Expecting the Unexpected: Exceptions in Grammar

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# Expecting the Unexpected: Exceptions in Grammar

*Edited by* Horst J. Simon Heike Wiese

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## Preface

The present volume contains a variety of contributions: some have evolved from a selection of contributions to a workshop at the 27th Annual Meeting of the German Society for Linguistics (DGfS) in Cologne in 2005; others were invited by the editors. We have decided to introduce a somewhat exceptional – or at least rare – structural feature to this volume: Each main article is complemented by an invited critical commentary and by a response from the original author(s) (with the exception of the two introductory chapters, which thus constitute a small exceptional subset within the broader exceptional pattern of this book). We believe that enhancing the discursivity of the book in this way makes for a livelier and more fruitful discussion, in particular in the case of a topic that is as central to theory and practice in our field, and accordingly as controversial, as that of exceptions.

The beginnings of this book reach back to a time when we were both Research Fellows of the Alexander-von-Humboldt Foundation, at the University of Vienna and at Yale University respectively, on leave from our shared home affiliation at the Department of German Language and Linguistics at Humboldt University; we gratefully acknowledge the support of these institutions.

> Horst J. Simon & Heike Wiese London & Potsdam, 2010

Introductory overview

## What are exceptions? And what can be done about them?

Horst J. Simon and Heike Wiese

la question de l'exception est un point névralgique de la linguistique (Danjou-Flaux and Fichez-Vallez 1985: 99)

#### 1. Exceptions and rules

When modelling data, we want the world to be nice and simple. We would like the phenomena we encounter to be easily categorised and neatly related to each other, and maybe even into causal or at least implicational relationships. However, the world is more complicated. More often than not, when we propose rules in order to capture the observed facts, we find problems. Certain pieces of data refuse to submit to the generalisations we propose; they stand out as exceptions. Or, to put it the other way round, an 'exception' necessarily implies a rule, which it violates. In what follows we illustrate four central aspects of the complex relationship between exceptions and rules: (i) the underdetermination of rules, and hence the impossibility of avoid exceptions, (ii) the formation of 'exceptional rules' in subsystems, (iii) the interaction of different grammatical levels influencing rules and exceptions, and (iv) the possibility of having more exceptions than rule-governed instances.

#### 1.1. The underdetermination of rules

In a general sense, a rule is a generalisation over empirical observations that allows predictions with regard to data yet to be collected.<sup>1</sup> The basic problem with generalisations is, of course, that we never know the future for certain: one can never know that the next bit of data one examines will not be like the

<sup>1.</sup> Thus, the concept of 'rule' in an empirical science like linguistics must be distinguished from the concept of a 'social rule', which people are expected to adhere to.

data considered before. The reason for this is the fact that a rule is underdetermined by its extension, i.e. by the instantiations of its application. An example of what it means to follow a rule has been discussed by Wittgenstein (1953: §143ff., in particular 185f.): Consider a case where you try to teach someone the rule 'add 2' for natural numbers by showing her the series '0, 2, 4, 6, 8'. The pupil then correctly writes '0, 2, 4, 6, 8, 10, 12, ...', that is, she can apply the rule to new instances. But when reaching 1000, she might go on '1004, 1008, 1012, ...'. In such a case, the pupil might have extrapolated a rule "Add 2 up to 1000, 4 up to 2000, 6 up to 3000, and so on." (§185). Both the pupil's rule and our rule were compatible with the initial data, i.e. with the series from 0 to 8, hence, an extrapolation of a rule from these data (its instantiations) is underdetermined. Now, since the available data underlying any generalisation are of necessity finite, this is a fundamental problem for the empirical sciences.<sup>2</sup>

Now imagine a slightly different case (not Wittgenstein's example anymore): The pupil sees the same series '0, 2, ..., 8' and this time extrapolates from this data the rule 'add 2'. However, she then discovers that the series goes on '10, 12, ..., 1000, 1004'. In order to account for this new data, one option she now has is to keep the rule 'add 2' and mark '1004' as an exception. Another option is to assume a more complex rule, e.g. the one along the lines of 'Add 2 up to 1000, 4 up to 2000, 6 up to 3000, ...'. In this simple case, the two different rules would make two different predictions that could be tested by further data: In the first case, the series should then go on '1006, 1008, 1010, ...'; in the second case, it should go on '1004, 1008, 1012, ..., 2000, 2006, 2012, ...'. Or it might be the case that something in-between is correct: it might turn out that the series from 1000 to 2000 forms an irregular, exceptional subsystem with a special rule 'add 4' that only holds in this domain; then the series would go on '1008, 1012, ..., 2000, 2002, 2004, 2006, ...'.

#### 1.2. Exceptional rules

Such in-between phenomena that illustrate the dialectical nature of the relationship between rules and exceptions, can be found, for instance, in a linguistic counterpart of numbers, the formation of number words in natural languages. In most languages of the world, the following generalisation holds: in complex number words of an additive make-up, the constituent referring to the larger

There are, of course, general methodological considerations to guide one's generalisation process, for instance Occam's Razor, which basically advises one not to add complications to an analysis unless absolutely necessary.

number comes first (cf. Hurford's 1975 'Packing Strategy'). For instance, a decade word (words for the decades 10, 20, 30, ..., 90) should come before a word for ones (1, ..., 9), as in English *forty-two*, not *\*two-forty*, so that we have an order "H-L" of constituents, where H is the higher number word, and L is the lower one. However, the English teens represent an exception to this rule: number words from *thirteen* to *nineteen* follow the pattern 'L-H' where the lower constituent, namely the expression for the ones, precedes the higher constituent, i.e. the decade word (hence, we have thir-teen, four-teen, ... nineteen). This is in contrast to, say, French, where the order is H-L (dix-sept, dixhuit, dix-neuf) in keeping with the general rule for the order of additive constituents. The English teens hence form a small, exceptional class of their own: given their unified pattern, we can formulate a sub-rule for them, stating that 'the order of constituents is L-H for teens'. What we have here is then an 'exceptional rule'. This rule is restricted to only a few words and deviates from the general pattern of number words in English which follows the usual H-L pattern found in the world's languages. However, there are also languages where the kind of irregular pattern we find in English teens is more generalised and is used in all number word constructions consisting of a decade word and a word for ones. Examples are other Germanic languages like German or Dutch, but also genetically and typologically unrelated languages like Arabic. In these languages, the L-H pattern holds not only for the teens, but extends to 1-20, 2-20, ... 9-90. Thus, despite the obvious exceptionality from a typological point of view, we can still find internal regularity in these languages: for a large 'exceptional' class, we can formulate a rule 'L<sub>O</sub>-H<sub>D</sub>', where 'O' is a number word for ones, and 'D' is one for decades, as a well-defined deviation from the general H-L rule. This rule then supports a special, exceptional subsystem, a subsystem that covers a larger domain than the one in English, and that is absent in French altogether. In this sense, exceptionality is a gradeable and context-dependent concept: elements can be more or less exceptional, and they can be exceptional with respect to a general rule that governs the system as a whole, but non-exceptional with respect to a rule that governs a subsystem.

#### 1.3. The interaction of different grammatical levels

The interplay of rule and exception is of methodological and theoretical significance for any linguistic analysis. It therefore comes as no surprise that the first major methodological debate in modern linguistics, in the 1870s, centred exactly around this problem. In compliance with 19<sup>th</sup> century linguists' preoccupation with diachronic issues, this so-called Neogrammarian Controversy focused on the hypothesis that Sound Laws are without exceptions.<sup>3</sup> Following up on previous achievements of Comparative Indo-European Linguistics, and inspired by possible parallels with the Laws of Physics, the Neogrammarians maintained that:

Aller Lautwandel, so weit er mechanisch vor sich geht, vollzieht sich nach **ausnahmslosen gesetzen**, d.h. die richtung der lautbewegung ist bei allen angehörigen einer sprachgenossenschaft, ausser dem fall, dass dialektspaltung eintritt, stets dieselbe, und alle wörter, in denen der der lautbewegung unterworfende laut unter gleichen verhältnissen erscheint, werden ohne ausnahme von der änderung ergriffen. (Osthoff and Brugmann 1878: XIII)

[All sound change, insofar as it is mechanical, takes places under **exceptionless laws**, i.e. the direction of the sound movement is always the same with all members of a speech community – unless dialect split occurs – and all words, in which the sound undergoing the sound movement occurs in the same circumstances, are without exception affected by the change.]

The main initial idea here was that at a certain place in a certain period all words containing the relevant sound (in the relevant phonological environment) would have undergone a particular sound change captured by a certain 'law'; the motivation for such a general change was primarily seen in physiological factors. Later on, the hypothesis was somewhat relaxed by reducing it to a 'working hypothesis' – and one which was motivated by considerations from psychology.

The greatest triumph of the rigorous Neogrammarian methodology – and a confirmation of their basic idea – was accomplished by the discovery of Verner's Law. Initially, there had remained an embarrassing exception to the outcomes of the First (Germanic) Consonant Shift, or Grimm's Law: in this sound shift the Indo-European voiceless plosive consonants /p, t, k/ were fricativised to /f, þ, h/ (as exemplified by the correspondence of Ancient Greek  $p^h r \bar{a} t \bar{o} r$  and Gothic  $b r \bar{o} p a r$  'brother'). However, unexpectedly, the equivalent of Greek  $p a t \bar{e} r$  was Gothic  $f a \bar{o} a r$  'father' with a voiced fricative.<sup>4</sup> Working within the 'exceptionlessness-paradigm',<sup>5</sup> Verner (1877) could reconcile the deviant facts with Grimm's Law decades after its initial formulation. He showed how

<sup>3.</sup> Neatly documented in Wilbur (1977) and discussed at length in Jankowsky (1972).

<sup>4.</sup> Modern German still evinces differing consonants in this case: *Bruder* and *Vater*, albeit with different voicedness values due to subsequent developments.

<sup>5.</sup> His main tenet was: "Bei der annahme eines zufalls darf man jedoch nicht beharren. [...] Es muss in solchem falle so zu sagen eine regel für die unregelmässigkeit da sein; es gilt nur diese ausfindig zu machen" (Verner 1877: 101). [However, one must not be content with the assumption of chance. In such a case, there must be, so to speak, a rule for the irregularity; it is just necessary to find it.]

these exceptions could be explained by taking into account the position of the word accent in the proto-language: Grimm's Law proper applies only if the accent was on the immediately preceding syllable in Proto-Indo-European, otherwise the fricatives are voiced in Germanic: /b, d, g/.<sup>6</sup> This case nicely illustrates that exceptions on one linguistic level (in this case, the segmental-phonological system) can be accounted for by competing rules from other linguistic – or non-linguistic – levels (in this case, prosodic phonology).

Meanwhile, there were a great many diachronic sound laws advanced, which apply the idea of 'blind', exceptionless sound changes.<sup>7</sup> – This is not to say, by the way, that *all* sound change is exceptionless. In fact, sometimes even the exact opposite occurs: so-called 'sporadic' change – one that exceptionally occurs in a single example, both unexplained and inexplicable – as for instance the loss of /r/ in Modern English *speech* from Old English *spræc*.<sup>8</sup> What is more, there are also many examples where non-phonological factors interfere with the regularity of a sound change. The most notable of these are analogy,<sup>9</sup> lexical diffusion and general sociolinguistic factors.<sup>10</sup> McMahon (1994: 21) captures the dialectic relationship of phonology and paradigmatic morphology in what she calls 'Sturtevant's Paradox': "sound change is regular but creates irregularity, whereas analogy is irregular but creates regularity."

#### 1.4. Exceptions in the majority

One important factor in the interplay of rules and exceptions is that it is not at all trivial to decide which is which given a mass of initially unstructured facts. Often it turns out that what appears to be an exception in one scientific account is an instantiation of the rules in a competing analysis. A case in point is the system of plural formation in German nouns. Nominal plural in German is expressed by a variety of suffixes (*-e, -en, -er* etc.) as well as by umlaut and zero-suffixation, leading to eight different forms of plural formation. In order to account for the distribution of plural markers over nouns, a number of rules have been proposed in traditional German grammar, making use of features

9. Already alluded to in the above quote from Osthoff and Brugmann (1878).

<sup>6.</sup> Apparently, this correlation between voicedness and accent is still applicable in Modern German, cf. *Hannó[f]er* vs. *Hanno[v]eráner*; Udolph 1989).

<sup>7.</sup> Many of the sound changes inside Indo-European are discussed in Collinge (1985).

<sup>8.</sup> In other words, the initial consonant cluster has been retained in Modern English (as can be deduced from examples such as *spring*, *spray*, *sprawl* etc.), so there is no sound law in the history of English pertaining to the loss of *r* in *speech*.

<sup>10.</sup> Those factors have been discussed amply, and non-conclusively, in the literature, e.g. in Labov (1981) and de Olviera (1991).

from different grammatical levels, like nominal gender, number of syllables, or the ending of the singular form. However, these rules can only account for part of the nominal inventory and do not work very well for predictions. There is one plural ending, though, whose distribution can be accounted for more straightforwardly, namely the suffix -s. This plural suffix is used as a default; it turns up whenever there is no existing form already or none that can be formed by analogy, as in a lot of loan words, in abbreviations, and also in proper names. This had led to accounts that characterise the -s suffix as the regular form, while the seven other classes of nominal plural are considered irregular ones that are driven by analogy (Janda 1991, R. Wiese 1996: 136-143, Pinker 1999: 211-239). Additional support for the 'regular' status of the -s plural comes from overgeneralisations in first language acquisition (Clahsen et al. 1992, Marcus et al. 1995). However, the -s suffix is the least common plural form statistically, hence under this view, only a small part of plural formation is regularly rule-governed, while most of it is exceptional: exceptions are more commonly realised than rules - the statistical relationship of specific rule and Elsewhererule is turned upside down; curiously, such an analysis echoes a remark in Mark Twain's essay, 'The Awful German Language':

Surely there is not another language that is so slipshod and systemless, and so slippery and elusive to the grasp. One is washed about in it, hither and thither, in the most helpless way; and when at last [the language learner] thinks he has captured a rule which offers firm ground to take a rest on amid the general rage and turmoil of the ten parts of speech, he turns over the page and reads, "Let the pupil make careful note of the following *exceptions*." He runs his eye down and finds that there are more exceptions to the rule than instances of it. So overboard he goes again, to hunt for another Ararat and find another quicksand. (Twain [1880]1907: 267)

Thus, maybe unfortunately for the language learner (and the language teacher) and fortunately for the linguist who is interested in complex structures, language is not parsimonious.

As has already become clear from the examples discussed so far, there are different ways that linguists typically handle the exceptions they encounter in their analyses. In the following sections, we will discuss these in turn.

#### 2. Approaches to exceptions

#### 2.1. Ignoring exceptions

A common approach to the problems posed by exceptions is to simply ignore them. This can be achieved through more or less sophisticated argumentation. For example, when confronted with an exception to the rule that one has proposed, often the easiest way out is to say that this apparently disturbing fact does not belong to the linguistic system one analyses, using the infamous answering technique: 'Well, in *my* dialect ...'.<sup>11</sup> As Labov (1972: 292) has noted, "'[m]y dialect' turns out to be characterized by all sentence types that have been objected to by others."

In the statistical analysis of data, doing away with exceptions is part of a reasonable methodology: in any empirical study, one has to take into account that the collected data can be 'spoiled' for a variety of reasons. In order to minimise unwanted statistical effects due to 'bad' data (which appear as a kind of exceptions to the general picture), one usually abstracts away from what is called 'outliers', i.e. the most deviant pieces of data on any given test item; they are held to likely be mistakes or other 'irrelevant' phenomena.

#### 2.2. Re-analysing exceptions

Another type of exceptional data – not mentioned so far – can be entire languages. In cross-linguistically informed typological linguistics, where correlations between logically independent facts are investigated, one rarely finds downright 'universal' phenomena; the formulations of the 'statistical universals' are usually hedged by phrases like 'with overwhelmingly greater than chance frequency', thereby allowing for a small number of languages behaving not as expected (cf. Dryer 1998 for discussion).

One type of exception one frequently encounters in linguistics is the odd language that does not follow the generalisations made in large-scale crosslinguistic investigations. Thus, in linguistic typology, Greenberg-type universals are extrapolated from large databases: basically they are predictions of occurrences of a certain structure, or rather predictions of the fact that they do not occur or can occur only under specific conditions. However, there almost

<sup>11.</sup> Obviously, the background assumption in such a strategy is that data from a different micro-variety need not be taken into account since "[1]inguistic theory is concerned primarily with an ideal speaker-listener, in a completely homogeneous speech-community, who knows its language perfectly ..." (Chomsky 1965: 3).

always appear to be a few, some, or just single examples of languages where the structure in question does in fact exist in a 'forbidden' context.

While singleton languages not displaying the usual phenomena are interesting laboratories for the typologist, who can then seek to find an explanation as to what functional or other factors have played a role in creating such a peculiar system, such languages can be a great challenge for the formal linguist. Especially in the Chomskyan tradition with its strong emphasis on explanations on the grounds of a genetically endowed Universal Grammar (UG), languages with exceptional grammatical peculiarities pose problems.<sup>12</sup> Since grammatical distinctions, be they universal or only the speciality of a single language, should be captured by UG mechanisms in order to be acquirable by the child, the UG component becomes more unwieldy if it has to cater for all those exceptional characteristics. Because of this extra burden that exceptions put on the language faculty, within this framework it is very much desirable to show that any account that assumes exceptions is flawed and can be replaced by one that re-analyses the phenomena in a way that exceptions disappear.

To give an example of an allegedly exceptional trait that turned out to be a chimera on closer inspection:<sup>13</sup> all recently proposed morphological feature inventories designed to capture the various systems of person-number combinations in the pronouns of the world (cf. Harley and Ritter 2002 and subsequent work) have difficulties when it comes to distinguish the putative clusivity contrast in second person plural pronouns, i.e. the difference between a set of only addressees on the one hand and a group comprising addressee(s) and other(s) (non-speech-act-participants) on the other. While some authors have categorically denied the existence of such a distinction, others have claimed to have found exceptions to the statement 'no language distinguishes clusivity in the second person'. A closer look at these purported exceptional systems revealed, however, that in each case there had been some kind of mistake in the transmission of the data: in the case of South-East Ambrym, the original author had inadvertently conflated two geographically distinct dialects in his paradigms; with regard to Abkhaz (and a number of other, unrelated languages), an essentially emphatic suffix had been misinterpreted as involving clusivity; in the descriptions of Ojibwe (and a few other languages), the term 'second person inclusive'

<sup>12.</sup> In this context, a reviewer has mentioned Newmeyer's (2005) discussion of the relationship between typology and UG. In our understanding, however, this is somewhat beside the point, since Newmeyer seems to be concerned with broad-sweeping typological generalisations and how they can be accounted for, not necessarily with the explanation of potential individual counter-examples.

<sup>13.</sup> This example is more thoroughly discussed and documented in Simon (2005).

had been used in a terminologically confused (and confusing) way. In short, a careful study of the details of the particular pronominal systems (aided by philological and dialect-geographic information) could show that the 'exception' in question actually vanished when studied more closely.<sup>14</sup> In this case, then, exceptions could be 'analysed away' by a more careful look at the data; there is no need to complicate the model of morphological features (Simon 2005).

Nonetheless, exceptions frequently do refuse to go away. In a typological vein, several phenomena have been recorded among the languages of the world that are 'rara, rarissima or even none-suchs'.<sup>15</sup>

#### 2.3. Integrating exceptions

In the study of a single language, one also frequently encounters a set of data that cannot be handled straightforwardly by the usual grammatical rules of that language. In that case, at least two principal options arise for the researcher: s/he can restrict the domain of the main rule and allocate the exceptions to a special sub-component of the grammar (a sub-rule, e.g. the one discussed above for decade number words, or, more extremely, the Lexicon); or s/he can design the grammatical apparatus in a softer fashion so that the exceptions can be accomodated in the main component itself. We will demonstrate these options in turn.

In the first kind of approach, one reduces the scope of the main grammatical rule when one finds data contradicting it. In this case, one defines a smaller domain for the rule and makes no prediction for the rest, i.e. for the space of the exceptions. Thus one gets a 'core grammar' and some kind of periphery where the normal rules simply do not apply. A case in point are interjections, response particles and the like, which allow for phonological, morphological, syntactic and semantic structures that are otherwise ruled out in the language.

<sup>14.</sup> Ironically, new possible evidence for the category just discussed – and thus possibly an exceptional linguistic trait –, which was brought forward by Simon (2005) from Bavarian, has meanwhile also been disputed by Gehling (2006). Here, in fact, the debate revolves around the question where to draw the boundary between grammar and pragmatics – the question of how much of politeness and other pragmatic factors needs to be incorporated into a referentially-oriented grammatical system.

<sup>15.</sup> They have been collected in the internet archive 'Das grammatische Raritätenkabinett' ('The grammatical rarity cabinet') at the University of Constance, searchable at: http://typo.uni-konstanz.de/rara/intro/. There one can also find the Universals Archive which lists not only the typological universals proposed, but also pertinent counter-examples that have been noted in the literature. – Cf. also the recent collections of studies on this matter: Wohlgemuth and Cysouw (2010a,b).

For instance, this is the domain where German allows for non-vowel syllable nuclei of whole words  $([pst], ['? '?] / ['?m'?m])^{16}$ .

A version of that domain-restricting strategy is the strong reliance on a notion of the Lexicon as a storage space for all the peculiar characteristics of lexical items. In consequence, the syntactic (or phonological, or semantic) component proper is freed from all complications. Any idiosyncrasies are relegated to the individual lexical entries, where they are, by definition, not exceptions but only specific lexicalised properties.

Rather than relegating exceptions to the lexicon altogether, one can define a specific rule for them that creates an exceptional subset, and an Elsewhere-rule for the rest. This can account for exceptions that constitute sub-systems of their own, which is quite common, since exceptions tend to cluster. However, as the example of German plural formation illustrated, it may not always be an easy task to decide which sub-system represents the main rule and which one the exceptional rule.<sup>17</sup>

An altogether different approach to the problem of exceptions is the second kind of approach mentioned above, which is based on the notion of a softer grammar, a grammar without hard contrasts, where exceptions pose much less of a problem. One way of achieving this is to build the model of grammar on prototypes. In doing so, one defines focal elements, which combine a number of key characteristics. Grammatical items will be more or less similar to these prototypes; those that are least similar are what used to be called exceptions; they have now turned their status into 'non-prototypical members of their category'. The obvious advantage of such an approach is the great flexibility and cross-categorial cohesion it creates. A potential disadvantage is that its lack of clear-cut distinctions makes it hard to formalise, and brings with it the risk that useful distinctions might be blurred (for discussion cf., e.g., Tsohatzidis 1990 and Aarts et al. 2004).

Another flexible approach to the problem of exceptions in grammar is to allow different rules to compete with each other. This means that one will not have a single, definite prediction but that several, possibly graded, alternatives arise.

<sup>16.</sup> The second example is the phonological representation of a colloquial variant of the negative response particle (ie., the counterpart of 'no') (cf. H. Wiese 2003 for a detailed discussion of the exceptional status of interjections).

<sup>17.</sup> A comparable situation holds for diachronic facts: system-internally, it is far from clear whether English has a rule that results in the loss of /r/ in certain syllable positions (cf. *bass*, equivalent to Modern German *Barsch*), and the *r* is occasionally retained as in *horse*, or whether *horse* is what one expects and *r* was lost exceptionally in *bass*; only facts of extra-linguistic history (and consequently probable language contact scenarios) help to clarify the situation (cf. Hoenigswald 1978: 26).

In a subcase of this scenario, rules from different grammatical sub-systems access the same domain so that, for instance, regularities from semantics and from syntax are in competition. Consequently, the phenomenon at hand is an exception in one system, but is predicted in the other system.

Take, for instance, case assignment of some psych-verbs in German, like *frieren* 'to feel cold'. A sentence with a psych-verb like (1) poses a problem for a syntactic account of German.

(1) Mich friert.
1sG.ACC freeze.3sG
'I am freezing.' (lit.: "Me freezes.")

In (1) the only argument slot is occupied by an accusative pronoun. So, do we have an accusative (or ergative) subject here, in contrast to what we find in German sentences as a rule? Against this analysis, we find no person-number agreement between the pronoun and the finite verb. So, have we instead got an entirely subject-less clause? This would constitute an exception in the syntax of German as well.<sup>18</sup> But despite this syntactic anomaly, the structure makes perfect sense from a semantic point of view: The Experiencer-role is typically coded by dative or accusative case,<sup>19</sup> whereas the nominative subject of a clause is typically an Agent. In this example, there is a mismatch between the syntactic and semantic requirements of a 'normal' clause; the two components compete with each other. The syntactic requirements are fulfilled when the sentence is coded as in (2), a construction that is more common in modern German, replacing the subject-less alternative illustrated in (1). In this case, we also get the syntactically expected subject-verb agreement. The morphosyntactic system's gain is, however, semantics' loss, because of the unusual correlation of case and semantic role.

<sup>18.</sup> The variant *Es friert mich* gives evidence of a rescue strategy available in this case: the use of an expletive subject whose only function seems to be to rectify the exceptionality of (1).

<sup>19.</sup> As in *Ich streichle ihm*<sub>DAT - EXP</sub> *den Bart*. (lit.: "I stroke him the beard.", 'I am stroking his beard') and *Ich lehre ihn*<sub>ACC - EXP</sub> *singen*. (lit.: "I teach him sing.", 'I teach him to sing').

(2) Ich friere. 1sg.NOM freeze.1sg 'I am freezing.'

The observed pattern extends to other examples of relatively recent change as well, showing that we are dealing with a real – if exceptional – sub-system in the case system of German. (3a) vs. (3b) shows a similar phenomenon for the case of *denken* 'to think', where the development towards morpho-syntactic regulation is even more advanced – that is, (3a) sounds already archaic and is rarely used in contemporary German anymore – presumably driven by the more agentive status of the (Experiencer-) role that *denken* assigns compared to *frieren*:<sup>20</sup>

(3) a. Mich dünkt. 1sg.ACC think.3sg  $\rightarrow$  b. Ich denke. 1sg.NOM think.1sg 'I think.'

What this development illustrates, then, is the interplay not only of exceptions and rules, but of exceptions, rules, and grammatical (sub)systems: what appears as an exception in one system can be perfectly in accordance with a rule from another system. Such an interlocking network of rules (or rather: constraints) – each of them violable – is focussed on in approaches within Optimality Theory: in this framework, the rules themselves need not be modified, they are just seen to be operating on different levels of grammar, and taking different dominance over each other.

## **3.** Why are there exceptions? How do they arise, and how do disappear?

3.1. The emergence of exceptions

At a first glance, one should think that a language system without exceptions would be best. And indeed, that is what one roughly gets – at least at the beginning – when people invent an artificial language, such as Esperanto.<sup>21</sup>

<sup>20.</sup> Moreover, the obsolete form of the verb is replaced by a newer, more regular one.

<sup>21.</sup> Cf. Hagège (2005) for discussion.

However, since natural languages are biological systems they are susceptible to evolutionary change (cf. e.g. Ritt 2004); it is only natural that they evolve gradually. In such a view of language change that crucially involves the idea of *bricolage* – tinkering with what happens to be at hand (cf. Lass 1997: 313–316) – small-scale incremental changes necessarily produce structures that are exceptions to the system before the change.<sup>22</sup>

So how exactly do exceptions come into existence? We will discuss two major scenarios: first, the interplay of different levels of grammar can create complexity and irregularity on one level when changes occur on another level; second, changes due to extra-grammatical factors can unbalance the distribution of forms in a grammar.

An illustration for the first kind of scenario comes from a part of the grammar of English and German that appears quite confusing and exception-laden today, but started out as a fairly regular component in Proto-Indo-European: the group of co-called 'irregular verbs'. This group comprises for the most part what historical linguists call 'strong verbs', i.e. those verbs which form their past tense and their past participle forms with ablaut of the stem vowel. In Contemporary German, this area seems to be hardly rule-governed at all. The 5<sup>th</sup> edition of the *Duden*-grammar of Modern German (Duden 1995), for instance, lists as many as 39 ablaut-classes for the ca. 170 ablauting verbs (p. 125),<sup>23</sup> several with only one verb that follows the particular pattern – each of them being an exception to all others so to speak. By contrast, the system of ablaut was entirely regular in an early variety of Indo-European.<sup>24</sup> and still fairly predictable

<sup>22.</sup> Taken seriously, this fact contradicts the research methodology of strict structuralism (purporting to analyse 'un système où tout se tient') as it is most succinctly stated by Beedham (2005: 153): "Yet exceptions do exist, so how do they arise? It seems to me that they arise to the extent that we, the grammarians, have got it wrong. We introduce them from outside with rules that are not quite right. If a rule is 100% correct it will have no (unexplained) exceptions whatsoever, if it is almost right it will have a smaller number of exceptions, and if it is badly wrong it will have lots of exceptions." Reasonable as such a view may seem as a methodological premise, in the light of the inevitability of exceptions in diachrony, it will have to be discarded.

To be fair, the most recent edition brings some systematisation into this list (Duden 2005: 458–461).

<sup>24.</sup> That is at least the picture one gets if one subscribes to the not uncontroversial laryngeal-hypothesis for Pre- or Proto-Indo-European (cf. Lehmann 1993); otherwise, more traditionally, some form of accentual difference will have to be taken as the decisive factor. For a description of the fate of ablaut in the history of German cf. Nübling et al. (2006: 199–209); Mailhammer (2007) provides a new systematisation of Germanic ablauting verbs.

in Old High German, when the phonological make-up of the stem determined to which of the seven ablaut-classes a verb would belong. The break-up of this old morphologically regular system seems to be due to a phonological change: the loss of laryngals or a prosodic change. Hence in this case, an independent development in phonology creates exceptions on the morphological level.

Similarly, the loss of phonological distinctions in final syllables between Old and Middle High German obscured the phonological trigger for umlauting in German morphology. Therefore umlauting became 'free' to be a purely lexically based morphological process, for example in the formation of nominal plurals.<sup>25</sup> In this way an irregularity effect was created: only some nouns take umlaut in their plural, cf. *Faden*<sub>SG</sub> – *Fäden*<sub>PL</sub> 'thread' vs. *Fladen*<sub>SG</sub> – *Fladen*<sub>PL</sub> 'flat bread'.<sup>26</sup>

An example for the second kind of scenario is provided by the virtual disappearance of the second person singular pronoun thou in Standard Modern English, where pragmatic and sociolinguistic factors were responsible for the spread of one form at the expense of another, thus creating a typological exception in the English pronominal system. In Middle English, and well into Shakespeare's time, there was a politeness distinction in English pronouns of address comparable to that of Modern French or Russian. There were two second person pronouns: the (informal) singular form thou and ye/you, which was employed in second person plural reference and also when a single person was to be addressed politely. In a kind of inflationary process, the usage of you-forms then became more and more generalised, so that *thou* was relegated to the fringe, used only in very restricted circumstances, such as certain religious contexts. Therefore, a kind of markedness reversal due to a sociolinguistic overgeneralisation took place: the relationship between marked and unmarked, between exception and rule was turned upside-down, so that what used to be the unmarked form, the informal thou, became an exception, while the more marked form, the formal *ye/you*, became the rule. A side-effect of this generalisation of you is that Standard Modern English stands out among the languages of the world as having number distinctions in nouns and pronouns in general, but not in second person pronouns.<sup>27</sup>

<sup>25.</sup> Cf. Sonderegger (1979: 297-319) for a detailed description of this development.

<sup>26.</sup> With the additional complication that for some nouns there exists regional variation as to whether they take their plural with or without umlaut, e.g. *Wagen* 'car'.

<sup>27.</sup> According to Cysouw (2003: 118), this situation "is not common at all."

#### 3.2. The disappearance of exceptions

Given the situation in Modern English with a double-fold exception in the pronominal system – the lack of a number opposition in the second person plural is unusual both from a cross-linguistic point of view and language internally since English does otherwise encode number quite firmly – it is not surprising that many non-standard varieties of English 'repair' their systems: they create new plural forms by morphological reinforcement: y'all, youse etc. (cf. Hickey 2003). Thus, the exceptional gap in the paradigm is filled again).

In general, two potential diachronic scenarios for the gradual disappearance of an exceptionality in a language system are conceivable: either the sub-class forming the exceptional trait loses some or all of its members, or the sub-class is strengthened, thereby creating a stronger, less exceptional sub-system of the language. The basic mechanism is here that a set of exceptions exhibits a certain internal regularity, which is significant enough to attract new members gravitating to that group. Again, we illustrate these two possibilities with developments in the verbal system of German.

An example for the first case is the abovementioned exceptional class of strong verbs that is overall on the decline in German: Sound change has obscured its phonological basis; new verbs entering the language as loan words are automatically assigned to the weak class; some strong verbs, mostly the less frequent ones, undergo inflection class changes and lose their ablaut-formation over time, so for example in a relatively recent case with *backen* 'to bake' and *melken* 'to milk'.<sup>28</sup> Thus, the relative frequency of the two sub-classes of verbs (strong vs. weak) has reversed since the creation of the latter in Proto-Germanic.<sup>29</sup>

A phenomenon illustrating the second case is the integration of the German verb *brauchen* 'need' into the group of modal verbs. Unlike in the case of psych-verbs discussed above, where syntactic regulation overruled semantics, in this case, the morphosyntactic development is driven by semantic pressure. Since this development might be less well-known than some of our other examples and because it is currently happening under our very eyes, we discuss it in somewhat more detail.

<sup>28.</sup> Here, the old past tense forms *buk* and *molk* have practically died out, in favour of regular *backte* and *melkte*.

<sup>29.</sup> On a comparative note it is worth mentioning that the other Germanic languages follow a similar diachronic drift; in the extreme case of Afrikaans the strong-weak (i.e. irregular-regular) distinction has been lost almost completely, viz. outside the auxiliary system.

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Three core grammatical properties of modal verbs in German are important for our understanding here. First, they are exceptional with respect to inflection: given their origin as old preterite presents, modals lack the usual final morpheme -t in the third person singular of the present tense indicative (5a), in contrast to regular verbs (5b):

(5)	a.	Sie	muss	/	kann	/	<i>darf</i>
		she	must		can		may
	b.	Sie	sagt l	/	macht	/	singt
		she	says		makes		sings

Second, modals display a syntactic peculiarity in that they subcategorise infinitive phrases without the complementiser zu 'to' (6a), unlike many but not all non-modal verbs with infinitival complement (6b):

(6)	a.	Sie	muss	singen.	[modal verb]
		she	must	sing	
	b.	Sie	hofft	zu singen.	[non-modal verb]
		she	hopes	to sing	

Third, when used in the (periphrastic) perfect tense, modals exhibit the so-called IPP-effect:<sup>30</sup> basically this means that instead of an expected past participle, the modal occurs in the infinitive:

(7)	a.	Er	hat	singen	müssen <sub>inf</sub> .
		3sg	has	sing	must <sub>INF</sub>
	b.	*Er	hat	singen	gemusst <sub>P_II</sub> .
		3sg	has	sing	must <sub>P_II</sub>
		'He	has h	ad to sin	g.'

*brauchen* 'need' shares a central meaning aspect 'modality' with modal verbs when used with an infinitive: apart from its use with a nominal complement (as in *Sie braucht einen Regenschirm.* 'She need an umbrella.'), this verb can also be used with an infinitival complement, in particular under negation (or in the context of a restrictive particle like *nur*).<sup>31</sup> Unlike the core set of modal

<sup>30.</sup> I.e., 'infinitivus pro participio', also known as 'Ersatzinfinitiv'.

<sup>31.</sup> Unlike its English counterpart, the negation of *müssen* usually takes wide scope over the whole sentence, not just over its complement, hence *Er muss nicht singen*. ('lit.: He must not sing.') does not mean 'He must: not sing.', but rather 'Not: he must sing.'. Negation of *brauchen* takes wide scope as well, while having a weaker meaning, along the lines of English 'He need not sing.' The domain of English 'must not'

verbs, however, 'brauchen' does not go back to an old preterite present, and accordingly, in compliance with its more distant origins as a normal transitive verb, should behave as a regular verb morpho-syntactically; that is, suffix final -t in the third person singular and select an infinitive with zu. And this regular behaviour is exactly what one finds in most instances of written language usage, as in (8):

(8) Er braucht nicht zu singen.
 3sG needs not to sing
 'He need not sing.'

This construction, however, is presently developing into one that agrees with the irregular modal verb pattern, as illustrated in (9): no -t and no zu:

(9) Er brauch nicht singen.
 3sG need not sing
 'He need not sing.'

Moreover, in perfect tense constructions, the IPP-effect comes into force:

(10) Er hat nicht singen  $brauchen_{INF}$ . 3SG has not sing need 'He hasn't needed to sing.'

At present, this is found predominantly in Spoken German, but it appears more and more in written varieties as well (cf. Askedal 1997). Note that there is no phonological motivation for the loss of final *-t* in German, which is shown by the fact that *-t* never fails to occur with, e.g., *rauchen* 'to smoke' despite the phonological near-identity of the verbs:

(11) Sie raucht / \*rauch. [regular verb] 3sG smokes smoke 'She smokes.'

Thus, what we are witnessing at the moment with the spread of the type Er brauch $\emptyset$  nicht  $\emptyset$  singen is the integration of a regular verb into a morphosyntactically irregular, exceptional subsystem, based on shared semantic features: From the general point of view of the morpho-syntax of German verbs, brauchen becomes exceptional – it develops from a regular verb into one with

with narrow scope is covered by German *dürfen* 'may / to be allowed to', e.g. *Er darf nicht singen*. (i.e.: 'He must not sing. / He is not allowed to sing.'

irregular features – but from the point of view of modal verbs, *brauchen* becomes regularised, being integrated into their specific, exceptional, subsystem. This development demonstrates the power of the system not only in the case of the overall, more general system – here: verbal morpho-syntax – but also in the case of subsystems constituted by irregular forms that present an exception from the point of view of this general system.

In sum, *brauchen* exemplifies the interaction of different grammatical levels in the development of exceptions, in this case semantically-driven morphosyntactic integration.<sup>32</sup>

#### 3.3. Morphology as a locus of exceptions

Exceptions typically spread unevenly over the grammatical system as a whole, i.e. not all grammatical sub-systems are equally prone to exceptionality. In particular, the status and make-up of morphology as a central organisational device in the interaction of grammar and lexicon makes it open to the development of exceptions.

Morphology is often considered as an evolutionarily earlier domain for the construction of complex linguistic elements than, say, syntax (cf. Fanselow 1985; Jackendoff 2002). In comparison to syntax, the interpretation of complex forms in word formation is underdetermined by their constituent structure and less driven by strict rules of syntactic-semantic cocomposition; instead, it makes more use of contextual information. This is evident, for instance, in the case of determining the semantic relation between constituents of a compound. Take again a German example, the nominal compound *Fischfrau* 'fish-woman'. This word can mean 'woman who sells fish', 'wife of a fish', 'woman whose zodiac sign is pisces', 'mermaid', and a number of other things – Heringer (1984: 2) lists ten possible meanings – all we know from the make-up of the compound is that there has to be some relation between a woman and a fish or fishes, but not which one.<sup>33</sup>

In comparison to syntax, morphology is also less characterised by clearcut classes with particular defining features and more often based on protopatterns that form the basis for classes that are driven by associations. This can often lead to deviations from general patterns and the formation of exceptional

<sup>32.</sup> The import of semantics on the development of this particular domain of German morphology is further shown by the following fact: Old High German had a few more verbs which behaved morphologically as preterite presents (e.g. *turran* 'to dare'); among those verbs only the ones that belonged to the semantic sub-class of modals have survived into the present form of the language.

<sup>33.</sup> Similarly, note in English the difference between a pork butcher and a family butcher.

subsystems. An example coming from inflectional morphology is the formation of tense forms of irregular verbs in English (cf. Jackendoff 2002: ch. 6) and German (cf. Beedham 2005).

Since complex morphological constructions are often semantically underdetermined, the formation of such patterns can be based on aspects of meaning of the elements involved. This holds for semantic as well as pragmatic aspects. The example of *brauchen* 'need' above illustrated a case where the development into an inflectionally irregular verb is driven by the semantic affiliation with elements of a morpho-syntactically exceptional subsystem. An interesting example from morphopragmatics comes from diminutives in English and German (cf. H. Wiese 2006).

The diminutive affixes *-chen* and *-i* in Contemporary German and similarly *-ish* in English exhibit some exceptional, erratic behaviour from the morphosyntactic point of view, although they present a unified picture on the morphopragmatic side. On the morpho-syntactic level, no clear classification of diminutive suffixes as heads or modifiers is possible. They act as prototypical heads (not just relativised heads in the sense of Di Sciullo and Williams 1987) with some stems, while with other stems, they behave like prototypical modifiers.

In (12), English *-ish* and German diminutives *-chen* and *-i* behave as adjectival or nominal heads, respectively, with adjectives, nouns, quantifiers, and verbs as a basis:

- (12a)  $[yellow]_A ish]_A, [child]_N ish]_A, [fifty]_Q ish]_A$
- (12b)  $[H\ddot{u}nd]_N chen]_N / [Hund]_N i]_N$  'dog-DIM, i.e. doggy',  $[Lieb]_A chen]_N$  'dear-DIM, i.e. dearie',  $[Schn\"{a}pp]_V chen]_N$  'grab-DIM, i.e. bargain'

However, in (13), German diminutive suffixes behave as prototypical modifiers with particles as a basis, in particular with greeting particles (GP) and answer particles (INT) in informal speech:

(13) [*Tschüss*]<sub>GP</sub>*chen*]<sub>GP</sub> / [*Tschüss*]<sub>GP</sub>*i*]<sub>GP</sub> 'bye-DIM', [*OK*]<sub>GP</sub>*chen*]<sub>GP</sub> 'ok-DIM', [OK]<sub>INT</sub>*chen*]<sub>INT</sub> 'OK-DIM', [*Jau*]<sub>INT</sub>*i*]<sub>INT</sub> 'yes-DIM'

And, likewise in informal contexts, English *-ish* can be used as a modifier, albeit as one that is even more of an outlier from a morphosyntactic point of view: it can be used not only with a morphological stem, but also with a syntactically complex phrase, thus neglecting a crucial syntactic distinction:

 a. Nikki and I woke up at quarter-to-eight-ish.
 [data from internet forum: http://www.exposedbrain.com/archives/000301.html; 4/5/2005]  Breakfast: 8am – 2pm ish [menu of Little Deb's Café, Provincetown, MA, 2000]

This makes these diminutives highly exceptional suffixes from the morphosyntactic point of view. However, their erratic behaviour turns out to be more systematic when viewed from a morphopragmatic perspective: on the pragmatic level, diminutives contribute the notions of 'informality' or 'intimacy' (cf. Dressler and Merlini Barbaresi 1994), and it is this expressive component that the morphosyntactically exceptional distribution of *-chen* and *-i* in (13) and of *-ish* in (14) draws on. Hence, the possibility of directly involving pragmatic aspects in morphology can lead to the establishment of morpho-syntactically exceptional subsystems: in this case, the hybrid syntactic status of diminutive suffixes inbetween head and modifier.

Strangely, there are also cases where morphology itself seems to be the source of exceptional behaviour at the higher syntactic level – a phenomenon which runs counter to the otherwise well-established, though not universally accepted<sup>34</sup> principle that syntax cannot 'see' the internal word-formational makeup of the lexical items it deals with, known as the 'Lexical Integrity Hypothesis' (Di Sciullo and Williams 1987: 48). Perhaps the best example for this is the erratic behaviour of certain complex verbs in German that fail to appear in V2position (that is, in the standard position for verbs in assertative main clauses) (16a, 16b), but are perfectly fine at the end of a clause (the position of verbs in subordinate clauses) (16c):

(16)	a.	*Das	Flugzeug	, not-	landet		in	Paris.
		the	plane	eme	rgency	-lands	in	Paris
		'The	plane mal	kes an	emerg	ency la	andir	ng in Paris.'
	b.	*Das	Flugzeug	, land	let in	Paris	noi	t.
		the	plane	land	s in	Paris	em	ergency
		'The	plane mal	kes an	emerg	ency la	andir	ng in Paris.'
	c.	••••,	weil	das F	lugzeu	g in	Par	is not-landet.
			because	the p	lane	in	Pari	s emergency-lands
		'bec	ause the pl	lane m	akes ai	ı emer	genc	v landing in Paris.'

The verbs concerned are word formation products in some way or other (from back formation, conversion, incorporation or double-prefixation). So, what we see here is a syntatic exception that is governed by the morphological make-up of its constituent parts. But this alone cannot be sufficient; other factors such

<sup>34.</sup> Cf. Spencer and Zwicky (1998: 4-6).

as potential analogy to particle verbs seem to play a role as well, cf. the much better acceptability of (17):<sup>35</sup>

(17) Das Flugzeug *landet in Paris zwischen.* the plane lands in Paris between The plane makes a stop-over landing in Paris.'

In sum, morphology appears to be a prime locus for exceptions. It is the central part of the grammatical system, determined by and partially determining exceptionality in grammatical structure.

#### 4. The significance of exceptions – what this book has to offer

As we have seen, the study of exceptions is relevant for linguistic theory on a substantial level. In linguistics, like in all areas of science, the pursuit of scientific knowledge implies the creation of abstractions, which are then formalised in rules, or constraints etc. This will, as a matter of principle, lead to a potential for exceptions at all levels involved, i.e. on all grammatical levels – phonology, morphology, syntax, semantics – as well as in their interaction with each other and with pragmatics and other extragrammatical areas. Even if the researcher takes it as a methodological principle that exceptions must not be postulated unless absolutely necessary, there are many cases when deviant facts cannot be accomodated in a simple and elegant model.<sup>36</sup> Such a challenge generates a range of approaches and can lead to new insights into the nature of the linguistic system and its (internal and external) interfaces.

The analysis of exceptions can be instructive in at least two respects. Firstly, from a methodological point of view, the treatment of exceptions will highlight different ways of dealing with empirical data, each leading to a different status of the concept of 'rule' in the respective theory. Secondly, from the point of view of the linguistic system, exeptions show us what kind of system language is: an arrangement of interlocking structures, each of them more or less flexible, always in flux such that variation and change are possible.

In the present book, we have collected studies that tackle the problem of exceptions from a number of different angles. Most papers (and the commen-

<sup>35.</sup> Contrary to what some studies suggest, it is still not clear what exactly it is that determines the status of a given lexical item as a non-V2-verb; cf. Freywald and Simon (2007) for a brief overview and some empirical investigations.

<sup>36.</sup> Maybe this holds even more for linguistics than for other areas of science, given the curious duality of language as both biologically and culturally determined.

taries we have invited on them) focus on syntactic phenomena, but there are also discussions of morphology and of phonology as well as of languages as macro-structures.

The introduction of this book consists of two parts. The present introductory chapter is complemented by a paper by Edith Moravcsik, who surveys possible approaches to the problems exceptions pose, with a focus on syntactic theory; her taxonomy of exceptionality in language and how linguists cope with it can serve as a basis for all further discussion of the subject.

The main body of the book is then divided into four parts. The papers in the first part take a closer look at the area where exceptions are traditionally taken to be stored: the lexicon. This is the designated location of word-based exceptionality in a language,<sup>37</sup> comprising morphological as well as phonological idiosyncrasies. The papers in the second part discuss the interrelation of grammatical subsystems, in particular syntax and semantics, but also syntax and extra-grammatical aspects such as processing. The third part is dedicated to a common method to accommodate exceptions: relaxing the system-constituting elements of grammatical structure, be they conceptualised as e.g. rules or as constraints. The fourth and final part provides a statistically informed consideration of wholesale exceptionality (or unusualness) of languages as such.

In whole, the papers in this book (and the respective comments and responses) offer a multi-faceted body of work on the significance of exceptions for linguistic theory. They show the potential of different approaches to capture grammatical exceptions; and they demonstrate how the study of exceptions can be productive for the development of new grammatical models and new perspectives on grammatical systems. This is true for a number of controversial claims in current linguistic research:

First, there is more to the systematic study of language than just grammar: aspects of linguistic structure interact with external systems, and thus exceptions can be explained. For instance, morphologically exceptional (i.e. irregular) structures emerge because processing pressures – such as the production need to be phonologically brief – act on the demand to produce informationally distinct forms, as discussed by Damaris Nübling in her contribution on Germanic verbal morphology. Similarly, Frederick J. Newmeyer invokes parsing strategies in his explanation of cross-linguistic variation and exceptional patterns therein.

Second, within the system, grammatical subcomponents can interact in such a way as to enhance the stability of exceptions, which then resist regularization:

<sup>37.</sup> And some linguists would maintain that all exceptionality is word-based.

e.g. a certain class of oblique subjects in Icelandic and Faroese was reinforced by its semantic coherence and has thus survived into the present systems, as is argued by Jóhannes Gísli Jónsson & Thórhallur Eythórsson in their contribution. A grammar-internal view on exceptionality can also lead to the adoption of softer models of grammar, which can incorporate seemingly exceptional cases as instances of less central structures. As Sam Featherston demonstrates, such a way of thinking is well-qualified to tackle the problem of grammatical gradience – the fact that there are grey zones of more or less severe awkwardness between 'fully acceptable' and 'inacceptable' structures.

Several contributions in this book are apt to challenge our traditional views of the notion of exception as they discover new kinds of exceptions. Thus, Thomas Wasow, T. Florian Jaeger and David M. Orr identify exceptions in language use that one notices when taking into account quantitative data; again, these exceptions can be accounted for in terms of processing and other extragrammatical factors. Ralf Vogel, by contrast, invokes a population-based notion of 'exception': he uncovers different tolerance levels on the part of native speakers of German with regard to contradictory case-information in free relative clauses; from such a perspective, exceptions exist in the minds of certain speakers, but not others. Greville G. Corbett discerns a kind of (higher-order) hyper-exception that occurs when different types of exception come together and interact with each other; he thus underlines their great importance - especially those linguistic structures that are extraordinarily rare - for the understanding of what is possible in human language. Frederik Fouvry, in turn, takes a broad view of exceptions: while traditional approaches in computational linguistics tend to treat both production errors and linguistic exceptions as extragrammatical structures that are neither covered nor possible to cover, by the grammar formalism, the alternative apparatus he proposes captures all types of deviance from the expected data: exceptional but acceptable idiosyncrasies of a data set and mere errors are both encompassed within one arrangement of constraints that can be relaxed as needed to accommodate them.

A more conservative line of reasoning is followed by Barış Kabak and Irene Vogel. Concentrating on patterns of vowel harmony and stress assignment in Turkish, they maintain that it is not possible to determine an externally motivated sub-class of exceptional words, such as loan words or names; therefore employing a component of lexical prespecification in the grammar is unavoidable, which basically reverts to the traditional idea that every word must be treated on its own terms.

Finally, Michael Cysouw has a different focus in his contribution: instead of looking at instances of exceptional grammar in individual languages, he zooms out and takes on a macro-perspective by looking at patterns of co-ocurrence of rare, exceptional traits in a multitude of languages: according to his findings, there are some clusters of linguistic exceptionality, or unusualness, in certain areas of the world, among them North-Western Europe, whose languages form the basis of most of the theorising in contemporary linguistics.

Taken together, the contributions to this volume explore a range of new avenues to an understanding of exceptions: they probe deeper into the analysis of already established grammatical exceptions, they re-define and develop further the notion of exceptionality, and they invoke a variety of concepts to describe the formation of exceptions and to explain their existence in grammatical systems. While they are understood to be rare and thus in need of special efforts to be grasped, exceptions are expected in the various models utilized – either because of some grammar-internal competition or because of extra-grammatical factors bearing on grammar proper. Needless to say, because of the exceptionally complex phenomenon of exceptions, it can be expected that not every linguist will agree with the analyses and models offered. But in any case, we expect exceptions to keep fascinating linguists who are keen to understand the workings of language.

> 'Il serait absurde de dire que l'exception est mieux traitée dans une perspective que dans l'autre.' (Danjou-Flaux and Fichez-Vallez 1985: 116)

#### Abbreviations

А	adjective	INT	interjection
ACC	accusative	Ν	noun
DIM	diminutive	NOM	nominative
GP	greeting particle	P_II	2 <sup>nd</sup> participle
INF	infinitive	SG	singular

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## Coming to grips with exceptions

## Edith Moravcsik

**Abstract.** Based on a general definition of the concept of exception, the problematic nature of exceptions is made explicit by showing how they weaken the generality of descriptions: they disrupt a superclass without forming a principled subclass. Focusing on examples from syntax, three approaches to dealing with exceptions are identified.

#### 1. Why are exceptions a problem?

#### 1.1. Defining exceptions

Typical exceptions are a small subclass of a class where this subclass is not otherwise definable. What this means is that apart from their deviant characteristic that renders them exceptional, there is no additional property that distinguishes them from the regular cases. Given also that the exceptional subclass has generally much fewer members than the regular one, exceptions can be characterized as a subclass of a class that is weak both quantitatively (fewer members) and qualitatively (only a single distinguishing characteristic).

The description of an exception must include five components:

- the pertinent domain;
- the class within which the items in question are exceptional, which we will call superordinate class (or superclass for short);
- the regular subclass and the irregular subclass;
- the characteristic in which the two subclasses differ; and
- the relative size of the two subclasses.

This is shown in (1) on the example of English nominal plurals, where RSC labels the regular subclass and ESC is the label for the exceptional  $one^1$ .

<sup>1.</sup> A large inventory of lexical exceptions in English is cited and their exceptionality relative to transformational rules discussed in Lakoff (1970: 14–21, 30–43 et passim).

- (1) domain: English
  - superordinate class: plural nouns
  - subclasses: RSC: apples, cats, pencils, etc.
    - ESC: oxen, children, brethren
  - distinguishing property: plural suffix is  $\{s\}$  versus  $|\partial n|$
  - relative size of membership: RSC > ESC

Three components of the schema call for comments. Starting with *domain*: a structure may be exceptional within a language, a dialect of a language, a language family, a language area, or across languages. M. Cysouw's paper in this volume is a study of crosslinguistic exceptionality and so is part of S. Featherston's article.<sup>2</sup> It is important to indicate the domain within which an exception holds because exceptionality is relative to it. First, what is an exceptional structure in one language may not be exceptional in another. An example is the morphosyntactic alignment of subjects of one-place predicates with patient-like arguments of two-place predicates: this is regular in ergative languages but exceptional in accusative languages. Second, language-internal and crosslinguistic exceptionality do not necessarily coincide. For example, click sounds are very numerous in Zulu but very rare across languages; and passive constructions are infrequent in Kirghiz, but frequent across languages.

A second set of comments has to do with the *distinguishing property* of the exceptional class. Several papers in this volume emphasize the unique nature of exceptions. B. Kabak and I. Vogel are very explicit about this point as they analyze Turkish vowel harmony and stress assignment and argue for the need for lexical pre-specification of the irregular items as both necessary and sufficient for an adequate account. J.G. Jónsson and Th. Eythórsson also emphasize that truly exceptional structures have no correlating properties. They show genitive objects in Icelandic to be clearly exceptional by this criterion, as opposed to accusative subjects, which show subregularities.

As two of the papers in the volume show, items may differ from the regular class in more than one characteristic. G. Corbett discusses lexemes that show higher-order exceptionality by multiply violating normal morphological patterns. Utilizing the WALS database, M. Cysouw computes rarity indices for languages and language areas and shows that they may be multiply exceptional to varying degrees. Paradoxically, exceptions that differ from the regular sub-

For a rich collection of crosslinguistically rare grammatical constructions, see the *Grammatisches Raritätenkabinett* at http://lang.uni-konstanz.de/pages/proj/ sprachbau.htm. On the inherent difficulties of establishing a grammatical structure as crosslinguistically rare, see Cysouw (2005).

class in more than one way are less exceptional by our definition since each exceptional property finds its correlates in the other deviant characteristics.

Lexical items may be exceptional not by structurally deviating from others but by exhibiting skewed, rather than balanced, frequency patterns of their alternative forms. For example, the passive form of the English verb *convict* occurs with unusual frequency relative to the passive of other verbs. Such "soft exceptions" are in the focus of Th. Wasow, F. Jaeger, and D. Orr's paper (this volume) as they explore correlates for the omission of the conjunction *that* in English relative clauses.

The third comment pertains to *relative size*. Note that having fewer members is a necessary but not sufficient characteristic of an exceptional subclass. That it is necessary can be shown by the example in (1): without reserving the label "exception" for the smaller subclass, English nouns whose plural is formed with  $\{s\}$  would qualify for being the exceptions even though intuitively we do not to consider them exceptional.

But being a small subclass is not sufficient for exceptionality. For example, of the English verbs whose past tense form ends in {d}, relatively few employ the allomorph  $/\partial d/$ . But this subclass of verbs is not exceptional because the members have a phonological property in common that defines them as a principled, rather than random, class.

An apparent counterexample to the regular class having more members than the exceptional class(es) is nominal plural marking in German. There are five plural markers: -0, -e, -(e)n, and -s; which – if any – should be considered the regular one? Although most nouns of the German lexicon take -(e)n, Clahsen, Rothweiler, and Woest (1992) argue convincingly that -*s* is actually the default form: it is the only productive one, used with names (e.g. *die Bäckers*) and with newly-minted words such as clippings (e.g. *Loks* for *Lokomotiven*) or loan words (e.g. *Kiosks*). Given that relatively few existing nouns are pluralized with -*s*, declaring this form to be the regular ending would seem to conflict with the general pattern of the regular class having a larger membership than the exceptional ones. However, there is in fact no conflict: the very fact that -*s* is productive expands indefinitely the class of nouns that take it as their plural suffix.

#### 1.2. Two problems with exceptions

Why are exceptions a problem? The short answer is that they fly in the face of generalizations. This is so due to two aspects of their definition. First, by token of the very fact that they form a subclass of a class, they conflict with a generalization that would otherwise hold for the entire superordinate class.

This problem so far is not specific to exceptions: it is posed by all instances of subclassification. Subclasses, by definition, compromise the homogeneity of

a superclass. But as long as the subclasses have at least one characteristic other than the one that the split is based on, the loss of the supergeneralization is compensated for by a sub-generalization that describes the subclasses.

For an example of regular subclasses, let us consider those English nouns that form their plural with the suffix  $\{s\}$ . This is not an undivided class in that the particular shape of the suffix is variable: -/s/, -/z/, and  $-/\partial z/$ . However, each subclass is definable by phonological context:  $/\partial z/$  after alveolar and palatal fricatives and affricates, /s/ after other voiceless sounds and /z/ after other voiced sounds. Thus, none are exceptions.

Exceptional subclasses are different from normal subclasses of this sort because they have no additional characteristics to independently identify them. This is the second reason why exceptions pose a problem: they do not only scuttle a generalization that would otherwise hold for the entire superordinate class but they do not allow for a generalization about their subclass, either. The fact that exceptions have much fewer members than their sister-classes compounds the problem: their sporadicity suggests that correlating properties may not exist at all: they may be random chance phenomena.<sup>3</sup>

All in all: exceptions disrupt supergeneralizations without supporting subgeneralizations. In the case of English noun plurals, the two generalizations that the exceptions disallow are given in (2).

- (2) a. supergeneralization lost:
   \*\*All English nouns form their plural with {s}.
  - b. subgeneralization not possible: \*\*All those English nouns that form their plural with  $\partial n/$  have property P.

The two problems posed by exceptions can be similarly illustrated with a crosslinguistic example: phoneme inventories that lack nasal consonant phonemes.

- (3) domain: a sample of languages
  - superordinate class: consonant phoneme inventories
  - subclasses: RSC: consonant phoneme inventories of English, Irish, Amharic, etc.

<sup>3.</sup> Regarding crosslinguistic exceptionality, compare Haiman (1974: 341): "If a word exhibits polysemy in one language, one may be inclined, or forced, to dismiss its various meanings as coincidental; if a corresponding word in another language exhibits the same, or closely parallel polysemy, it becomes an extremely interesting coincidence; if it displays the same polysemy in four, five, or seven genetically unrelated languages, by statistical law it ceases to be a coincidence at all."

- subclasses: ESC: consonant phoneme inventories of Quileute, Puget Sound, Duwamish, Snoqualmie, Mura, Rotokas
- distinguishing property: presence versus absence of nasal consonant phonemes
- relative membership: RSC > ESC

The two generalizations disabled by the exceptional consonant phoneme inventories are as follows:

- (4) a. supergeneralization lost:
   \*\*All consonant phoneme inventories of languages include nasal consonant phonemes.
  - subgeneralization not possible:
     \*\*All those languages that lack nasal consonant phonemes have property P.<sup>4</sup>

The lesser number of nasal-less languages suggests once again that their occurrence is for no reason: it may be an accident.

How are the twin problems posed by exceptions responded to in linguistic analysis? The purpose of this paper is to address this question by surveying the various ways in which exceptions have been dealt with in syntax. The alternatives fall into three basic types. First, many descriptive frameworks represent exceptional structures as *both exceptional and non-exceptional*. What this means is that the representation of the exceptional structure is split into two parts: one shows it to be exceptional but the other part draws it into the regular class. Second, there are proposals for regularizing exceptions: re-analyzing them so that they turn out to be *fully unexceptional*. And third, some accounts acknowledge exceptions as such and try to *explain* why they are exceptional.

The three options of accommodating, regularizing, and explaining exceptions will be discussed in the next three sections in turn.

#### 2. Accommodating exceptions in syntax

Let us consider ways of representing syntactic exceptions as hybrid structures, part exceptional and part regular. The idea is similar to psychiatrists ascribing

<sup>4.</sup> Note that the class of languages that have no nasal consonant phonemes is not defined either by genetic or by areal relationship: while Quileute (Chimaukan) and the Salish languages: Puget Sound, Duwamish, and Snoqualmie, are geographically close, Mira is spoken in Brazil and Rotokas in New Guinea. For some Niger-Congo languages without nasal consonant phonemes, see Bole-Richard (1985).

deviant behavioral traits of people to a separate persona coexisting with the normal personality. Four such approaches may be identified in the literature:

- two faces of a single representation
- two strata in a single representation
- separate representations in a single component
- separate representations in separate components

We will take a closer look at each.

#### 2.1. Two faces of a single representation

In this type of account, exceptional and non-exceptional characteristics of a construction are represented on opposite sides of the same structural diagram. An example is Katalin É. Kiss's transformational generative account of long-distance agreement in Hungarian (É. Kiss 1987: 226–243).

In Hungarian, the verb agrees with both its subject and its direct object. Person agreement with the object is illustrated in (5).

(5)	a.	Én szeretné <b>m</b>	öt.
		I would.like-S1SUBJ. <b>3OBJ</b>	him
		'I would like him.'	
	b.	Én szeretné <b>lek</b>	téged.
		I would.like-S1SUBJ.2OBJ	yous
		'I would like you <sub>S</sub> .'	-

However, verb agreement in sentences such as (6) is unexpected.

(6) a. b.	a.	Én szeretné <b>m</b>	látni	öt.
		I would.like-S1SUBJ.3OBJ	to:see	him
		'I would like to see him.'		
	b.	Én szeretné <b>lek</b>	lát-ni	téged.
		I would:like-S1SUBJ.2OBJ	to:see	you <sub>S.</sub> ACC
		'I would like to see you <sub>S</sub> .'		

The problem is that the verb in the main clause – 'would like' – has a suffix selected by the direct object of the subordinate clause 'you' rather than by its own object, which would be the entire subordinate clause, as in (7).<sup>5</sup>

<sup>5.</sup> The verb-agreement pattern in Hungarian is actually more complex than shown by these examples but the details are not relevant here.