the written and spoken norm] ... which are bound together by providing one and the same language community with means for adopting an arbitrary attitude towards any arbitrary situation.

What is central is the observation that individual speakers cannot change the *langue* because it belongs to the community as a whole. The *langue* is first of all seen as a collection of signs. Although signs are by no means only words, words are generally signs. Therefore, the central position of signs explains the importance of word formation in this approach, which is much more at the heart

³ "A sign system, if it is to be so-called, must be a part of a community-indeed, only as such does it constitute a sign system at all [...] if this community environment changes everything for the sign system, this environment is also the original and true locus of development, towards which, right from its very inception, a sign system moves. A sign system is destined for a community just as a ship is for the sea [...] The community and its laws are among their *internal* rather than *external* elements, as far as we are concerned." Translation by C. Sanders and M. Piers, Saussure (2006: 202).

of the model of language than in the other approaches we have encountered. As an illustration of the way word formation is modeled within the Prague school tradition, we will present the onomasiological model developed by Štekauer (1998, 2005).

ŠTEKAUER'S ONOMASIOLOGICAL MODEL OF WORD FORMATION

In Štekauer's model there is a separate Word formation component, Lexical component and Syntactic component. These three components are related to each other and together they constitute the language. The Word formation component consists of semantic, onomasiological, onomatological and phonological levels that bridge the gap between meaning and form.

In order to understand how word formation in Štekauer's theory works it is necessary to view the notion of language in relation to the speech community and the real world. First of all, the language is used to express thoughts existing at the conceptual level. The conceptual level is undoubtedly individual, but enough of it is shared by a speech community for it to be a community. In word formation, the speech community identifies a new concept to be named in the external world. This concept is shaped at the conceptual level, passes through the remaining four levels in the Word formation component and receives a name in a language. Individual steps of a naming process of *computer seller* are exemplified in (12).

- (12) a. extra-linguistic reality: 'a person who sells computers as their job'
 b. conceptual level: It is SUBSTANCE. SUBSTANCE is HUMAN. Human carries out ACTION. Action is PROFESSION. ACTION is aimed at another SUBSTANCE. etc.
 c. semantic level: [+ANIMATE] [+HUMAN] [+ADULT] [+PROFESSION] [+MATERIAL] [+MACHINE] [+STORING] [+COMMUNICATING] etc.
 d. onomasiological level:
 OS: SUBSTANCE₁ (OM) – SUBSTANCE₂ (OB),
 OC: Object Action Agent
 e. onomatological level: computer sell -er
 f. phonological level: /kəm'pjʊ:tə(r),selə(r)/

A starting point is the identification of an object in the outside world that needs to be named. In (12a) it is 'a person who sells computers as their job'. This is based on the needs of a particular speech community. The object is conceptualized by a set of simple sentences called logical predicates or *noemes* in (12b). At the semantic level, the most relevant semes are selected. Some of them become a part of an *onomasiological structure* (OS) at the onomasiological level. One of the semes, in our example SUBSTANCE₂ is taken as the 'onomasiological base' (OB) and it is specified by an 'onomasiological mark' (OM). These two

are linked by an ‘onomasiological connective’ (OC), which describes semantic relations between an OB and an OM. The reading of the semantic relations in (12d) is ‘Agent performing an Action aimed at an Object’. ‘Agent’ represents an OB specified by an OM. Here, the OM is further divided into a ‘determined constituent’, i.e. Action and a ‘determining constituent’, i.e. Object. At the onomatological level, individual morphemes are assigned to the members of the OS as can be seen in (12e): *-er* to Agent, *sell* to Action and *computer* to Object. Relevant phonological rules apply at the final level of the Word formation component. Once a new word is created it passes to the Lexical component and from there it is ready to be used in syntax. As for the onomasiological structure, it is not always the case that all three constituents of an OS are morphematically represented. Based on this criterion, Štekauer distinguishes five so-called *Onomasiological types*.

By including the extra-linguistic reality and conceptual level as well as the Word formation component, Štekauer’s theoretical model of word formation offers a bridge between a community level of language as highlighted in Saussure’s *langue* and the individual level as highlighted in Chomsky’s and Jackendoff’s models.

ELEMENTS OF CONSENSUS AND CONVERGENCE

In this section, we consider a number of foundational concepts and compare how they are treated in the different approaches we introduced. First, we discuss the way language is related to the speech community and to the individual. Then we turn to word formation, both in the sense of a rule system and as a source of new words.

SPEECH COMMUNITIES

The speech community is a central aspect of the natural environment of a language. The Bloomfieldian approach takes it as the basis for identifying a language, although it is interesting to note the contrast between (1) and (3). Whereas Bloomfield’s (1926) postulates in (1) define a language in terms of a speech community, Bloch and Trager’s (1942) definition in (3) only uses it as background information.

In focusing on the opposition between competence and performance, Chomsky pushes the concept of speech community further into the background and the language of a speech community is no longer considered an object of linguistic

study. As a justification, Chomsky points to dialect continuums (1980: 217), similar to our example of Polish and Slovak, and to political considerations in determining the assessment of language boundaries (1993: 20), similar to our example of Serbo-Croatian. The only way the speech community plays a role in language is as a background for language acquisition, i.e. the formation of competence. Language acquisition in a child takes place on the basis of the child's experience of performance. For the child, the origin of this performance can be taken as the relevant speech community. The speech community in this sense is much smaller than the community of speakers of a given named language. According to Wilson (2005), Polish has around 38.5 million speakers in Poland and several million more in other countries. For an individual child, however, most of these are irrelevant in the language acquisition process. Conversely, the sense of *speech community* in which all speakers of Polish constitute one is taken to be irrelevant for the study of competence.

For Saussure, *langue* is social, which means that it is realized in a speech community. His main argument for this claim is that, as stated in (10), only in communication between speakers is language fully in existence. This idea of incompleteness of language in an individual is taken up in a Bloomfieldian context by Trager and Smith (1951: 9) in (13).

- (13) It must be recalled in this connection that language is a societal phenomenon. The language of one speaker – an idiolect – is therefore necessarily and by definition incomplete, since at least two speakers (one of whom may be imaginary) are involved in every normal communicational situation.

The main difference between Saussure and the Bloomfieldians is that Saussure also maintains that *langue* is a mental phenomenon, whereas the Bloomfieldians categorically exclude the scientific study of this aspect of language. As Hockett (1942: 20) states it, '[t]here must be no mentalism.' By contrast, Saussure states in (8) that language is a grammatical system existing in the brains of a group of individuals. This inevitably raises the questions of identifying the relevant group and identifying what exactly is shared by this group. As Bloomfield observed in (2), no two persons speak exactly alike. Bloomfield's 'speaking alike' is a matter of *parole* in Saussure's terms. Presumably, this is also the case for Trager and Smith's reference to 'idiolect' in (13). When we compare Saussure's position with Chomsky's, it is striking that both emphasize the mental aspect of language. However, whereas Chomsky derives an individualized perspective from this orientation, arguing that minds are not shared, Saussure defines *langue* as social as well as mental. This creates a tension that is not really resolved in his *Cours*.

Building more than the American linguistic tradition on Saussure's foundations, the Prague school had to find a mode of operation in which this aspect of Saussure's legacy would find a natural place. Hajičová's (9) can be seen in this light. Chomsky (1986: 22) states that 'I-language [...] is some element of the

mind of the person who knows the language.’ Chomsky (1995: 15) adds that ‘[t]he I-language consists of a computational procedure and a lexicon.’ This characterization is much closer to ‘a set of rules of an individual (ideal) speaker’ than to ‘a hierarchy of the building blocks ... shared by a body of speakers.’ However, Hajičová denies that I-language is the former and claims that it is the latter. Her reference to the ‘(ideal) speaker’ is reminiscent of (14), taken from Chomsky (1965: 3).

- (14) Linguistic theory is concerned primarily with an ideal speaker-listener, in a completely homogeneous speech-community, who knows its language perfectly and is unaffected by such grammatically irrelevant conditions as memory limitations, distractions, shifts of attention and interest, and errors (random or characteristic) in applying his knowledge of the language in actual performance.

As noted by Newmeyer (1983: 73), (14) has given rise to many misunderstandings. Ten Hacken (2007: 70-2) proposes an interpretation that is coherent with the research programme of Chomskyan linguistics. The aspect that is most relevant here is that it forms part of an attempt by Chomsky to bridge the gap between observable data and the competence in the speaker’s mind. He uses it to justify the assumption that certain aspects of performance can be attributed to other factors than competence and therefore need not be explained by a theory of competence. Chomsky does not claim that there are ideal speaker-listeners or completely homogeneous speech communities. Of course, he does not deny that there are speech communities. In fact, in arguing for the poverty of the stimulus, Chomsky (1980: 66) remarks that ‘An investigation of [...] the grammars [i.e. the speakers’ internalized rule sets] reveals that the knowledge acquired and to a large extent shared involves judgments of extraordinary delicacy and detail.’ There is a body of shared knowledge in Chomskyan linguistics, but its role is more heuristic than theoretical. The fact that grammars among speakers are so similar despite their different input in the acquisition process is used as an argument for Universal Grammar.

Despite the superficial differences, the positions seem to converge on the following. 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.

WORD FORMATION

As noted in the context of Saussure’s system, word formation can be seen under two perspectives, one concentrating on the step of creating a new word, the other on the system underlying the creation process. The former perspective

raises the question of what is the nature of a word. Here the different approaches diverge quite explicitly. For Saussure, a word is a sign, a component of a language, realized in the brains of the speakers of the language. For Bloomfield, a word is also a component of the language, but he refuses any reference to the brain. For Jackendoff, however, a word is a piece of information in the individual brain, a link between phonological, syntactic, and conceptual information. It can be assumed that Chomsky's view in this respect is compatible with Jackendoff's. In the Prague school, the traditional view, as formulated by Hajičová in (9), is closest to Saussure's. We see then two poles of attraction. One, based on Saussure, sees the word as a property of the speech community, distributed over the brains of its speakers. The other, most clearly formulated by Jackendoff, sees it as a piece of information in the individual speaker's brain.

The difference between the two concepts of *word* is crucial when it comes to interpreting the formation of new words. In the Saussurean concept of *word*, a new word comes into existence when it is established in the speech community. In the Jackendovian view, a new word is created when it is stored in the brain of an individual speaker. Language acquisition consists to a large extent of word formation in the latter view, whereas it is hardly relevant to word formation in the former. Admittedly, this perspective of word formation as a part of language acquisition is not the usual one in generative grammar.

Apart from the creation step, word formation can also be seen as a rule system. As we saw above, Saussure treats this perspective as *solidarité syntagmatique*. This eliminates explicit rules, perhaps because for Saussure rules are inherently linked to the diachronic perspective involved in their application. In the Chomskyan perspective, however, rules of grammar are part of the generative system describing a speaker's competence and need not be applied in a temporal sense in order to exist. Saussure's idea that the rules do not exist as separate entities but only emerge because of the range of items that are similar to each other is strongly reminiscent of Jackendoff's (2002, 2009) approach to non-productive morphological rules. The *-th* in *warmth* does not exist as a separate item, but the existence of a number of pairs such as *warm-warmth* allows for the emergence of a generalization which makes storage more efficient.

In contrast to Saussure and Jackendoff (2002, 2009), most European and American approaches assign some kind of reality to the rule system of word formation. As we saw, generative approaches tend to concentrate on the generation of the forms. Štekauer (2005: 207) calls this a 'semasiological approach', as opposed to his own onomasiological approach, because it purports to go from form to meaning. However, a typical theory of this type, such as Selkirk's (1982), does not address the meaning of the resulting words at all, but only the generation of the correct forms. Word formation is seen as a special type of syntax.

Jackendoff's word formation rules can be seen as a more truly semasiological approach in the sense that they include an explicit account of the semantic

aspect. Jackendoff (2010) extends the scope of these rules to semiproductive rules and non-productive regularities, revising his earlier position that these are covered by emergent redundancy rules. As ten Hacken (2010) argues, this alignment with other formation rules obscures the difference between words as names for concepts and descriptive paraphrases.

As an example of a rule system within a European approach, Štekauer's onomasiological approach as illustrated in (12) is of particular interest. As opposed to Saussure, Štekauer assumes that word formation is governed by a rule system. At the same time, in contrast to Jackendoff, he assumes that this system produces words for the speech community. The recognition of the need for a new name in (12a) and the identification of the general conceptual properties of the concept to be named in (12b) have to take place in a speech community. The linguistic processes in (12c-f) take place in the brains of individual members of the speech community.

The reference to the speech community in Štekauer's model does not imply an anthropomorphic entity with intentions and preferences. The steps in (12a-b) emerge from the communicative interaction of individual speakers, not from a language having a need and an analysis. Nevertheless, they are real influences that can have a strongly determinative role in the process of the formation of a word. Even though *computer seller* is highly transparent as a word, a significant portion of its meaning comes from the concept and the context of use. In other contexts, it may mean, for instance, 'someone who sells X by means of a computer' (where X is known in context), or 'a factor that contributes to the increased sale of computers'. A properly semasiological analysis of *computer seller* should allow for such meanings as well. In an onomasiological analysis, the concept is the starting point and alternative possible meanings of the resulting name do not play a role.

In choosing *computer seller* as our example, we intentionally took a fairly transparent but not strongly lexicalized word. Transparency is a property in relation to the language system, whereas lexicalization is a property in relation to the speech community. We would normally say that *pianist* and *piano player* are synonymous, but the former is much more common. *Pianist* is less transparent, however, because it does not specify the predicate *play*. In terms of Štekauer's system, it belongs to a different onomasiological type, which does not express the action explicitly. From the point of view of the rules in a generative system, *pianist* could also have been synonymous with *piano tuner*. However, we cannot use *pianist* in this sense, because it has been lexicalized in the sense of 'piano player' in the speech community. In Štekauer's approach, the formation of *piano tuner* would involve a different starting point in extra-linguistic reality and at conceptual level. When the process reaches the onomasiological level, the route to *pianist* is not available because it has already been taken by another, incompatible meaning.

Lexicalization is of course at one level a property of the individual speaker. A speaker of English may have *pianist* in their mental lexicon or not. At the same time lexicalization is a property of a word in the speech community. If a speaker of English has *pianist* in their mental lexicon, it will be in the sense of ‘piano player’, not in the sense of ‘piano tuner’. This enables us to say that *pianist* is a word of English meaning ‘piano player’. This is the sense in which Saussure attributes the language to a speech community rather than an individual speaker. An individual speaker cannot change the language arbitrarily. If someone would start using *pianist* in the sense of ‘piano tuner’, the result would be misunderstanding, not language change. At the same time, word formation can only take place in individual speakers, because the language is not an entity that can act.

CONCLUSION

Language has both a social and an individual aspect. In the American tradition, Bloomfieldian linguistics denied the relevance of the individual aspect of language because it depends on the speaker’s mind. Bloomfield and his followers argued that the scientific study of mental objects was inherently impossible. Chomskyan linguistics challenged this position, but bounced, as a result, to the opposite viewpoint. Chomsky and his followers argued quite convincingly that the notion of speech community is more problematic than originally thought and that individual, mental aspects of language can indeed be studied scientifically. However, in following this argument to its extreme, they tend to deny the relevance of the social aspect of language and to claim that only the individual aspect of language as knowledge in the speaker’s mind and the species-level aspect of language as part of the genetic code are relevant in the study of language.

Meanwhile, in the European tradition, attempts were undertaken to reconcile the two perspectives. Saussure’s idea that language is social and implemented in the brains of a group of speakers may seem paradoxical. However, the study of word formation shows how both the social and the individual aspects of language have to be taken into consideration in order to explain the facts. Štekauer’s onomasiological approach to word formation integrates the influence of the speech community without requiring it to act in an anthropomorphic sense into a system where the word formation rules are implemented in the individual speakers. In this way, aspects of word formation that in generative approaches are often classified as lexical specialization or lexicalization effects can be explained as a consequence of the social aspect of language, the role of the speech community in word formation.

REFERENCES

- BLOCH, B. / TRAGER, G. L. (1942): *Outline of Linguistic Analysis*, Baltimore: Linguistic Society of America.
- BLOOMFIELD, L. (1926): A Set of Postulates for the Science of Language, *Language* 2, 153-164.
- BLOOMFIELD, L. (1933): *Language*, London: Allen & Unwin.
- ČERMÁK, F. (1995): Prague School of Linguistics Today, *Linguistica Pragensia* 1, 1-15.
- CHOMSKY, N. (1965): *Aspects of the Theory of Syntax*, Cambridge, Mass.: MIT Press.
- CHOMSKY, N. (1966): Topics in the Theory of Generative Grammar, in: SEBEOK, T. A. (ed.), *Current Trends in Linguistics Volume III: Theoretical Foundations*, den Haag: Mouton, 1-60.
- CHOMSKY, N. (1970): Remarks on Nominalization, in: JACOBS, R. A. / ROSENBAUM, P. S. (eds.), *Readings in English Transformational Grammar*, Waltham, Mass.: Ginn, 184-221.
- CHOMSKY, N. (1980): *Rules and Representations*, New York: Columbia University Press.
- CHOMSKY, N. (1986): *Knowledge of Language: Its Nature, Origin, and Use*, Westport, Conn.: Praeger.
- CHOMSKY, N. (1993): *Language and Thought*, Wakefield RI: Moyer Bell.
- CHOMSKY, N. (1995): Language and Nature, *Mind* 104, 1-61.
- DOKULIL, M. (1962): *Tvoření slov v češtině I. Teorie odvozování slov*, Praha: Nakladatelství ČSAV.
- DUŠKOVÁ, L. (ed.) (2003): *Dictionary of the Prague school of linguistics by Josef Vachek*, Amsterdam/Philadelphia: John Benjamins.
- FIRBAS, J. (1992): *Functional sentence perspective in Written and Spoken Communication*, Cambridge: Cambridge University Press.
- GREENBERG, R. D. (2008): *Language and Identity in the Balkans: Serbo-Croatian and its Disintegration*, Oxford: Oxford University Press.
- HAIČOVÁ, E. (2006): Prague School, in: BROWN, K. (ed), *Encyclopedia of Language and Linguistics*, 2nd Edition, Oxford: Elsevier, 62-67.
- TEN HACKEN, P. (2007): *Chomskyan Linguistics and its Competitors*, London: Equinox.
- TEN HACKEN, P. (2010): Synthetic and Exocentric Compounds in a Parallel Architecture, *Linguistische Berichte Sonderheft* 17, 233-251.
- HALLE, M. / MARANTZ, A. (1993): Distributed Morphology and the Pieces of the Inflection, in: HALLE, K. / KEYSER, S. J. (eds.), *The View from Building 20: Essays in Linguistics in Honor of Sylvain Bromberger*, Cambridge, Mass.: MIT Press, 111-176.
- HARLEY, H. (2009): Compounding in Distributed Morphology, in: LIEBER, R. / ŠTEKAUER, P. (eds.), *The Oxford Handbook of Compounding*, Oxford: Oxford University Press, 129-144.
- HAWKESWORTH, E. C. (2006): Serbian-Croatian-Bosnian Linguistic Complex, in: BROWN, K. (ed.), *Encyclopedia of Language and Linguistics*, 2nd Edition, Oxford: Elsevier, vol. 5, 258-260.
- HOCKETT, Ch. F. (1942): A System of Descriptive Phonology, *Language* 18, 3-21.
- JACKENDOFF, R. (2002): *Foundations of Language: Brain, Meaning, Grammar, Evolution*, Oxford: Oxford University Press.
- JACKENDOFF, R. (2009): Compounding in the Parallel Architecture and Conceptual Semantics, in LIEBER, R. / ŠTEKAUER, P. (eds.), *The Oxford Handbook of Compounding*, Oxford: Oxford University Press, 105-128.
- JACKENDOFF, R. (2010), *Meaning and the Lexicon: The Parallel Architecture 1975-2010*, Oxford: Oxford University Press.
- LEES, R. B. (1960): *The Grammar of English Nominalizations*, Bloomington: Indiana University Press & den Haag: Mouton.
- NEWMAYER, F. J. (1983): *Grammatical Theory: Its Limits and Its Possibilities*, Chicago: University of Chicago Press.
- SAUSSURE, F. de (1916) : *Cours de linguistique générale*, BALLY, Ch. / SECHEHAYE, A. (eds.), Édition critique préparée par Tullio de Mauro, Paris: Payot, 1981.

- SAUSSURE, F. de (1983): *Course in General Linguistics*, translated and annotated by Roy Harris, London: Duckworth.
- SAUSSURE, F. de (2002): *Écrits de linguistique générale* (edition prepared by Simon Bouquet and Rudolf Engler), Paris: Gallimard.
- SAUSSURE, F. de (2006): *Writings in general linguistics*, translated by Sanders, C. and Piers, M., New York: Oxford University Press.
- SELKIRK, E. O. (1982): *The Syntax of Words*, Cambridge, Mass.: MIT Press.
- ŠTEKAUER, P. (1998): *An Onomasiological Theory of English Word-Formation*. Amsterdam/Philadelphia: John Benjamins.
- ŠTEKAUER, P. (2005): Onomasiological Approach to Word-Formation, in: ŠTEKAUER, P. / LIEBER, R. (eds.), *Handbook of Word-Formation*, Dordrecht: Springer, 207-232.
- TRAGER, G. L. / SMITH, H. L. (1951): *An Outline of English Structure*, Washington: American Council of Learned Societies.
- URIAGEREKA, J. (1998): *Rhyme and Reason: An Introduction to Minimalist Syntax*, Cambridge, Mass.: MIT Press.
- VACHEK, J. (1939): Zum Problem der geschriebenen Sprache, *Travaux linguistiques de Prague* 8, 94-104.
- WILSON, A. (2005): *Polish and West-Slavic Languages*, in: STRAZNY, P. (ed.), *Encyclopedia of Linguistics*, New York: Fitzroy Dearborn, 862-866.