Reciprocal Constructions in English: *each other* and beyond

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Abstract

In this paper we investigate the constructions that are used to encode reciprocal situations in English, based on responses to the 64 reciprocals videoclips developed for the *Reciprocals Across Languages* project (Evans, Levinson, Enfield, Gaby and Majid 2004). This work complements the extensive body of previous research on English reciprocals by focusing on spoken data. While our data supports the traditional view of *each other* as the primary and most common reciprocal construction in English, we find a greater degree of variation in construction types than this traditional view might suggest. Furthermore, we show that *each other* does not have the same degree of acceptability with all reciprocal situation types.
1. Introduction

In this paper we examine the encoding of reciprocals in English (Germanic, Indo-European), more specifically Australian English as spoken in Melbourne, Australia.\(^1\) English reciprocal constructions have been the subject of an enormous amount of literature,\(^2\) much of which has been based on artificially constructed examples – i.e. examples constructed for the purposes of illustrating particular syntactic and/or semantic distinctions (notable exceptions are Kjellmer 1982 and Dalrymple, Kanazawa, Kim, Mchombo and Peters 1998, who gather most of their data from written corpora). In this paper we complement this previous work through a discussion of the encoding of reciprocals in spoken English, based on responses to the 64 reciprocals videoclips developed for the Reciprocals Across Languages project (Evans et. al. 2004). While our data supports the traditional view of *each other* as the primary and most common reciprocal construction in English, we find a greater degree of variation in speakers’ initial responses than

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\(^2\) Including, but not limited to, Bolinger (1987), Dalrymple et al. (1994, 1998), Fiengo and Lasnik (1973), Heim, Irene, Howard Lasnik and Robert May (1991), Higginbotham (1980), Jørgensen (1985), Kjellmer (1982), Krusinga and Erades (1953), Langendoen (1978), Levin (1993), Potter (1953), Stuurman (1987), Williams (1991) among many others. Note that although these studies do not discuss Australian English specifically, we have no reason to believe that the use of reciprocals by our speakers should be particularly non-standard.
this traditional view might suggest. Furthermore, we show that *each other* does not have the same degree of acceptability with all reciprocal situation types.³

2. Reciprocal constructions in English

Compared with some languages, English has a fairly wide range of reciprocal constructions. These constructions (discussed in §2.1-§2.6) fall into the following broad categories: reciprocal pronouns, *each-the-other* constructions, bare reciprocal constructions, nominal reciprocal constructions, *back-to-back* constructions and reciprocal modifiers. There is also a range of other constructions that are not specifically reciprocal, but which can permit a reciprocal interpretation in different contexts; we discuss these in §2.7.

2.1 Reciprocal pronouns

The primary reciprocal construction in English uses the reciprocal pronoun *each other* in an NP slot, with no apparent effect on the valency of the verb.⁴ *Each other* can be used in the full range of non-subject grammatical functions, including direct and indirect object, object of prepositions, and possessive phrases:

(1) *Five people chasing each other.* (Sarah, #43)⁵

(2) *A group of people in a room passing items to each other.* (Paul, #30)

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³ We follow Lichtenberk (1985) and others in distinguishing reciprocal constructions from reciprocal situations, where the latter can be (loosely) defined as a symmetric relationship between two or more participants, and the former represent the language specific ways of encoding such reciprocal semantics.

⁴ Evans (to appear) treats *each other* as a bipartite quantifier. While *each other* clearly involves quantifier semantics, there is evidence that syntactically it behaves more like a pronoun (Asudeh 1998) – and this is the analysis we follow here.

⁵ The notation “(Speaker #x)” indicates that the preceding sentence was the speaker’s description of videoclip x.
(3) Two people sitting back to back and they lean back to touch each other’s shoulders and take each other’s weight. (Nick, #12)

In restricted contexts it is even possible for each other to occur in embedded subject position, of both non-finite (4) and finite (5) clauses (at least for some speakers) (Kjellmer 1982).

(4) They want each other to be happy.

(5) They know what each other wants.

Each other always requires a semantically plural antecedent, which is usually a subject (see all of the examples above), but may have other grammatical functions also, including object (I gave the children paintings of each other), and possibly possessor (?The Easter bunny left eggs at the end of the children’s beds for sharing with each other). For some speakers it is possible for the antecedent to be semantically plural, but grammatically singular, as with collective nouns (?The English soccer crowd began to turn on each other).

A less common variant of this construction involves the use of one another as the reciprocal pronoun, as in (6). One another appears to have the same range of grammatical possibilities as each other, and the two are generally held in the literature to be interchangeable (e.g. Jørgensen 1985, Dalrymple et al. 1998).

(6) Two people take it in turns to groom one another. (Lee, #10)

Some other writers, however, do postulate a distinction between these two reciprocal pronouns. For example Potter (1953), following Krusinga and Erades (1953) suggests that each other focuses more on the agents and one another on the shared action; Kjellmer (1982) finds support from a search on the Brown corpus for a stylistic difference, whereby each other is more colloquial and one another more stylistic; and Stuurman (1987) argues that each other is used in
chained situations and *one another* in symmetric reciprocal situations. We find no support in our data for any of these distinctions. In fact, for the most part only two speakers used *one another* in our sample, suggesting that any differences may be at the level of individual speaker variation. We will have little further to say about this construction type.

### 2.2 *Each-the-other* constructions

An alternative reciprocal construction in English is the *each-the-other* construction, as in (7).

\[(7) \quad \text{Each man saw the other.}\]

According to Fiengo and Lasnik (1973), this construction differs from the standard *each other* construction in requiring a strong reciprocal situation type. Thus, when discussing a group of eight men, for example, (7) is only possible if it is true that the relation of ‘seeing’ holds between every possible pair in the set; whereas *The men saw each other*, on the other hand, allows for a melee or pairwise situation type in which the reciprocal relation holds between some, but not all, possible pairings in the set (p. 448-9).

A further difference between these two constructions, as discussed by Fiengo and Lasnik (1973), is that *each other* constructions “often, but not always, require that the events referred to occur simultaneously, or in the same general time span” (p. 450), whereas *each-the-other* constructions never involve such a requirement. This is demonstrated by the following examples (their (19) and (20), p. 451), where (8) is perfectly acceptable but (9) is not:

\[(8) \quad \text{Each of the men stared at the other: John stared at Bill for 3 hours and then Bill stared at John for 3 hours.}\]

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6 In our analysis this construction includes the variant *each-everyone else* – see below for discussion.
The men stared at each other: John stared at Bill for 3 hours and then Bill stared at John for 3 hours.

Of the few examples in our sample of this construction, two involve the same videoclip (#38) in which there are four people each of whom systematically shake hands with all other members of the group. These examples are therefore consistent with Fiengo and Lasnik’s generalizations that the each-the-other construction is only possible in strong reciprocal situations:

(10) Four people sitting in a circle, each shaking everyone else’s in the circle’s hands.
    (George, #38)

(11) Four people each shaking hands with each other. (Dean, #38)

However, one speaker uses this construction for a pairwise situation (clip #49, which shows three pairs shaking hands within the pair), which is predicted to be ungrammatical by Fiengo and Lasnik (1973):

(12) Six people each shaking hands with each other. (Lee, #49)

Note, however, that the variant used here (and in (11)) looks like a combination of the each-the-other and the each-other constructions (i.e. each-with each other), which may account for the difference in use. In the absence of further information about the possible differences between these two example types, we have treated them as variants of single construction in our analysis.

2.3 Bare reciprocal constructions

A subset of English verbs such as hug, swap and talk can occur in a construction type where they have a reciprocal interpretation without overt reciprocal encoding (see Levin 1993 for detailed

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7 Referred to as “bare conjunct reciprocal constructions” in Evans (In press).
In this construction the participants are encoded in a single argument (the subject), and the valency of the verb is reduced by one. We refer to these constructions (exemplified in (13) and (14)) as “bare reciprocal constructions”.

(13) They are swapping things. (Meg, #37)
(14) A group of people hugging. (Meg, #47)

Verbs found in bare reciprocal constructions can also occur in each other constructions, as in the following examples. Depending on the nature of the predicate, each other may be a direct object, or an object of a preposition in these constructions (Levin 1993):

(15) ...six people swapping things with each other. (Alice, #37)
(16) Some friends hugging each other, in greeting. (Alice, #29)

2.4 Nominal reciprocal constructions

Some reciprocal situations can be encoded in English with a nominal reciprocal construction in which the reciprocal relation is encoded primarily through the use of a (frequently deverbal) nominal. Many of these examples involve nominalizations of verbs that allow the bare reciprocal strategy, as (17)-(19), but such constructions are possible with other types of nominals also, as in (20).

(17) They are having an argument. (Nick, #3:Two women hit each other, one at a time.)
(18) Two people in a conversation. (Paul, #40:Two people sitting next to each other.)
(19) Four girls all having a group hug. (George, #20)
(20) An introduction between people. (Kylie, #13:People passing a handshake down a line)
As reflected in the above examples, nominal reciprocals are found in a range of construction types. One common sub-construction involves the light verb *have* with the nominal forming a type of complex predicate (as in 17 and 19). Another type of construction includes a PP headed by *between* specifying the participants in the reciprocal situation, as in (20). As far as we are aware, such nominal reciprocal constructions have not been discussed in previous literature on English reciprocals, nor in typological discussions of reciprocals cross-linguistically (e.g., Evans to appear).

2.5 Back-to-back constructions

In three instances our speakers made use of a reciprocal construction exemplified by (21) below:

\[(21) \text{Two people leaning back-to-back.} \quad (\text{Dean, #12})\]

This construction type is highly restricted, but clearly reciprocal in its semantics. Although all instances of this construction in our data use the phrase “back-to-back”, it appears likely that this construction can be extended to include a limited number of other body parts; chest-to-chest, face-to-face, toe-to-toe etc. and is used to describe situations involving people (or anthropomorphized entities) touching or almost touching. We have found no previous discussion of these constructions in the literature. These constructions could arguably be considered adverbial, in which case they should be treated as a variant of the reciprocal modifier construction discussed in §2.6.

2.6 Reciprocal modifiers

A final type of reciprocal construction in English, which was not attested in our sample, involves the use of reciprocal modifiers such as *mutual/mutually* or *reciprocal/reciprocally*. These can occur with or without the *each other* reciprocal pronoun, as in the following:
They are mutually compatible.

They have a mutual hatred for each other.

...I thought I was reciprocally linking with one (web)site...

2.7 Other constructions allowing a reciprocal interpretation

Some constructions in English – usually those that encode collective and/or sequential activity – are not specifically reciprocal in their semantics, but allow for a reciprocal interpretation when used in the appropriate context. These include those using the adverb together (25), sequential constructions as in pass X down the line, each do X to the next (26, 27, 28) and explicit multi-clausal statements (29). While these are not reciprocal constructions per se, they belong to the set of constructions which can be used to encode reciprocal situations in English.

(25) Two men joking together. (Alice, #33)

(26) Many people passing a gift or food along a line. (Lee, #34)

(27) A group of people standing in a line and each one hugs the next one in line.

(Sarah, #2)

(28) A group of people in a line from left to right, they shake hands with the person next to them. (Paul, #13)

(29) Four women sitting on a couch and the middle two hug and then those two then turn to the person next to them and hug them. (Sarah, #61)

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8 Attested on Google 20/11/2006
3. Categories encoded in the videoclip data

Our study involved running the full set of *Reciprocals across Languages* videoclips with each of nine speakers of Australian English (six women, three men), all between the ages of 30 and 38. After all their initial spontaneous responses were recorded, speakers were then prompted with an appropriate *each other* reciprocal construction (for the most part, regardless of whether or not one was provided as their initial response), and asked whether it was an acceptable description of the clip. We thus distinguish in our discussion between volunteered responses (speakers’ initial responses) and prompted responses (speakers’ judgments as to the acceptability or not of a construction of the form *They VERB each other*).

All of the constructions discussed in §2 above occurred in our sample, except for the reciprocal modifier constructions (§2.6), although with varying degrees of frequency. While our speakers exhibited a great range of variation in the construction they volunteered for each situation type, we found no convincing evidence for a correlation between individual reciprocal constructions and particular situation types. As expected, the *each other* construction was the most frequent construction used to describe a reciprocal situation, and was used across almost all reciprocal situation types. Only in the cases of pair and radial asymmetrical simultaneous situations (represented by clip #6 in which there are two pairs of people and one person delouses another, clip #31 in which two people watch a third and clip #60 in which three people watch a forth walk past) did we receive no reciprocal responses at all in the volunteered data. The absence of reciprocal responses for these situation types may be due to the events involved (‘looking at’ and ‘delousing’ respectively), which seem to strongly prefer symmetrical behavior on the part of all participants for a reciprocal construction to be fully acceptable (see §4).

Other reciprocal construction types were scattered across the situation types: some were so small in number (e.g., nominal reciprocal constructions, *back-to-back* constructions) that it was
impossible to form generalizations about their occurrence; others were more likely conditioned by the nature of the predicate, rather than the situation type (e.g. bare reciprocal constructions); and some seemed more likely due to individual speaker variation (e.g. one another).

Figure 1 shows the overall percentage of all reciprocal constructions (i.e., those identified in §2.1-2.5) volunteered across the different situation types.

[INSERT FIGURE 1 ABOUT HERE]

Figure 1 represents the relative number of reciprocal responses for each of the situation types. For example, the total number of responses to all chain asymmetric simultaneous situations was gathered together (in this case, the responses to clips #14 and #56 – two people chasing each other and delousing each other respectively). Of these 18 responses, 10 (or 56%) contained a reciprocal construction of some kind and this percentage is reflected by the white bar on the graph above Chain Asym Sim (18). Of these ten reciprocal constructions, one also contained a reservation (see below). The percentage of reciprocal responses containing reservations is reflected by the black bar on the graph and is included for later reference.

As expected, our data shows that virtually all of the construction types can be encoded using a reciprocal construction. A minority of speakers were even happy to use reciprocal constructions with certain asymmetrical situations, in which we might have expected reciprocal constructions not to be possible. Following Evans (2004) we can account for these uses of the reciprocal construction as encoding the engagement of the participants in a joint activity, even if the verbal action itself is asymmetrical. For example, many of these responses involve clip #1, in which there are two people, but only one is speaking. Since the other person is actively engaged in listening (by nodding their head, watching the speaker, etc.) some speakers were happy to see the activity as shared:
Other asymmetrical situations encoded by speakers as collective activity through the use of a reciprocal construction include the asymmetrical chasing event in clip #64 (Two guys chasing each other down a hall, Kylie #64), and the asymmetrical bumping event in clip #59 (Two women knock into each other, Alice #59). Most speakers did not use reciprocal constructions for asymmetrical situations however (see Figure 1), although some accepted them (with reservations) when prompted (see Figure 2). There also seems to be a relationship between the acceptability of a reciprocal construction in asymmetrical situation types and the type of predicate involved. Speakers were less likely to offer and accept a reciprocal construction with asymmetrical hug, hit and look at events than they were with talk and chase events. It seems that the use of a reciprocal construction more strongly requires symmetry of action for some events than for others. For example, some events (such as talk and chase) keep a notion of being a joint activity when asymmetrical more easily than others such as hug and hit.9

As noted above, for many of the situation types, speakers volunteered a reciprocal construction but qualified it in some way. These reservations reflect a degree of discomfort with the reciprocal construction as an accurate reflection of the depicted event, and thus provide important information about speakers’ understanding of the appropriateness of different reciprocal constructions to encode situation types. We therefore coded these reservations separately, as shown in Figure 1: the first bar shows the total percentage of reciprocal constructions used for that situation type (including those with reservations) and the second indicates only those reciprocal responses that included reservations, for comparative purposes.

9 See Evans (2004) for further discussion on the notion of joint activity and reciprocal semantics.
Examples of such reservations include (33) and (34) below. In most of such examples, speakers did not accept a straightforward each other construction even when prompted.

(33) Two guys who are hugging each other, but they are not responsive. (Nick, #58 describing the clip where two men hug each other, one at a time.)

(34) Two men who hug each other, but at different times, so one doesn’t reciprocate the hug. (Sarah, #58)

(35) Four people sitting on a couch, taking it in turns to punch each other in the knee down the line. (George, #48)

Such reservations are particularly frequent with pairwise situation types, in which speakers generally felt that the each other construction was unacceptable without a specification of the action being done “in pairs” or “by couples”. As Figures 1 and 2 demonstrate, pairwise situations show a high proportion of reservations in both volunteered and prompted responses.10

(36) Six people all in pairs and the pairs are hugging each other. (Dean, #29)

[Could you say The people are hugging each other?]

I wouldn’t because it’s the pairs that are hugging each other, not the six people.

(37) A group of people sitting and two couples standing chatting and passing objects to each other. (George, #30)

[They are giving each other things rejected – need to specify that they are couples]

Note that the lack of a reciprocal construction in a volunteered response for a particular clip does not mean that the clip cannot be described using a reciprocal construction. In fact speakers on

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10 Interestingly, these are exactly the situations in which Fiengo and Lasnik (1973) predict the each-other construction to be acceptable (as opposed to the each-the-other construction).
average would accept a reciprocal prompt, without reservation, ~30% of the time even if they did not volunteer a reciprocal construction initially.

Figure 2 below shows speaker judgments as to the acceptability of a reciprocal prompt to describe each clip. The white bars represent the relative number of acceptable judgments for each of the situation types. For example, for the pair symmetrical sequential situation types (clips #30 and #42 where three pairs of people give things to each other or hit each other respectively) the speakers were asked to judge the acceptability of the prompts “The people are giving each other things / hitting each other”. Of the 13 responses to these questions, 11 (i.e., 85% of the responses) agreed that the prompt was an acceptable description of the event. However, as the black bar shows, five of these responses (i.e., 38% of all the responses) added a reservation to their judgment. (Note that the total number of judgments for each situation type is included in brackets along the x-axis.)

As mentioned above, the prompt for clip #30 was They are giving each other things/stuff/gifts. Speakers might say that the prompt was an unacceptable description of the event (e.g., Meg #30); that it was acceptable, but with a reservation (e.g., Dean #30 …I would have described it more in terms of the pairs of people giving stuff to each other. It describes it more clearly.); or acceptable (e.g., Lee #30).

Another feature of the data evident from these figures is the lower number of reciprocal constructions volunteered for chain situations when compared with melee and strong symmetric simultaneous and sequential events. Speakers were more likely to use an alternative construction

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11 This number is not a multiple of the number of speakers because one speaker was not prompted with reciprocal constructions at all, and on occasion some speakers’ responses were missed.
to describe these events than with other situation types, usually using a construction like doing X in turn/down the line/to the next one/to their left, etc.:

(38)  A group of people in a line from left to right, they shake hands with the person next to them. (Paul, #13)

(39)  Six people at a table, each with something in front of them which they pass to the person on their left, each in turn. (Meg, #28)

However, in contrast to the pairwise situations, speakers were more likely to accept an each other construction to describe chaining situations when prompted, except for clip #2 (in which four people standing in a line each turn one-by-one and hug the person next to them, without that person hugging back) for which it was felt necessary that both participants actively engage in the hug for a reciprocal construction to be acceptable.

For many speakers the prompted reciprocal construction was unacceptable in certain sequential situations involving two participants. This was particularly common with the predicates look at (clip #46) and bump (clip #22), for which speakers frequently stated that the each other construction couldn’t be used because the action wasn’t simultaneous:

(40)  Two guys, one standing there, another one walking past and bumping him and then the second one comes along and bumps into the one that hit him first. (George, #22)

[Could you say The men bumped into each other?]

No, because it’s not simultaneous.

(41)  A man and a woman sitting on seats next to each other and they at different points in time, look at each other. (Dean, #46)

[Could you just say They looked at each other?]
But it didn’t happen concurrently, they weren’t at any point both looking at each other so it sort of sounds a bit misleading.

For some speakers the acceptability of the each other construction with these situations was affected by the aspect of the verb, so that it acceptable only when in the perfect aspect (They looked at each other), but not in the progressive (They are/were looking at each other), see (42).

(42) A couple in a waiting room looking morose. (Paul, #46)

[*They were looking at each other, *They are looking at each other, but They looked at each other - acceptable]

For other speakers such sequential situations were not acceptable with reciprocal encoding at all (e.g., Lee and Kylie, #46). Interestingly, these are also the same predicates with which reciprocal constructions were often considered unacceptable in asymmetric situations also (see §2).

4. Conclusion

While there can be no disputing the fact that each other is the primary reciprocal strategy in English, and that it can be used in the full range of reciprocal situation types, the data resulting from this study revealed a number of intricacies in reciprocal encoding not discussed in the previous literature. Firstly, English has a wide range of reciprocal constructions, including nominal reciprocal constructions such as an introduction between friends, back-to-back constructions (e.g., They are leaning back-to-back), and related constructions that can be given a reciprocal interpretation in particular contexts (e.g., Six people standing in a line passing on a handshake (Meg #13)). Secondly, while each other is used in the full range of reciprocal situation types, it is used less frequently in chaining situation types compared to other types of
events and is frequently judged unacceptable in pairwise situation types without additional specification as to the pairwise nature of the event.

Some intriguing connections are revealed in our data between the aspect of the clause and the acceptability of the *each other* construction, particularly with certain predicates (e.g., *hug*, *bump*, *look at*). For some speakers a sequential *look at* scenario cannot be encoded with the *each other* construction in the progressive aspect (*They are looking at each other*), but is more acceptable in the past perfective (*They looked at each other*).

It is highly likely that the data in our sample has been affected by the nature of the task itself. Many speakers clearly felt that they were required to explain the videoclips as precisely as possible, and thus their responses are likely to be more specific than may be required for similar situation types in more naturalistic conversational settings. This may explain the low numbers of *each other* constructions in chaining and pairwise situation types, for example, for which speakers often felt that the *each other* construction did not adequately convey the full details of the situation (see (36) and (37) above, for example). This may also explain the difference we find between volunteered responses and prompted responses for many of these situation types.

Nevertheless, the number of responses gathered meant we were able to use as an aggregate the number of reservations speakers included in their acceptability judgments and descriptions as a rough guide to how confident speakers were that a given situation could be described using a reciprocal construction. This technique showed that describing a pairwise situation using a reciprocal construction was far less acceptable to speakers than the equivalent melee or strong situations.
References


Figure 1. Percentage of reciprocal constructions produced across situation types

% Reciprocal Responses

Situation Type

- Responses with reciprocal construction
- Reciprocal responses with reservation
Figure 2. Acceptability of *each other* reciprocal prompts across events.
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