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Fundamental principles of an onomasiological theory of word-formation in English

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Introduction

A look at the theories of word-formation (morphology) which have dominated the field since 1960 (the year when two highly important works appeared [Marchand and Lees]) shows that, surprisingly, there is hardly any theory which takes the naming demands of a speech community as its point of departure. The following is an outline of fundamental principles of an onomasiological theory of word-formation in English which draws on the rich and highly inspirational traditions of the Prague School of Linguistics as materialized in works of Miloš Dokulil, as well as on some ideas of a prominent Slovak linguist Ján Horécký. The theory presented here differs in many respects from the mainstream generative theories of word-formation, introduces a new approach to word-formation, and manifests its advantages in treating some of the essential problems of word-formation in English.

1 Word-formation as an independent component

The place of the Word-Formation Component in the system of linguistic components is shown in Figure 1. The diagram represents important interconnections between the individual components and subcomponents. It illustrates a direct relation between the Word-Formation and the Lexical Components, on the one hand, and between the extra-linguistic reality and the naming demands of a speech community, on the other. Each naming process responds to a specific demand of a speech community for assigning a name to an extra-linguistic object (in the broadest sense of the word). In addition, each naming process is preceded by scanning the Lexical Component on the part of a particular member of a speech community who is going to assign a name to the object to be named. The scanning operation determines further procedure. Either a completely new naming unit is coined by taking the path of the Word-Formation Component; or, if a naming unit is found in the Lexical Component, which can serve as a basis
for semantic formation, it is the path of the Lexical Component which is preferred.

The Word-Formation Component is considered to be an independent component of linguistic description. It is interconnected with the Lexical Component and separated from the Syntactic Component. There is no direct connection between word-formation and syntax. These two independent components are related through the Lexical Component. The link to the Syntactic Component is exclusively via the Lexical Component.

The principle of separation of the Word-Formation and the Syntactic components indicates that new, regular naming units are not generated from syntactic structures. The rejection of syntactically based word-formation processes follows naturally from my onomasiological model, which exclusively relies on the vocabulary material, on the material of the system level of language as contained in its Lexicon. The grounds for this claim are closely related to the claim that it is the Word-Formation Component (in cooperation with the Lexical Component) which supplies syntax with material for its sentence structures, and not vice versa.

**Figure 1 Word-formation component and its relation to other components**
It suffices to add that word-formation is about naming units in isolation, and not about their use (the latter being the matter of syntax). Word-formation is about naming units coined as signs, and analyzed as units existing in paradigmatic relations in the vocabulary. The process of word-formation is not that of asserting something. It is the process of naming. Hence, the basic unit of word-formation is the naming unit.

Word-formation is divided, though not separated, from inflectional morphology. The relation is unidirectional. The Word-Formation Component feeds the Lexicon with naming units which are provided with inflectional features in accordance with their respective paradigms. The basic difference between word-formation and inflection stems from the fact that the former, and not the latter, generates new naming units. While word-formation is directly connected with extra-linguistic reality, no such connection exists between inflection and extra-linguistic reality.

2 Productivity and regularity of Word-Formation Rules

2.1 All naming units falling within the scope of the onomasiological theory, that is to say, all naming units coined in the Word-Formation Component, are coined by productive and regular Word-Formation Rules. Hence, each immediate output of a Word-Formation Rule is fully predictable. In addition, each new naming unit produced by a Word-Formation Rule is passed to the Lexical Component. This approach makes it possible to simplify and regularize the Word-Formation Component because any idiosyncratic changes take place in the Lexicon by way of semantic formation or formal modification. As a result, Word-Formation Rules (types) are no less productive than Syntactic Rules or Inflectional Rules.

2.2 Productivity itself is approached in a new way. It is conceived of as the ability of a language to fully respond to naming needs of a speech-community. Consequently, it is defined as a Cluster of Word-Formation Types satisfying naming needs in a specific conceptual-semantic field of a language, for example, that of naming units representing Agents or Instruments. Then, a cluster of Word-Formation Types "guarantees" the coining of a new naming unit of a specific semantics whenever the need arises. Each such cluster is 100% productive. Then, the share of individual options within a particular Word-Formation Type Cluster with regard to the total productivity may be computed internally. From this point of view, the individual Word-Formation Types do not block each other: rather, they compete, and are mutually complementary in meeting the demand of a language community within their respective scope of activity.

This approach makes it possible to overcome the limitations of those conceptions of productivity which are restricted to affixation. (Thus, for example, the cluster of Word-Formation Types generating Agent nouns, includes — to use the traditional terminology — different suffixation types [driver, politician, pianist, etc.], conversions [cheat], compounds [oilman, bodyguard]).
In addition, the approach to productivity in the onomasiological theory argues against the frequently adduced view claiming that word-formation is typically of low productivity, or regularity. On the contrary, I assume that

a) productivity of Word-Formation Type Clusters is always 100%, and
b) Word-Formation Types are productive and absolutely regular.

2.3 Since each act of naming responds to the immediate naming need of a speech community, the output of Word-Formation Rules is an actual word, i.e. a naming unit which was coined to satisfy a linguistic demand, be it the demand of a single member of a speech-community, be it a single unrepeated demand. It should be emphasized that the frequency of usage, or the “common (general) use”, or “common parlance” as a criterion for the status of existing (occurring) words is unacceptable not only because of the vagueness of the notion “common (general) use”, but also because the frequency of usage can only be applied to words that have already been coined, i.e. to actual (existing) words (or, to nonce-formations). Therefore, for a word to qualify for the status of an actual word, it must have been coined. Whether its use will be spread over the whole speech-community (implying frequent use), or whether it will be confined to a single use on the part of a single speaker, is insignificant. What is important is that the respective language has manifested its productive capacities to provide a new, well-formed linguistic sign whenever need arises through its productive Word-Formation Rules.

Consequently, inclusion in my system of the extra-linguistic factor (speech-community) enables me to eliminate the notion of overgeneration.

3 Lexicon-based theory

3.1 It follows from the above outlined tenets that my theory is built-up on the postulate that all new naming units are coined on the basis of the material available in the system of the language, notably in the Lexicon, or the Lexical Component. No use is made either of the speech level (parole) or syntactic constructions (langue) as possible sources of new, productively coined naming units. It may be added that no naming unit can be generated from units smaller than the morpheme, with the morpheme being defined traditionally as the minimum bilateral sign, having its own specific form and specific meaning.

3.2 The Lexical Component is not a mere list. I conceive of it as a paradigm-based system, and therefore prefer to replace the term “list” with the term “component”, that is to say, the Lexical Component. It is subdivided into a number of groups (paradigms) reflecting manifold morphosyntactic, lexical, and semantic relations. The basic criterion is that of the category of word-class. In addition, each complex naming unit coined by a productive and regular Word-Formation Rule brings along the conceptual and the semantic structure and the phonological features as part of its “outfit”. The monematic part of the Lexical Component is specified for its features directly in the Lexical Component. And
finally, any idiosyncrasies are, naturally, reflected in the changed location of the respective naming unit within the paradigmatic structure of the Lexicon.

3.3 Thus, the Lexical Component encompasses all monemes, all productively and regularly coined naming units, borrowings, plus a subset (a separate list) of affixes, and finally phrase-based coinages which are apparently of syntactic origin and are characterized by a high degree of irregularity, accidentality (sit-around-and-do-nothing-ish, leave-it-where-it-is-er, son-in-law, lady-in-waiting, pain-in-stomach-gesture, what-do-you-think-movement, milk-and-water, save-the-whales campaign, etc.). They make use of typical syntactic elements (synsemantic words like articles, prepositions, conjunctions, etc.), are unpredictable, and cannot be captured by productive and regular Word-Formation Rules. Since they are coined at the interface of the Lexical and the Syntactic components, they may be labelled as LS units.

Since, the Lexical Component contains a separate list of affixes, and since it is directly interconnected with the Syntactic Component, the generation of such items poses no problem, and there are no problems with storing LS units in the Lexical Component either.

3.4 It follows that (a) the Lexical Component contains both the regular naming units (products of Word-Formation Rules) and idiosyncratic coinages, and (b) one big part of the Lexicon is represented by all naming units which have been coined by regular and productive rules of word-formation in response to the naming needs of a particular speech community. The emphasis on the attributes productive and regular indicates that Word-Formation Rules do not generate idiosyncratic naming units. Any deviations from the fundamental regular and productive patterns take place in the Lexicon in connection with the process of lexicalization. Then, the irregular meanings of naming units such as transmission (a part of a car), professor, or to use Chomsky's examples like revolve vs. revolution as in the French revolution, or construct vs. construction as in the Anglo-Saxon genitive construction, do not result from Word-Formation Rules. The idiosyncratic meanings of these and other regularly coined naming units are produced by operations of semantic formation (or, semantic shift) within the Lexicon. This is also the answer to Chomskian claim that words which result from derivational processes often depart from their "expected meaning". My proposal thus overcomes the problem of semantically "irregular" products of productive Word-Formation Rules by insisting on their absolute regularity, with any modifications, and idiosyncratic changes taking place in the Lexicon where the regularly coined naming units are stored.

3.5 By the same token, clippings (ad, lab, maths, etc.) cannot be included in the Word-Formation Component. First, word-formation deals with coining new naming units, new signs. Clipped words, however, are not new signs. They preserve the same meaning as their corresponding full forms. Hence, it is the mere process of form-reduction rather than the naming process which takes place. Secondly, clipping is a highly unpredictable and irregular process. As such, it cannot be considered a word-formation process. Any changes of this kind bear on the ready-made naming units, and therefore take place in the Lexicon.
4 The sign-nature of naming units

4.1 This principle follows from de Saussure's conception of signs and Horecký's (1983, 1989) model of the linguistic sign. The basic tenet is that naming units are bilateral signs, including the meaning and the form. This determines the scope of word-formation: there are no naming units in the Word-Formation Component that are pure forms (formemes), i.e., formal elements without any meaning have no place in my theory. Words like perceive, conceive, contain, retain, receive, cranberry, vacant, paucity, possible, Monday, etc., are treated as monemes. "Bound morphemes" such as per-, con-, re-, -ceive, -tain, pauc-, vac-, cran-, in no way comply with the traditional sign-based definition of morpheme as a bilateral unit with two facets: the form and the meaning. They have a form; however, they do not have any meaning that might take part in constituting the meaning of a new naming unit, provided that the latter is based on a compositional meaning principle. Therefore, from the point of view of word-formation, words like those mentioned above should be conceived of as word-formation-irrelevant monemes.

Segments like those given above resemble, in terms of their function, the basic unit of phonology: phoneme, too, is merely a form without any meaning. Its basic function is to distinguish meaning. Hence, the function of pauc-, vac-, cran-, Mon-, etc., can be reduced to that of phoneme, i.e., to the meaning-distinctive function, which cannot be confused with the meaning-forming function. The latter is bound to bilateral units, i.e., morphemes.

4.2 There is still one group of ambiguous naming units. It can be exemplified by automatic, hierarchy, mechanism, friction, configuration, etc. The analysis of these and similar naming units results in a suffix plus "another component" that, though not corresponding with any other root word, occurs in several formally and semantically related naming units (e.g. automate — automatic — automation — automaton — automatics — automatism). Obviously, the "another constituent" is not limited to single occurrence, and can be associated with a distinct meaning. By implication, such a constituent functions as a word-formation base for the coining of all the related words. Therefore, it will be useful to consider this constituent as a word-formation base. In contrast to the former instances one can apply the principle of double analogy (both constituents are bilateral, and occur in other naming units, too).

5 Speech-community oriented theory

The theory presented here does not rest on intuition of a native speaker. Rather, it attempts to describe word-formation processes resulting from the naming needs of a given speech-community. As a result, the theory takes into account only actual naming units; therefore, the notion of the possible word plays no role in this theory, which makes it possible to do away with the over-generating capacity of word-formation rules.
6 Discarding traditional word-formation processes

The method outlined below allows for doing away with the traditional notions of "compounding", "prefixation", "suffixation", "back-formation", "blending", etc. As a result, it is possible to put all naming acts on a unified basis, a considerable advantage in discussing the issues of productivity, "bracketing paradoxes", "back-formation", "exocentric compounds", "blends", etc. (see below).

7 "Word-Formation-base-based" word-formation theory

My model of word-formation is based on the notion of word-formation base. The word-formation base is defined as a bilateral unit introduced by the Form-to-Meaning-Assignment Principle (see below) into a new naming unit in accordance with the conceptual analysis and the subsequent semantic analysis of the object to be named. It can be neither a syntactic phrase nor a unit smaller than the morpheme. This means that each Word-Formation Rule makes use of bilateral units taken from the Lexical Component. They are, in the great majority of cases, morphosyntactically unformed stems (without any inflectional affixes). Nonetheless, the existence of cases with a pluralized onomasiological mark indicates that it is erroneous to confine oneself to a purely stem-based approach.

8 Scope of word-formation

Based on the principles stipulated in 1 through 8, the scope of word-formation within the onomasiological theory presented here can be defined as follows:

Word-formation deals with productive, regular, and predictable onomasiological and word-formation types producing motivated naming units in response to the naming needs of a speech-community, by making use of word-formation bases of bilateral naming units and affixes stored in the Lexicon.

9 An onomasiological model of English word-formation

9.1 It follows from Figure 1 that the model of word-formation includes the following levels:

1. Speech-community
2. Extra-linguistic reality
3. Conceptual level
4. Semantic level
5. Onomasiological level
6. Onomatological level
7. Phonological level
The starting point in my theory is a speech community and its linguistic demand, i.e., the need to name an object of the extra-linguistic reality. This level predetermines all the subsequent steps.

The primary task to be mastered is to analyse the object (in the broadest sense of the word) to be denominated (or better, a class of objects). This is a task of the conceptual level which, based on the processes of generalization and abstraction, reflects the complexity of the object in the form of a logical spectrum. The latter delimits the object by means of logical predicates (noems), and by making use of the most general conceptual categories (SUBSTANCE, ACTION [with internal subdivision into ACTION PROPER, PROCESS, and STATE], QUALITY, and CONCOMITANT CIRCUMSTANCE [for example, that of Place, Time, Manner, etc.]).

Individual logical predicates of this supralinguistic level are captured by se­mes (the notion of seme is conceived of here in accordance with its use within the theory of componential analysis) constituting the semantic structure of the linguistic sign.

At the onomasiological level proper, one of the se­mes is selected to function as an onomasiological base denoting a class, gender, species, etc., to which the object belongs, and one of them is selected to function as an onomasiological mark which specifies the base. The latter can be divided into the determining constituent (which sometimes distinguishes the specifying and the specified elements) and the determined constituent. Both the base and the mark represent one of the above mentioned conceptual categories. Moreover, they are connected by the so-called onomasiological connective which represents the logical-semantic relations between the onomasiological base and the onomasiological mark. The base, the mark, and the onomasiological connective constitute an onomasiological structure which represents the conceptual basis of the process of naming.

At the onomatological level, the onomasiological structure is assigned linguistic units based on the Form-to-Meaning-Assignment Principle (FMAP). Specifically, individual members of the onomasiological structure (se­mes) are matched with the meanings of the respective bases and/or affixes stored in the Lexicon, and are subsequently linguistically expressed by some of them. A crucial fact about the FMAP is that linguistic units may be assigned only to three basic members (se­mes) of the onomasiological structure. The fact that all naming units are based on assigning linguistic units to semantic components, constituting an onomasiological structure, enables me to dispense with the traditional notions of word-formation processes, including compounding, affixation, back-formation, and blending. In other words, generation of all naming units is put on a uniform basis. The advantages of such an approach are explained and demonstrated below.

9.2 From the point of view of the final form of a naming unit it is important to determine what kind of onomasiological structure will be employed in the naming act.
9.2.1 The first possibility is that all three constituents are included in the new naming unit (NU), i.e., the onomasiological base, and the determined and the determining constituents of the onomasiological mark. This type includes all naming units which are traditionally called "verbal" or "synthetic" compounds (language teacher, truckdriver, housekeeping, etc.). Since all the three fundamental onomasiological constituents are linguistically expressed the above mentioned onomasiological type can be labelled as Complete Complex Structure (CCS) (Onomasiological type I — OT I), and naming units coined according to this onomasiological type will be labelled as CCS naming units.

**Example:**

Let us suppose that we want to coin a naming unit denoting a person whose job is to drive a vehicle designed for transportation of goods.

— Conceptual level:

(2) It is SUBSTANCE₁.

SUBSTANCE₁ is Human.

The Human performs ACTION.

ACTION is the Human's Profession.

ACTION concerns SUBSTANCE₂.

SUBSTANCE₁ is a class of Vehicles.

The Vehicles are designed for Transporting various goods.

Etc.

— Semantic level:

(3) [+MATERIAL] [+ANIMATE] [+HUMAN] [+ADULT] [+PROFESSION]; [+MATERIAL] [-ANIMATE] [+VEHICLE] [+TRANSPORTATION], etc.

— Onomasiological level:

In the process of naming, we may decide that the polar members of the onomasiological structure (the onomasiological base and the leftmost constituent of the onomasiological mark) become SUBSTANCE₁ and SUBSTANCE₂:

(4) SUBSTANCE — SUBSTANCE

In addition, we may choose the CCS type (OT I). The onomasiological connective can be expressed as (5)

(5) (Logical) Obj — Act — Ag

with Ag(ent) standing for SUBSTANCE₁ (onomasiological base), Act(ion) for ACTION (the determined constituent of the onomasiological mark), and Obj(ect) for SUBSTANCE₂ (the determining constituent of the onomasiological mark).

— Onomatological level:

Based on the matching operation of the FMAP, the onomasiological structure is assigned linguistic representation, making use of the material available in the
Lexical Component (bilateral units included in the Lexicon, either in the form of naming units entering into new naming units as word-formation bases, or affixes). Here, there are several possibilities. Thus, Ag(ent) can be expressed by man, -er, -ist, -ant...; Act(ion) can be expressed by word-formation bases of naming units drive, steer, operate, etc., and (logical) Obj(ect) can be represented by truck or lorry. In general, selecting out of the available options represents the creative aspect within the productive process of coining a new naming unit. The selected options in our particular case are as follows:

(6) Obj — Act — Ag
truck — drive — er

— Phonological level:
Here, the new naming unit is assigned its stress pattern and undergoes relevant phonological rules.

An example of Onomasiological Type I with the specifying and the specified elements is as follows:

(7) SUBST — SUBST
    Obj [+PLURAL] — Act — Ag
    computer — systems analyse — ist

where computer is the specifying and systems the specified elements of the onomasiological mark.

9.2.2 Another possible case is that with the determining constituent of the onomasiological structure unexpressed. This type is labelled as Incomplete Complex Structure R (ICSR) (Onomasiological type II — OT II), and the respective naming units will be referred to as ICSR NUs (writer, teacher, drive shaft). The letter R refers to the expressed right-hand constituent, i.e., the determined constituent of the onomasiological mark.

Example:
Let us suppose that we want to coin a naming unit denoting a mechanical component used for securing other components.

— Conceptual level:
(8) It is SUBSTANCE.
    SUBSTANCE is Inanimate.
    The Inanimate SUBSTANCE is Material.
    SUBSTANCE is designed for ACTION.
    Its characteristic ACTION is securing other components in place. Etc.

— Semantic level:
(9) [+MATERIAL] [+INIMATE] [+MECHANICAL COMPONENT] [+SECURING], etc.
— Onomasiological level:

In the process of naming, we may decide that the polar members of the onomasiological structure become SUBSTANCE and ACTION:

(10) ACTION — SUBSTANCE

In addition, we may choose the ICSR type (OT II). The onomasiological connective can be expressed as (11):

(11) Act — Instr(ument)

— Onomatological level:

(12) FMAP: Act — Instr

lock pin

9.2.3 The third type covers those cases in which the determined (actional) element is not linguistically expressed. What is included is the onomasiological base and the determining constituent of the onomasiological mark (called motive by Dokulil [1962]). I shall refer to this onomasiological type as Incomplete Complex Structure L (ICSL) (Onomasiological type III — OT III), and the respective naming units will be referred to as ICSL NUs. The letter L refers to the expressed left-hand constituent, i.e., to the determining constituent of the onomasiological mark. This type roughly corresponds to traditional “primary” or “root” compounds, but also to some affixation types (policeman, honeybee, hatter). An important subtype of OT III is that with the determining constituent of the onomasiological mark structured into the specifying and the specified elements.

Example:
Let us suppose that we want to coin a naming unit denoting a person making hats.

— Conceptual level:

(13) 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 coverings for the head.

Etc.

— Semantic level:

(14) [+MATERIAL] [+ANIMATE] [+HUMAN] [+ADULT] [+PROFESSION];

[+MATERIAL] [-ANIMATE] [+COVERING FOR A HEAD], etc.

— Onomasiological level:

In the process of naming, we may decide that the polar members of the onomasiological structure become SUBSTANCE_1 and SUBSTANCE_2:

(15) SUBSTANCE — SUBSTANCE

In addition, we may choose the ICSL type (OT III). The onomasiological connective can be expressed as
(16) Fact — (Act) — Ag
with Ag standing for SUBSTANCE, (onomasiological base), (Act) for formally unexpressed ACTION (the determined constituent of the onomasiological mark), and Fact for SUBSTANCE, (the determining constituent of the onomasiological mark).

— Onomatological level:
(17) FMAP: Fact — (Act) — Ag

9.2.4 Moreover, there is also a group of simple structure naming units, in which the onomasiological mark cannot be analysed into the determining and the determined parts (blackbird, restart). This onomasiological type will be designated as Simple Structure type (SS) (Onomasiological type IV — OT IV), and the corresponding naming units as SS NUs.

Example:
Let us consider, for example, the onomasiological explanation of the word lion-hearted. It is coined roughly on the basis of the conceptual analysis:

(18) He/she is very courageous
This QUALITY resembles the general behaviour [(brave) heart] of the lion. Etc.
The corresponding semes include [+QUALITY], [+BEHAVIOUR], [+COURAGE], [+PATTERN], etc.
The polar members of the onomasiological structure will be:
(19) SUBST — QUALITY
If the onomasiological Type IV is chosen for naming, the onomatological structure after application of the Form-to-Meaning-Assignment Principle will be as follows:
(20) Pattern — Quality
\[\text{lion heart ed}\]
where lion is the specifying element and heart the specified element (not the determining and the determined constituents!) of the onomasiological mark.

9.2.5 The last type is represented by what has been traditionally called conversion or zero-derivation (OT V), and which is based on the so-called Onomasiological Recategorization. For the lack of space, I refer the reader to Štekauer (1996) where this onomasiological type is extensively discussed.

10 Determining the morphosyntactic features

10.1 In our model of word-formation, the only feature specified at the onomatological level is that of the category of word-class. This category must be
determined at this stage because there are some stress-assignment rules (phonological level of the model) which are word-class dependent. For example, there are some conversion pairs (onomasiological type V) which depend for their stress upon the word-class of individual conversion pair members, for example, construct, increase, replay, isolate, abstract, concrete, absent, etc. These differences are not limited to instances of the Onomasiological Recategorization type. Therefore, the phonological component must "know" the category of a naming unit to be assigned a stress.

10.2 All other features are assigned to new naming units within the Lexicon. This, however, means that the Lexicon "knows" which constituent determines the morphosyntactic features of a naming unit supplied from the Word-Formation Component. This constituent is the onomasiological base. It should be emphasized once more that the latter always refers to a class of objects, a genus, etc. From this it follows that rather than by formal features the "head", i.e., the onomasiological base, is identified by logical-semantic criteria. Neither is it, as opposed to the postulate formulated in Williams' Right-hand Head Rule (1981a), specified positionally, although there is a strong tendency in English for the onomasiological base to be on the right-hand side of the logical-semantic structure of the onomasiological connective. The outlined tenets make it possible to account for structures with a prefixal constituent determining the word-class of a new naming unit (i.e. the left-hand member functions as a "head"). For example, behead, must be analysed as follows:

\[(24)\text{ ACTION} \rightarrow \text{SUBSTANCE} \]

\[
\begin{array}{c}
\text{Act} \\
\text{be} \\
\text{head}
\end{array}
\]

where Act is the onomasiological base. It refers to a general class of Actions directed at Objects.

10.3 Now, it was said above that it is the onomasiological base which determines the word-class category of a new naming unit. Furnished with this information, each coined naming unit is passed to the phonological level where it can be specified in terms of stress and/or other rules determining the phonological form of naming units, for instance, the Trisyllabic Laxing Rule. These issues have been much discussed in literature under various labels (for example Siegel's Level Ordering Hypothesis, Allen's Extended Ordering Hypothesis, Kiparsky's Cyclic Phonology, etc.), and a number of rules have been aptly formulated.

10.4 These issues are closely related to the relation between the Word-Formation Component and the Lexical Component in terms of restrictions imposed on the combinability of individual word-formation constituents.

It is generally known that not all combinations of morphemes are permissible. Generally, the permissibility is governed by properties of an affix, or can be specified in the subcategorization frame of the affix. In the model presented here, it is supposed that affixes represent a separate list in the Lexicon, with each affix having its specific entry. While morphosyntactic properties of nam-
ing units, necessary for combining them to form sentences, follow from their membership in the respective paradigm (to which each naming unit is automatically integrated according to the features of the onomasiological base in regular cases; or by individual idiosyncrasy-capturing specifications if the feature(s) deviate(s)), affixal entries contain (in addition to the word-class specification where applicable) information necessary for combining affixes with word-formation bases to form naming units.

In addition, affixes may cause some phonological changes. It follows, then, that the onomatological level and the phonological level of the Word-Formation Component must be directly interconnected with the affixal part of the Lexicon, too.

The following are a few examples of treating restrictions within the present model:

10.4.1 Kiparsky (1982a) mentions the suffix -al which is only added to verbs which are stressed on the last syllable, e.g. arrival, reversal vs. *depósital, *recóveral. In his view, the cyclic rule of stress assigning to verbs must precede the suffixation by -al, which is predicted by Kiparsky’s scheme of lexical phonology. In our model, this condition would be specified in the entry of the suffix -al. Since the phonological level of the model has access both to the list of affixes and to the paradigmatically classified naming units in the Lexical Component, the condition (restriction) is simply applied by checking both the affix for the respective condition, and the naming unit (whose word-formation base is assigned to the respective logical-semantic unit by the FMAP) for its stress.

Moreover, there are also instances in which this restriction appears to have been violated, for -en has attached to a stem ending in two obstruents /ft/ or /st/: soften, fasten, moisten. These examples illustrate the operation of the phonological rule which deletes /t/. Then -en is attached to a stem which complies with the phonological condition, namely sof-, mois-, or fas-. This form-adjusting rule is included in the phonological level of our model, and operates in close “cooperation” with the suffix because, thanks to the direct interconnection of the phonological level and the list of affixes, it can “see” the restriction specified in the affixal entry.

10.4.3 The entry for the suffix -able must contain the information that this suffix combines only with transitive verbs. In other words, the onomatological level has access to the Lexicon. In this particular case, it has access to the paradigm containing the respective verb whose word-formation base is to be combined with the suffix -able by means of the FMAP. Logically, the onomatological level does not “scan” all the verbs in the Lexicon. Its task is simplified by all transitive verbs being grouped in the “Transitive Verb Paradigm”.

10.4.4 The suffix un- will be specified for stress assignment. In particular, it
is provided with information that it carries a secondary stress when occurring in
adjectives containing the suffix -able. As mentioned above, the word-class cate­
gory of a naming unit being coined is specified at the onomatological level.
Therefore, the phonological level at which stress changes occur can make use of
the word-class information from the onomatological level plus the stress condi­
tion specified for the suffix in its entry.

Certainly, the entry of un- contains another condition, notably that it can be
combined with word-formation bases of adjectives only, and that the meaning
of such adjectives should be positive. Therefore, the onomatological level
automatically "retrieves" the "Adjectives with Positive Meaning Paradigm".

10.4.5 The example of the “truncation rule” (nominate — nominee, evacuate
— evacuee) mentioned by Aronoff (1976) fits our scheme, too. The entry of the
suffix -ee contains a condition stating that if the immediately preceding con­
stituent (word-formation base of a verb) assigned by the FMAP ends in the -ate
cluster, the latter will be deleted. The operation of form adjustment takes place
at the onomatological level based on the information from the affixal entry. The
same principle applies to Aronoff’s examples of allomorphy rules (electrify —
electrification).

10.4.6 Certainly, selectional restrictions apply to word-formation bases, too.
It is assumed that selectional restrictions are not changed by application of
Word-Formation Rules. Therefore, if the verb refuse requires an animate sub­
ject, the restriction is also transferred to the noun refusal coined by employing
the word-formation base of the naming unit refuse. As a result, refusal auto­
matically takes over this feature in the Lexicon, and is classed in the paradigm
containing all similar nouns. Any deviations are reflected in the changed place
of the respective naming unit within the system of paradigms of the Lexical
Component.

10.5 Let us summarize the account of the way how individual naming units
are specified in the Lexicon. We have already mentioned that the Word-
Formation Component forms new naming units by means of word-formation
bases of naming units stored in the Lexicon, and that it supplies the Lexicon
with new naming units. Each new naming unit comes to the Lexical Component
with only a single categorial feature, that of the word-class. Now, additional
morphosyntactic characteristics must be added so that a particular naming unit
may be used by the Syntactic Component in sentence generation. Let us illus­
trate the operation of assignment of these features:

Each new naming unit, supplied from the Word-Formation Component, let us
say a noun, is allocated to the respective class of regular or irregular nouns
based on the nature of the naming unit which enters into a new naming unit as
its onomasiological base. Given these features, the new naming unit is classed
with a large group of naming units, each of them having the same paradigm (in
inflectional languages, for example, identical noun case endings, or verbal per­
son endings, etc.). Each such paradigm-based group can be further subdivided,
for example, in terms of the transitive-intransitive opposition, etc.

This approach can be best illustrated by inflectional languages like Slovak.
Here, for example, agent nouns can be formed by the suffix -el' added to verbal stems: *riadit-el' (manage-er), učit-el' (teach-er). Individual case morphemes, specific for the seven cases of declension both in singular and plural, depend on the category of word-class (noun, in this particular case), gender (masculine), gender declension pattern (each formal gender (masculine, feminine, neuter) distinguishes four patterns depending on a feature like [Animate], the vowel/consonant opposition with regard to the final phoneme, the nature of the immediately preceding phoneme, etc.). Syntax, then, has access to individual paradigm-based groups, and retrieves a specific word-form in accordance with its particular sentence-generation needs.

The same principles can be applied to English in a fairly simplified way owing to the lack of inflectional morphemes in English. Moreover, as already indicated above, the same principle holds for the argument structure of verbs. The constituent underlying the onomasiological base assigns a new naming unit the respective word-class and a subcategory (e.g. intransitive/transitive). Based on this criterion, or any other criterion defining the argument structure, the new coinage is identified with a particular argument structure subcategory in the Lexical Component, and is taken from the Lexicon when syntax requires it.

11 Some applications of the theory

11.1 “Bracketing paradoxes”

One of the numerous advantages of the onomasiological theory proposed in Stekauer (1998) is that it eliminates the problem known in the literature under the heading of “bracketing paradoxes”. Thus, for example, *transformational grammarian* is said to have the morphological structure (25):

\[(25) \text{[[transformational]][grammarian]},\]

while semantic considerations require the structure (26)

\[(26) \text{[[transformational grammar][ian]]},\]

*Unhappier* must be analysed as (27)

\[(27) \text{[un [happy er]]},\]

in terms of morphology because the comparative affix -er only attaches to monosyllabic and some disyllabic words; however, the meaning of *unhappier* is “more unhappy” rather than “not happier”. Therefore, semantically it must be bracketed as (28)

\[(28) \text{[[un happy] er]}].\]

This kind of paradox follows from the generally applied binary principle and from the level-ordering hypothesis. Since the onomasiological theory presented here does not rely on a binary word-formation structure and since the FMAP assigns all morphemes to the respective semes of the onomasiological structure
at a single level, the problem of bracketing paradoxes is meaningless. Thus, *transformational grammarian* can be analysed as follows:

(29) Conceptual level: “A person dealing (professionally) with transformational grammar”

(30) Onomasiological level: ICSL (OT III)

(31) SUBST — SUBST
FMAP: Obj — (Act) — Ag
Sing Sed
transformational grammar -ian

(where *transformational* is the specifying element and *grammar* the specified element of the onomasiological mark).

The second above mentioned example, *unhappier*, is analysed as follows:

(32) Conceptual level: “A State of not being happy; this state is characterized by a higher degree relative to the original state”

(33) Onomasiological level: CCS (OT I)

(34) QUAL — CIRCUM
FMAP: Neg — State — Manner
un- happy -er

11.2 “Exocentric compounds”

11.2.1 One of the traditional divisions of compounds in English is that into endocentric and exocentric compounds. While the former are characterised by a binary formal structure of *determinant — determinatum* with the compound being a hyponym of its *determinatum* (head), the latter (*redskin, pickpocket, hunchback, paleface, five-finger, scatterbrain, etc.*). are said to have zero *determinatum*, i.e. one lying outside the compound (Marchand 1960:11); therefore, the compound cannot be a hyponym of the *determinatum*.

In this section, I will present a different approach, and argue that there are no exocentric compounds in English. The reasons for this assumption are as follows:

(i) In the process of coining naming units, the so-called identification-specification principle generally applies (with the exception of onomasiological recategorization (conversion) where this principle is modified). According to this principle, an object to be named is first identified with a whole class of similar objects, which is captured by the onomasiological base. Within the class, the object is specified by seme(s) constituting the onomasiological mark.

(ii) There is no reason to suppose that there is any other intellectual process underlying a small group of “exocentric compounds” which would deviate from
the identification-specification scheme because this way of conceptual analysis is the essence of naming in general.

11.2.2 Therefore, we propose to account for "exocentric compounds" by a two-step process in which only the first step is of word-formation relevance. The first step consists in formation of an auxiliary, onomasiologically complete (i.e. with both the base and the mark included), naming unit. The second step is based on mere elliptical shortening. Certainly, shortening as such is not a word-formation process because it does not result in any change of lexical meaning of the underlying naming unit (see above the comments on clippings). Therefore, this type of naming units can be analysed on a par with the underlying "full", auxiliary, version, although the latter has not come to be used (institutionalised).

11.2.3 An important piece of evidence supporting the approach outlined here is the irregular plural. It is generally known that compound nouns are not pluralised by attaching a plural ending to the compound as a whole; rather, they take over its plural form from the head (onomasiological base). Therefore, the plural of milktooth is not 'milktooths, but milkteeth, the plural of postman is not 'postmans, but postmen, etc. Now, taking the example mentioned by Sproat (1988:349), the expected plural of the "exocentric" sabertooth is 'saberteeth, which is not the case. Implicitly, tooth is not the head. Since we — as opposed to Kiparsky (1982) or Sproat (1988) — reject the notion of zero-morpheme in word-formation, a solution must be sought elsewhere. Based on a conceptual analysis as the first step in the proposed onomasiological model we analyse the object to be named in the form of logical predicates. In this way we can identify the onomasiological base as a SUBSTANCE representing a class of animals (or more specifically, a class of tigers). The onomasiological mark identifies its subclass. The FMAP then yields an auxiliary naming unit saber-tooth tiger, or more generally, saber-tooth animal (both the more general and the more specific forms fit our purpose; in other words, what matters is the onomasiological structure, and not the onomatological structure). In any case, the actual onomasiological base forms its plural in a regular way (i.e., tigers, animals). Since it is the plural of the onomasiological base of a complex naming unit, the plural of sabertooth is necessarily sabertooths.

11.2.4 Let us provide another example. The naming unit redskin is said to be an "exocentric compound" because (as opposed to "endocentric compounds") redskin is not a kind of skin.

By applying the onomasiological model of word-formation we arrive at the following abridged analysis of redskin:

(35) The object to be denominated is HUMAN

The HUMAN is characterised by the red colour of his/her skin.

Clearly, the object to be named is "identified" with a whole class of objects; in this case, these are "people", "human beings", or "persons". It is this seme which becomes an onomasiological base in the new naming unit. The seme in-
dicitating the colour of skin is a specification seme. Hence, it becomes an onomasiological mark. Then, the onomasiological structure will be as follows:

(36) \text{SUBST} \quad \text{SUBST} \\
\text{Stative} \quad \text{Patient}

By applying the FMAP to this structure, we obtain:

(37) \text{Stative} \quad \text{Patient} \\
\text{redskin} \quad \text{person}

The auxiliary naming unit obtained is an “endocentric compound”.

The second step consists in elliptical shortening which is reflected in the notation by bracketing the base member of the structure. As with all clippings, the lexical and grammatical features of a full naming unit are passed over to its clipped version (in this particular case, it is the word-class of Noun, and the lexical class of human beings). This is indicated by an arrow:

(38) \text{redskin person} \rightarrow \text{redskin [person]}

Similarly:

\textit{killjoy} is “a \textit{person} who usually kills joy” (\textit{killjoy person});
\textit{wagtail} is “a \textit{bird} that characteristically wags its tail” (\textit{wagtail bird});
\textit{turnstone} is “a \textit{bird} that typically turns stones” (\textit{turnstone bird});
\textit{catchfly} is “a \textit{plant} that typically catches flies” (\textit{catchfly plant}); etc.

11.3 “Back-formations”

11.3.1 Back-formations are approached here in a similar way as exocentric compounds. What we claim is that the notion of “back-formation” has no place in the theory of word-formation as presented here. The conceptual fallacy in traditional accounts of back-formation is that they explain the origin of a “shorter” naming unit (e.g. \textit{stage-manage}) without accounting for the way in which a “longer” (\textit{stage-manager}) naming unit came into existence. “Longer” naming units must have been somehow coined, they could not merely have appeared “out of the blue”. Moreover, the suffixes included in “longer” naming units have all the features of “normal” suffixes. Therefore, we believe that both members of the “pairs” related by the notion of “back-formation” are generated separately, fully consistent with the onomasiological model and the Form-to-Meaning-Assignment Principle. This can be exemplified by \textit{stage-manager} and \textit{stage-manage} in (39) through (42):

— Conceptual level:
(39) “a \textit{person} who manages a \textit{stage}”

— Onomasiological level: CCS (OT I)
(40) \text{SUBSTANCE} \quad \text{SUBSTANCE}
11.3.2 In the case of naming units of the peddler-type only the "longer" word falls within the scope of word-formation: As indicated above, peddler must have come into existence in some way. Therefore, an auxiliary naming unit peddle is postulated for the sake of coining the "longer" word. Later on, it became "actualised" based on the demand of a speech community. However, being a moneme, it became actualised directly in the Lexicon.

11.4 "Blending"

The process of "blending" can be treated as a two-step process. The first step consists in coining an auxiliary "full version" naming unit. Such a naming unit is then formally reduced in an unpredictable (and hence, irregular) way which cannot be captured by a regular Word-Formation Type. Such a change then necessarily takes place in the Lexical Component.

12 Advantages of the onomasiological theory

The advantages of the proposed onomasiological method of research into word-formation can be briefly summarised as follows:

(1) Word-formation is given the status of an independent, full-fledged component characterised by its specific scope and specific rules of operation. It is treated on a par with other language system components; i.e. with syntax, inflection, and phonology.

(2) The method dispenses with the traditional word-formation processes (prefixation, suffixation, compounding, conversion, back-formation, and blending) by putting the generation of all naming units on a uniform basis. This makes it possible to avoid a number of serious problems connected with various versions of the Level Ordering Hypothesis (Siegel 1979, 1979; Kiparsky 1982, 1983, 1985; Mohanan 1982, 1986; Kaisse and Shaw 1985; etc.).

(3) The morpheme is uniformly and consistently treated as a bilateral unit, as opposed to some other approaches in which it is an ambiguous unit of language: sometimes a pure form, sometimes a meaningful unit. This fact allows us to maintain the hierarchical structure of linguistic planes, with smaller units representing building blocks out of which higher level units are formed.
4. The theory refers to the pragmatic naming needs of a speech community within the theory of word-formation itself, which makes it possible to do without the principle of overgenerating morphology, and its related notions, like possible naming units, lexical gap, etc.

5. Word-Formation Rules (Word-Formation Types) are — as opposed to the dominating linguistic tradition — considered to be as productive as the rules of syntax or inflection. They are absolutely regular and predictable.

6. Computation of word-formation productivity is not limited to affixation; it allows for relating various Word-Formation Types of any structural composition.

7. The theory is not bound by the Binary Branching Hypothesis.

8. The theory avoids the pitfalls of the Level Ordering Hypothesis.


10. The theory offers a new explanation of the so-called “exocentric compounds”, bracketing paradoxes, and other issues of word-formation.

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**FUNDAMENTAL PRINCIPLES OF AN ONOMASIOLOGICAL THEORY OF WORD-FORMATION IN ENGLISH**

**Abstract**

The paper presents an outline of the fundamental principles of an onomasiological theory of word-formation which departs from the existing lexicalist and transformationalist theories of word-formation in English in a number of essential points. Word-formation is conceived of as an independent component interconnected with the lexical component, and separated from syntax. Word-formation rules generate fully regular and predictable naming units. The conception of productivity as a cluster of word-formation types makes it possible to consider word-formation rules as productive as syntactic rules. The idea of the word-formation component that responds to naming needs of a speech community allows for elimination of the overgeneration principle in morphology. Introduction of the so-called Form-to-Meaning-Assignment Principle makes it possible to put all the traditional word-formation processes on a unified basis. The advantages of the outlined theory are illustrated by a series of examples.