

CHILDREN'S POSSESSIVE STRUCTURES

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1. POSSESSIVE 'S AND THIRD PERSON SINGULAR -S

Two- and three-year-old English children generally go through a stage during which they sporadically omit possessive 's, so alternating between saying (e.g.) *Daddy's car* and *Daddy car*. At roughly the same age, children also go through a stage (referred to by Wexler 1994 as the **optional infinitives stage**) during which they sporadically omit the third person singular present tense +s inflection on verbs, so alternating between e.g. *Daddy wants one* and *Daddy want one*. The question addressed in this paper is whether children's sporadic omission of possessive 's is related to their sporadic omission of third person singular present tense +s – and if so, how. This question is explored here primarily in relation to data provided by a longitudinal study conducted by Joseph Galasso of his son Nicholas between ages 2;3 and 3;6 (based on transcripts of weekly recordings of Nicholas' speech production): see Radford and Galasso 1999.

Nicholas' speech production provides some prima facie evidence of a relation between the acquisition of possessive 's and third person singular +s: prior to age 3;2, Nicholas used neither possessive 's nor third person singular +s in obligatory contexts; it is only from age 3;2 on that we find both morphemes being used. The table in (1) below shows the relative frequency of use of possessive 's and third person singular present tense +s in obligatory contexts before and after age 3;2:

(1) OCCURRENCE IN OBLIGATORY CONTEXTS

AGE	3SgPres +s	Poss 's
2;3-3;1	9/69 (0%)	0/118 (0%)
3;2-3;6	72/168 (43%)	14/60 (23%)

Typical examples of nominals and clauses produced by Nicholas at the relevant stages are given in (2) and (3) below:

- (2)(a) That Mommy car (2;6). No Daddy plane (2;8). Batman (2;11, in reply to 'Whose it is?').
It Daddy bike, no Baby bike. Where Daddy car? (3;0)
- (b) Daddy's turn (3;2). It's the man's paper (3;4). It's big boy Nicholas's. It's Tony's. What's the girl's name? Where's Zoe's bottle? (3;6)
- (3)(a) Baby have bottle (2;8). No Daddy have Babar (2;9). The car go (2;11). The other one work (3;0). Here come Baby (3;1)
- (b) Yes, this works. This car works. It hurts. The leg hurts. Barney leg hurts. It rains (3;2)

The data in (1-3) suggest a potential parallel between the acquisition of third person singular +s and possessive 's, and raise the obvious question of why there should be such a parallel².

From a morphological perspective, such a parallel would not be unexpected, given that possessive 's and third person singular +s (e.g. the contracted form 's of the auxiliary *is*) have the same range of overt allomorphs: cf.

(4) ALLOMORPH	AUXILIARY	POSSESSIVE
/s/	Pat's coughing	Pat's cough
/z/	Teddy's coughing	Teddy's cough
/ɪz/	Madge's coughing	Madge's cough

Moreover, there are also potential syntactic parallels between the two. Under the analysis of clause structure assumed in Chomsky 1981 and much subsequent work, a clause such as *Pat's coughing* would contain an IP projection of the simplified form (5) below:

- (5) [IP Pat [I 's] coughing]

with the auxiliary 's encoding both present tense and agreement with a third person singular subject-specifier like *Pat*. Under the analysis of possessive structures in Kayne (1994, p.105), a nominal structure such as *Pat's cough* would likewise contain an IP projection with the simplified structure (6) below (with I being a nominal rather than a verbal inflectional head):

(6) [IP Pat [I 's] cough]

and it might be argued that 's serves to encode agreement with a third person (singular or plural) possessor such as *Pat*. (Similar analyses of English possessive structures are found in Chomsky 1995 p.263, Zribi-Hertz 1997, and Radford 1997 p.278.) This is by no means implausible from a universalist perspective since we find a variety of languages which overtly mark possessor agreement: languages as diverse as American Sign Language, Dutch and Turkish have possessor agreement structures paraphraseable in English as 'Daddy his car', 'Mummy her car', etc.

2. CASE, AGREEMENT AND UNDERSPECIFICATION

If both possessive 's and third person singular +s are reflexes of an agreement relation between an inflectional head and its specifier, an obvious suggestion to make is that omission of third person singular +s and possessive 's may both reflect agreement failure (i.e. failure to encode the agreement relation between an inflectional head and its specifier). In the terminology of Schütze and Wexler (1996) s-less forms may be the result of the relevant inflectional head being *underspecified* with respect to the specifier-agreement features it carries. In simplified schematic terms, we might say that clausal structures like *Mummy's driving* contain an IP of the simplified form (7a) below (with INFL carrying agreement features matching those of its subject-specifier), and the corresponding s-less clause *Mummy driving* has the partial structure (7b) (with INFL being underspecified in respect of its subject-agreement features):

(7)(a) [IP Mummy [I +agr 's] driving]

(b) [IP Mummy [I -agr \emptyset] driving]

In much the same way, we might suggest that possessive structures like *Mummy's car* contain an IP projection like (8a) below headed by an inflectional node fully specified for agreement with its possessor-specifier *Mummy*, whereas s-less possessives like *Mummy car* contain an IP projection like (8b) below with an inflectional head which is underspecified with respect to agreement with its possessor-specifier³ (In both cases, INFL can be assumed to carry interpretable features marking possession and definiteness, so that both structures are paraphraseable as 'the car belonging to Mummy'):

(8)(a) [IP Mummy [I +agr 's] car]

(b) [IP Mummy [I -agr \emptyset] car]

A further assumption made in (7/8) is that 's is only used where INFL is fully specified in respect of its agreement properties; otherwise, INFL is null⁴.

The assumption that s-less forms may be the result of agreement underspecification has interesting implications for the case-marking of the specifier in both nominal and clausal structures. Schütze (1997) argues that there is a cross-linguistic correlation between case and agreement (e.g. that an INFL which is specified for subject-agreement has a nominative subject). Making rather different assumptions from his (for reasons which do not affect the conclusions drawn here), let us suppose that adult English has the following case system:

(9) An overt (pro)nominal is:

(a) nominative if in an agreement relation with a verbal INFL

(b) genitive if in an agreement relation with a nominal INFL

(c) objective otherwise (by default)

If we further assume (following Schütze and Wexler) that children have acquired the morphosyntax of case and agreement by around two years of age, and that two- and three-year old children go through a stage during which functional heads are optionally underspecified with respect to the features they encode, we can provide a straightforward account of why two- and three-year olds alternate between forms like *I'm playing* and *Me playing*. The two types of clause would have the respective (partial) structures (10a/b) below:

(10)(a) [IP I [I +agr 'm] playing]

(b) [IP Me [I -agr \emptyset] playing]

Since INFL is fully specified for agreement in (10a), the overt auxiliary 'm is used, and the subject is nominative by (9a). But since INFL is underspecified with respect to agreement in (10b), it remains null and has a default objective subject by (9c).

If – as suggested in (8a/b) above – possessive nominals contain an IP headed by an INFL which may either be fully specified or underspecified for agreement, we would expect to find a similar alternation between nominal structures like (11a) below with genitive possessors and those like (11b) with objective possessors:

(11)(a) [IP my [I +agr \emptyset] dolly]

(b) [IP me [I -agr \emptyset] dolly]

In (11a), INFL is fully specified for agreement with its possessor-specifier *my* and so the possessor has genitive case by (9b); but in (11b), INFL is underspecified for agreement, and so its possessor-specifier *me* has objective case by (9c). In both structures, INFL is null because 's is used only where the specifier is third person.

In short, the assumption that children's possessive structures may optionally be underspecified with respect to agreement with the possessor-specifier predicts that children who go through such an underspecification stage in the acquisition of possessives should alternate between structures with genitive and objective possessors. In sections 3-5 below, we argue that this is indeed the case for Nicholas, examining his use of first, second and third person possessors in turn.

3. FIRST PERSON POSSESSORS

If we look at the earliest first person singular possessor structures produced by Nicholas, we find that objective *me* possessors predominate at ages 2;6-2;8, and that genitive possessives (viz. the weak form *my* and the strong form *mine*, with occasional early confusion between the two) are initially relatively infrequent, but gradually become more and more frequent until they predominate by age 3;0. The table in (12) below shows the relative frequency of objective and genitive possessors used by Nicholas at various ages:

(12) Frequency of occurrence of first person singular possessors

AGE	OBJECTIVE ME	GENITIVE MY/MINE	NOMINATIVE I
2;6-2;8	53/55 (96%)	2/55 (4%)	0/55 (0%)
2;9	11/25 (44%)	14/25 (56%)	0/25 (0%)
2;10	4/14 (29%)	10/14 (71%)	0/14 (0%)
2;11	5/24 (21%)	19/24 (79%)	0/24 (0%)
3;0	4/54 (7%)	50/54 (93%)	0/54 (0%)
3;1-3;6	6/231 (3%)	225/231 (97%)	0/231 (0%)

Typical examples of first person singular possessor structures produced by Nicholas are given below:

(13)(a) That me car. Have me shoe. Me and Daddy (= `Mine and Daddy's').

Where me car? I want me car. I want me bottle. I want me woof (2;6-2;8)

(b) I want me duck. That me chair. Where me Q-car? No me, Daddy
(= `It isn't mine, Daddy'). Me pasta. Mine pasta. My pasta. It my key. It my (= `It's mine'). No book my (= `The book isn't mine')

(c) It is my TV. Where is my book? Where is my baseball? Don't touch my bike. I want my key. It's my money (3;0)

In terms of the analysis outlined in (11) above, the picture which the data in (12) seem to suggest is that the possessive structures produced by Nicholas are initially predominantly underspecified for possessor-agreement, with agreement gradually being specified more and more frequently (until it exceeds the traditional 90% correct use threshold by the time he is 3 years of age).

Interestingly, there are potential parallels to be drawn with Nicholas' use of first person singular subjects. As the examples in (14)

below illustrate, Nicholas alternates between nominative and objective subjects in his early clause structures:

- (14)(a) I am me. I am Batman. I'm sick (2;8). I am Batman. I am Q. I am car (2;9)
 (b) Me Q (2;8 = 'I am Q'). Me in there (= 'I'm in there'). Me car (= 'I'm a car'). Me wet
 (= 'I'm wet') (2;9)

The table in (15) below shows the relative frequency of *I* and *me* subjects in copular sentences:

(15) **Frequency of I/me subjects in copular sentences**

AGE	NOMINATIVE I	OBJECTIVE ME
2;6-2;8	10/14 (71%)	4/14 (29%)
2;9	15/19 (79%)	4/19 (21%)
2;10-3;0	51/55 (93%)	4/55 (7%)
3;1-3;6	105/111 (95%)	4/111 (5%)

In terms of the agreement-underspecification analysis, clauses such as *I'm sick* and *Me wet* might be argued to have the respective simplified structures (16a/b) below:

- (16)(a) [IP I [I +agr 'm] sick]
 (b) [IP Me [I -agr \emptyset] wet]

In (16a) INFL is fully specified for agreement and so is realised as 'm and has a nominative subject *I* by (9a), whereas in (16b) INFL is underspecified for agreement and so has a null realisation and an objective subject *me* by (9c). (In both structures, INFL might be taken to be specified for present tense.) The data in the tables in (12) and (15) would suggest that subject-agreement is acquired more rapidly than possessor-agreement: this may (in part) reflect the fact that agreement with a first person singular subject is overtly encoded on INFL (by use of *am/'m*), whereas agreement with a first person singular possessor is not overtly encoded on D (which is null).

4. SECOND PERSON POSSESSORS

If we turn now to look at structures with second person possessors, we find that these only appear in the transcripts from 3;2 onwards. The predominant second person possessor form is initially *you*, but this is gradually ousted by *your* over the next few months, as the figures in the table below illustrate:

(17) **Frequency of second person possessors**

AGE	YOU	YOUR
3;2-3;4	14/16 (88%)	2/16 (12%)
3;5	7/34 (21%)	27/34 (79%)
3;6	2/29 (7%)	27/29 (93%)

Typical examples of second person possessor structures produced by Nicholas are given below:

- (18)(a) No you train. (= 'It's not your train'). No it's you train, no (idem). No you baby, Mama baby. This is you pen (3;2)
 (b) That's your car. It's you elephant. It's you turn. It's you kite. It's you plane. I got you plane. Close your eyes. It you house? No it's you house. Where's you house? Where's you bed? Where's your friend? (3;4)

It seems reasonable to suppose that *your* possessors are genitive (as in adult English), and that (since Nicholas never uses nominative possessors) *you* possessors are objective. In terms of the analysis proposed here, nominals like *your car/you car* would have the partial structures (19a/b) below:

(19)(a) [IP your [I +agr \emptyset] car]

(b) [IP you [I -agr \emptyset] car]

In (19a), INFL is fully specified for agreement with its second person possessor-specifier and so the possessor *your* has genitive case by (9b); but in (19b), INFL is underspecified for agreement, and so its possessor-specifier *you* has objective case by (9c). INFL is null in both (19a) and (19b) because the overt possessive morpheme 's is used only where the possessor is third person. Although we might expect to find a parallel change from objective to nominative subjects in clausal structures, we clearly cannot test this empirically in any straightforward fashion, because the pronoun *you* serves a common nominative/objective function.

5. THIRD PERSON POSSESSORS

The only other pronominal possessors used by Nicholas are the third person masculine singular forms *him/his*, which first appear in the transcripts at age 3;6. 10/13 (77%) of the relevant structures have an objective *him* possessor, the remaining 3 (23%) having a genitive *his* possessor. An exhaustive list of the relevant structures is given in (20) below:

(20)(a) It's him house. It's him hat (x2). Him eye is broken. Him bike is broken. I want to go in him house. Help him legs. What's him name? (x3)

(b) What's his name? (x3)

In terms of the analysis presented here, nominals such as *his name/him name* would have the respective (simplified) structures (21a/b) below:

(21)(a) [IP his [I +agr \emptyset] name]

(b) [IP him [I -agr \emptyset] name]

We find a genitive *his* possessor by (9b) in (21a) where INFL is fully specified for possessor-agreement, and an objective *him* possessor by (9c) in (21b) where INFL is underspecified for agreement.

An obvious question to ask is whether we find parallels between third person singular masculine possessors and third person singular masculine subjects. Typical copular clauses with third person singular pronoun subjects produced by Nicholas at 3;6 are illustrated below:

(22)(a) Here's him. Where's him? Him is alright. Him is my friend. Him is a big woof-woof. Him is hiding. What's him doing? Where's him going? Where's him? Where is him?

(b) What him doing? Him blue. Him alright. Him dead. Him my friend. Him not my friend.

(c) He's happy. He's bad. He is a bad boy. He's in there.

(d) He happy. He a elephant

25/32 (78%) of the copular sentences within third person singular subjects produced by Nicholas at 3;6 have objective *him* subjects (a figure comparable to his 77% use of *him* possessors), with the remaining 7/32 (22%) having nominative *he* subjects (compared to 23% use of *his* possessors). This is clearly consistent with our view that possessors and subjects show a related pattern of development⁵.

6. WIDER IMPLICATIONS

We can summarise the range of possessive structures used by Nicholas in the following terms. We find the same overall pattern of development with all three types of pronominal possessor which he uses: in each case, the earliest possessive nominals he produces predominantly show objective (*me/you/him*) possessors, and these are gradually ousted by genitive (*my/your/his*) possessors. Under the analysis suggested here, the transition from objective to genitive possessors reflects the transition from an early nominal structure with an inflectional head lacking possessor-agreement features to a later nominal structure with an inflectional head specified for agreement. If (following Kayne) we take possessive 's to be a possessor-agreement inflection, there are obvious parallels here with the development of *s*-possessives: as we saw in (1-2) above, the earliest nominal possessor structures produced by Nicholas are *s*-

less forms like *Daddy car*, and these are clearly consistent with the view that children's early possessive nominals contain an IP with an inflectional head which is underspecified for possessor-agreement.

Moreover, there are interesting potential parallels between the development of possessor+noun structures and subject+verb structures. Just as Nicholas fails to mark possessor agreement at all in nominal structures like *Baby bottle* until age 3;2 (and thereafter goes through a period of optionally marking possessor-agreement), so too he similarly fails to mark subject-agreement in clausal structures like *Baby have bottle* until 3;2 (and thereafter goes through a period of optionally marking subject-agreement). Similarly, just as we find a transition from nominal structures with objective possessors (like *me car*, *you car* and *him car*) to structures with genitive possessors (like *my car*, *your car*, *his car*), so too we find a parallel transition from clausal structures with objective subjects (like *Him naughty*) to structures with nominative subjects (like *He's naughty*). If we assume that genitive and nominative case are checked via an agreement relation with a nominal and verbal inflectional head respectively whereas objective case is a default form used in agreementless structures, the gradual change from objective possessors and objective subjects to genitive possessors and nominative subjects reflects a parallel change from a structure headed by an agreementless INFL to one fully specified for subject-/possessor-agreement.

What all of this underlines is that the acquisition of case and agreement is a protracted process involving three (idealised) major stage. In the initial stage, agreement is rarely marked (and marked only on those lexical items for which he has acquired the relevant morphology): consequently, subjects and possessors typically carry default objective case, and there is little use of nominative subjects or genitive possessors. In the second stage, agreement is optionally marked: subjects carry nominative case and verbs carry third person singular +s if agreement is marked, but subjects carry default objective case and verbs don't carry third person singular +s if agreement is not marked⁶; likewise, possessors carry genitive case and the possessive inflection 's is used if possessor-agreement is marked, but possessors have default objective case and no 's is used if agreement is not marked. In the third stage, children attain adult-like competence, and mark agreement in obligatory contexts, resulting in the correct use of genitive possessors, nominative subjects, possessive 's and third person singular s in obligatory contexts.

Not surprisingly, the somewhat idealised picture painted above is complicated by lexical factors (i.e. by the fact that different lexical items are acquired at different ages). For example, genitive *my* appears in the earliest transcripts, *your* first appears at 3;2, and *his* at 3;6; likewise possessive 's and third person singular +s both appear at 3;2 (though the irregular first person singular forms *am/'m* appear at 2;8). The obvious consequence of this is that during stage 2 (i.e. the **optional agreement** stage), children's grammars license both agreement-specified and agreement-underspecified structures, but the relevant agreement structures can only be produced if the child has the lexical resources to realise them. So, for example, at age 3;0 Nicholas is at the optional agreement stage and so would be expected to alternate between possessive nominals like *my car/me car*, and *Daddy's car/Daddy car*: but because he has acquired both *me* and *my* (but not possessive 's) at this stage, the actual range of possessive structures he produces is *my car/me car/Daddy car*. A further complicating factor is that when a new pronoun form is acquired, it can take several months before it is used productively. It seems likely that newly acquired items are initially difficult to access (becoming easier as time goes by), and this is why we find the observed pattern of a gradual increase in the frequency of their use.

The overall conclusions which the research reported on here leads to are the following. There is an interesting symmetry between the development of subject+verb structures on the one hand and possessor+noun structures on the other. Nicholas seems to pass through an initial no inflection stage during which subject-agreement and possessor-agreement are not marked (a stage characterised by the use of objective possessors/subjects and the omission of possessive 's and third person singular +s). At around the age of 2;6 he seems to enter an optional agreement stage at which he alternates between agreement-specified forms like *my car* and *I'm sick* and agreementless forms like *me car* and *Me wet*: however, the fact that different lexical items are acquired at different ages means that some agreement-specified forms (like *Daddy's car* and *It works*) appear later than others. This optional inflection stage lasts until the end of the transcripts at 3;6 (though by then agreement forms are generally well established and strongly preferred where lexical resources permit and where an item is well enough established not to cause retrieval problems). The overall conclusion we reach is that the optional infinitives stage which two- and three-year-old children go through should more properly be thought of as an **optional agreement** stage during which both nominal and verbal inflectional heads may be underspecified in respect of the agreement features they encode.

7. EVIDENCE FROM SLI

Interestingly, the analysis presented here is consistent with the findings from a study by Ramos and Roeper (1995) of an SLI child (JC) between ages 4;4 and 4;6. JC alternates between objective and genitive possessors (e.g. 56% of his first person singular possessors are objective *me* and 44% genitive *my*), but has 0% use of possessive 's and third person singular +s in obligatory contexts. Examples of JC's objective subjects/possessors are given in (23a/b) below:

- (23)(a) Me like ketchup. Me don't know. Me said me gotta hurry up and go. Her can cook something. Them have a party, and a clown give me a balloon. That why them put a lot of sand.
- (b) Me daddy like mustard. Me sister name Dawnne. He shoveled him truck. Them mom could let them play outside. Me mom put in here, cook them, forgot to take them eyes out.

It would seem that JC is more or less at the same stage which Nicholas reached at 2;9. In order to demonstrate that the use of *me* possessors is a competence error (reflecting a grammatical deficit – more specifically, an agreement deficit) rather than a performance error (resulting from e.g. retrieval failure in the sense of Rispoli 1994, 1995, 1997), Ramos and Roeper conducted a comprehension experiment on JC in which he was asked to match sentences with pictures denoting possession or action. They note that in response to the following test sentences:

- (23) The girl saw me paint/dress/bat/ski

in 4 out of 5 cases JC pointed to pictures denoting possession, suggesting that his grammar systematically licenses objective possessors. In terms of the framework adopted here, objective possessors indicate a failure to mark possessor-agreement; and likewise objective subjects indicate a failure to mark subject-agreement.

8. EVIDENCE FROM CHILD DUTCH

Although the research reported here is based on a longitudinal study of the acquisition of English, there is some evidence which suggests that children acquiring other languages may go through a parallel agreement-underspecification stage in the acquisition of possessives. Hoekstra and Jordens (1994) report on a longitudinal study of a Dutch child (Jasmijn), noting (p.141) that the earliest possessive structures which she produces involve a possessor which is either a bare *s*-less nominal (which could be taken to be an objective nominal) or an objective pronoun. They also observe that the possessor can undergo a phenomenon which they refer to as subscrambling, resulting in discontinuous possessive structures such as:

- (25)(a) *Cynthia* is dat niet *pyama* (Jasmijn 2;5)
Cynthia is that not pyjamas
'Those are not Cynthia's pyjamas'
- (b) *Cynthia* mag *mij* niet *navel* zien
Cynthia may my not bellybutton see
'Cynthia can't see my bellybutton'

Within the framework adopted here, the use of an objective possessor would indicate the lack of possessor-agreement features carried by the head D of DP. Indeed, it may be that it is the absence of possessor-agreement which allows the subscrambling of the possessor in child Dutch: in this connection, it is interesting to note that Verkuyl and Bende-Farkas (1997, p.5) claim that principles of UG prevent a possessor from being extracted when it is in an agreement relation with its head.

9. EVIDENCE FROM CHILD KOREAN

A further potential parallel is suggested by research into the acquisition of Korean by Lee (2000). In adult Korean, possessors may carry genitive case, and this is marked by the case-suffix *+uy* (e.g. the genitive form of *Emma* 'Mum' is *Emma-uy* 'Mum's'). Lee undertook a longitudinal study of three Korean children: Nohen from 1;7 to 1;10, Younguk from 1;7 to 2;0, and Zenhen from 2;3 to 2;4. She reports that the three children in her study frequently omitted the genitive case-particle in possessive structures, preferring to use bare possessors rather than genitive possessors (e.g. saying *Emma cha* 'Mum car' rather than *Emma-uy cha* 'Mum's car'). In fact 42/43 (98%) of the possessive structures produced by Zenhen involved the use of bare possessors, 398/415 (96%) of those produced by Nohen, and 29/60 (48%) of those produced by Younguk. What is particularly interesting about the bare possessors produced by Korean children is that they don't carry objective case (because they lack the objective case-particle *-lul*) but rather seem to be caseless D constituents (e.g. bare pronouns) or DP constituents (e.g. bare nominals). This in turn raises the possibility that possessive structures in early child English like *Daddy car* may involve the use of a caseless possessor, rather than an objective possessor.

At first sight, this suggestion might seem to be difficult to reconcile with the fact that English children produce possessives like *me car*, where the pronoun *me* might be assumed to carry objective case. However, Radford (1990) argued that such pronouns in 'small

clause' structures like *Me wet* in early child English are caseless forms. Indeed, it might be claimed that the same is true of the adult counterpart of *me* – at least in sentence fragments such as that italicised below:

(26) Who is going to get the blame? *Me?*

Here, the sentence-fragment *me* does not occur within the domain of any case-checker and so (if indeed *me* did carry objective case) would have no obvious means of checking its case (thereby causing the relevant derivation to crash at LF by virtue of containing an uninterpretable case feature). Analysing adult *me* sentence fragments and child *me* possessors as caseless forms which don't enter into any agreement relation with a functional head would be consistent with the view that case is universally checked by agreement, and conversely that in the absence of agreement, there is no case.

10. FOOTNOTES

1. An earlier version of this paper was presented to the annual convention of the American Speech and Hearing Association by the first author in Boston in November 1997; a revised version was presented in Radford and Galasso 1999.

2. It seems clear that the relevant errors are not phonological in nature, since Nicholas (during the period covered by the study reported here) does not omit word-final sibilants, or the noun plural +s inflection. Moreover, it seems self-evident that any attempt to account for the relevant data in terms of an inability to articulate final sibilants would not generalise to possessives such as *me car*, *you train* and *him house* (which were produced by Nicholas alongside bare nominal possessives such as *Daddy car*).

3. Following Schütze and Wexler 1996, the notation [+agr] is used as an informal way of indicating that INFL carries a set of person/number features which agree with those of its specifier. Conversely, I shall use the notation [-agr] to indicate the absence of such specifier-agreement features. The discussion here is simplified in various respects, for ease of exposition. For example, we have marked only whether INFL carries agreement features or not, and not represented other features (e.g. tense) carried by INFL. We have also ignored the possibility that structures like (7b) may equally result from underspecification of the tense properties of INFL – as claimed in Schütze and Wexler (1996).

4. Earlier analyses of child possessives such as *Daddy car* (e.g. Radford 1990) took them to be NPs with a structure along the lines of:

(i) [NP Daddy [N' [N car]]]

in which the bare possessor *Daddy* functions as the specifier of the head noun *car*. However, an NP analysis along the lines of (i) proves problematic in numerous ways. For one thing, the unary-branching N-bar constituent posited in (i) is incompatible with the assumption made in Chomsky (1995) that all syntactic structure is binary-branching. Secondly, it is not obvious how a structure like (i) would account for the fact that bare possessive structures like *Daddy car* have a definite interpretation (paraphraseable as 'the car belonging to Daddy'), since definiteness is a D-property rather than an N-property. And thirdly, an NP analysis like (i) would provide no obvious account of the fact that bare possessors precede attributive adjectives in child structures such as the following (produced by a boy called Knox at 3;6):

(ii) Daddy old car. Not Daddy big car, Daddy old car. Daddy big car

If (following Cinque 1994) we posit that attributive adjectives serve as specifiers of a functional projection positioned between D and N, it follows that the spec-NP analysis of possessors in (1) would wrongly predict that children produce bare possessive structures like:

(iii) [FP big [F \emptyset] [NP Daddy [N car]]]

By contrast, a spec-DP analysis along the lines of (iii) below would correctly predict that bare possessors precede attributive adjectives:

(iii) [DP Daddy [D \emptyset] [FP big [F \emptyset] [N car]]]

Moreover, the structure would be binary-branching, and its definite interpretation (i.e. the fact that it is paraphraseable as 'the big car belonging to Daddy') can be attributed to the presence of a null (definite) determiner. For reasons such as these, we shall assume in this paper that bare possessors are in spec-DP, not in spec-NP.

5. The data in (22a) and (22d) might at first sight seem to call into question the claimed correlation between nominative case and subject-verb agreement. After all, in (22b) we appear to have a verb inflected for third person singular agreement used with an objective subject; and in (22d) we appear to have a nominative subject in a clause which contains no verb inflected for agreement. However, it should be noted in relation to (22a) that Nicholas seems to use +s essentially as a present tense inflection (not limited to use with third person singular subjects), and hence produces sentences such as *Here is me. Here is you. You is done. Where is you? Where you is?* There are potential parallels here with the use of +s as a present-tense marker in structures like *Themuns is nice* in dialects of Belfast English (see Henry 1995). In relation to structures like (22d), it should be noted that Schütze and Wexler claim that they involve a null INFL node which is specified for agreement but unspecified for tense.

6. A minor complication is posed by the fact that some children initially use +s to mark present tense but not agreement, and so generalise it from use with third person singular subjects to use with first person, second person and third person plural subjects: see the discussion in footnote 5, and Radford 1998 for further exemplification and discussion. Similarly, some children generalise possessive 's from use with third person possessors to use with first and second possessors (see Chiat 1981): in such cases, 's seems to mark possession and definiteness, but not agreement.

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