

Notes on exponents. A review of Jochen Trommer (ed.), *The morphology and phonology of exponence*. Oxford: Oxford University Press, 2012, 568 pp, ISBN 978-0-19-957373-8.

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In the last 25 years, one idea has gained considerable weight in morphological, phonological and syntactic studies: the proposal that traditional morphemes – as defined, for instance in Hockett (1954) – actually emerge from the complex interaction of at least two in principle independent sides: a set of abstract morpho-phonological properties (features) and a morpho-phonological representation. ‘Exponent’ refers only to the second side, in principle isolating it from the set of syntactic or semantic properties it stands for, although part of the analysis of exponents is determining what features each one of them corresponds to in a system. An interesting property of the notion of exponent as a separate level of representation is that it has become a central notion in linguistics due to converging proposals coming from different theoretical sides, including Jackendoff’s (1997) parallel architecture, early transformational accounts like den Besten (1977), Ackema’s (1995) and Beard’s (1995) lexicalism, or Halle & Marantz’ (1993) Distributed Morphology, although arguably this treatment of morpho-phonology as a separate component has its antecedents in part of the Generative Semantics literature (perhaps most clearly in McCawley 1968). This is an advantage of the proposal, as it proposes a unit that has a clear place in different traditions as mentioned above, and goes beyond specific theoretical assumptions and technical implementations, thus being an object about which debates can be carried across theories.

The essence of the proposal is that, for instance, the unit that a traditional segmentation would identify as the negative prefix *un-* is actually a multiplanar object where at least two sides should be distinguished, as in (1).

(1) [Negation] <--> /ʌn/

Beyond this, different theories make different proposals, significantly with respect to (a) whether the two planes are accessed in tandem (as in Jackendoff 1997) or one is strictly ordered before the other, in practice determining or restricting its properties (as in Bonet 1991) and (b) the amount of information that an exponent has to carry, whether only phonological properties are contained in the exponent (as in Starke 2009) or whether specifically morphological properties, such as affix ordering, linearization with respect to the base or conjugation class also need to be contained there (as in Trommer 2008). However, here we will not be concerned with these important, although to some extent theory-dependent differences, but with the following set of questions, which we consider to be the new linguistic problems that the notion of ‘exponent’ brings with it:

- a) What are the empirical advantages of proposing a separate level of morphological representation for exponents?
- b) Given that exponents are in principle independent from morpho-syntactic representations, are there sets of operations that apply only to them? If so, what kind of operations take exponents, as opposed to abstract morphemes, as their inputs?

- c) What are the syntagmatic relations between exponents, that is, how do exponents combine with each other? What constraints are imposed on those combinations, once we factor out the restrictions that emerge from the sets of morpho-syntactic features they spell out? What conditions do exponents impose on each other?
- d) What are the paradigmatic relations between exponents? Given a linguistic system, can we expect any kind of opposition to be expressed through exponents? Are there morpho-syntactic oppositions that exponents do not reflect? Conversely, can an exponent express oppositions that are not represented in the morpho-syntax?
- e) How are exponents codified in the lexicon? How are they grouped?

It will be from the perspective of these questions that we will review the volume.

This volume is without any doubt a central contribution to the study of exponence as a linguistic phenomenon. The volume manages to achieve the rare result of being useful both as a handbook-like publication where the reader can find state-of-the-art sections, but also as a collection of original research pieces that make thought-provoking proposals about how to understand and analyze exponence in particular theories. This double nature, which was clearly intended by the editor and the authors, has a number of central advantages that are quite unusual in works of this kind. From the perspective of original research, the state-of-the-art sections provide ample overviews of concepts, theories and analysis that help to give perspective to the original proposals, highlighting their theoretical relevance and making it easy to note what aspects are a reflex of the technical implementation, and how the main ideas would be implemented in different theories. From the perspective of the state-of-the-art, the fact that an original and exhaustive analysis of a particular phenomenon is presented after the overview makes it easier to grasp the essence of each one of the existing theories, their points of agreement and disagreement, and the specific consequences of their assumptions. One would hope that this kind of harmony between original analysis and description of the available options would become the norm rather than the exception, specially in a field, like morphology, that must keep track simultaneously of the advances in phonology, syntax and semantics, and where there is a considerable amount of theoretical fragmentation that occasionally makes communication difficult across theories.

1. Why we need exponents

From the information provided in the chapters of this volume, the most significant empirical advantage of having exponents as a separate level of morphological representation appears to be that it helps us to dissolve the debate between Item-and-Arrangement and Item-and-Process theories. By dividing traditional morphemes in at least two sides, it is possible to treat morphological operations as ‘Item-and-Arrangement’, that is, in a ‘concatenative’ fashion, in what refers to their morphosyntax, and possibly as ‘Item-and-Process’ in their morpho-phonological effect, by letting a combination of phonological operations diverge from the concatenative sequence defined by the morpho-syntactic structure.

Two articles in this volume deal specifically with this tension, from different perspectives: Bye & Svenonius (427-495), and in some sense also Bermúdez-Otero (8-84), although there are also references to this problem in the contributions by Nevins, Bonet & Harbour, Alber & Arndt-Lappe, Trommer, and Inkelas.

Bye & Svenonius start their contribution by making explicit reference to the tension between the concatenative ideal – which in their view is expected if morphemes spell out hierarchical structures which have to be exhaustively and non ambiguously linearized – and the fact that languages frequently show cases where (part of) a morpheme appears in an unexpected position, or a morphological operation simply triggers a non-segmental phonological change. They suggest that three linguistic levels are involved in producing this mismatch: (a) morpho-syntactic representations, which define some features but not others for each different head – and therefore contribute to selecting one exponent and not another–; (b) lexical listing, that associates a set of abstract features with a particular morpho-phonological representation, that spells it out and (c) phonological operations, that as an effect of the information contained in the lexical items trigger some alternations in the shape of the base, the affix or both.

Many problematic cases are explained by a deficient property of (b) that has to be resolved by (c): if the entry for an exponent is not phonologically complete (either because the entry involves just suprasegmental information or subsegmental features, that is, sets of information that cannot constitute by themselves legitimate phonological representations), that information will have to anchor to the base, triggering a set of phonological operations that will not produce a concatenative result: vowel lengthening, an infix, a discontinuous morpheme, etc. These possibilities are illustrated through the analysis of different cases in typologically unrelated languages. Bye & Svenonius' final conclusion is that the concatenative ideal is the norm in natural languages, and that divergences from this ideal are rather limited, and presumably explained by the application of computational processes that are triggered syntactically or phonologically. They admit, however (p. 495) that in some cases the mismatches have to be accounted for by lexical listing – what they call the morphological residue of their analysis –, that is, as a mismatch between the morpho-syntactic representation and the set of exponents stored in the lexicon: for instance, in some cases one exponent cumulatively spells out two or more distinct abstract feature sets.

Bermúdez-Otero's contribution (pp. 8-84) –which is crucially concerned with determining whether an alternation has to be analyzed phonologically or morphologically, see §5 below–, in a sense, adopts the opposite perspective when analyzing the interaction between morphology and phonology in cases that produce an unexpected result from the perspective of morpheme concatenation. He discusses the traditional dichotomy between pure storage of unpredictable items – in a Bloomfieldian view of the lexicon, as the jail for unruly elements which are not subject to generalizations – and computation of predictable outcomes through symbolic generalizations – standard rules, as in Chomsky & Halle (1968), who proposed that any pattern showing some degree of psychological reality should be dealt with through rules–. His proposal is that the dichotomy is over-simplistic, and that three possibilities should be allowed, depending on the relative productivity of a process, and its degree of predictability. His proposal is a refined dual-route model where computation and storage can interact. Two different kinds of listing are possible: non-analytic listing, where a whole form (thus, a single exponent) is stored (2a), and analytic listing, where a complex form is stored with a mark that accounts for its internal structure, that comes as a product of it being formed through rules (2b).

- (2) a. string ~ strung / sing ~ sang
- b. load ~ [[load] ed]

These two ways of listing determine, among other things, whether processes like stress assignment would apply cyclically or not. Pure non-analytic listing uses distributive associative memory (Rumelhart & McClelland 1986), and is used to explain patterns that – although psychologically real, to the extent that they are sporadically extended to other new items (cf. *sneak* ~ *snuck*) – are restricted and extremely idiosyncratic through family resemblance. But in the same way that objects produced through rules – symbolic generalizations – can be (analytically) listed, non-analytic listing is also compatible with symbolic generalizations, in the form of lexical redundancy rules (as in Jackendoff 1975). Semi-productive phonological and morphological patterns, which leave gaps but which allow for partial regularities (e.g. stem formation, cf. 3 below) are not completely regular because their output is always non-analytically stored, but they show some productivity, as shown by the regularization *applic-able* in advanced British RP, instead of the more conservative *ápplic-able*, because they are subject to symbolic generalizations that can, however, be blocked or overridden by equivalent stored items. The existence as a stored unit of (3), with exceptional stress assignment, thus blocks the formation of the phonologically regular *aráb-ic*. Exceptions in stem formation, thus, would be due to the existence of a non-analytic form listed, involving in principle the same morphemes, while semi-regularities would be due to the existence of lexical redundancy rules that act whenever there is no specific lexical entry.

(3) Árab-ic

Bermúdez-Otero's proposal has two additional advantages that he does not fully discuss: in predicting a fine-grained continuum between purely idiosyncratic cases and highly productive processes, he manages to integrate – through the role of family resemblances and distributive associative memory in non-analytic listing – analogy (cf. Kuryłowicz 1949) as a predictable outcome of storage which can coexist with productive rules. Second, the coexistence of storage and symbolic generalizations opens a bridge towards yet another theory, construction grammar (Goldberg 1995, 2006), where lexical entries can combine several exponents in a schema that is instantiated in different ways (Tuggy 2005). A proposal like Bermúdez-Otero is likely to set the ground for fertile discussion among theories which up to now have not communicated in sufficiently intense ways.

2. Operations on exponents

To answer the second question, we need to consider which kinds of operations we would expect to apply over a morpho-phonological unit. They would have to be operations that influence the phonological representation but are crucially sensitive to the morphological segmentation. Three such operations are discussed in this volume: haplology (Nevins, 84-116), truncation (Alber & Arndt-Lappe, 289-326) and reduplication (Inkelas, 355-379).

Note that in searching for such operations, we cannot just look at non-segmental phonological alternations that mark a morphological category, because in that sense, we could have alternations between two separate exponents, as in Bermúdez-Otero *sing* ~ *sang*, and not operations that apply to one exponent.

Haplology is perhaps the clearest example of the kind of operation one is looking for. The goal of Nevins' article is to have an integrated theory of

morphological haplology understood as an instance of a dissimilation effect (some kind of general Obligatory Contour Principle). In doing so, Nevins discusses a number of haplology effects that take place at different stages between the structural representation and spell out (dissimilation at the linearization level, at the level of prosodic phrasing, at the level of the morphological word and at the level of vocabulary insertion), and that differ with respect to whether they are sensitive to the phonological properties of the exponent, to abstract morpho-syntactic features, to strict adjacency or to prosodic categories, *inter alia*. The kind that is most relevant for our purposes is the last one, where haplology is sensitive to the internal segmentation and to the phonological content of the items (4). In Spanish, insertion of the affix *-ista* adjacent to a base that ends in the sequence /is/ does not give rise to a sequence */isista/: it is simplified as /ista/:

- (4) a. tenis ‘tennis’
 b. tenis + ista = tenista, *tenisista
 tennis + ist ‘tennis player’

Haplology is not just a phonological dissimilation process, because it is sensitive to the presence of a morphological boundary between the two partially identical segments. Evidence of this is that a sequence /isis/ is allowed morpheme-internally:

- (5) a. Isis (Egyptian goddess)
 b. electro-lisis
 ‘electro-lysis’

Alber & Arndt-Lappe discuss truncation as the general process whereby morphological marking is achieved through the phonological reduction of a form with respect to the base form. The goal of their paper is to make a crucial distinction between two kinds: templatic truncation and subtractive truncation. In templatic truncation, there is a phonological size requirement on the resulting word (cf. 6) – one weighs the size of the output –, while in subtractive truncation the size requirement applies to the material that is removed from the base – one weighs the size of the segments that differentiate input and output –.

- (6) microphone > mike
 (7) pitáf-fi-n > pít-li-n [Koasati]

As Alber & Arndt-Lappe note, templatic truncation is not properly an operation that takes the exponent as a unit: note that in (6) the base is not one single exponent, but at least two (micro-phone), and truncation applies to the whole word, producing an output that satisfies certain phonological constraints. More directly relevant for our purposes is subtractive truncation. In example (7), from Koasati, part of the number marking on the verb is expressed through the truncation of the rhyme of the last syllable of the morphological stem. The non-truncated form expresses singular, while the truncated form is used to express plural. Although Alber & Arndt-Lappe note that many cases of subtractive truncation have been reanalyzed as other processes (see for instance Wiese 1996 about Hessian plurals), the Koasati data might constitute an example of a phonological operation that applies to one single exponent, is sensitive to morphological boundaries, and is used in morphological marking.

Inkelas' goal is to provide an overview of the function and form of reduplication phenomena, that in some sense could be understood as the mirror image of haplological processes, because they precisely produce linearly adjacent phonologically identical sequences. Inkelas presents a detailed classification of reduplication according to the size of the copy, its grammatical function, its morphological and phonological conditions and the morphological status of the copied item. The last parameter is the most relevant to us. Inkelas notes that, even though it is common that reduplication always targets at least part of the root, it is relatively infrequent that only the root is copied. In Kinande, if the root is minimally bisyllabic, reduplication only copies it, leaving inflectional morphemes outside (8a); however, if the root is monosyllabic, the inflectional prefix is also copied (8b).

- (8) a. *ku-gʊlʊ* > *ku-gʊlʊ-gʊlʊ*, **ku-gʊlʊ-ku-gʊlʊ*
 class-leg class-leg-leg
 'leg' 'real leg'
 b. *ri-bwɛ* > *ri-bwɛ-ri-bwɛ*, **ri-bwɛ-bwɛ*
 class-snake class-snake-class-snake
 'snake' 'real snake'

This suggests that it is not that reduplication in Kinande targets the root (one single exponent), but a part of the base of some minimal size (independently of whether it corresponds to one single morphological unit). Inkelas does not report cases where the root, per se, is targeted independently of its morphological size; if this is confirmed in a wider range of data, it would mean that reduplication is not an operation that targets exponents, but rather the phonological side of structural representations, as it would copy segments across exponent boundaries.

3. Syntagmatic relations between exponents

When exploring the rules that determine the possible combinations of exponents, the central topic that has to be addressed is how one exponent can select another, or, in more traditional terminology, how marked allomorphs can be selected.

The study of this issue is the goal of Bonet & Harbour (195-236). In their view, allomorphy is the situation where the same feature or set of features is associated to more than one exponent; they thus eliminate from this restricted definition of allomorphy not only cases where the alternation between different markings is due to the presence of different features, but also cases where the morpho-phonology is different because of (a) phonological readjustment rules (e.g. their analysis of English plural marking, 199-201) or (b) operations over morphological features previous to exponent insertion (Bonet 1991).

They then proceed to study different theoretical problems posed by allomorphy, understood in this narrow sense: (a) whether allomorphy can be exhibited by any kind of morpheme, or only by those that express grammatical information (vs. roots); (b) whether there is an upper bound to how many allomorphs the same feature representation can have; (c) what determines the selection of an allomorph in a context; (d) in what context allomorphs are selected –what form of locality applies and what structural configurations are possible between the selected allomorph and the selecting morpheme.

In the case of (a), they conclude that, despite previous proposals in Marantz (1993) or Embick (2010), alternations exhibited by roots cannot always be reduced to

phonological processes or analyzed as carrying different meanings. With respect to (b), they suggest that there are no grammatical principles setting an upper boundary, but leave open that learnability might impose some limitations. In (c), following the tradition, they distinguish between allomorphy selection which is purely idiosyncratic, from those cases that can be defined through the phonological properties of the base (independently of whether the result is phonologically natural or not), and concentrate on the second class, which roughly corresponds to phonologically conditioned allomorphy in traditional terms. As for (d), they differentiate between inwards allomorphy – a higher affix is selected by a lower one – and outwards allomorphy – a lower affix is selected by a higher one –, and ask the question whether these two kinds of structural relations can act long-distance or are restricted to strict adjacency situations, and if so, whether selection can be done in all cases through phonological or morphological properties. They report that initial evidence suggests that phonologically conditioned allomorphy is always inwards and requires strict adjacency, while the morphologically conditioned one can in principle act long-distance, inwards or outwards (in accordance with Bobaljik 2000), although there are some potentially problematic cases (cf. footnote 22, p. 228).

4. The paradigmatic relations between exponents

Another branch in the study of exponents is how they are distributed inside the grammatical space defined by a morphological paradigm, and the kinds of oppositions, relations of markedness, and connections they establish with each other. Four issues are discussed in this volume that are directly relevant for this purpose: syncretism (Albright & Fuss 236-289), polarity (with two works, de Lacy 121-160, and Wunderlich 160-195), zero-exponence (Trommer 326-355) and iconicity (379-427). Other potentially relevant paradigmatic relations, such as markedness, analogy, or cranberry-morphemes, are not discussed through specific chapters, understandably given the space restrictions.

Albright & Fuss start with a discussion of the criteria that make it possible to differentiate syncretism –defined as a situation where the same exponent materializes two or more sets of features– from accidental homonymy or other situations where two exponents are superficially identical, a crucial question that also comes out in Wunderlich and de Lacy's analyses of polarity; metasyncretism, in the sense of Carstairs (1987), plays a central role there. They then proceed to review the current approaches to syncretism, dividing them in two main groups. The first are those that treat syncretism as a surface result of the manipulation of abstract morpho-syntactic features, either by erasing them, by leaving them underspecified or by having paradigmatic rules that in practice ignore some feature contrasts. The second are approaches that focus on the exponent's surface representation and, leaving untouched the sets of abstract features of each cell in a paradigm, account for the coincidence through constraints imposed on the shape of optimal paradigms. The second part of the chapter reviews the attested typology of syncretism patterns and studies the emergence of syncretism as a historical phenomenon in its relation to markedness.

One case of syncretism, diagonal syncretism – where the same morphophonological representation spells out value X in a context and the opposite value in another context (9) – is a case of polarity, which is the topic of two chapters in this volume. Wunderlich concentrates on polarity as a morphological phenomenon, and this directly connected to diagonal syncretism. His main goal is to argue that

polarity, understood as a morphological marking reversal, is not properly a morphological phenomenon in the sense that there are no clear cases of paradigms where there is real diagonal syncretism.

(9) Nehan article

	Class 1	Class 2
sg.	a	o
pl.	o	a

In his analysis, the appearance of marking reversal emerges either as a case of accidental homonymy across different inflectional subclasses, or is obtained as the result of morpho-phonological operations that produce surface identical representations after the application of semi-productive phonological operations.

De Lacy, studying polarity from a phonological perspective, defines polarity as the situation where segment /a/ becomes [b] in context X, and segment /b/ becomes [a] in context Y. Just like Wunderlich, but from a different perspective, he suggests that cases that look superficially like polarity can be analyzed as something else, although he points out that there is no clear constraint in the language faculty that should make it impossible that polarity is generated – perhaps, it can be generated but it cannot be acquired, so it never emerges –. However, unlike Wunderlich, who analyses the appearance of polarity as the result of phonological rules, de Lacy (as Trommer’s introduction highlights, p. 117) proposes that the explanation should be morphological in nature: polarity can be obtained derivationally as a result of the application of (idiosyncratic) morphologically induced phonological processes. He shows this line of inquiry to be more illuminating in the case of Dholuo plurals, and notes that the results obtained suggest that other cases of apparent polarity should be subject to further scrutiny.

Trommer discusses zero-marking, and notes that this debated concept is problematic for two reasons. The first is that it is not properly defined, as it could in principle refer to two distinct situations: one in which there is an exponent that happens not to have any phonological information (\emptyset) and one in which there are morpho-syntactic features that for one reason or the other do not require the insertion of any exponent at all. After showing a variety of different ways in which zero marking could be obtained – significantly, he shows that Distributed Morphology can derive zero marking in eight different ways (p. 330) –, he discusses how different theories try to limit zero marking, some of the constraints that have been proposed in this phenomenon (e.g. Myers’s Generalization, Myers 1984), and the relation between it and iconicity of complexity.

Iconicity of complexity is a situation where the more complex morpho-syntactic structure or feature endowment of a form is matched by overt marking in its morpho-phonological representation (famously, cases where plural is unmarked and singular is unmarked are extremely rare, *pace* subtractive truncation like the one studied by Alber & Arndt-Lappe). Downing & Stiebels’ contribution to the volume concentrates precisely on iconicity, an issue that (with exceptions like Newmeyer 1992) has been almost absent from the discussion in non-functionalist approaches. They argue that in a broad sense, correlations between form and meaning can be manifested in several ways that go beyond what is usually recognized as part of the phenomenon: homology (where the phonological patterns of a root try to reproduce or evoke sounds or properties of the referents, as in ideophones, phonoaesthemes,

ideophones), marking as a way to express through greater morpho-phonological complexity greater morpho-syntactic complexity, morpheme ordering as the reflection of semantic relevance hierarchies, the tendency against homonymy as a way to keep a one-to-one form-meaning relation, and morphological cohesion as a reflect of the semantic interdependence of two concepts in a given context.

5. Final observations

Let us finish this review by highlighting some points where, judging from the articles of this volume, there is a reasonable degree of agreement among scholars.

First, it is clear that the notion of exponent involves a multiplanar view of traditional morphemes, which in this new view lie at the crossroad of different levels of representation and operations. Bermúdez-Otero's contribution devotes a significant part to determining whether a process involving morphemes requires a phonological or a morphological analysis – through listing- .Solving, or giving guidelines to solve this analytic indeterminacy is also a crucial component of Wunderlich and de Lacy's contributions, and Bye & Svenonius crucially discuss how morphology and phonology divide their labour to produce non-concatenative outputs; the chapters by Nevins, Alber & Arndt-Lappe, Trommer and Downing & Stiebels study a particular property in different levels of grammar, from abstract representations to specific phonological outputs. Globally, this overview suggests that 'morphemes' are not viewed anymore as atomic entities, defined in only one level, but as the intersection of distinct sets of properties.

A second point of agreement is that many of the processes and situations involving morphemes identified by the tradition have to be refined, taking into account in a crucial way the proposal that there are different levels of representation in the notion of 'morpheme'. Albright & Fuss observe that one can expect different kinds of syncretism, acting at different levels of representation; Harbour & Bonet note that allomorphy is not a monolithic notion, and that different kinds of selection might require different analyses; similar conclusions are presented by Alber & Arndt-Lappe for truncation, Nevins for haplology, Bye & Svenonius for non-concatenative morphology, and Trommer for zero exponence.

The other side of the coin when considering these fine-grained distinctions is a third point of agreement, namely the proposal that there might be overarching principles, perhaps triggered by general cognition, that explain why the same operation or constraint can apply at different levels. One very clear example is Nevins' suggestion of a general OCP principle that applies at different levels of representation to explain haplology, but similar suggestions are made in Inkelas' discussion of iconicity and Wunderlich & de Lacy's explanation of why there might not be real cases of polarity in natural languages.

Finally, let us take a minute to consider what, in my opinion, is the only important absence from this volume: question number 5 in our list, namely how exponents are listed and how they are related to each other. Even though Bermúdez-Otero includes some discussion of this issue in his contribution, there are several aspects that one would like to see discussed in a future volume that concentrates on exponence, specially in what refers to allomorphy and the debate between rules and storage.

- a) In allomorphy, how are the different exponents associated inside the same lexical entry? How different can they be from each other?

- b) Is there a principled way to codify in the lexicon the relation between exponents that we call ‘allomorphy’, which is different from the relation that we call ‘suppletion’? Is allomorphy different from morpheme alternation?

These questions are crucial in some morphological approaches, such as Mel’cuk (1994), but they are not discussed in depth in any of the contributions of this volume – understandably, given their complexity and the usual space constraints –. How is each one of the following pairs stored in the lexicon, and in what way, if any, is their representation different from allomorphy?

- (10) a. go ~ went [suppletion]
b. -ation ~ -ment ~ -al [affix rivalry]

It is true that some theories (eg., Distributed Morphology, see specially Embick 2010) tend to treat allomorphy and affix rivalry as different instances of what is basically the same process, but it is true, at the same time, that allomorphy, suppletion and affix rivalry do not behave in exactly the same way from a diachronic or a synchronic perspective. So, even if they can be characterized in general as cases where the same set of features receives two or more possible materializations, there must be some difference between them. Perhaps, building on the state of the art reflected in this volume, one of the most central areas of future research will be the study of how different exponents that are partially related to each other are represented in the lexicon. It is not unthinkable that a detailed study of the similarities and differences between these three cases would show that, like zero exponence or syncretism, it is necessary to define more fine-grained categories, which might lead us to a better understanding of the relations between lexical representations and structure building operations, which now, as it was 60 years ago, is a central problem in the study of natural language.

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