RECIPROCALS, GRAMMAR-WRITING AND TYPOLOGY

NICHOLAS EVANS

Abstract. How should grammars handle construction types which are statistically rare and may be difficult to identify, but exhibit significant morphosyntactic and semantic complexity? What is the likelihood that distinctive and typologically interesting constructions of this type might be missed altogether, even in high-quality reference grammars? And when they are described, how thoroughly do reference grammars explore the parameters of the phenomenon – morphosyntactic, semantic, and lexical – and their interaction? Can typologically and formally-based approaches assist writers of descriptive grammars to give more insightful and comprehensive accounts? I examine these questions with respect to reciprocal constructions, which are statistically rare (on all counts occurring in under 1% of clauses in natural text) but which in many languages represent a highly complex part of the grammar. I will particularly focus on a number of case studies where I can compare high-quality reference grammars with additional typologically-driven investigations.

1. THE INTERRELATIONS OF TYPOLOGICAL, DESCRIPTIVE AND FORMAL LINGUISTICS[1]

For the purposes of this article, I regard reference grammars as integrated, consistent and relatively comprehensive descriptions of a complete language system, presented in a framework that is accessible to linguistic practitioners of all persuasions. Unlike the contributions in this issue which focus on reference grammars of well-known European languages – such as *La grande grammatica italiana di consultazione* or the Academic Grammar of Rumanian (*Gramatica limbii române*) – my emphasis here will be on reference grammars of languages that have previously been completely or largely undescribed. This poses two particular challenges:

(a) to achieve a description that fits the overall genius of the language (which may include exotic and previously unknown phenomena) but without leading to unnecessary solipsism or idiosyncrasy, and

(b) to provide a balanced all-round treatment, since in such cases there is little previous work that the reader can turn to if they want to fill in gaps left by the reference grammar.

[1] It is a pleasure to thank Frank Alvarez-Perez and Sylvie Archaimbault, for inviting me to their most stimulating workshop on the topic of Typology and reference grammars, as well as to the various participants for their questions and comments on an oral version of this paper.

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To begin with, let me clarify the relationship between three key domains of linguistics, since this will help us to position the role of reference grammars more clearly (cf. Evans & Dench 2006). (Note that I deliberately avoid labelling one of these domains as "theoretical", since each has its own theoretical challenges, and the equation of "theoretical" with "formal", particularly by generativists, has induced damaging distortions within the field).

Descriptive linguistics, on the model given in Figure 1, has the production of reference grammars as one of its central tasks (alongside dictionaries and more elaborate descriptions of individual phenomena).

Reference grammars are our main vehicle for representing the linguistic structures of the world's 6,000 languages in all their bewildering variety. Each such grammar seeks to bring together, in one place, a coherent treatment of how the whole language works, and therefore forms the primary source of information on a given language, consulted by a wide range of users: areal specialists, typologists, formal linguists, historical linguists, and members of the speech communities concerned. The writing of a reference grammar is a major intellectual and creative challenge, often taking decades to complete. It calls on the grammarian to balance a respect for the distinctive genius of the language with an awareness of how other languages work, to combine rigour with readability, to depict elegant structural regularities while respecting a corpus of real and sometimes messy material, and to represent the native speaker's competence while recognising the patterns of variation inherent in any speech community.

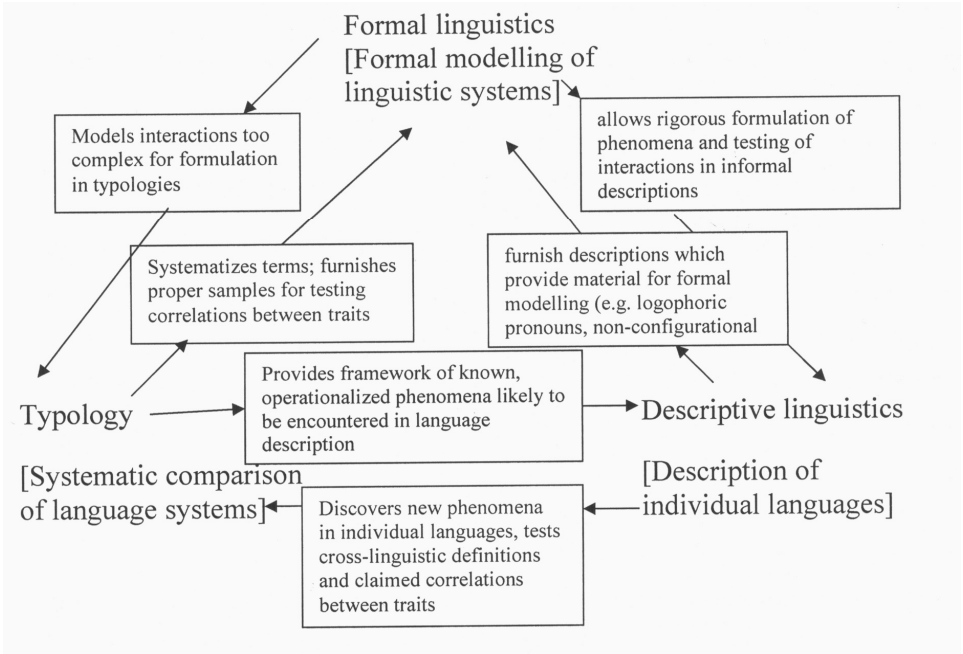

Fig. 1 – Reciprocals, grammar-writing and typology.

Within the broader linguistic enterprise, descriptive linguistics will ideally interact constantly with two other fields: typology, and formal linguistics. Although a good grammarian remains open to new analyses that do not fit the descriptive templates fashioned for other languages known so far, letting the language 'tell its own story' (Mithun 2001: 53), they must nonetheless locate their description within the broad comparative concerns of linguistic typology and the received traditions of description within a language family. Only in this way can the vast library of linguistic descriptions be mutually compatible, allowing the comparison of similar phenomena across the world's languages. At the same time, a grammar should also be written with a respect for the constantly evolving questions and concerns of formal linguistic modelling – both in response to the new discoveries about the nature of grammatical phenomena revealed by this enterprise and as a potential proving ground for explicit models of human language capacity. Formal modelling – within the bewildering number of competing frameworks currently available – is particularly important in looking at the complex interactions which hold between the thousands of individual rules that make up any grammatical description, and which it is difficult or impossible to keep track of informally.

2. WHY RECIPROCALS?

In this article I will take a single semantic domain – that of grammatical constructions for expressing reciprocity – and examine some of the problems it poses for descriptive grammars. Reciprocal constructions are a sensitive measure of how well a reference grammar is doing its job, and can reveal a number of challenges and quandaries facing the grammarian:

• they are a typologically variable phenomenon realized by a broad range of construction types both cross-linguistically and within a single language,

• they are not a universally grammaticalized feature of languages

• they generally display a complex mapping of semantics onto construction types

• they have a relatively low incidence (§2.1), making it difficult to gather comprehensive data on them and sometimes leading grammar-writers to marginalize their treatment. This makes them a good indicator of how grammars treat less common phenomenona.

Autobiographically, I have been involved in investigating reciprocity from both ends – both as a descriptive linguist writing grammars of two Australian Aboriginal languages (Evans 1995, 2003) and as a typologist compiling cross-linguistic material from over 200 grammars for a project on the typology of reciprocals.[2] This is by no means the only typological survey of reciprocals – a

[2] *Reciprocals Across Languages*, a project funded by the Australian Research Council (DP0343354) and undertaken in collaboration with the Max Planck Institute for Psycholinguistics.

long-running project coordinated by Vladimir Nedjalkov, gathering detailed questionnaire material on a large number of languages, will shortly appear (Nedjalkov in press), and Ekkehard König and Volker Gast at Freie Universität Berlin are currently also running a major project on this theme, linked to the development of a typological database on reciprocity being developed by Alexis Dimitriadis (Utrecht) and Volker Gast. Moreover, there are at least two further questionnaires aimed at structuring the collection of detailed reciprocal data: the original questionnaire for the Lingua Descriptive Series (Comrie & Smith 1977) prompted relatively full treatments of reciprocals in grammars appearing in that series, and the questionnaire on reflexive and reciprocal anaphors in Lust et al (2000) led to the collection of detailed data on many South Asian languages, albeit in chapter format rather than as part of reference grammars.

Despite all this work, the treatment of reciprocals in virtually every grammar I have examined (and certainly including my own grammars of Kayardild and Bininj Gun-wok) falls seriously short of what a typologist user would wish for. This deficiency has led to these present reflections on why reciprocals pose such challenges to presentation in reference grammars.

3. FREQUENCY OF OCCURRENCE AND PROPORTION OF DESCRIPTION

Other things being equal, it is reasonable to expect there to be some proportionality between how frequently a construction is used in actual discourse, and how much space gets devoted to it in reference grammars. (This is not absolute, of course, since less frequent constructions may be more complex or problematic to describe – both are arguably the case with reciprocals). In this section I give some rough figures on both.

3.1. Determining the frequency of reciprocals

One reason reciprocal constructions often get short shrift in grammatical descriptions has to do with their low frequency of occurrence. As we shall see, this can even go down to zero, in languages which lack any grammaticalized reciprocal construction. But even in languages with grammaticalized reciprocal constructions, such as 'each other' in English, the frequency is low: in the Brown Corpus of English 'each other' occurs 217 times in 1 million words, i.e. at a frequency of 0.0217% (Frajzyngier 1999).[3]

For details see the project website at http://www.linguistics.unimelb.edu.au/research/projects/reciprocals/index.html

[3] In the same passage, Frajzyngier mentions the much higher frequency of 9,302 times in half a million words (1.8604%) for the Polish word *si□* in the Kurzc *et al.* (1991) corpus. But though this can encode reciprocity (as in *przecież sto lat juz nie widziałyśmy si□* 'Oh, we haven't seen each other

In fact, exact counts are difficult to obtain in most languages, because of the disparate ways in which semantic reciprocity is encoded. Consider English: in addition to semantically dedicated constructions employing *each other* or *one another*, reciprocity is often expressed simply by conjoining reciprocants as the intransitive subject of a transitive verb (*they kissed*) or of two-place kinship nouns (*they are cousins*). I will discuss the full range of encoding options in more detail in §4.1, but these examples suffice to show that the frequency of constructions expressing reciprocal semantics cannot be detected by any mechanical counting procedure, since in so many cases there is no overt marker of reciprocity, which is instead inferred from the combination of a particular lexeme with a particular diathesis.

Consequently, we can only get an accurate idea of the frequency of reciprocal semantics by carrying out a hand count where we mark up texts for the occurrence of semantically reciprocal expressions. I have carried out such counts for a number of longish texts in several languages, some of which are shown below, ordered by how frequently semantically reciprocal expressions occur (Table 1).

Table 1

Frequency of reciprocal uses in selected corpora

Source	Author	Genre	Lg		No. words	%age
Boule de suif	Guy de Maupassant	Novella	French	21	14,896	0.141
Retrato en sepia (->p. 274)	Isabel Allende	Novel	Spanish	99	82,212	0.120
Sense and sensibility	Jane Austen	Novel	English	16[4]	101,840	0.114
Caucasian journey	Negley Farson	Travelogue	English	6[5]	65,600	0.00915

Two points about these figures are worth mentioning.

Firstly, there is a wide discrepancy in frequency according to genre. The three novels or novellas, whose plots naturally deal with human interactions, include a much proportion of reciprocal constructions than Negley Farson's travelogue, which is more firmly rooted in the experiences and actions of a single individual, the author-traveller. This yields an almost fifteen-fold difference in frequency, from around 1 in 700 in the upper range (*Boule de Suif*) to under 1 in 10,000 at the lower end (*Caucasian Journey*). Overall, my impression from carrying out similar counts in a range of languages is that frequencies much over 1 in 700 are unusual.

for ages') it has many other functions (including reflexives) that this considerably overstates the frequency of reciprocals; the adverbial marker of reciprocity *nawzajem* 'mutually' has the much lower frequency of 8 in half a million, i.e. less than 0.002%.

[4] Of which 26 were 'each other' = 22.4%

[5] Of which 5 were 'each other' = 8.3%

Secondly, we can use counts of how frequently markers like *each other* occur in semantic counts to get an estimate of how many reciprocals are likely to occur in the cruder counts based on individual markers, which have the advantage of being made over a larger and more balanced corpus. In Sense and Sensibility only 26 / 116 semantic reciprocals employ *each other*. If this proportion is at all representative of the language as a whole, we would expect the Brown Corpus to contain around 968 semantic reciprocals, i.e. just under 1 in 1000, tallying with the range of frequencies given for the novels and novellas in Table 1.

To conclude this section, reciprocals are a pretty low-frequency phenomenon, with speakers expressing semantic reciprocity about 0.1% of the time, although this may rise temporarily in individual passages, such as those about amorous encounters, relationships and quarrels. We shall see that this low frequency is no barrier to languages developing a range of complex grammatical devices for the expression of reciprocity. But it does impose a natural limit on what proportion of a grammatical description should be devoted to the description of such rare constructions, a topic to which we turn in the next section.

3.2. Proportions of grammars devoted to reciprocal constructions

An idea of the completeness of coverage given to reciprocal constructions in reference grammars can be obtained from Table 2, which gives the number of pages devoted to discussing reciprocal constructions (of various types) in a set of grammars covering 23 languages, representing 18 higher-order families and including languages from all inhabited continents. (Many were chosen because their authors or others have published elsewhere on reciprocal constructions in the language, or else I have been able to check data myself, so as to serve as a control on the accuracy of claims in the grammar.)

The two rightmost columns show the absolute and relative proportions of the grammars devoted to discussion of reciprocal constructions and other relevant material.

Table 2

Scope of treatment of reciprocals in a sample of reference grammars

Language	*Family / region*	*Source*	*Pages/total*	*%age*
Ainu	Isolate, Japan	Tamura 2000	2/276	0.72
Archi	N.E. Caucasian; Daghestan	Kibrik 1977	0/338	0.0%
Beja	Cushitic, Afroasiatic; Sudan	Roper 1928	1/94	1.06%
Bench	Omotic, Afroasiatic; Ethiopia	Rapold 2006	3.5/592	0.59%
Bininj Gun-wok	Gunwinyguan, Australian	Evans 2003	17/662	2.6%

Table 2 (continued)

Golin	Chimbu, Trans-New Guinea; Papua New Guinea	Bunn 1974	0	0.0%
Indonesian	Western Malayo-Polynesian, Austronesian; Indonesia	Sneddon 1996	5.5/369	1.49%
Iwaidja	Iwaidjan, Australian	Pym & Larrimore 1979	1.5/168	0.89%
Kamaiura	Tupi-Guarani, Brazil	Seki 2000	2/540	0.37%
Kayardild	Tangkic, Australian; Queensland	Evans 1995	5/557	0.9%
Kilivila	Oceanic, Austronesian; Papua New Guinea	Senft 1986	0/134	0.0%
Kolyma Yukaghir	Tungusic, Siberia	Maslova 2003	6/539	1.1%
Kwaza	Isolate, Brazil	van der Voort 2004	2 / 738	0.27%
Lango	Nilo-Saharan; Uganda	Noonan 1992	0.25/288	0.0086
Lezgian	N.E. Caucasian; Daghestan	Haspelmath 1993	2/441	0.45%
Manam	Oceanic, Austronesian; Papua New Guinea	Lichtenberk 1983	3.5/613	0.57%
Mawng	Iwaidjan, Australian	Capell & Hinch 1970	0.1/103	0.1%
Mundari	Munda, Austro-Asiatic; Jharkand, India	Osada 1992	0.3 / 155	0.2%
Musqueam	Salishan; British Columbia	Suttles 2004	2.5/576	0.43%
Nêlêmwa	Oceanic, Austronesian; New Caledonia;	Bril 2000	12/467	2.57%
Rumanian	Romance, Indo-European	Academia Română 2005	15/1748	0.86%
Semelai	Aslian (Mon-Khmer), Austroasiatic; Malaysia	Kruspe 2003	2/419	0.48%
Wambaya	Mindi, Australian	Nordlinger 1998	2/224	0.89%

As we can see, the number of pages devoted to reciprocal constructions in reference grammars ranges from a low of 0[6] (Archi, Golin, Kilivila), to a high of 17 (Bininj Gun-wok), with a mean of 3.18 pages. In percentage terms, this ranges from a low of 0% to a high of 2.6%, with a mean of 0.713% – at 1 in 140, this is six to seven times the space it would merit on the basis of the textual frequencies discussed in §3.1.

4. DESCRIPTIVE PROBLEMS IN IDENTIFYING A DISCRETE RECIPROCAL CONSTRUCTION

We now turn to three descriptive problems which are not always handled very well in reference grammars. First, many grammars have a tendency to focus exclusively on a single canonical construction type, ignoring a range of other constructions for expressing reciprocity (§4.1). A frequent cause for this, which I will discuss in §4.2, is the fact that grammars frequently confine themselves to discussing the prototypical situation, namely where the predicate is a verb – and possibly even more specifically, looking just at transitive verbs – to the neglect of what happens in other word classes. The third and least satisfactory situation that I will discuss is found in grammars which omit mention even of the canonical construction type (§4.3).

4.1. Preoccupation with a canonical construction type

Canonically, reciprocal constructions employ transitive verbs, as in the following translation equivalents from English, French, Italian, German and Kayardild, in which the marker of reciprocity is indicated in bold.

(1) *They see **each other** often.*
*Ils **se** voient souvent.*
***Si** vedono spesso.*
*Sie sehen **sich** oft.*
*Bilda kurri**nju**tha muthaya darri.*

[6] It is an interesting question how reference grammars should best handle absent features. At one extreme is the Lingua Descriptive Series, epitomised by the empty Chapter on Ideophones and Interjections listed in the table of contents of Hewitt's (1979) grammar of Abkhaz in the Lingua Descriptive Series. A more elegant solution, employed in Haspelmath's (1993) fine grammar of Lezgian, is to list absent features in the subject index, suitably asterisked to show that the grammarian is claiming their non-occurrence and not simply omitting to mention them. A third solution is simply not to mention them anywhere: the problem with this is that it leaves the reader with the suspicion, sometimes justified and sometimes not, that the grammarian simply was not interested to ask or write about the phenomenon.

In principle, though, reciprocity may be expressed by two-place predicates belonging to a wide range of word-classes and argument-structure configurations. In many languages a number of different treatments are required, according to the word-class of the predicate. Consider the following English examples.

(2.1) John and Mary *kissed*.
(2.2) Con and Nick are *cousins* and *enemies*.
(2.3) The children *struggled together* within her. (King James Version, Genesis 25.22)[7]
(2.4) They form a *mutual* admiration society.
(2.5) Or rather so that we may be *mutually* encouraged *through each other's* faith. (Romans 1.12)
(2.6) To the degrading of their bodies *among themselves*. (Rom. 1.24)
(2.7) A fight broke out *between them*.
(2.8) These days she's *good friends with* Hilda.[8]

Typically grammars do not discuss examples like this because they are organised from a semasiological (form-based) perspective (cf Gabelentz 1891). However, if we are doing semantically-based typology, looking at how a particular conceptual category is expressed across languages, we need to take an onomasiological (meaning-based) perspective, something which does not jibe well with the structural organization of most grammars (cf Cristofaro 2006, Zaefferer 2006).

Just looking at canonical exponents of reciprocity like *each other* can miss out on significant numbers of reciprocal uses. Consider the following passage from Sense and Sensibility (p. 103), which is particularly dense in semantically reciprocal expressions, indicated in bold (3a).

(3a) *You seem to me to be surrounded with difficulties, and you will have need of all* ***your mutual affection*** *to support you under them. If the strength of* ***your mutual attachment*** *had failed, as between many people and under many*

[7] Though the KJV eschews a standard reciprocal in this passage, though this is restored in the Good News Bible (*they struggled against each other in her womb*), and translations of this passage in many other languages use a reciprocal, e.g. Kunwinjku *Namekbe bokenh wurdyaw benebu**rr**eni kore kunjam ngaleng ngarre*, Japanese *tokoroga tainaide kodomo-tachi ga oshi-**au** node*, and Swahili *Watoto hao wakashind**an**a tumboni mwake Rebeka*, all of which use reciprocal-marking suffixes on the verb).

[8] The construction 'X be friends/mates/pals with Y' is an example of a construction which is barely mentioned even in very detailed reference grammars of English. 'Friends with', with a singular subject (*I'm no longer friends with him*) receives the following brief mention in Huddleston & Pullum (p. 344): 'the plurality of friends derives from the fact that two people are involved in the relations (cf. *We are no longer friends*), but the plural appears in predicative complement function with a singular subject'. Other nouns following the same pattern (*mates with*, *buddies with*, etc.) are not mentioned, nor is the reciprocal nature of the relation.

circumstances it naturally would during a four years' engagement, your situation would have been pitiable indeed.

"Edward's love for me," said Lucy, "has been pretty well put to the test by ***our long, very long absence*** *since* ***we were first engaged****." .... from his being so much more in the world than me, and* ***our continual separation.***

Not a single one of these expressions employs *each other*, though in each case this would be semantically and grammatically possible, as shown by the plodding and repetitious rewording I have inflicted on this passage in (3b):

(3b) *You seem to me to be surrounded with difficulties, and you will have need of all* ***your affection for one another*** *to support you under them. If the strength of* ***your attachment to each other*** *had failed, as between many people and under many circumstances it naturally would during a four years' engagement, your situation would have been pitiable indeed*

"Edward's love for me," said Lucy, "has been pretty well put to the test by ***our long, very long absence from one another*** *since* ***we were first engaged to each other****." .... from his being so much more in the world than me, and* ***our continual separation from one another.***

An ideal grammar would not only make sure to include all the above construction types, but would also tackle the question of what conditions the choice between them. Even for a well-described language like English, I know of no reference grammar which satisfies the first requirement, let alone one which confronts the second.

4.2. Interaction with word classes

A major reason for the proliferation of coding strategies discussed in §4.1 is the compatibility of reciprocal semantics with predicates from a number of word classes. This was clearly exemplified in the Jane Austen passage cited above, with its high proportion of nominalised verbs (*affection*, *attachment*, *absence*, *separation*). And English is by no means exceptional in this regard, as shown by the following Italian passage from Primo Levi (4a) and its English translation (4b).

(4a) *quasi che lo scienziato e il letterato appartenessero*
'almost that the scientist and the literary.man belong:SBJV:PL'

a due sottospecie umane diverse, ***reciprocamente***
'to two subspecies human different reciprocally'

alloglotte$_{adj}$*,* *destinate a ignorar*$_{v.t.=}$***si***
'speaking.different.languages destined to ignore-RR'

e non ***inter****feconde*$_{adj.}$
'and not interfertile'
(Levi 1985: vi)

(4b) as if the scientist and literary man belong to two different human subspecies, *reciprocally* incomprehensible, fated to ignore *each other* and not apt to engage in *cross*-fertilization (Levi [transl. Rosenthal] 1989:10)

This passage further illustrates the compatibility of reciprocal semantics with two-place predicates from a range of word classes, each with their own distinctive way of indicating reciprocity: verbs by the reflexive/reciprocal clitic *si* in Italian and the binomial quantifier *each other* in English, and adjectives by modification with the adverb *reciprocamente* in Italian and *reciprocally* in English. The last word of Levi's original is an adjective prefixed with *inter*-, while this is translated into an English nominalization prefixed with *cross*-, an additional strategy to those found with the nominalizations *affection*, *attachment*, *absence* and *separation* in the Jane Austin passage quoted in (3a) above.

A particularly important type of nominal reciprocal found in many languages is associated with kinship terms forming *dyad expressions* (Evans 2006) denoting kinship and other relational pairs. An example is the Kayardild dyad suffix *-ngarrba*, which attaches to nominal kinship stems like *kularrin-* 'opposite sex sibling: (woman's) brother, (man's) sister' to give the meaning 'brother and sister, i.e. pair who are each other's opposite-sex siblings' (5).

(5) *kularrin-ngarrba*
KAY opposite.sex.sibling-DYAD
'brother and sister' (Evans 1995)

Some grammars overtly mention the possibility of combining reciprocal marking with kinship nouns – see for example Rogava & Keresheva (1966) on Adyghe, Meira (1999) on Tiriyó, and Tamura (2000) on Ainu – but others do not. And in many grammars of languages in which kinship dyad markers differ formally from the marker of reciprocity with verbs, the discussion of kinship dyads is quarantined from the sections on reciprocal constructions, without cross-referencing or links through the index – I was guilty of this in my grammar of Kayardild (Evans 1995). One reason for authors overlooking this connection has to do with the fact that asymmetrical (or converse) uses of reciprocals are far commoner with kinship terms than with other predicates, a point I return to in §6.3.

Not all languages use formally distinct exponents of reciprocity for predicates of different word classes. A nice example of a combinatorially flexible reciprocal morpheme comes from Koyukon Athabaskan (Jetté & Jones 2000, Krauss 2000), where the reciprocal prefix ne:□- can be combined with transitive verbs (occupying

the object slot), but also with kinship nouns (6) and spatial expressions like ttleekk'e 'on top of' (7). Note that once again the semantics of these examples deviates from the symmetry found in canonical reciprocals, though this is found with at least some verbs as well in most if not all languages (§6.3).

(6) *ne:□ -tsoo*
REC-grandmother
'grandmother and grandchild' (lit. '(pair who are) each other's grandmother')

(7) *ne:□-ttleekk'e* *dodaaleslo*
REC-on.top.of I_piled_them
'I piled them on top of each other.' (Jetté & Jones 2000)

4.3. Canonical construction absent from grammar

Recall that three of the 23 grammars in our sample – Archi, Golin and Kilivila – fail to discuss any reciprocal construction at all, and examples could readily be multiplied. There are other grammars in the sample – Mawng and Iwaidja being good examples – where there is brief mention of a (frozen) morphologized reciprocal construction, but no mention of a much more productive construction employing syntactic means to express reciprocity.

In at least two of the above cases (Kilivila and Golin), the lack of discussion appears to reflect a genuine lack of any grammaticalised construction for the expression of reciprocity in the language.[9] Extensive checking of these languages using a 64-stimulus video set designed to elicit reciprocal descriptions, was carried out in 2004 by Gunter Senft and the present author respectively, and neither found any clear means of expressing reciprocity, which could either be left to inference or spelled out by multiclausal event descriptions of the type 'he is hitting her, and she is hitting him' (see Senft in press for more details on the Kilivila situation).

However, in other cases the omissions from reference grammars appear rather to reflect a prejudice against describing constructions at a certain level of syntactic complexity, particular those which are multiclausal and appear at first glance to be compositional. Let us examine the case of Iwaidja and Mawng, two closely related languages of the Iwaidjan family in Northern Australia.

[9] There are also cases where reciprocals are discussed under another heading, e.g. reflexives, if the forms are identical. This is basically an indexing and labelling problem and I don't discuss it here. I also lack space to discuss the interesting problem of Archi, which recent research by Marina Tchoumakhina (p.c.) has revealed to have a distinct reciprocal construction rather like the one found in Lezgian.

Mawng – also spelled Maung – was capably described by Capell & Hinch (1970) in what was arguably the first professional published grammar of a non-Pama-Nyungan language. This work contains just one brief mention of reciprocals, in connection with the discussion of reflexives, which are formed by substituting the intransitive pronominal prefix set for the transitive pronominal prefix set (subject+object) on a transitive verb:

> Sometimes also these forms can be used in a reciprocal sense, so that, e.g. /ga-wajan/ can also mean 'they look at one another' (Capell & Hinch 1970:81)

We present their example in a more modern glossed format and the current orthography in (8a), and contrast it with a regular transitive equivalent (8b):

(8a) *ka-w-aya-n*
PRES-3plS-see-NPST
'They see each other.' (vs e.g.

(8b) *ka-wun-b-aya-n*
PRES-3plO-3plA-see-NPST
'They see them.'

Iwaidja, for its part, has been described in a grammar by Pym & Larrimore (1979). In this grammar, too, the only mention of reciprocals is in connection with a derivational suffix which derives intransitive reciprocal verbs from transitives. This suffix is restricted to a small number of verbs, and with many gives a rather idiomatic meaning:

(9a) *a-ya-njildi-n*
3plS-see-REC-NPST
Lit.: 'they see each other.'
Normal meaning: 'They are lovers.'

(9b) *an-b-aya-n*
3plO-3plA-see-NPST
'They see them.'

As far as it goes, Pym & Larrimore's discussion of this construction is accurate, even it is not 100% comprehensive in its lexical coverage, listing only around half of the lexical items currently known to occur in this construction.

Capell & Hinch's grammar of Mawng doesn't mention the equivalent construction at all, yet exactly the same formation exists there. They do include some examples of verbs containing this suffix in the vocabulary at the end of the grammar, e.g. *a□bandjili-* 'meet', which Pym & Larrimore correctly identify for Iwaidja as an (idiomatized) reciprocal of *a□ba* 'cook'. So it is clear they recorded at least some relevant forms, raising the question of why they didn't include it in their grammar – possibly they considered the forms too fused to warrant separate discussion in their morphology section.

The main omission in both grammars, however, is a highly unusual construction present in both Iwaidja and Mawng, that appears to have derived from

a biclausal contrastive construction by ellipsis and reanalysis. I'll just give Iwaidja examples here; Mawng is parallel in all essential respects (see Evans, Singer & Birch forthcoming for a more detailed discussion). (10) illustrates the construction:

(10) *kawun lda jamin*
K-nga-wu-n *lda* *jamin*
3sgO-3sg.femA-hit-NPst and 3sgCONTR.SUBJ
'They (he and she) hit each other.' (lit. 'She hit him and HE…')

Historically this probably derives from a biclausal contrastive-subject construction like:

(11) *kawun lda jamin riwun*
K-nga-wu-n *lda* *jamin* *ri-wu-n*
3sgO-3sg.femA-hit-NPst and 3sgCONTR 3sg.mascA>3sgO-hit-NPst
'She hit him and then he hit her.'

However, there is various evidence that the construction in (10a) is now monoclausal. There are three main pieces of evidence for this:

(a) there is just a single intonation contour, and there is often reduction and fusion of the *lda jamin* type element with the preceding verb (in (14-16) this produces an assimilation of the final velar nasal *ng* to an alveolar *n*, before the following alveolar *ld*).

(b) other elements of the clause – such as themes of ditransitive verbs (12) and some body part nouns (13)– may following the 'and HE' element:

(12) *anbukun lda wamin angurnaj*
an-b-uku-n *lda* *wamin* *a-ngurnaj*
3plO-3plA-give-NPstST and 3plCONTR 3pl-name
'They used to give each other their (clan) names.'

(13) *kamany* *lda* *jamin* *angbal*
K-nga-ma-ny *lda* *jamin* *angbal*
3sgO-3sg.femA-grab-PST and 3sgCONTR hair
'They [dual] are pulling each other's hair.'

(c) there are "person interaction effects" between subject and object, typologically well-attested within single clauses (and particularly within integrated paradigms – see Heath 1991) but unknown interclausally. For example, in combinations involving the interaction of a first and second person subject and

object (in whichever order), the "contrastive pronominal" element must always be first person, whichever one was subject of the verb (14-15), and intuitively appropriate constructions like (16) are unacceptable because they violate this constraint:

(14) *yan-uku-n(g)* *lda* *ngabimung* *walij*
2sgA:1sgO-give-PST CONJ 1sgCONTR food
'You and I gave each other food.'

(15) *kun-uku-n(g)* *lda* *ngabimung* *walij*
1sgA:2sgO-give-PST CONJ 1sgCONTR food
'You and I gave each other food.'

(16) **kun-uku-n(g)* *lda* *nuyimung* *walij*
1sgA:2sgO-give-PST CONJ 2sgCONTR food
'You and I gave each other food.'

In cases which are undeniable instances of two separate clauses, on the other hand, there is no problem with having *nuyimung* used in a way comparable to (11):

(17) *ngabi* *kun-uku-n* *lda* *nuyimung* *yan-uku*
1sg 1sgA:2sgO-give-NPst CONJ 2sgCONTR 2sgA:1sgO-give
'I gave it to you, and you (in turn) should give (it to) me.'

In our survey of over 200 languages for the Reciprocals Across Languages project, Iwaidja and Mawng are the only languages so far in which a reciprocal construction of this is known to exist. This suggests it had probably been missed in the Capell & Hinch and Pym & Larrimore grammars because:

(a) the locus of coding is a rather complex construction, rather than a morpheme or fixed phrasal element[10];
(b) it is a highly unusual construction, so investigators are less likely to attend to it;
(c) to identify it as a separate construction – rather than just a not-too-mysterious piece of ellipsis – paradigmatic data is needed, which involves varying the person of the subject/object etc. Grammarians are used to systematically

[10] On the other hand, other types of multiclausal reciprocal constructions have been described for some Papuan languages, e.g. Amele (Roberts 1987) and Hua (Haiman 1984). Perhaps the anomalous behaviour of switch-reference marking in each case made them more noticeable. Additionally, the Roberts grammar was forced to include material on reciprocals by the questionnaire-style format of the Croon Helm descriptive series.

gathering paradigmatic data for the morphology, but do so less regularly once they reach the syntax;

(d) the generally low frequency of reciprocals in discourse makes them easy to miss unless specialised elicitation is carried out to increase the haul of examples.

Examples like Iwaidja and Mawng, then, clearly illustrate that the absence of mention from quite good descriptive materials must not be taken at face value as evidence of a real absence from the language.

5. HOW FAR TO PROBE MORPHOSYNTACTIC INTERACTIONS?

In most languages, reciprocal constructions carry a number of morphosyntactic complexities. There are a huge number of these, ranging from behaviour in embedded clauses of various types, through effects on valency and manifestations of transitivity in the clause (see Evans, Gaby & Nordlinger in press), to special effects with ditransitive verbs, and interactions with applicatives. Here I confine myself to the last of these problems.

One thing that the format of reference grammars does not favour is the examination of how different syntactic rules interact – this tends to be left more implicit, the further one passes from phonology to morphology to syntax. On the other hand, these interactions are much more likely to be studied within the framework of formal syntactic models, or in 'hybrid' works which combine elements of a reference grammar with some formal modelling, such as Aissen's (1987) interesting treatment of Tzotzil.

Rule interactions are not only interesting in their own right. They can also help decide more basic questions, such as whether formal identity of marking – such as the common formal conflation of reflexive and reciprocal marking – should be interpreted as evidence for a single abstract function.

Let us illustrate with two unrelated languages: Bininj Gun-wok (Gunwinyguan, Australia; ex. 18) and Tzotzil (Mayan, Mexico; ex. 19). Both languages have the same exponent for reflexive and reciprocal, a familiar pattern from French, Italian, Spanish, Rumanian etc.). When used with a transitive verb and a plural subject this creates potential ambiguities (though often resolved by context):

(18) *Bene-waral-na-rr-inj*.
3duS.Pst-spirit/shadow/reflection-see-RR-PstPerf
(i) 'They saw their (own) spirits / shadows / reflections.'
(ii) 'They saw each other's spirits / shadows / reflections.'

(19) *Te* *s-k'el* *s-ba-ik*[11]
there 3-look.after 3-RR-3pl

[11] This example is from Haviland (1981:311), who points out that it could have either a reciprocal or a reflexive meaning – 'Se van a cuidar, unos a otros. O: se van a cuidar ellos mismos.'

(i) 'They will look after each other.'
(ii) 'They will look after themselves.'

Questions that this (very common) formal conflation raises include:

(a) are we dealing with monosemy or polysemy?

(b) are there any syntactic differences accompanying the different readings?

(c) are there lexical restrictions on which reading is available with which verb root (as in Hungarian, Russian, and Indonesian)? If so, which roots take which readings?

Of the many dozens of grammars which I have consulted of languages in which there is a formal conflation of reflexive and reciprocal functions, few attempt to answer any of these questions. But languages can behave quite differently on this score – as revealed in how the relevant constructions interact with ditransitive verbs and with benefactive applicatives.

In Bininj Gun-wok ditransitives (see Evans 2003:266, 442-445), reciprocals pick out coreference between subject and indirect object, while reflexives pick out coreference between subject and direct object:

(20) *Barri-warde-wo-rre-ni.*
3plPST-money-give-RR-PST.IMPF
'They used to give each other money.'
* 'They used to give themselves as money.'

(21) *An-me* *barri-wo-rre-ni.*
III-veg.food 3plPST-give-RR-PST.IMPF
'They used to give each other food.' [III = vegetable noun class marker]
* 'They used to give themselves as food.'

This sets up an interesting contrast with reflexives, even in languages where the same morpheme is used for reflexive and reciprocal. For example, in Bininj Gun-wok the reflexive reading cannot be fed by the output of the benefactive applicative (22), whereas the reciprocal reading can (23); 'they bought themselves a car' has to be expressed as 'they bought their car' (24).

(22) *Bene-marne-bayahme-rr-inj* *murrikka.*
3duPST-BEN-buy-RR-PST.PERF car
'They two bought each other a car.'
*'They two bought themselves a car.'

(23) *Bene-bayahme-ng* *berrewoneng* *murrikka.*
3duPST-buy-PST.PERF 3duOBL car
'They two bought a car for themselves.'

In Tzotzil, Aissen's (1987) description makes it explicit that the applicative *-be* must be used in comparable situations, even where the verb is basically ditransitive. Unlike in Bininj Gun-wok, that is, reciprocal and reflexive readings behave alike. They select coreference with the indirect object whether a reciprocal or a reflexive reading is involved, and reflexive readings involving the direct object are not possible (Aissen 1987: 113).

(24) 7i-y-ak'-be s-ba-ik k'ok'
compl-3-give-io 3-RR-3pl fire
'They fired on each other.' (lit. 'they gave fire to each other.')
(Aissen 1987:111)

(25) 7i-y-ak'-be s-ba li mayoletik-e
compl-3-give-io 3-self the police-cl
'The police gave it to themselves.' (Not: he gave himself to the police)
(Aissen 1987: 113)

Bininj Gun-wok and Tzotzil, in other words, exhibit significant differences in the relation between reflexive and reciprocal constructions once their interaction with ditransitive and benefactive constructions is taken into account – Bininj Gun-wok maintains a cryptotypic distinction between the two,[12] detectable from their distinct reactions in ditransitive contexts, whereas in Tzotzil a strong argument can be made for them representing a single, monosemous category. If only straightforward transitive examples are given in a grammar, this difference will not appear – a more intricate study of morphosyntactic interactions is needed, across a range of basic and derived argument structures.

6. SEMANTICS

Again, any typology has to confront many issues when it examines the semantics of reciprocal constructions. Examples are

(a) the ambiguities resulting from embedding of reciprocals under cognitive verbs (*John and Mary think that they love each other* – how many readings?),

[12] And, historically, there is evidence that proto-Gunwinyguan, the language ancestral to Bininj Gun-wok, had distinct reflexive and reciprocal suffixes, which were merged by generalizing the old reciprocal (Alpher, Evans & Harvey 2003).

(b) whether the language recognizes a semantic difference between simultaneous and sequential reciprocals, as in Marrithiyel and Balinese

(c) whether there needs to be complete saturation of all permutations in situations with more than two reciprocants (a requirement violated, as far as I know in all languages, by a sentence like *The starving dogs ate each other* or its equivalent),

(d) what polysemies the reciprocal participates in (reflexive/reciprocal; collective/reciprocal; distributive/reciprocal and so forth), how far these can be distinguished in their syntax (see §5 above), and what motivates the polysemic link (i.e. are there any 'bridging contexts' where both interpretations are possible, e.g. 'they bound themselves/each other with an oath'. A good treatment of reciprocals in a given language should discuss all these issues.

Here I examine just one question by way of illustration: how far do the situations described by reciprocals need to be symmetric? To simplify the exposition I will focus on situations where there are just two reciprocants.

Standard definitions of reciprocity in the logical semantic tradition assume complete symmetry. A typical example is that by Langendoen (1978:179):

(26) ∴ x,y ∈A (x≠y –> Rxy) (Langendoen 1978:179)

In consequence, asymmetric uses of reciprocals are frequently bracketed out of discussions of reciprocal semantics, and treated as a separate issue which is then generally not tackled in the logical semantic literature. An English example – which finds widespread parallels in other languages around the world, although it is common for some speakers to reject it[13] – is:

(27) The cop and the robber chased each other down the street.

Sentences like this, on a view widely held in logical semantic approaches, should simply be treated as another usage which it is unprofitable to try and assimilate to the standard account.

However, I will argue below that this is an analytic mistake.

6.1. A slippery slope

We begin by noting that native speakers are well aware that there is some elasticity in how much symmetry is required for a situation to be described using a

[13] Not all English speakers accept this, but many do, including this author. Comparable phenomena are found in a wide range of languages, including Khoekhoe (Khoisan), |Gui (Khoisan), and Tolai (Austronesian). It is interesting how often speakers have an ambivalent attitude to them: cf the comment of one of the Khoekhoe speakers reported in Rapold (in press) that 'it is not correct and just the way some people talk'.

reciprocal, particularly in situations where intentionality or event-initiation are involved in addition to the description of visible outward events:

(28) *She had been seeing this guy* (well, she thought *they were seeing each other,* but she wasn't sure), and a few nights earlier they had gone to a movie. The date ended with a kiss in the parking lot. But when she invited him up to her apartment he declined. He had an important early meeting, he said.*'*
(Canadian) National Post 6.292 (Tues, Oct 5, 2004), p. B2. 'Six simple words'; italics mine)

At the very least, as examples like this illustrate, we need to allow for some discretion in applying the symmetry criterion.

6.2. Granularity of event description

One circumstance in which the symmetry criterion becomes gradient concerns the granularity of the description. Consider (29):

(29) *John gave Mary an apple, and Mary gave John an orange.*

This disallows a reciprocal formulation, if the granularity is fine enough to distinguish the type of fruit.[14] On the other hand, if we avoid being particular about the type of fruit involved, confining ourself to generalities and working at a higher level of granularity, a reciprocal formulation becomes possible:

(30) *John and Mary gave each other food / fruit / a piece of fruit.*

A special case of granularity effects concerns descriptions of marriage events. Not all languages are like English or French in employing the same verb (*marry*; *se marier avec*) regardless of whether the focus is on the male or female partner. Two examples are Russian (31) and Meryam Mir, a Papuan language of the Torres Strait (32). In each, the asymmetry of marriage verbs reflects a (historically) virilocal pattern of residence after marriage.

(31a) *on ženilsja* 'he got married' [*zhenit'sja*: 'get married (of man)']
(31b) *ona vyšla za muž* 'she got married' (*vyjti za muž* 'get married (of woman)', lit. 'go out behind husband')

[14] In eliciting data using 64 video clips of staged events (Evans, Gaby, Levinson & Majid in press), we frequently encountered this problem across a range of languages. For example, our informants might ask us exactly what food was involved in a change, deciding on the basis of this whether to employ a reciprocal construction or not. More unexpectedly, clips showing two people hitting one another did not produce reciprocal descriptions, in some of the languages we investigated, because the hitting actions involved different types of impact (e.g. clenched fist vs. flat hand) and would be described in the language by different verbs.

(32a) *ispida* (v.t.) '(man) marry (woman)'
(32b) *espida* (v.i.) Y+ LOC '(woman) marry (man:Y)' (Piper 1989)

Notwithstanding the asymmetry of marriage verbs in these two languages, it is acceptable to form a reciprocal in the standard manner, in each case based on the marriage verb that would be used for a male subject, though the Russian example (33a) is in fact ambiguous, allowing both reciprocal (mixed subject) and non-reciprocal (plural male subject) readings. In any case, both Russian and Meryam Mir demonstrate that the specific semantic component '(of man)' can be ignored in reciprocal constructions, rendering the symmetry only partial.

(33a) *oni ženilis'* 'they got married'
(33b) *basidaryey* 'they got married' [get interlinear gloss off nicky; also check if it shares the Russian-type ambiguity]

6.3. Abstract relational levels

The preceding examples illustrate the fact that what is asymmetric at one level can be symmetric at another - this may apply either at the level of taxonomy, as with fruit vs. apple, or at the level of semantic specification of a participant as male or female, as with marriage verbs. This then raises, in a more general way, the problem of what semantic level the purported symmetry operates at. A complete treatment of reciprocals in a given language needs first to note any prima facie exceptions to symmetry, and then examine whether there may be evidence for postulating a higher-level semantic representation of the predicate's meaning at which the symmetry can be recovered.

With marriage verbs, however, we are just talking about a single lexical item, and it is relatively easy to sideline the problem by treating it as a lexical irregularity. We now turn to a type of construction where problems of this type involve a much larger set of lexemes, so that the analytic price of ignoring the asymmetry problem is much higher. This is the dyad construction, which are the pre-eminent offenders against simple symmetry in reciprocal constructions. Though marginal from a European perspective, dyad constructions are widespread in the world's languages and display recurrent regularities in their behaviour.

Recall from §4.1 that dyad terms depict pairs of the type 'pair of cousins; father-and-son; mother-and-daughter' and so on. Now while the first relation is symmetric,[15] the second and third are not. This opens up a semantic quandary in those languages with dyad terms – should they pay attention to this asymmetry or not?

[15] At least in English – in French the gender specification between *cousin* and *cousine* introduces the possibility of asymmetry.

Now there is typological evidence that some languages are quite strict about symmetry, either restricting dyad terms to self-converse kin terms (as in Adyghe – see Rogava & Keresheva 1966) or having distinct dyad suffixes for symmetric and asymmetric relations. An example of the latter case is Bininj Gun-wok, where the suffix *-migen* is used with symmetric kin terms, but a different suffix *-go* is used with asymmetric ones. In these languages, then, dyad terms conform to the strict symmetry requirements placed on reciprocals in the standard semantic analysis.

On the other hand, there are languages where the same dyad suffix is used for both symmetric and asymmetric terms. Alyawarr (34) is an example.

(34a) symmetric *altyele-nheng* 'pair of cross-cousins: father's sister's child with his/her mother's brother's child < *altyel* 'cross-cousin'

(34b) asymmetric *alere-nheng* 'father and son/daughter; (patrilineal) aunt with her brother's son or daughter', based on *aler* 'child through the male line: child, of man; brother's child, of woman'

Languages of this second type present two analytic alternatives.

One is to define dyad terms in such a way as not to require symmetry, with a formulation like 'pair, such that one is K to the other' (where K is a variable denoting kin relationships).

But there is another alternative: define dyad terms in the same way as standard reciprocals, but allow the calculation of reciprocity / symmetry to be based on a more general relation, along the lines discussed in §6.2. This second alternative is particularly appealing in the case of languages like Koyukon Athabaskan (see §4.2) where dyad constructions employ the same form as reciprocals.

In the Alyawarr case illustrated by (34a, b), for example, we could posit an unlexicalized symmetric relation at a more abstract level, drawn on in the dyad construction. Let us call this 'first-generation patrirelative', definable as 'relative through male line, separated by one generation'. We could then say that the dyad construction is simply a reciprocal, whose symmetry appears not in the fully specified relationship of the root it attaches to ('child through the male line'), but instead in the more abstract relationship 'first-generation patrirelative'. But does this rather rarefied line of reasoning, elegant as it may be, correspond to any independently confirmable reality in the language's semantic system?

Our analytic move would be rendered more plausible if the description were to give independent evidence from the language for the existence of relational predicates with the more general meaning needed to characterise the semantics as symmetrical. This brings us to another ideal for an ideal reference grammar – that it is able to draw on multiple semiotic systems - e.g. a pandialectal system underlying different dialects, or alternative registers with differing degrees of semantic specificity. (For some applications of this type of argument to Australian Aboriginal languages, see Dixon (1971) and Evans (1992).)

Here we can bring in evidence from a parallel semiotic system in Alyawarr – the handsigns used as an auxiliary language by in certain circumstances and which, commensurately with the smaller number of lexemes in sign language than in speech, has parallel but more abstract semantics. Here we find that our postulated, more abstract kinship relation, is in fact lexicalised, by the handsign illustrated in (34)[16] (Jenny Green p.c.), which can denote any of the relatives subsumed under the term 'first generation patrirelative' outlined above: father, father's brother, father's sister, (man's) child, brother's child. This demonstrates the psychological reality of the more abstract category, and shows that symmetry can indeed be shown to underlie the uses of dyad suffixes even in cases which at first sight appear asymmetric.

(34)

Returning to the more general problem posed in this section, reciprocal constructions in most languages allow (apparently) asymmetric uses under some circumstances, and a sensitive description of their semantics must account for these uses. Though one possible option is to treat them as simple exceptions – thereby evading the need for explanation – a more satisfying solution, as indicated in the preceding discussion, is to allow the semantic relation on which the reciprocal construction is based to be more general than that denoted by the predicate it combines with. In the case of 'chase', for example (27 above), we might argue that there is in fact a symmetric relation there too, but it is not the whole predicate denoted by 'chase' – rather, it is something like 'move fast with one's path oriented to another fast-moving person who is causing one to move fast'.

[16] Though this sign can denote any of the subtypes of first-generation patrirelatives discussed, it is clear from the form of the sign – based on pointing to a man's beard – that it derives by generalisation from an original 'father' meaning.

These considerations illustrate the indissoluble link between grammar and lexicon, and the artificiality and difficulty of maintaining a clear boundary between them in grammar-writing: once we go about trying to give an exhaustive account of what a particular morpheme or construction means, we typically encounter apparent exceptions of the type we have exemplified with our discussion of (apparently) asymmetrical reciprocals. An ideal grammatical treatment is committed to an explicit and compositional account of the semantics contributed by each morpheme and construction, and will take care to mention such difficult cases, but it will also – where this is helpful and plausible – cross the line into discussions of lexical semantics in order to deal with awkward cases.

7. CONCLUSION – IMPLICATIONS FOR GRAMMAR WRITING

In this brief contribution we have been able to touch upon only a fraction of the interesting problems posed by reciprocal constructions. Nonetheless, it should be clear from the examples discussed here that a really satisfying and comprehensive treatment of this topic is likely to run to 40 or 50 pages.

What scale of reference grammar would be required to achieve this? Taking as our multiplier the mean proportional allocation devoted to reciprocals in the grammars tabulated in Table 2 (with reciprocals occupying 0.713%), we would need a grammar of around 9,000 pages – many times beyond the scale of even the monumental reference grammars of Italian and Rumanian described elsewhere in this issue. If, instead, we use as our scaling factor the actual frequency of reciprocals in running texts – somewhere around 1 in 1000 – this would give us a monstrous 50,000 page reference grammar. Of course these figures are built on some questionable assumptions. The first questionable assumption is that all areas of grammatical description would be scaled up by the same amount – this may be a false assumption, given that reciprocals are complex and until recently have not been explored in anything like the level of detail given to, say, relative clauses. A second questionable assumption is that all such matters should be dealt with in a reference grammar, rather than being delegated out to specialised articles. Nonetheless, these figures, by using reciprocals as a sample procedure, give us some idea what sort of scale a truly comprehensive reference grammar would command.

A second set of issues I have touched upon concerns the interaction between language description, as epitomised by a reference grammar, and typology on the one hand and formal theories on the other. Both of these interactions, I have argued, are indispensable to the development of first-rate reference grammars.

On the typological side, work percolating up from studies of other languages and cross-linguistic systematisations throws up a host of questions regarding possible construction types, semantic dimensions, and interactions with word class,

and argument structure, and valency-changing operations. At the same time, new descriptions feed back into the typological enterprise by noticing new phenomena – perhaps profiled with especial clarity by a given language – which feed back into the set of questions which typologists pose to their cross-linguistic data.

On the formal side, complex phenomena like reciprocals interact with so many grammatical parameters that it is rarely possible to check through every possible combination or order of composition within the confines of a reference grammar. Formal approaches, to the extent that they rigorously formulate every relevant rule and that examine their interaction, allow the spotlight of grammatical prediction to reach much further into the darkness of possible use – potentially discovering, along the way, more subtle covert categories which only become detectable through the interaction of rules. Much has been written on the rapid slight into inaccessibility that has been the fate of reference grammars couched in particular evanescent formalisms, and it is clear that grammatical descriptions gain in durability by being formulated with a minimum of evanescent formalisms – in this way they also gain 'sociological falsifiability' as the audience of potential readers able to test the data is widened. But at the same time, formal approaches provide an immaculate, well-managed laboratory into which certain types of problems need to be taken for testing and refinement.

A final point, which has been implicit rather than explicit in this paper, concerns the role of procedures for enriching the data available to the grammarian through structured and semi-structured elicitation. This is particularly important in constructions which, like reciprocals, occur at low frequencies in natural text and so may easily be overlooked in natural corpora. For several of the issues or languages discussed in this article – such as the unusual constructions in Mawng and Iwaidja which had previously been overlooked in grammatical descriptions, and the gradations of symmetry that need to be explored to define the outer bounds of the reciprocal construction – it was necessary to enrich the naturally-occurring corpus with additional material gathered by asking speakers to describe events portrayed in video clips which permuted a number of relevant variables in visual form. It is an interesting and still-unanswered question how rare a construction can be and still exhibit systematicity and grammatical complexity, but it is precisely in these rare and relatively unexplored grammatical domains that some of the biggest challenges for future grammar-writers will lie.

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