

Valency



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Valency

Theoretical, Descriptive and Cognitive Issues

edited by

Thomas Herbst

Katrin Götz-Votteler

Mouton de Gruyter
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Preface: Valency – theoretical, descriptive and cognitive issues

Thomas Herbst and Katrin Götz-Votteler

As with most other concepts in linguistics, in the discussion of valency one must distinguish between the linguistic phenomenon of valency on the one hand and the use of the term *valency* and the development of theoretical frameworks associated with it on the other. As far as the former is concerned, it is obvious that valency phenomena have been treated in linguistics under a variety of different labels ranging from *government* or *Rektion* in traditional grammar to *subcategorization* in generative frameworks or comparatively neutral labels such as *complementation* in descriptive grammars such as the *Comprehensive Grammar of the English Language*. Obviously, up to a point the use of different terms suggests different ways of viewing the phenomenon in question.

The notion of valency as such is generally linked with Tesnière's dependency grammar, although similar concepts had been put forward for example by Bühler (1934) and de Groot (1949).¹ It is probably fair to say that very significant contributions to the development of a theory of valency have been made by German linguistics since the 1960s. It is particularly the work of Gerhard Helbig and the emergence of a number of German valency dictionaries (Helbig and Schenkel 1969; Engel and Schumacher 1976; VALBU 2004) that are of importance here. Both lexicographically oriented and theoretical work on valency have resulted in an extensive discussion of criteria for the distinction between complements and adjuncts and a distinction between different types of complements with respect to their various degrees of obligatoriness. In recent years, the term valency has increasingly been used for the description of English, sometimes with explicit reference to the European tradition of valency theory and the concepts and criteria developed there,² sometimes just as a new term for complementation phenomena.

This volume comprises articles which deal with both the theoretical notion of valency and the analysis of valency phenomena. The articles in the first section, theoretical and descriptive aspects of valency, discuss the valency concept in its theoretical context (Peter Matthews) and the question of how valency phenomena can be described most appropriately with refer-

ence to certain distinctions such as complement inventories or valency patterns or semantic or syntactic valency (Thomas Herbst, Katrin Götz-Votteler). Other papers focus on different concepts of grammaticalization (Lene Schøsler, Dirk Noël) and particular problems of valency in synchronic and diachronic descriptions (Mechthild Habermann, Michael Klotz, Ilka Mindt). Finally, this section contains an outline of the treatment of valency phenomena and the underlying theoretical concept in the Berkeley FrameNet project (Charles Fillmore).

Section II focuses on the important issue of the role of valency phenomena in cognitive linguistics (Gert Rickheit and Lorenz Sichelschmidt, Rudolf Emons), where the acquisition of valency structures is of course a particularly important aspect (Heike Behrens).

Section III contains a number of papers with a contrastive orientation, which ranges from descriptive issues comparing different aspects of valency in English and German (Klaus Fischer, Irene Ickler, Brigitta Mittmann) and English, German and Norwegian (Stig Johansson) to a more pedagogically oriented account of valency errors in the performance of German and English learners (Ian Roe).

Finally, Section IV is concerned with computational aspects of valency analysis, where possible ways of using existing valency descriptions such as the *Valency Dictionary of English* (2004) as the basis for programs of word recognition are demonstrated (Dieter Götz, Ulrich Heid) and other approaches towards the automatic analysis of valency structures in computational linguistics are outlined (Roland Hausser, Besim Kabashi, Günther Görz and Bernd Ludwig).

The volume comprises papers given at a conference entitled *Valency: Valenz – Theoretical, Descriptive and Cognitive Issues* held at the Friedrich-Alexander-Universität Erlangen-Nürnberg in April 2005, which was supported by the Deutsche Forschungsgemeinschaft and the Dr.-Alfred-Vinzl-Stiftung. The editors would like to thank these institutions for the generous support they gave to the conference, Dr. Anke Beck for attending the conference and her support of the present volume, David Heath for his help and advice in all matters linguistic and Susen Schüller for her work on the index. Above all, our thanks go to all participants of the conference.

Notes

1. Cf. de Groot (1949/1964: 114-115) and Matthews (1981: 117). For the history of the concept of valency see Ágel (2000); for valency models in German linguistics see Herbst, Heath, and Dederding (1980) and Helbig (1992).

2. See, e.g., Emons (1974), Allerton (1982) and VDE (Herbst et al. 2004).

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Section 1

Theoretical and descriptive aspects of valency

The scope of valency in grammar

Peter Matthews

1.

Valency or *valence* is a term originally restricted to the syntax of verbs: “nombre d’actants”, as Tesnière defined it in the glossary to his *Éléments*, “qu’un verbe est susceptible de régir” (1959: 670). It was also linked, by the same definition, to dependency. Thus, in *Alfred parle* [‘Alfred speaks’], the verb as a governor (*régissant*) “commanded” the *actant*, *Alfred*, as a subordinate term depending on it (Tesnière 1959: ch. 2.1–3). The early development of valency theory (*Valenztheorie*) was therefore closely linked with that of a dependency grammar (*Dependenzgrammatik*), in Germany especially, in the 1970’s.

This line of thinking was neatly summarised in English, at the end of that decade, by Thomas Herbst and his colleagues (1980: ch. 4). It was obvious, however, that words of other categories could have “semantic properties”, as I initially put it somewhat nervously, “akin to valency” (Matthews 1981: 115). Later definitions therefore, following later usage, have in that respect become more general. In, for example, my own dictionary of linguistics, valency is of “a verb or other lexical unit” (Matthews 1997: 394). For the late Lawrence Trask, whose dictionary of grammar was familiar to me when I chose this form of wording, the term had both a narrower and a broader definition: “1. The number of arguments for which a particular verb subcategorizes, ... 2. More generally, the subcategorization requirements of any lexical item” (Trask 1993: 296; *argument* defined 20, *lexical item* 158). One problem, therefore, is how far the scope of valency should be extended. This can, if we like, be cast in terms of such a definition. The questions, that is, are what is a *lexical item* or a *lexical unit*, and what exactly is meant by *subcategorisation*.

Note too, however, that while Trask’s first definition is in the main close to Tesnière’s, it says nothing about verbs as governors or their arguments as depending on them. Neither does the definition I gave, which refers simply to a “range of syntactic elements”, with no further stipulation of the relations, whether implicitly of dependence or otherwise, in which they stand. This may perhaps not quite reflect the way all linguists see things, outside what one might be tempted to call, however spuriously, an “Anglo-Saxon” tradition. But dependency and valency are potentially separate. To

say, for example, that a verb is transitive is one thing; and, if the facts are agreed, the finding will not be controversial. To say that verbs take objects as dependents is another, and in some accounts at least no such relation has been posited. A second problem, therefore, is how far a link between dependency and valency is justified, especially for categories other than verbs. If *X* is a lexical item, and its subcategorisation either allows it or requires it to take other units, is it always the governor, in Tesnière's sense, in its relation to them?

2.

The valency of atoms, as defined in chemistry, refers to their capacity to combine with other atoms, or with groups of atoms, in the formation of compounds. A verb then, as Tesnière perceived it, could be compared to “une sorte d'atome crochu” (1959: ch. 97.3), which determined the number of *actants* that it too can combine with. To “number” we may add “types”; and, if units other than verbs can be similar “atoms”, there will be none which do not in some sense allow some combinations while excluding others. Not all definitions in linguistics stress the parallel with chemistry. But for Crystal, who does, valency refers in general to “the number and type of bonds which syntactic elements may form with each other” (2003: s.v., “syntactic elements” in capitals). If two elements, therefore, of whatever category can combine in any specific construction, it will be because one or the other, or perhaps both, has a valency that allows it.

By “syntactic elements” Crystal means, or seems to mean, all units that form a constituent in a hierarchy (s.v. *element*). Valency in that sense, which again is similar to valency in chemistry, would be the foundation not just of the syntax of verbs, or of verbs and other lexical units, but of syntax generally. In most accounts, however, its sense is narrower in two ways. First it is a property of, more precisely, *lexemes*: of words, that is, as entered in a lexicon or dictionary. Secondly, it has to do, again as Trask defines it, with subcategorisation. Thus, in this view, it is not part of the valency of *clear* that it can combine with an intensifying adverb: *very clear*, *quite clear* and so on. This is instead a property of adjectives in general, or of adjectives in general with specific exceptions. But adjectives in general cannot be construed with, for example, nominal clauses: thus predicatively in *It was clear that they were coming*. This is a property of a particular subcategory of adjectives, of which *clear* is a member. Therefore it is part of the valency of *clear*, and of every other adjective that in this respect is like it.

This plainly raises problems. There are potential grounds for disagreement as to how we should distinguish lexemes; as to what are categories and what are subcategories; as to what is a subcategory and what are no more than “exceptions”. It is now, however, still more obvious that where the scope of valency might be disputed, issues of dependency in syntax have no bearing on the argument one way or the other. Most linguists will agree that in, for example, *This is quite clear* the intensifier depends on the adjective. They may use other terminology: *quite*, for example, is *subordinate* to *clear*, or *clear* is the *head* of *quite clear*, or the adjective is again a *governor*. Many at least will also see the nominal or *that*-clause as dependent, or subordinate, in *It was clear that they were coming*. But suppose that it were not a dependent, or that *clear* is not a head or governor in relation to it. If so, it would still belong to the same major category as all other adjectives. Therefore, once more, that it takes such clauses would be a matter of subcategorisation. If someone were, despite tradition, to assign it to another category, it would again not be for such a reason.

Dependency, for its part, was a term that Tesnière did not define in his glossary. It is simply, in the passage referred to earlier, the equivalent of being *governed*. In another account, which is that of, in particular, the recent *Cambridge Grammar of the English Language*, it is similarly the converse of *headship*. In *This is quite clear*, a phrase, *quite clear*, would be headed by *clear*; and, in the same breath, *quite* would be a dependent combining with the adjective (compare Huddleston and Pullum 2002: 24). “The term dependent”, as it is then explained, “reflects the fact that in any given construction what kinds of dependent are permitted depends on the head”. Thus, for example, *quite* or *very* are permitted dependents of head adjectives, but not of nouns. A clause like *that they were coming* is again a permitted dependent of an adjective like *clear*, but not of, for example, *pink* or *pretty*.

Valency is thus implicitly, as it could have been for Tesnière, a sufficient criterion for dependency. In, for example, *Alfred liked me* both the subject and the object are within the valency of *to like*. There are some verbs, that is, which exclude or only optionally take an object; and there are others, in Tesnière’s term *avalent*, which in a more sophisticated sense exclude a subject. Therefore *Alfred* and *me*, as “permitted” units, depend on, in this formulation, a head *liked*. But the way this evidence is interpreted could in principle be quite the opposite. Under what conditions, we may begin by asking, can a strictly transitive verb, such as *to like*, enter into a construction? Part of the answer is, of course, that there must be a subject and an object with which it can combine. The presence, therefore, of forms such as *liked* depends, still in a perfectly natural sense of this term, on the

presence of units such as *Alfred* and *me*, by which these conditions can be satisfied. More generally, therefore, if *X* has a valency, the units it takes do not depend on it. In this view, it instead depends on each of them.

For this concept of dependence compare, for example, the later work of Zellig Harris (briefly in Harris 1988: 12f. and elsewhere). It is also matched, for such a sentence, by the much earlier analysis of the Modistae (survey in, for example, Rosier 1983). Even, however, if this view can be discounted, the criterion proposed is soon found to conflict with others. Dependence, in this formulation, is again on heads of phrases: that of an object, for example, on a verb as head of a verb phrase. But headship is notoriously problematic, and evidence that a proposed head has a valency can conflict with other arguments that potentially bear on it.

3.

The problem can be seen most clearly in the case of prepositions. In English especially, different prepositions do take different constructions. In that way they have properties at least “akin”, once more, to valencies. But it is far less certain that they are heads, if current definitions of a head are taken seriously.

For Huddleston and Pullum prepositions include, for example, *after* in *after I left* and, in its wake, most other subordinating conjunctions (2002: 599f.). Some prepositions take accordingly both clauses and noun phrases; others, such as *at*, take only phrases; others, like *when*, only clauses. In most other accounts the category remains much smaller. But even then, a preposition such as *on* has one construction in *on the floor* and another in *on leaving the building*, while, for example, *at* has only the first. *Until*, for example, can combine with adverbs such as *recently* (Huddleston and Pullum 2002: 599), but *during* cannot, and so on. In another view, which Huddleston and Pullum also follow, words such as *since*, in *I’ve seen her since Saturday*, are still prepositions, not reclassified as adverbs, in *I’ve seen her since*. With some members, therefore, of this category a complement can be optional while with others it is obligatory. If we talk in this light of the valency of prepositions, there will obviously be many problems in distinguishing in detail the constructions they can take. But in one analysis or another, different prepositions would have partly different entries in a lexicon.

The complement of a preposition might thus be “similar”, as I put it in the early 1980’s, “to the direct object of a verb, with valencies determining when it is obligatory, optional and excluded” (1981: 151). “Therefore”, I

continued, it was a dependent. But this “therefore”, even at that date, was rather careless. It is even more so if dependency is defined as the converse of headship.

In an “informal characterization”, the head of a phrase was “one of its constituents which in some sense dominates and represents the whole phrase” (Corbett, Fraser, and McGlashan 1993: 1). In what sense is, of course, the problem; and, as Zwicky made clear over twenty years ago (1985), there are several possible candidates. But the formula which many linguists have since favoured talks of heads as units that “determine” the external syntax of a whole of which they are part. It is hard to find an illustration that does not raise difficulties. But in, for example, *very angry people* it is easy to establish a relation between *very* and *angry*: there is a class of adverbs, as they are called, by which adjectives can be modified. There is also a relation between *angry* and *people*: one role of adjectives, that is, is as modifiers of nouns. But it is hard at least to establish any independent relation between *very* and *people*. Substitute for *very* any other adverb that forms a similar combination, and it is still the adjective alone that determines the “distribution”, as a definition on these lines is often formulated, of the intensifier and the adjective together.

For Huddleston and Pullum the head, “normally obligatory, plays the primary role in determining the distribution of the phrase, i.e. whereabouts in sentence structure it can occur” (2002: 24, “distribution” in bold face). Note, in passing, that the “distribution” of a phrase is relative to “sentence structure”; also that, though “normally obligatory”, a head can be elliptical. The main difficulty, however, now lies in the qualification “primary”. The syntax of a whole can by implication be determined by both a head and a dependent. But the role of the dependent would be seen as secondary.

It is obvious why the qualification is needed. The distribution of, for example, *angry with me* is in general, one might claim, determined by the adjective; but its position as a post-modifier, in *the people angry with me*, reflects in part the presence of *with me* as its complement. Is it always clear, though, what is primary and what is secondary? Take, for example, a phrase such as *on leaving the building*. Its distribution is not simply that of *on X*; of the preposition as such plus whatever can then follow it. Compare, for example, *Put it on the floor*, *Put it on leaving the building*. But does the preposition even “primarily” determine the constructions in which these different units can stand? In *Put it on the floor*, the role of *on the floor* is as a locative. In that respect it goes with, for example, *here* in *Put it here*, or *where you like* in *Put it where you like*, in neither of which a preposition is included. In *Turn right on leaving the building*, the unit introduced by *on* belongs instead with clauses such as *when you leave the building*; and, like

these, it includes a verbal unit. In another view it is these categories that are primary, and it is the presence of a preposition, in one kind of locative or in certain kinds of reduced clause, that would then be secondary.

The headship of prepositions could, of course, be saved by technical devices. In *Put it on the floor*, what is locative might in one solution be a preposition, *on_{loc}*, which is different from other *ons*, which merely happen to be homonyms, in *on leaving the building* or, for example, *on Saturday*. The distribution of a phrase like *on_{loc} the floor* could accordingly be said to be determined, absolutely and not merely primarily, by the specific presence of *on_{loc}*; that of *on leaving the building* by a different preposition, *on_{ing}* that we might establish there, and so on. But this is a solution of a kind not needed in the same way for verbs, nouns and adjectives. The headship of, for example, *left* in *left the building*, of *people* in *people angry with me*, or again of *angry* in *angry with me*, all fit Huddleston and Pullum's definition much more easily.

4.

The dependency of complements on prepositions is, in this light, at least problematic. But let us suppose, for the sake of argument, that prepositions are not heads. *On*, for example, will still take a range of possible constructions, distinct from those of other prepositions such as *at*, or *under*, or *during*. This could still be valency, if that term applies appropriately to it.

The widest application would again be as implied by Crystal's dictionary. Not only, then, does *on* as one syntactic element form a "bond" with *the floor* or with *leaving the building*; but, for example, *building* would form a bond with *the*, *on leaving the building*, in *Turn right on leaving the building*, would form a bond with *turn right*, and so on. These are bonds of different types, and in Crystal's definition, which in itself is perfectly coherent, they reflect not only the valencies of words like *at* and *building* but also, since a phrase is a syntactic element, of the constituents of which they form part at all levels. In other accounts, however, valency is again restricted to lexical units. The syntactic elements that they take, moreover, are traditionally *constructions*: not constituents individually, but the general patterns in which any similar constituent will stand.

Take for comparison a straightforward relation of agreement. The construction of, say, *die Frau* ['the woman'] is the same, at least as linguists usually describe it, as that of *der Mann* ['the man']: of, in general, a noun with an article. It is then a property of certain lexemes, such as *Frau*, that they form bonds with articles, such as *die*, in the feminine. But in this light

it is not a property of valency. One justification is that rules for gender are bound up with those affecting number or case, which are not inherently of lexical units. Another, however, might be that relations like this are less obviously asymmetrical. A construction is one thing, and a lexical unit, which in the traditional term “takes” or “requires” it, is another. But *Frau* is a word and *die* too is a word, and, while grammars have traditionally talked of articles “agreeing with” nouns, or of nouns as determining the form that they will take, it would technically be possible to say precisely the opposite. In *die Frau*, that is, *die* is inherently feminine; therefore, in an alternative formulation, it requires nouns, such as *Frau*, whose properties will match it. For many linguists, this account fits beautifully with the hypothesis, as they present it, that the construction is of a *determiner phrase*, with *die* as its head determiner.

What do we mean then, more exactly, by constructions? Since the 1980’s this term has taken on a new life, in the work of Fillmore and others (Fillmore, Kay, and O’Connor 1988; Goldberg 1995). One point, however, that we need to emphasise is thoroughly traditional: that constructions are wholes that may not always reduce to a simple hierarchy of parts.

At school, for example, I was taught that certain verbs in Latin, such as *doceo* [‘I teach’], took a “double accusative”, or the “double accusative construction”. The purpose, no doubt, was in practice to discourage me from putting nouns that should be accusative into the dative, on the model of, in English, sentences such as *I taught it to the children*. But this view of their construction does reflect a fundamental truth, which is brought out beautifully, from a lexicographer’s viewpoint, by Thomas Herbst in this volume. A verb, in particular, does not bond independently with individual syntactic elements, subject only to restrictions that affect each combination separately. Its valency is a whole of which such elements are parts, and its relation to each element, as to each of the accusatives in a double accusative construction, may be bound up with the ones it bears to others, or that these elements bear among themselves.

Divisions among elements will then be secondary; and in many cases, as with the constructions of *doceo* in Latin or *to teach* in English, they are not a problem. But take, for a notorious example, the constructions of what Quirk and his colleagues have called *complex transitives*. In *They made her their leader*, the verb is followed, as they and many other linguists see it, by two separate elements: first an object, *her*, and then an *object complement*, *their leader*. In this sense, therefore, *made* will form bonds with *they*, as subject, and with each of these. Other complements of an object, similar in that way to noun phrases like *their leader*, include adjective phrases, as

in, for example, *That drove [him] [crazy]*; infinitives, as in *I felt [it] [to be falling apart]*, and so on (Quirk et al. 1985: 1195ff.). But this is, of course, just one analysis. In another common view, such verbs will take two elements only: *they* as subject and a clause of which the so-called “object” is instead the subject. In two of the examples given, this is of the kind that followers of Chomsky class as “small”: thus, with brackets again, *They made [her their leader]*, *They drove [him crazy]* (compare Fromkin 2000: 133f.). In the third example, it is a clause like others generally, except that it is not tensed: *I felt [it to be falling apart]*.

Which treatment should we follow? One well-known compromise would hold that both are right; but at two different levels. In an underlying structure *her* remains a subject, in the same role as the subjective pronoun in *He was their leader*. But it is superficially “raised”; and, after raising, it becomes an object. This was an analysis defended at length, thirty years ago, by Postal (1974). Alternatively, the syntax is of an object and its complement; but the relation between these is semantically like that of predication. With infinitives in particular, this relation then distinguishes a *raising verb*, as many linguists call it, from *control verbs*, as again a follower of Chomsky calls them, such as *to persuade* or *to ask*. In syntax, that is, both will take the same constructions. But with verbs of the control kind, as described by Huddleston and Pullum, “the syntactic structure matches the semantics quite straightforwardly” (2002: 1201): compare, for example, *They asked [me] [to leave]*. With “raised object verbs”, there is instead a mismatch. In, for example, *They intended [me] [to leave]*, the syntactic object is not an argument, at the level of propositional meaning, of *to intend*; but simply of the subordinate verb *to leave* (Huddleston and Pullum 2002: 1201; “propositional meaning” 226). Whatever the solution, however, there will now be further difficulties. Is there also a “small clause”, if that is the way we want to describe it, in, for example, *They found him ill* or *They found him in distress*? Or are *ill* and *in distress* no more than separate adjuncts? Which kind of verb is, for example, *to expect* in *I expect you to leave*? Is *you*, “syntactically” if we so perceive it, no more than the subject of *to leave*? What is expected, that is, is an event which involves the addressee’s departure. Or does the speaker expect it of the addressee, as an individual or set of individuals, that he, she or they will go away? That might suggest that *you* is an object, and the subject of the infinitive, again in one analysis, a zero “controlled” by it. Or is the sentence structurally ambiguous, in its syntax or again in no more than its semantics, as we prefer?

Such issues are familiar and it is hard to see how indeterminacy can be avoided. It seems clear, however, that at least some verbs take networks of

relations. In *That drove him crazy*, there is a link of some kind between *him* and *crazy*. The dispute is simply as to whether it is syntactic or semantic. Either *him*, in one account, or *him crazy*, in another, are in turn related to *drove*. But so too, on its own, is *crazy*. *To drive* can take a small clause, if that is how we want to see it, where the predicate is an adjective; or, for example, an infinitive (*That drove him to commit suicide*). But, unlike *to make*, it does not generally take a noun or noun phrase (compare, for example, **That drove him a suicide*). There are also limits to the adjectives it normally goes with (compare, for example *That drove him angry* or *?That drove him happy*), as with other verbs of this class. Compare, for example, *They painted it green* with *?They painted it pretty*; or *They cut it short* with *?They cut it brief*. The construction is a whole in that sense, in that all its elements are interrelated. But within the class of verbs that take it, whose valency is at a general level complex transitive, there are again some where, at a subsidiary level, one relation or the other will be weaker. The link of verbs to object complements is strongest with what may be called “group verbs” (Denison 1998: 221ff.) or idioms, such as, we might say, *to cut short*. But it is certainly weaker in, for example, *The crash left her peniless* or *They found him ill*. The link of verbs to objects is weaker with so-called “raising verbs”, as in *I felt it to be falling apart*; and so on. But the problems this can lead to, in saying what exactly, for example, is the valency of *to expect* or *to want*, are precisely no more than subsidiary.

The network does not, in this case, so obviously include the subject. But there is also the construction first described by me, I think, as “complex intransitive” (Matthews 1980). In, for example, *She turned green* this is again a whole in which the relation between no two syntactic elements (subject, verb and subject complement) can be detached from the others.

5.

Valency, to sum up, is in principle independent of dependency, headship or governorship; it is a property of lexical units in relation to constructions; and it is specifically of units assigned to subcategories. The remaining question is, which lexical units? Or, if the answer is all, what is a lexical unit?

One definition might appeal to a distinction between closed and open categories. The distinction itself is central for, among others, Quirk and his colleagues (1985: 67, 71ff.); and in this sense prepositions, in particular, are not lexical but grammatical. Therefore the bonds they form in varying constructions, though “akin” to valency, could belong with those of other

members of closed categories, such as conjunctions, modal verbs, or articles. In another view, however, they too form a lexical category. The reasons vary; but one argument might be precisely that each preposition has a valency. Like verbs, that is, each takes or in more fashionable jargon “licenses” a specific range of structures.

The truth, however, is that no single category is quite like the others. The properties of verbs, in this respect, are clearly lexical. Not only does each member of the category have a valency; but exactly what it is can vary between speakers and can change quite easily. Judgments, therefore, are notoriously difficult. Can *to start*, for example, be used as a complex transitive: thus *The rain is starting the tunnel to collapse*? Can *to demand* take the construction of *They demanded someone to come*, or *to accord* that of *They accorded it with this title*? These are modelled, naturally, on examples I have collected. “Chaque mot”, one might say, “a sa valence”; and although the instinct of many linguists has been to establish ordered series of subcategories, distinguished by fixed ranges of constructions and semantic or “cognitive” properties corresponding to them, they are liable to be defeated, in the end if not from the outset, by the operations of analogy on the use of lexemes individually. To say of an intransitive verb that it simply cannot be used transitively is already imprudent.

If prepositions are grammatical it is, in this light, not just because they are closed. That statement may in any case need to be qualified. It is because their meanings and their syntax are fragmented. *On*, for example, enters into different contrasts with different sets of opposed units: as a locative in *Put it on the floor*; in expressions of time such as *on Saturday*; in combination with an *ing*-form in *on leaving the building*; in individual group verbs such as *to look on* or *to run on*; and so on. Each use is therefore subject to its own rules. *By*, for example, is another preposition that can take an *ing*-form: thus *by leaving the building*. It also enters into locative constructions, as in *I was walking by the river*; and, in that use, it can have a meaning partly similar to that of *along*, in *I was walking along the river*. But there is no basis here for analogical extensions like those that we find with verbs: *by leaving the building*, that is; therefore *along leaving the building*.

In this respect most adjectives and nouns are also lexical. But nouns especially raise other problems, which in turn are well-known. Not all, of course, take even optional complements: *the news of their success*, not *the cat of their success*; *her letter to the council*, not *her cat to the council*; and so on. Is *cat* to be described in this light as a noun which has a zero valency, on the lines of verbs such as *to rain*? Or do such nouns simply have no valency at all? With nouns like *news* or *letter*, complements are

then rarely obligatory. Many such nouns are derived, moreover, from verbs: *announcement* from *to announce*; *speech*, although irregularly, from *to speak*, and so on. Their valencies, if that is how we should again describe them, are in many cases also temptingly derivative: *He announced his resignation* or *She spoke to parliament*; hence, as many will argue, *the announcement of his resignation* or *her speech to parliament*. Now the meaning of *speech* in this example is narrower than that of *spoke*. But how far, despite that, are their valencies that of a common stem and not of nominal and verbal lexemes separately?

The way we answer questions like these may, however, not be that important. That valencies are above all properties of verbs has been acknowledged from the outset, and most linguists, whether or not they use the term themselves, see individual *argument structures*, or what Quirk and his colleagues call their *complementation*, as fundamental to their meanings. The same is arguably true of adjectives such as *clear* in *It was clear that they were coming*, or *sure* in *I was sure that they were coming*, where, in predicative position, they may take complements optional only under ellipsis. Here too, moreover, usage can be fluid. But many other adjectives, like many nouns, take modifiers only or have valencies that are temptingly, again, derivative. If prepositions did have meanings like verbs, their status as *atomes crochus* could again be seen as similar: both primitive and fundamental to the whole class. If Tesnière did not describe them in that way it was because, in his analysis, they were grammatical *markers* and not *governors*. But even if governorship is irrelevant, or the definition of a head can somehow be made to cover them, there would still be problems that might lead us to explain their syntax differently.

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Valency complements or valency patterns?

Thomas Herbst

1. Valency and the idiom principle

1.1. Valency as a property specific to lexical units

The valency approach as it was developed in German *Germanistik* can probably claim to be one of the most systematic attempts to describe complementation structures of verbs, adjectives and nouns. One of its most important assets is that it has always devoted considerable attention to the distinction between such elements whose occurrence is dependent on the presence of a particular valency carrier, i.e. the complements (*Ergänzungen*), and such elements whose occurrence in a clause is structurally independent of the presence of particular other words, i.e. the adjuncts or peripheral elements (*Angaben*). Although the distinction between complements (or, in more refined versions of the approach, different types of complement) and adjuncts takes the form of a gradient rather than that of two clearly distinct categories, it can be said that within valency frameworks what is to be considered a complement of a valency carrier is not left to intuition but based on a number of test criteria.

The phenomenon of valency is one part of the unpredictable, unsystematic aspects of language. It is thus probably more than a historical coincidence that pioneering work within the valency framework has been done within a general context of foreign language learning and foreign language teaching, which is equally true, for example, of Gerhard Helbig's contributions to the development of valency theory in the GDR and of early valency work in West Germany (e.g. Engel and Schumacher 1976).¹ Equally, it can hardly be considered a coincidence that valency research should have resulted in valency dictionaries since valency structures represent idiosyncratic, word-specific types of information (e.g. Helbig and Schenkel ²1973; Engel and Schumacher 1976; VALBU 2004 for German or VDE 2004 for English). Although valency is also an important concept within many syntactic theories, especially those with a dependency component (Matthews 1981; Heringer 1970 or 1996; Herbst and Schüller forthcoming), it is pri-

marily to be seen as a property of lexical items or, to be more precise, as a property of lexical units. This is, of course, no contradiction since, in fact, the determining influence of individual lexical units on the structure of sentences has received increasing attention in many theoretical frameworks.²

1.2. Tidy and messy aspects of language

Unpredictability in language is not restricted to valency, however. A further case in point is presented by combinations such as *guilty conscience* or *lay the table*, which can be called institutionalized collocations and which can be characterized as “typical, specific and characteristic relations between two words” (Hausmann 1985: 118). Again, the idiosyncratic nature of such combinations is revealed by the comparison with other languages. Neither **schuldiges Gewissen* nor **den Tisch legen* would be acceptable translations in German, for instance. In general, one could argue that the fact that the well-formedness of sentences or texts cannot easily be described as the result of applying syntactic rules of some kind is probably particularly apparent in the context of a type of linguistics that takes into account aspects of foreign language teaching and of translation theory. At a very basic level, this kind of insight takes the form of the common experience that learners’ utterances produced in essays or translations which do not violate any grammatical rules of the target language are nevertheless often judged not to “sound right” by native speakers although it is difficult to formulate this in more concrete terms. It is important to realize that although the unsystematicity of language, for which such observations provide evidence, may be particularly noticeable in foreign language contexts, it is a central feature of the phenomenon of language as such and thus has to play an appropriate role in any comprehensive theory of language.

On the other hand, it cannot be denied that other aspects of language can indeed be accounted for in terms of general rules or principles. Just as it is obvious that institutionalized collocations such as *guilty conscience*, *white coffee* or *strong tea* cannot be explained in terms of rules, one would definitely assume that at the other end of the extreme the interpretation of utterances is determined by general pragmatic principles.³ Thus an announcement of the type as is made on trains running from Westerland (Sylt) to Hamburg

- (1) *In Kürze erreichen wir Husum. In Husum steigen Sie bitte in Fahrtrichtung rechts aus.*
'We'll shortly be arriving at Husum. At Husum please alight using the doors on the right-hand side of the train.'

is not interpreted by any passenger to mean that one is obliged to get off at Husum although this would be a literal interpretation of what is being said.

Up to a point, distinctions such as de Saussure's (1916) between *langue* and *parole*, Coseriu's (1973) between *System* and *Norm*,⁴ Sinclair's (1991) between the open choice principle and the idiom principle⁵ or Chomsky's (1986) between *core* and *periphery* recognize the fact that some aspects of language can be explained rather well in terms of general rules whereas others apparently cannot. The question is, however, how much importance is attributed to these two aspects. Chomsky (1986: 221), already in his choice of terms but also in the description of the concepts, clearly takes core grammar to be the central aspect of language:

The core, then, consists of the set of values selected for parameters of the core system of S_0 ; this is the essential part of what is "learned", if that is the correct term for this process of fixing knowledge of a particular language. The grammar of the language L is the linguist's theory of L, consisting of a core grammar and an account of the periphery.

Whether core grammar in the sense described by Chomsky is the "essential part of what is being 'learned'" or not depends very much on the number of linguistic facts that – like valency and collocation – fall under the heading of the unpredictable, idiosyncratic or idiomatic. Opposing Chomsky, Sinclair (1991: 110) argues that the principle of idiom, "has been relegated to an inferior position in most current linguistics, because it does not fit the open-choice model."

It is interesting to see that a lot of the empirical research carried out in corpus linguistics also underlines the importance of idiosyncratic features as far as the co-occurrence of words in texts is concerned. It is in this light that Sinclair's (1991: 110) concept of the idiom principle – "that a language user has available to him or her a large number of semi-preconstructed phrases that constitute single choices, even though they might appear to be analysable into segments" – appears so remarkable. It seems that a considerable amount of the evidence provided by corpus research and the experience gained in contexts such as that of foreign language teaching must lead to the conclusion that the idiosyncratic or idiomatic aspect of language may well be much more important than is often assumed even if this means that language as a whole appears less tidy and perhaps slightly messy.⁶

It is obvious that the relationship between the rule-driven, tidy and the messy, idiomatic components of language is of particular relevance to cognitive or psycholinguistic issues. Idiomatic or idiosyncratic aspects require storage; open choice aspects can be accounted for in terms of rules – irrespective of whether such rules are learned or acquired as rules or emerge from data that are acquired in some form or another. While the investigation of various valency phenomena provides a considerable amount of evidence to assume that the idiosyncratic component is rather important (Götz-Votteler, this volume; Klotz, this volume; Herbst, forthcoming), this article will address the problem from a slightly different angle – namely by looking at the question of how valency relations are best described.

2. Valency patterns or valency complements?

2.1. Complement inventories

Valency is most often seen as the property of a word – or, more precisely, of a lexical unit as “the union of a single sense with a lexical form” (Cruse 1986: 80) – to determine the occurrence of other elements in a clause. Thus Helbig and Schenkel (²1973: 49) define syntactic valency in the following way:⁷

... die Fähigkeit des Verbs, bestimmte Leerstellen um sich herum zu eröffnen, die durch obligatorische oder fakultative Mitspieler zu besetzen sind.
[... the ability of the verb to open up certain positions in its syntactic environment, which can be filled by obligatory or optional complements.]

This view of valency is expressed in a very similar way in Emons’s (1978: 4) definition of valency:

Die Eigenschaft eines Prädikats, eine bestimmte Anzahl von Ergänzungen zu fordern, nennen wir seine Valenz.
[The property of a predicate to demand a certain number of complements is referred to as its valency.]

Very similar descriptions can be found in other frameworks, for instance, when Haegeman (1991: 41) says the “verb **theta-marks** its arguments” or in Chomsky’s (2004: 111) description of the character of lexical entries of verbs:

... every lexical item carries along with it a certain set of thematic roles, theta-roles, which have to be filled. That is its lexical entry ...

What all these conceptions have in common is that a verb can be associated with a kind of inventory of syntactic elements, which, depending on the theoretical framework and terminology, can be described in terms of semantic cases, theta-roles or as arguments or complements. This view of valency is represented in the *Valency Dictionary of English* (VDE) in the form of complement inventories, in which the complements of a particular lexical unit (e.g. *convince*) are listed.

Active: 2/3		Passive: 1/3		General: 0				
I	[N] _A / [by N]					II obl	[N] _P	D T1–3
	[V-ing] _A		D	T1–3		III	[to-INF]	T1
	[that-CL] _A		D	T1–3		IV	[that-CL]	T2
	[N V-ing] _A		D	T1–3			[of N]	T3

The alternative to such a view of valency as an inventory of complements is to regard valency specifications as information about particular patterns in which a lexical unit can occur. In the VDE such patterns are indicated (however usually without any specifications regarding subjects) in the patterns and examples section following the complement inventory. Thus, in the case of *convince*, one divalent active pattern and three trivalent active patterns are identified:

D	+ N _P	No I'm stuck you know I'm going to be stuck with my opinion and that is that and you're not going to <i>convince</i> me. (only if clear from context) • I think we would have <i>convinced</i> anyone, although, come to think of it, we could not have had a more difficult audience than Florence. (only if clear from context)	T2	+ N _P + (that)-CL	The few shining examples of new working-class accommodation which he saw on his tours around the country <i>convinced</i> him that far more could be done. • They were unable to <i>convince</i> him that his tape recorder played both sides without first having to rewind the cassette. • It took her a moment, after waking, to <i>convince</i> herself that she had not heard the voice at all. • In extreme fevers – and there are records of many such in history – nothing will <i>convince</i> you you are unwell.
T1	+ N _P + to-INF	Sometimes the young person involved and their parents will have to attend a meeting of the school governors to try to <i>convince</i> them not to go ahead with the expulsion.	T3	+ N _P + of N	The mere suspicion was enough to <i>convince</i> him of Andy's guilt.

Such a pattern-related view of valency is also reflected in the concept of *Satzbaupläne* as outlined by Engelen (1975) or Engel (1977).⁸ Similarly, one could argue that Fillmore's (1968: 27) statement that the "insertion of verbs ... depends on the particular array of cases, the 'case frame' provided by the sentence" can be taken to refer to a pattern oriented view of such phenomena.

In many respects, both views of valency – in terms of an inventory of complements or in terms of valency patterns – are compatible with one

another. The question to be discussed here is, however, whether there are linguistic facts which can be described more appropriately in terms of the one framework rather than the other.

This will be discussed with respect to the following four levels of description which a comprehensive valency description as attempted in VDE should comprise, namely statements about:

- (i) the minimum and maximum valency of the lexical unit in question,
- (ii) the degree of optionality of the complements as obligatory, contextually-optional or optional,⁹
- (iii) the formal and functional properties of the complements,¹⁰
- (iv) the lexical, semantic and collocational description of the complements.¹¹

2.2. Quantitative valency

The complement inventory account and the pattern-oriented view of verb valency may already be in conflict when it comes to the relatively simple question of quantitative valency, which is usually seen as being determined by the number of obligatory and optional complements a verb requires. Thus it would be common practice to classify a verb such as *meet* as divalent on the basis of a sentence such as

- (2) *This time, she met Jamie at Rital's wine bar at lunchtime.*_{BNC}¹²

since neither the [N]_A-complement *she* nor the [N]_P-complement *Jamie* can be deleted without making the sentence ungrammatical. However, monovalent uses of *meet* can be found in sentences such as

- (3) *These days they meet at conferences ...*_{BNC}
 (4) *A Cabinet committee meets tomorrow to agree to slash public spending by billions.*_{BNC}

The problem with verbs such as *meet* or *kiss* is that there is a difference between syntactic and semantic valency. One could argue that at the semantic level such verbs have an obligatory valency of 2 in that they require two arguments whose semantic roles could be described as that of a 'MEETER' (i.e. a person who meets someone) and that of a 'MEETEE' (i.e. a person who is met by someone). At the syntactic level, however, both these arguments can be expressed by one complement, which can consist of a coordinated noun phrase or a plural noun phrase as in (3) or of a noun

phrase containing a singular group noun. In VDE this is represented in a form which combines the two arguments I + II and provides a list of possible complements:

I + II	[N] _A / [by N] + [N] _P	D1	T1–2
	[N _{pl/group}] _A	M	T2
	[N and N] _A	M	T2
	[N] _A + [with N]	D4	T2

Although such an account describes the syntactic possibilities accurately, it is not entirely unproblematical from a theoretical point of view. First of all, the monovalent uses of such verbs raise the question of whether the [N]_A-complement (the subject) actually represents the two semantic roles of 'MEETER' and 'MEETEE' or whether such role assignment is misguided in such cases. One could indeed argue that since activities such as 'meeting' involve more than one person, the unacceptability of a sentence such as

- (2) a. **This time, she met at Rital's wine bar at lunchtime.*

is due to a general semantic or even pragmatic rule. More importantly in the present context, however, the complement inventory presented in VDE already contains aspects of a pattern-oriented view of valency since it demonstrates the interrelationship between different kinds of possible realizations of the arguments identified. In any case, one can conclude that statements about the minimum or maximum valency of verbs are difficult to make without taking into account the precise form a complement such as [N]_A takes in a particular realization.¹³

2.3. Optionality

It is common in valency theory to make a distinction between different kinds of complement with regard to their degree of optionality. Thus it would be generally accepted to classify [from N] in

- (5) *We'd love to hear from you about it.*_{VDE}

as an optional complement since the verb *hear* can be used in the same meaning without that complement, as in

- (6) *I want to hear about it.*_{BNC}

At the same time there are uses such as

- (7) *We'll hear from an economics writer on why the economy is expanding faster than unemployment is decreasing.*_{VDE}

where the [from N] complement cannot be deleted:

- (7) a. **We'll hear on why the economy is expanding faster than unemployment is decreasing.*

This situation is difficult to describe in terms of a complement inventory since [from N] is optional in patterns with [about N] but obligatory in patterns with [on N].¹⁴ An accurate description of the optionality of complements is complicated further by the fact that with some verbs it may be affected by special types of text and the grammatical construction in which the verb is used. A typical example of this is presented by instructions typical of cookery books:

- (8) Fix *and* wash *carefully*._{VDE}
 (9) Boil the lime flowers and nettles together in the water, cover and leave *to simmer for ten minutes*._{VDE}

2.4. Alternative realizations

A further problem for an inventory-oriented approach towards the description of valency is presented by alternative patterns which can be considered to be more or less synonymous. Thus in cases such as

- (10) *I hurried to pack my things*^{II}._{BNC}
 (11) *I rushed to pack my suitcase*^{III}._{BNC}
 (12) *I^I pack them^{II} into big bags*^{III}._{VDE}
 (13) *The old fellow has no idea how to pack a shopping basket*^{III} *with goods*^{II}._{VDE}

it makes sense to consider the underlined elements as representing one type of complement and the elements marked by dotted underlining as representing another type of complement. The first one could be seen as representing an argument that could be described as 'CONTAINER', the second one as an argument labelled 'ÆFFECTED' in VDE. The VDE complement inventory of *pack* contains the following information:

A ... suitcase				
Active: 1/3		Passive: 1/3		General: 0
I	[N] _A / [by N]			
II	[N] _{P-2} <i>ÆFFECTED</i>	D1	T1-2	
	[with N]		T3	
III	[N] _{P-2} <i>CONTAINER</i>	D1	T1.3	
	[into N]		T2	
IV	[N] _{P-1} <i>BEN/REC</i>		T1	

What is remarkable about this is that a mere list of complements without any reference to the patterns in which they can occur would not be sufficiently specific because it would not rule out unacceptable sentences of the type

- (14) a. **I rushed to pack into my suitcase^{III} with my things^{II}.*
 b. **I rushed to pack with my things^{II} into my suitcase^{III}.*

Only the fact that [with N] is specified as occurring only in pattern T3 (of which [13] is an example) and [into N] as occurring only in pattern T2 (as in [12]) rules out (14a) and (14b). Combinations of two noun phrases of the type

- (14) c. **I rushed to pack my things^{II} my suitcase^{III}.*
 d. **I rushed to pack my suitcase^{III} my things^{II}.*

are also excluded by the description of the complements as [N]_{P-2}, which means that they can occur only as the second noun phrase in a pattern T1 as in

- (15) *Shelagh*^I packed *them*^{IV} *a lunch box*^{II}._{VDE}

One could argue, of course, that specifying a complement with respect to its place in a pattern (as indicated by the indices 1 and 2) already provides information about patterns in the description of the complements. Although these examples show that referring to the valency patterns of a verb is an essential component of the description of its valency, this does not mean, however, that identifying complements as such and establishing a complement inventory is a pointless or redundant exercise. One should not forget that it is this kind of complement inventory that provides information about the semantic roles of the complements in various patterns.

2.5. Semantic and lexical properties

A similar kind of problem is presented by rivalling patterns if one takes the lexical level into account. Klotz (2000) points out that the two trivalent patterns of the verb *cause* do not allow the same lexical elements. Thus although the complements marked by single and double underlining in

- (16) ... *there are people whose drinking causes them medical or social harm*._{BNC}

and

- (17) *It can now be stated that passive smoking causes lung cancer in non-smokers and serious respiratory illness in babies*._{BNC}

express the same or very similar semantic roles, a sentence such as

- (17) a. **passive smoking causes babies serious respiratory illness*.

is not acceptable. A similar example is presented by the fact that in the case of so-called ergative verbs such as

- (18) *They^I closed the door^{II} behind them*._{VDE}
 (19) *The heavy wooden door^{II} closed with a thump*._{VDE}

ergativity (in the sense that the [N]_P-complement can also occur as an [N]_A) is restricted to certain lexical items:

- (20) *He closed his book and gazed into the flames*._{VDE}
 (21) **His book closed*.
 (22) ... *this book closes with the end of the 1988 season*._{BNC}

where (22) obviously does not correspond semantically to (20). A similar example is presented by *open*, where one finds

- (23) *Suddenly the kitchen door opened* ..._{VDE}
 (24) *He opened the kitchen door and came in and shut it before he turned to face them*._{BNC}
 (25) *He opened a bottle of champagne*._{BNC}

but not:

- (25) a. *A bottle of champagne opened.

Observations like these stress the argument that speakers seem to have available to them information about possible realizations of particular complements in particular patterns and not just information about the complements of a particular verb.

3. Semantic and lexical information about complements

If valency information comprises not only information about possible complements of a verb (or other valency carriers) but specific knowledge about the possible combinations in certain valency patterns including lexical information of the kind which lexical items or sets of lexical items can realize a complement in a particular pattern, then this certainly increases the amount of idiosyncratic or idiomatic knowledge that has to be acquired and stored by the speakers of a language.

This applies particularly to the question of whether it is possible to provide a description of the semantics of complements that would actually account for all the lexical items that can realize this complement and exclude others. Empirical work in this field has shown that a finite set of semantic cases as originally proposed by Fillmore (1968) poses a great number of descriptive problems and is probably not refined enough to provide a comprehensive description. Helbig and Schenkel (²1973) make use of semantic components to characterize semantic properties of complements; Helbig (1992: 154–155) suggests integrating both semantic components (*Stufe II*) and case roles (*Stufe III*). Although VDE adopts a very flexible policy and includes semantic descriptions that correspond to stages II and III of Helbig's model, it is interesting to see that VDE, VALBU and FrameNet independently of each other generally provide descriptions of the semantics of complements which are rather specific to the particular verb. Thus VALBU characterizes the nominative complement (NomE) and accusative complement (AkkE) of a lexical unit such as *gründen* (sense 1) as follows:

NomE: derjenige, der etwas ins Leben ruft: Person/Institution
 AkkE: dasjenige, das ins Leben gerufen wird: Institution/Gremium [Kommission, Bürgerinitiative, Selbsthilfegruppe o.Ä.]

This is rather similar to the descriptions provided in VDE for a verb such as *deny*:

- A person or something written or said by a person^I can deny**
 (i) **something they are accused of or that has been said about them^{II}**
 (ii) **that something is the case or exists^{II}.**

Similarly, FrameNet, which establishes categories that cover more than a single lexical unit, uses categories that are much more specific than those of traditional case grammar. Thus the *closure* frame, to which the verb *open* belongs, operates with categories such as ‘Agent’, ‘Fastener’, ‘Containing object’, ‘Enclosed region’, ‘Container portal’ or ‘Manipulator’. Again, a parallel can be found to the description provided in VDE:

A	<i>Open</i> can mean ‘become open’.
(i)	A door, window, etc. ^{II} can open or be opened by someone ^I or something ^V or open easily.
(ii)	A container such as a tin ^{II} can be opened by someone ^I or something ^V or open easily.
	→ M D1 D8 T2 T3
B	A public place, a shop, a business, an exhibition, an event, a discussion, etc. ^{II} can open or be opened, i.e. start to be open to the public or do business.

The description of sense B in VDE finds an interesting parallel in VALBU’s definition 6 of *öffnen*:

jemand [Person [als Funktionsträger]/Institution] veranlasst, dass etwas [Institution: Geschäft, Praxis, Behörde o.Ä./[indirekt Räumlichkeit]] irgendwann für den Kunden-, Publikumsverkehr zugänglich ist; aufmachen.

What is interesting about the lexicographical treatment of the non-formal side of the characterization of complements in VDE or VALBU is that both dictionaries make use of general categories such as *someone* or *derjenige* (which can be seen as equivalent to Helbig’s semantic feature + HUM) but nevertheless find it necessary to give relatively specific lists of lexical items such as *door*, *window*, *etc.* or *Kommission*, *Bürgerinitiative*. Very often this is because no suitable label can be found as in the case of the note for the verb *set* in VDE

- A person^I can set someone^{III} something such as a deadline, a target, a task, a test, an examination, etc.^{II}.**

where it seemed impossible to subsume all possible realizations of complement II under a general heading.

All this provides strong evidence for the messy side of the scale.

4. Conclusions and questions

4.1. Conclusions

With regard to the question of whether valency phenomena are to be described more appropriately in terms of a complement inventory or in terms of valency patterns, it seems that both views will have to be considered. Valency patterns can be seen as the basis for generalizations in terms of a complement inventory or also in terms of argument structure constructions of the kind discussed, for instance, by Goldberg (2006). The identification of separate complements in a complement inventory allows certain generalizations to be made, especially with regard to the semantic contribution of the complement (in terms of semantic roles or whatever) that must be part of a valency description. However, the above discussion has revealed that very important facts about the valency structures of a lexical unit cannot be covered by a complement inventory: these range from the possible combinations of complements and their position to the question of the possible lexical realizations of the complements in different valency patterns.¹⁵ That valency dictionaries should provide *Satzbaupläne* as in VALBU or valency patterns as in VDE thus is not merely due to considerations of lexicographical or didactic presentation but reflects the nature of valency phenomena as such. This insight is also of psycholinguistic relevance in that it shows the need to specify valency patterns in the design of a mental lexicon.

The discussion has also shown that valency is definitely one of the more messy aspects of language. Although nobody will deny that certain general tendencies are also at work – for instance generalizations of the type that subjects of English active declarative clauses tend to be the most agent-like entity in the clause –, the discussion has provided ample evidence to illustrate that the amount of idiosyncratic word specific knowledge that is involved is considerable.

4.2. Questions

If one considers valency phenomena not only from the point of view of descriptive linguistics or lexicography but with respect to psycholinguistic or cognitive questions, then the conclusions outlined above raise a number of questions. What is obvious is that the messy character of valency phenomena as such and the role attributed to valency patterns – which are neither general patterns like the patterns of early American structuralism nor

identical with the constructions of construction grammar¹⁶ – increases the amount of information that has to be stored in the mental lexicon.

However, if storage is such an important factor in this area, one might take the issue further and question the idea of valency as a property of lexical units altogether. Does it make sense to assume that we store different senses of a lexeme, which then have certain properties such as a particular valency structure? To what extent are we justified in assuming that

- (26) *Her excitement shone in her eyes as she showed him her sketches.*_{VDE}

represents a different meaning of *show* from that exemplified by

- (27) *Nicholson seized every opportunity to show his work in the mixed exhibitions now being arranged.*_{AC}
 (28) *Patrick Heron's work was shown by the Waddington Galleries.*_{AC}

simply because (27) and (28) represent divalent uses and semantically are instances of public showing? Does

- (29) *Children in this phase show no special anxiety at being separated from their parent; and no fear of strangers.*_{VDE}

have to be treated as a separate sense of *show* because the showing is non-intentional? It is obvious that these are questions any descriptive semantist or lexicographer is faced with every day, and it is equally obvious that polysemy is not necessarily a property lexical items possess but a property that is imposed on them by analysts, but nevertheless the question remains about how such facts are dealt with in language acquisition and how they are processed and stored in the brain and what role general rules play.

Perhaps it is useful to draw an analogy with regular and irregular phenomena in morphology. Contrary to general opinion, Bybee (1995: 428) argues that it is not only so-called irregular past tense forms such as *stuck* or *struck* that are stored in the brain but also the regular forms of high frequency verbs such as *covered* and that past tense forms of a low frequency words such as *hovered* can be produced on the basis of the stored information:

The basic proposal is that morphological properties of words, paradigms and morphological patterns once described as rules emerge from associations made among related words in lexical representation.

The question to be asked in the valency context is whether storage of unanalysed information could not equally serve as an explanation for (a) the apparently idiosyncratic character of many valency phenomena and (b) those generalizations about the use of certain complements or valency patterns that are actually possible.

Take a simple example such as the verb *meet*. Presumably one can safely assume that in the language acquisition process a child will first encounter sentences of the type

- (2) *This time, she met Jamie at Rital's wine bar at lunchtime.*_{BNC}
- (30) *This morning he'll meet President Vaclav Havel ...*_{BNC}
- (3) *These days they meet at conferences ...*_{BNC}
- (4) *A Cabinet committee meets tomorrow to agree to slash public spending by billions.*_{BNC}
- (31) *Heron had met Delia almost immediately on arrival in Welwyn in 1929, when they attended the same school.*_{AC}
- (32) *We had never met before.*_{AC}

All of these sentences represent the concept of a coming together of two or possibly more people, which can be seen as a very simple representation of the meaning of the verb and a very basic concept of what one might call its argument structure. If children “are indeed learning utterance-level constructions as linguistic gestalts”, as Tomasello (2003: 169) supposes, then these sentences can serve as the basis for abstractions concerning the semantic features (‘+ human’ or ‘PERSON’) and semantic roles of the complements. However, that the character of the “meeting” described in these utterances differs can be concluded from one’s world knowledge rather than from the semantics of the verb. The fact that dictionaries distinguish between different senses on the grounds of such features as ‘by arrangement’, ‘by chance’ or ‘for the first time’ is an attempt to describe the scope of situations in which the verb *meet* can be used rather than a semantic description; this is made clear by the ambiguity of some of the sentences above (Herbst and Klotz 2003: 40–41). What one has to bear in mind, however, is that while for lexicographical purposes it may be necessary to distinguish between different senses of a verb such as *meet*, psychologically this need not be so – at least not for perception purposes. In order to understand sentences such as the ones above, a very general understanding of what *meet* ‘means’ together with knowledge of certain facts of the world or what one could call pragmatic rules is sufficient.