SOME ASPECTS OF THE SEMANTIC

AND CONCEPTUAL DEVELOPMENT

OF POSSESSION IN YOUNG

CHILDREN

by

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A thesis submitted to the
University of Keele
for the Degree of
Doctor of Philosophy

September, 1986.

ACKNOWLEDGEMENTS

ABSTRACT

This thesis represents a research programme investigating the development of possession in children from eighteen months to six years. It is intended to contribute to two areas of research: the acquisition of possessives, particularly possessive pronouns, examined in the first three sections of the Literature Review; and the meaning of possession in early childhood, presented in the last section of the Literature Review.

Five experiments were undertaken in total, three focusing on children's production and comprehension of possessives. The results indicate that children learn singular possessives before plurals. The first possessives acquired, by eighteen months, are those referring to the children themselves as owners, then those relating to the other person in the communication dyad, and later still the remaining singulars. Of the plural possessives, those referring to owners outside the communication dyad are acquired first, then those involving the other person in the dyad, and finally at about five years, those including the child himself as a joint owner. The order of acquisition is similar for all possessives, propernoun or pronoun. A model explaining this pattern is proposed.

The type of object possessed also appears to affect children's performance. A fourth experiment demonstrates that children understand possession best when it involves intrinsic inalienable objects rather than alienable objects, whilst

reciprocal inalienable objects cause them most problems. Other factors regarding alienable objects, specifically the permanency of the relationship and its duration, also affect children's understanding.

Finally an interview study (experiment 5) suggests that children's understanding of possession includes the right of access to objects and the control over access by others. Age differences in the children's conception of possession are apparent but it is unclear whether these concern their understanding of possession, their ability to define it or their status as children under their parent's authority.

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GENERAL   INTRODUCTION

Possession and the acquisition of possessions seems to characterise a very large part of human activity. Much of our social behaviour, especially in Western society, is geared to acquiring property of all kinds, and to keeping it. Large amounts of time and money are expended by manufacturers on market research, advertising and display, with a view to persuading the public to acquire goods. At the same time, the vast body of legislation that exists in our society is largely comprised of laws to determine who owns what, to define the rights of owners and to protect them from others who might attempt to deprive them of their belongings.

Surprisingly, however, possession and possessive behaviour has received very little attention from psychologists. There has been very little in the way of empirical work and almost no systematic theoretical study regarding the psychology of possession or its development in humans. Only a handful of writers have attempted to look in any depth at possession, notably Beaglehole (1932) who focused his investigations for the mostpart, on the way in which "primitive" societies conceptualised possession, and Furby (1976; 1978a; 1978b; 1978c; 1979; 1980). Furby's work comprises an extremely detailed and systematic investigation into the concept of possession, across two societies and a large range of agegroups. Unfortunately, however, even she did not examine the meaning of possession for children under six years of age. Indeed, the development of possession has received even less attention and systematic study than the full adult concept.

However, the possessive component of behaviour in early childhood is apparent in the studies of early childhood social interaction (Dawe, 1934; Bronson, 1975; Ross and Hay, 1977). These studies suggested that the temporary use and control of toys in a social setting is important for young children to the extent that conflicts and disputes can arise. But they also indicated that there is perhaps more to possession for young children of this age than simply who gets to play with a particular toy, since not all the incidences of possessive behaviour recorded were associated with disputes over usage of an object.

Unfortunately, there appears to be very little research into the possessive behaviour of young children focusing on social behaviour other than disputes, aggression or conflicts. Indeed it is difficult to see what other kinds of social behaviour at this agelevel might inform us about the development of possession. One possibility may of course be that of language. Research has shown that children use and understand possessives very early in the course of language development (Brown,1973; Goodenough,1938; Huxley,1970; Kernan,1969; Nelson,1973; Léveillé and Suppes,1976) which suggests that much might be learned about the early development of possession from children's first usage of possessives.

Nevertheless, the observation of children's understanding and use of possessives is a fairly indirect means of investigating the development of possession per se. Probably the most direct and systematic method for studying possession

is that used by Furby (1976) in her interview investigation. Of course this method cannot be used with infants or prelingual children but it could be employed with children aged under six years old (the youngest agegroup used by Furby).

This thesis sets out to employ both of these suggested lines of research. It first focuses on children's usage and understanding of possessives (paying particular attention to possessive pronouns) attempting to learn more about the early development of possession from the results. Secondly, the thesis contains an interview study similar to that employed by Furby but focusing on children under six years of age.

To begin, however, the literature review attempts to provide a base of knowledge for the reader by outlining the research on the acquisition of personal and possessive pronouns; by describing and evaluating one or two of the theories of language acquisition (particularly componential analyses) most relevant to the acquisition of possessive pronouns; and by outlining much of the current research and knowledge about possession and its development.

LITERATURE REVIEW

"They told me you had been to her,
And mentioned me to him:
She gave me a good character,
But said I could not swim.

He sent them word I had not gone
(We know it to be true):
If she should push the matter on,
What would become of you?

I gave her one, they gave him two,
You gave us three or more;
They all returned from him to you,
Though they were mine before.

If I or she should chance to be
Involved in this affair,
He trusts to you to set them free,
Exactly as we were.

My notion was that you had been
(Before she had this fit)
An obstacle that came between
Him, and ourselves, and it.

Don't let him know she liked them best,
For this must ever be
A secret, kept from all the rest,
Between yourself and me."

... "If anyone of them can explain it," said Alice

... "I'll give him sixpence. I don't believe there's
an atom of meaning in it."

PERSONAL AND POSSESSIVE PRONOUNS

INTRODUCTION

Perhaps because language itself has a social function, its resources for referring to people are rich and varied. A useful way of analysing the different reference terms, might be to look at their relative generality. Probably the most specific way of referring to a person, would be to use a proper name (eg Princess Diana, Mickey Mouse, Roger Brown). In the majority of instances the use of a proper name leaves little doubt as to the identity of the referent. Other terms such as generic words, are less specific and tend to label classes of individuals (eg woman, man, child, psychologist, father, friend etc). These terms can result in ambiguity and doubt if used to refer to specific individuals, unless there are added contextual clues available (eg the girl over there).

Unfortunately there are difficulties with this kind of analysis because some terms can be used specifically as well as generically. Kin terms fall into this class. The term "father" for example can refer to a particular man; the speaker's own father, or it can denote a class of men who have children. More problems arise when one considers personal pronouns. These are both specific in their reference at a particular time, but general in that they can be applied to any person. For example the pronoun "I" refers specifically to a particular person, who happens to be speaking. But if someone else begins to speak, the pronoun "I" refers to them instead. In other words, the reference shifts according to whoever is speaking at a particular time. So pronouns are, in a way, both specific and general in reference. This fact is

hardly surprising when one considers that pronouns can stand in for all nouns, both proper nouns and generic nouns. In addition, there are only a small number of personal pronouns which together must be able to replace any of the hundreds of thousands of nouns.

This chapter focuses on personal pronouns, and their associated possessive pronouns. Before trying to examine how children acquire possessive and personal pronouns, it is necessary to look first, at their function in language, and their definition: what they are, and what they do. It will become clear, that pronouns have five main attributes, which will be discussed here, paying special attention to the implications each has for pronoun acquisition. Finally a little time is taken at the end of the chapter, to look at some of the theories and models that might explain pronoun acquisition. To begin with however, the nature of pronouns and their function in language is discussed.

THE FUNCTION AND DEFINITION OF PRONOUNS

Halliday and Hasan in 1976, saw pronouns as playing a major part in facilitating the cohesion of English text. For Halliday and Hasan, cohesion is where some element's interpretation is dependent upon another element. In the case of "Wash and core six apples. Put them in a dish" the pronoun "them" forms a tie between the first sentence and the second, and the interpretation of "them" is entirely dependent on the previous reference to "six apples".

Halliday and Hasan divided cohesive reference into two types: exophoric and endophoric. Pronouns having exophoric

reference, do not substitute for elements contained in the text of a conversation, but for elements to do with the situation of the conversation (eg "It must have cost a fortune" which refers to something that both the speaker and listener are aware of, but which has not been named). Endophoric reference, on the other hand, does refer to something named in the text. There are two types: anaphoric, which refers backwards to an element previously named (eg When John came out, the girl saw him); and cataphoric reference, which refers forwards to an element about to be named (eg As she walked in, the girl tripped). Pronouns as already shown can be used for all three types of reference. A great deal of work has been carried out to examine performance with endophoric reference, particularly anaphoric reference. Garrod and Sandford (1977) looked at adults' performance with anaphoric reference, although not with pronominal reference; Garvey, Caramazza and Yates (1974; 1977), Ehrlich (1978) and Hirst and Brill (1980) are among those investigators looking at adult's performance with anaphoric pronouns.

In terms of children's performance with anaphoric pronouns there have, again been many studies looking at the various strategies used by children to assign pronoun antecedents (Chomsky, 1969; Caramazza & Gupta, 1979; Grober, Beardsley & Caramazza, 1978; Kail, 1976; Kail and Léveillé, 1977; Karmiloff-Smith, 1981; Maratsos, 1973; Farioli, 1979; Chipman, 1974; Sheldon, 1974; Ferreiro, Othenin-Girard, Chipman & Sinclair, 1976; Wykes, 1981). The various strategies suggested by the investigators include:
a)   parallel function (eg Grober et al, 1978; Sheldon, 1974;

b) where the child is...

c) minimum distance (see Chomsky, 1969) where the child assigns the pronoun as referring to the last mentioned noun.

d) use of gender distinctions (or lexical strategy) (Grober et al, 1978) where the child uses gender to distinguish the antecedent.

e) use of stress (or tonus) where the child uses the stressing of the antecedent.

f) subject strategy where the child simply assigns the pronoun reference.

Pronoun as referring to the subject of the preceding clause.

The role of the different strategies by children in assigning pronoun antecedents varies, it seems according to the age of the child and the task he is asked to perform. Different investigators appear to favour different strategies. However this thesis will not examine and evaluate the strategies but forward, since the arguments for and against each one are well documented elsewhere. Instead it will concentrate upon children's abilities to use pronouns with exophoric reference. Most investigators (Karmiloff-Smith, 1979; Crutenden, 1977; Huxley, 1970) would agree that the

A young child begins to use pronouns with an extralinguistic reference. Such pronouns tend to have concrete reference external to the context of the conversation but present at the time of speaking; as opposed to pronouns referring to elements previously mentioned in the conversation, where the reference is not present at the time of speaking.

The usual definition of a personal pronoun is that of a word which can be used instead of a noun or noun phrase that denotes a person or object. (Oxford English Dictionary, 1972). However, this definition is somewhat loose since it also applies to pronouns like "someone", "one", "yourself", etc, and also to other terms such as "some", "none", "four" (as in "some/none/four were excluded"). All of the above can be used to replace nouns or noun phrases denoting people. In order to avoid such confusion most grammarians list the personal pronouns exhaustively and then discuss their specific qualities and functions. Miller and Johnson-Laird (1976) present one of the most simple listings of personal pronouns as follows:

Nominative Case

	Singular	Plural
First person	I	We
Second person	You	You
Third person	He, She, it	They

Accusative Case

	Singular	Plural
First person	Me	Us
Second person	You	You
Third person	Him, Her, it	Them

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		Genitive Case	
First person		Mine	Ours
Second person		Yours	Yours
Third person		His, Hers, Its	Theirs

This type of presentation immediately demonstrates the
various attributes of personal pronouns, which have to be
taken into account before a speaker can replace a noun with
one of the pronouns.

THE FIVE ATTRIBUTES OF PRONOUNS

The three most clearly illustrated in the table, are
number: singular or plural; person: first, second or third;
and case: nominative, accusative and genitive (sometimes
called subjective, objective and possessive, respectively). A
fourth attribute, gender, is concealed in the "he, she, it"
groupings, and a fifth, that of the relative status of the
individuals was once expressed in English by a "you - thou"
distinction. These days the "thou" form is almost obsolete,
apart from its occasional usage in some dialects (eg in many
Yorkshire, Durham: "Where's tha going?") and in the "plain
speech" in some Quaker families. In most other Indo-European
languages however, the two forms are still used eg French,
"tu-vous"; German "du-Sie"; Spanish "tu-Usted".

For Miller and Johnson-Laird (1976) this kind of analysis
of pronouns into five attributes does not merely represent the
internal structure of a set of terms. In addition, such a
grouping represents different components of the meaning of the
personal pronouns. As such, any attempt to use one of the
personal pronouns involves the speaker in a set of decisions
based on the five attributes, in order to select the pronouns

based on the five attributes, in order to select the pronouns most appropriate to his needs. For example, the decision set to select the pronoun "we" might involve;

(a)   Is the pronoun to represent a person?

(b)   Is the pronoun to represent the speaker?

(c)   Is the pronoun to represent more than one speaker?

(d)   Is the pronoun to represent the subject of the sentence?

For "we" to be selected, all four decisions should be answered in the affirmative. Decision (a) is intended to determine the use of a personal pronoun; (b) will result in a first person pronoun; (c) specifies a plural first person pronoun; and (d) ensures that the pronoun is in the nominative case. For the pronoun "we" both the attributes of gender and status are irrelevant.

CASE

Of the five attributes involved in the selection of pronouns, the most purely syntactic, is that of case. In many languages, nouns and adjectives, as well as pronouns, carry inflections to indicate the syntactic functions that these words serve. In English, however, such inflections are not so obvious. Generally, nouns and adjectives in English carry no inflections to denote the differences between nominative and accusative case. Instead, the function of the nouns and adjectives is denoted by word order within the sentence, and by the context of the communication. Only the genitive inflection is retained in English, marked by the inflection "-'s". Personal pronouns, however, as seen in (Table 1) retain the case marking for nominative, accusative and

genitive cases. In general terms, the nominative case is used when the pronoun stands in for the subject of the sentence, the accusative, when it represents the object of the sentence and the genitive to indicate a possesive relation. Other cases, such as the dative, and the locative are not specifically marked in personal pronouns, often tending to take the same form as the accusative.

For the child learning about case, there are a number of difficulties, not the least of which is its superficial nature in relation to semantics. Miller and Johnson-Laird use pronouns to illustrate this point. They argue that, for example, "he saw her" uses the nominative "he" to denote the agent in the sentence, and the accusative "her" denotes the patient. In the passive, however, "she was seen by him", the word order of the agent and patient is inverted, but also the agent is now denoted by the accusative, and the patient, by the nominative. Thus case inflections only denote the super-ficial syntactic relations of nouns to verbs, not the deeper semantic relations. Only the genitive case seems to have a deeper semantic interpretation in English; that of a possessive relation. The nominative and accusative cases appear to be simply variants of the same concept, contrasted only superficially by syntax and specified by the structure of the sentence.

Several investigators have examined young children's usage and understanding of the personal pronouns in terms of their case distinctions. Brown (1973) studied the speech protocols of three children and found that all of them sometimes used the accusative case in place of the nominative case pronouns.

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He attempted to show that this type of error was only made
when the subject of the sentence belonged to particular
semantic cases, but his hypothesis was not confirmed.

Bellugi (1968) proposed a series of stages in the develop-
ment of appropriate case marking in personal pronouns. Her
general idea was that of "increasing conditions on the
applicability of rules". But, she also introduced more
specific rules to account for children's tendency to use
accusative pronouns in the subject position (eg "me want it").
One of these rules was that the pronoun is produced as a
nominative if it occurs first in the sentence. Unfortunately,
whilst this rule appeared adequate to describe the speech of
one of her subjects, it did not seem so for the other. Menyuk
(1969) and Gruber (1967) both found evidence in their
subjects, for the use of accusative pronouns as subjects in
simple sentences. Gruber suggested that in simple sentences,
at least, it is possible that the pronouns are not meant as
subjects in "subject - verb" sentences. Instead, he argued,
they should be interpreted as topics in "topic - comment"
constructions. However, even for Gruber's subject, this
explanation does not account for all his pronoun substitution,
since he occasionally used accusative pronouns in contexts
where they were unquestionably sentence subjects.

Huxley (1970) has also shown that children tend to
substitute the accusative form of pronouns for the nominative.
In fact, one of her subjects turned to the use of the
accusative forms in this manner even after a period of using
the correct nominative forms. Hatch in 1969 provided
evidence, from an experimental investigation, to corroborate

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the findings of the previous spontaneous production studies. She found that, in a sentence imitation task, children tended to alter incorrect pronouns when they were nominatives used as objects. But, they were less likely to alter the pronouns when they took the form of accusatives used as subjects. Indeed, she found that a few of her younger subjects actually altered some correct nominatives to incorrect accusatives, when the pronouns represented the subject.

Tanz, in 1974 attempted to explain this tendency to use accusative pronouns to represent subjects. In doing so, she drew on the work of Slobin (1973) and his analysis of the child's cognitive strategies for language learning. One of these strategies is the avoidance of exceptions, for the purposes of organising and storing linguistic rules. In English, the accusative form of pronouns occurs with greater frequency than the nominative including instances where the pronoun is used to denote the indirect object, the object of a preposition, and when it is used for emphasis or in isolation (eg respectively: I gave HIM the ball; He called for HER; HIM, he was shouting; Who was it? ME). So, in Tanz's view, the child works on the assumption that the accusative form of the pronoun is the basic form, whilst other forms are exceptions. Hence, when the child begins to use the avoidance of exceptions strategy, it is the accusative form that is preserved, and substituted for other forms.

A second of Slobin's principles is that the child pays attention to the ends of words. Tanz extrapolated this process and extended it to apply to larger units. Since the pronouns in the accusative case tend to be located at the end

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of sentences, she suggested that the child is more likely to choose the accusative form as basic since it is perceptually more salient. She further suggested that the pronoun "you" which does not incorporate case distinctions (at least between the nominative and accusative forms) is actually derived from the Old English accusative plural forms "eow". The Old English nominative form "ge" has been lost in contemporary speech.

Unfortunately, Tanz's explanations dealt only with the relative usage by children, of the nominative and accusative forms of pronouns. Certainly, most investigators have found that the accusative forms of pronouns tend to occur earlier and are used with greater frequency (Cruttenden, 1977; Brown, 1973; Bellugi, 1968; Menyuk, 1969; Gruber, 1967; Huxley, 1970). However, there are exceptions to this tendency, as noted by Cruttenden, in reference to Bloom's (1970) findings concerning the first person singular pronouns, used in the subject position. Often children used the genitive forms "my" or "mine" rather than "I" or "me". In addition, Wells (1979) on examining the order of emergence for the personal pronouns, found that the nominative forms for all the pronouns occurred before their respective accusative forms.

As for the genitive forms (the possessive pronouns), Halliday and Hasan (1976) suggested that whilst the same problems for determining the reference of the pronoun exist for the genitive case as for the other two cases, the possessive pronouns present double the difficulty. Not only do they require that the possessor referent be identified, but also the referent of the object possessed. In a sentence such

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as "His is nice" the reader must determine, first who "his" refers to (ie "Who is he?") but then must also discover what "his" refers to (ie "His what?"). Possessive determiners, however (my, your, his, her, its, our, your, their) do not pose this problem. In essence, they present the same difficulty, and no more, than personal pronouns. However, possessive determiners are often referred to as "possessive pronouns"; indeed, much of the literature referred to in this thesis labels them as such. For the purposes of clarity, therefore, when the term "possessive pronouns" arises in the text, some indication will be given as to the nature of the items referred to.

Various investigators have examined the emergence of the genitive or possessive pronouns. Kernan (1969) noted that, in Samoan, the pronouns equivalent to "my" or "mine", and "your" were being produced in his subject at about 25 months. Nelson (1973) found that "mine" was produced earlier than this, in her subjects, by about 18 months. (Although this was so only for a few of her sample. Other children did not produce any genitive pronouns at all, even at 30 months). Léveillé and Suppes (1976) described one French child, Phillipe, who produced all the singular genitive pronouns, at 14 months. This latter finding is somewhat startling, and bears little relation to the remainder of the evidence, however. Indeed, Rodgon and Rashman (1976) indicated that only two out of twentyfour children in their sample produced any genitive pronouns at all, before age 32 months. So, whilst there is a certain amount of disagreement between the different investigators, one can suggest that, on average, the genitive

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pronoun forms begin to be produced (starting with the 1st person singular) at about 18 - 25 months. The evidence from studies focusing on other cases suggests that the genitive is acquired at about the same time as the accusative form (Huxley, 1970; Goodenough, 1938) and most investigators would agree that the accusative form is acquired earlier than the nominative (Cruttenden, 1977; Brown, 1973; Bellugi, 1968; Menyuk, 1969;)

STATUS

In terms of the remaining four semantic attributes, that of status, is the least appropriate to English pronouns. However, it is still worth examining, if briefly, since status considerations do still affect other areas of the English language. Brown and Ford (1961) looked at the relative use of titles and first names, and forms of greetings in Americans. They were able to identify five levels of intimacy between speakers: (a) the use of titles alone between strangers; (b) the use of titles with last names between newly introduced adults; (c) the use of the last names alone between men in the forces, or between antagonists; (d) the use of first names alone between friends; and (e) the use of "pet names" or nicknames between intimate friends.

James in 1967 found that children of between 4;6 and 5 years are aware of status considerations. In her study children adjusted the "politeness" of their directives, in commands, according to their listener's age and status. Commands given to children of the same age as the subject were less polite than those given to adults, but more polite than

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those given to younger children. Thus the politeness
adjustment was not simply on the basis of adult - child
status, but age status relative to the speaker. These results
are in agreement with other studies where status and age
considerations have affected children's style of speech
(Bates, 1974; Ervin-Tripp, 1977; Emmerich, 1959; Sachs and
Devin, 1976).

In many other languages, personal pronouns have retained
the status attribute. In 1960, Brown and Gilman examined the
status distinction in pronouns from a number of languages, (in
French the distinction of "tu-vous"; in German "du-Sie"; in
Spanish, "tu-Usted", and in Italian, "tu-Lei"). They
discovered two dimensions of social organisation underlying
the choice of which 2nd person pronoun to use. The first was
that of status differences between the speakers, which can
result in nonreciprocal address (eg the "boss" who is referred
to as "vous" whilst he refers to his employee as "tu"). On
the other hand, the second dimension, social solidarity can
result in reciprocal address (the reciprocal usage of "tu"
between good friends). These two dimensions, according to
Brown and Gilman, can sometimes conflict. A teacher, for
example may wish to be addressed as "vous" to maintain his
status, whilst at the same time, he may also wish to express
solidarity, implying the use of "tu". Brown and Gilman
suggest that solidarity has largely won out over status, and
the reciprocal "tu" form seems to be gaining over the "vous"
form.

Both status and solidarity are concerned with relations
between people. They are not properties of the individuals

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themselves. Before a speaker can use a 2nd person pronoun,
then, he must first consider the social relation between
himself and his listener. For the child attempting to master
the pronoun system, this would appear to be a further
complication.

In 1969, Shipley and Shipley examined Quaker children
brought up to use the "Plain Speech", and their usage of
"thee". They found that the majority of children did not use
"thee" at all but those who did, only used when the
appropriate social relations between themselves and their
listeners, existed. In other words, "thee" was only used when
the children had examined their own and their listener's
relative status and solidarity. Unfortunately, Shipley and
Shipley did not report the ages of the children concerned.
They did, however, make the point that the usage of "thee"
tended to increase with age. Whilst they suggested that this
increase might be to do with the relative changes of status
and solidarity as the children grew up, it is possible that
the children's ability to distinguish social relations simply
improves with age.

GENDER
A more obvious (usually) distinction in English that
children must make before using some personal pronouns, is
concerned with the gender of the referent. In English the
three gender categories: masculine, feminine and neuter, are
semantic distinctions, largely determined by the sex of the
person referred to, (or, in the case of neuter pronouns,
whether or not the pronoun refers to a human being). There

are exceptions to this determination, however. For instance, some inanimate objects can be referred to as "she" (eg cars, ships); children especially babies are occasionally referred to as "it"; and "he" is often used generically in spite of protests by the women's movement.

Nevertheless, in English, the gender distinctions tend to be based in semantics rather than syntax. This is not always the case in other languages. Some languages for example, French and Spanish, divide all objects, human and nonhuman, into either masculine or feminine gender categories. Other languages, such as German, also have a third category of neuter, which does not necessarily apply to every nonhuman, or even inanimate object. Investigators into the use of English pronouns, have necessarily focused upon the "natural" or semantic gender distinctions. This relates to specific and unchanging characteristics in the person, or object referred to.

Webster and Ingram (1972) looked at the comprehension of animate, singular, 3rd person pronouns (where the gender distinction is found). Children aged between 3 and 4;6 were required to respond to both the nominative and the accusative forms of these pronouns. From their results, it would appear that even the youngest children were accurate in their performance to at least an 80% level of correct responding, and the children became more accurate with age.

Scholes in 1981 completed a similar experiment with children aged between three and seven years of age. He focused on the same syntactic cases, and the same two pronouns, but added the 3rd person plural, to compare the

effects of case, and number, to that of gender. He found that, overall, the youngest children were only 60% accurate, but that this percentage rose with age. He attributed the lower performance level, when compared to Webster and Ingram's data, to the inclusion of the plural pronoun and the extra difficulty involved in his own study. When comparing the effects of gender, case and number on performance, Scholes concluded that comprehension of the gender distinction preceded that of number and case aspects. However, his conclusion is somewhat confusing since, from his data, it would appear that children mastered the case distinction first, by age 4 years; the gender distinction a litte later, by age 5 years; and the number distinction last of all, by age 6 years. Certainly, in terms of spontaneous production, the third person pronouns "he" and "she" do not seem to emerge significantly, much before 2 years 9 months except in rare instances (Wells, 1979; Huxley, 1970).

It is interesting to note, however, that some investigators have found that "he" occurs, in development, before "she". (Wells, 1979; Deutsch & Pechmann, 1978).

By contrast, the pronoun "it" has been recorded in the spontaneous speech of children aged 2 years 4 months (Huxley, 1970) and even in children younger than 2 years. (Wells, 1979; Menyuk, 1969; Ingram, 1981). Many investigators concluded that it is usually the first of the personal pronouns to be established. Chipman and de Dardel (1974) made a particular study of the comprehension and production of "it" in children aged between 3 years 3 months and 7 years. They were especially interested in the notion that "it" can

represent both count nouns (with a clear, and separate
identity eg car, doll etc) and collective nouns (which are
continuous quantities eg milk, clay etc). They investigated
children's understanding of "it" representing both types of
noun. At age 3-4 years, the children seemed to understand
"it" as "a piece" when it denoted a collective noun (although
as a count noun it was correctly understood). Between ages 4
years and 6 years, the children seem, no longer to understand
"it" as "one piece" but appeared to be in an intermediate
stage before full adult understanding. For some collective
nouns, they responded correctly; for others they were in
error. By age 6 years, however, they seemed to fully
comprehend both types of representation. So, it would appear
that, although produced in some contexts, very early in
language development, a full understanding of "it" does not
occur until much later on.

In other languages, where syntactic gender is a feature,
investigators have largely been concerned with comparing
children's performance with "natural" gender and syntactic
gender. Böhme and Levelt (1979) focused on the German
possessive pronouns. They expected to find in accordance with
MacWhinney (1977) that the children's understanding of natural
gender would precede that of syntactic gender. However, on
the contrary, the children performed better with the syntactic
gender than the natural gender. These results are in
agreement with data from other studies in French (Karmiloff-
Smith, 1976; 1978), and in Russian (Popova, 1973). But, Böhme
and Levelt did find that their subjects' ability to explain
the usage of "her", "his" and "its" was better in relation to

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natural gender, than in relation to syntactic gender. It is not clear, however, whether this metalinguistic ability is an inherent part of the actual acquisition of language, or whether it is an acquired skill in itself.

So, it would seem that children begin to make gender distinctions at about 2 years 9 months. The pronoun "it" appears to occur very early in pronoun acquisition with many instances of usage by children under two years (Wells, 1979; Menyuk, 1969; Ingram, 1981). However, at this age the children may not understand all the various meanings of the pronoun "it". "He" and "she" both seem to occur later in the acquisition process, usually with "he" appearing first (Wells, 1979; Huxley, 1970) and, somewhat surprisingly, children can make syntactic gender distinctions as early in their pronoun learning, as they make natural gender distinctions.

NUMBER AND PERSON

The final two attributes, number and person, will be dealt with together, since, to a large extent, they are linked. Despite the fact that there are three persons (1st, 2nd and 3rd) for both singular and plural sets, the singular persons bear little relation, except nominally, to the plural ones. One would expect that, for example, the 1st person plural, would be simply "more than one" of the 1st person singular. Clearly this cannot be the case. Whilst the first person singular, normally refers to the speaker, in the communication ("I"), the first person plural does not usually refer to two speakers. Instead it refers to the speaker, and one or more other persons. These other persons could be the person

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listening to the conversation or another individual (or both).

In the first instance, then the first person plural ("we") is equivalent to the first person singular and the 2nd person singular ("I" and "you"); in the second case, it is equivalent to the 1st and the 3rd person singular ("I" and "he"/"she"); and in the last example it is equivalent to all three singular persons. So, for the purposes of this review, the attributes of number and person will be dealt with together, as the order of acquisition of the various pronouns is discussed.

In 1977, Cruttenden attempted to outline the general findings from all the empirical research that had been carried out, concerning the acquisition of pronouns. He arrived at a number of "tendencies" from which one can begin to forumulate an approximate order of development. He first of all, put forward evidence suggesting that the 3rd person singular (inanimate) "it" is the first to be acquired. His own research and that of Bowerman (1973) and Menyuk (1969) indicated that children can produce "it" as the object of a verb, before they produce any other pronoun. Huxley (1970) also indicated that "it" occurs early on in development but, it is not clear from her data whether or not "it" precedes "me" and "you" (1st and second person singular pronouns) of acquisition.

Most other studies have omitted the pronoun "it" from their research (Deutsch & Pechmann, 1978; Baron and Kaiser, 1975; Sharpless, 1974). Even Scholes (1981) and Chipman & de Dardel (1974) both of whom undertook a developmental study of "it" alone, provide little evidence to locate its position in

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the order of acquisition. In both cases their youngest children were over 3 years of age, and presumably able to use other pronouns as well as "it". However, Wells, in a personal communication to the author, in 1979, placed "it" as the second pronoun to emerge in frequency counts of spontaneous production. "It" was preceded only by the pronoun "I".

For Cruttenden, the pronoun "I" (or any pronoun referring to the 1st person singular) is the second pronoun to occur productively. Cruttenden himself, and Bloom (1970) have both provided evidence to this effect. Other studies, not including the pronoun "it" as a part of their design, have indicated that the 1st person singular is the first (or one of the first), to be acquired. (Deutsch and Pechmann, 1978; Huxley, 1970; Sharpless, 1974; Wells, 1979; Burroughs, 1957; Léveillé & Suppes, 1976; Young, 1942b; Goodenough, 1938). The only study not in agreement with these findings is that of Baron & Kaiser (1975). Here the 3rd person singular pronouns ('he' and 'she') elicited fewer errors than either of the 1st or 2nd person singular. However, for reasons to do with the design of the experiment (which will be discussed later) this result can be seen an anomolous.

A third "tendency" observed by Cruttenden is that the 2nd person pronouns, both singular and plural, occur later than the first or 3rd person pronouns. As already noted, most of the research would indicate that the 1st person singular occurs before the 2nd person pronouns. But the evidence appears to be divided as to the order of acquisition for the remaining singular pronouns. Again Cruttenden quoted his own findings to support the notion that "you" appears later than

"he"/"him" or "she"/"her". He refered to the work of Sully (1903) to add further weight to the argument. Baron and Kaiser (1975) and Burroughs (1957) would also support this finding. Most other studies, however (Deutsch and Pechmann, 1978; Huxley, 1970; Sharpless, 1974; Wells, 1979; Young, 1942b;) have provided evidence to show that "you" in its singular form appears to be acquired either at the same time as, or shortly after the 1st person singular. Both are acquired before the 3rd person singular.

Concerning the 2nd person plural ("you"/"your"), again Cruttenden refered to his own findings, and to the work of Sully (1903). Huxley (1970) would also agree with the idea that the 2nd person plural occurs later than the 3rd person plural. Indeed, she found hardly any instances at all where her subjects spontaneously produced the 2nd person plural. Few other studies looking at the comprehension of pronouns include the 2nd person plural in their design. Other spontaneous production studies do not attempt to distinguish between the singular and plural forms (Wells, 1979; Young, 1942b). However the study by Deutsch and Pechmann (1978) did distinguish, and found that the children performed better with "your" (plural) than with "their".

Finally, Cruttenden quoted evidence from his own work, to show that singulars usually occur earlier than their corresponding plurals. Thus, "I" should occur before "we", and "his" or "her" before "they". Surprisingly, few studies can provide empirical evidence to support this notion entirely. One of these by Baron and Kaiser (1975) found that their children performed better with all singulars, than any

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of the plurals. Another by Deutsch and Pechmann (1978) found that for all the three grammatical persons children performed better with the singular form than the plural. (Some plurals, eg "our" did elicit better performances than other singulars eg "him"). Other studies however (Huxley, 1970; Wells, 1979; Goodenough, 1938) have found that some plurals are acquired before their corresponding singulars. The most frequent example being the early appearance of the 3rd person plural compared to its singular counterparts.

Regarding the location of the 1st person in the acquisition sequence for the plural pronouns, Cruttenden made no comment. From his data, however, it appears that "we" occurred after "they" but before "you". Huxley's findings (1970) were identical to those of Cruttenden, and children in Baron and Kaiser's (1975) study made more errors with "we" than with "they". (Baron and Kaiser did not include "you" plural in their design). On the other hand, Deutsch and Pechmann (1978) found that their children performed best with "our" and worst with "their", whilst "your" (plural) elicited performances somewhere between the two. Wells (1979) also found that "we" preceded "they", but again did not compare either pronoun with "you" plural.

Overall, then, there still seems to be some debate as to the actual order of acquisition of the pronouns. Nevertheless a variety of studies have been carried out to try to predict and explain the order of development and these will be discussed later on.

Generally, it would seem as if the accusative case in pronouns is acquired before the nominative case, with the

genitive case probably occuring with the former. Status
considerations, in languages where they apply, are used by
children in accordance with the appropriate social relations,
but there is no indication from the literature as to when they
begin to learn to distinguish the two forms.

Children of 3 years old, and possibly even younger, are
able to distinguish both natural and syntactic gender
categories, and to use the correct pronominal forms. But, in
terms of order of acquisition, there is evidence to suggest
that "it" is acquired first (even if only applied in limited
contexts) then "he" and finally "she". As for person, and
number distinctions, it seems relatively clear that singular
pronouns are acquired before plural ones. However the order
of acquisition of the three persons may be different for the
singular pronouns, as compared to the plurals. For the
singulars, there is evidence to suggest that "it" and 'I' may
precede the other pronouns, but there is disagreement as to
which is first. The relative order of the remaining singulars
is unclear. For the plurals, it would appear that "they"
might be the first pronoun acquired, but there is confusion
about the remaining "we" and "you".

PRONOUN USAGE

Perhaps part of the difficulty in ascribing even general
tendencies to pronoun acquisition, might be due to individual
differences in language development. Certainly this would
account for the seemingly irreconcilable differences in the
order of acquisition discovered by different investigators.
Nelson, in her work (Nelson, 1973; 1975; 1976; 1979; 1981)

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concluded that different children acquire language in different ways. She particularly noted two basic patterns of development: referential and expressive. For referential children, their vocabularies comprise large numbers of object names with some verbs and adjectives. Most children, according to Nelson, fall into this category. For a large minority, however (the expressive children) their vocabularies are more diverse, with a large number of social routines or formulae (eg "stop it" or "I want it") included amongst the nouns, adjectives and verbs. Because of these phrases, expressive children's vocabularies tend to include grammatical functions and pronouns. Expressive children seem to use pronouns earlier, and preferentially to the referential children's choice of nouns. But, this difference disappears at about 24 to 30 months.

There is, however, some debate as to whether the pronouns used by expressive children from 18 months to 2 years are actually acquired as true vocabulary items. Usually the pronouns are embedded in what seem to be unanalysed formulae and routines. They do not appear to be used in novel constructions, and so, may not exist in vocabulary outside the formula. So, it is perhaps due to this formulaeic use of pronouns by expressive children, that the confusion about order of acquisition of pronouns arises. Certainly, many of the formulae cited by Nelson as examples of expressive children's pronoun usage, include the pronouns "me" and "it" (eg "gimme"; "let me see"; "look it"; "do it"; etc). Nelson noted, however, that a shift in style takes place at about 2 years of age, and other investigators have also provided

evidence for such changes. (Horgan, 1978; Bloom, et al, 1975;)

MODELS AND THEORIES TO EXPLAIN ACQUISITION

In spite of the individual differences documented above, various investigators have still attempted to draw up models or theories concerning the child's acquisition of pronouns. Miller and Johnson-Laird (1976) for example attempt to explain pronoun acquisition and usage in terms of a "conceptual core" or "prototype" theory. This assumes that a semantic field, in this case, pronouns, consists of a "lexical field" and a "conceptual core". A lexical field is organised both by shared conditions which determine the denotations of its words, and by a conceptual core: the meanings of what the words denote. A conceptual core is an organised representation of general knowledge, and beliefs about the objects denoted by the words. It covers what the objects are, what they do, how they are related and so on. So, for example, the conceptual core representing "bird" should take into account ideas about small, feathered objects with beaks and wings, that fly, lay eggs and eat worms etc. The lexical field for 'bird' will comprise items that share many of these qualities but perhaps not all of them. Thus it will contain items as diverse as "emu", "penguin" and "robin".

When children first begin to learn language, they acquire a heterogeneous variety of specific routines for applying labels and for using simple utterances. At first, then, their lexical information may well be relatively unorganised and in the form of independent lexical entries. As they acquire more

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information, the entries begin to organise around conceptual cores until eventually a full, adult representation is acquired. How core concepts are acquired to relate to lexical items, and how lexical items are acquired to be related, is still not well understood. Certainly the two kinds of learning, lexical and conceptual, must reinforce each other, but the details differ from word to word, from concept to concept, and from child to child. The notion of prototypical or core concept theories has been well documented, and a great deal of research has been carried out to investigate its potential as a description of cognitive representation, and as an explanation of child language development. (Rosch, 1973; 1975; 1976; 1978; Rosch & Mervis, 1975; Rosch & Lloyd, 1978; Rosch et al, 1976; Heider, 1971; 1972; Mervis et al, 1975; Rips et al, 1973; Smith et al, 1974).

For pronouns as the semantic field, Miller and Johnson-Laird suggested that the conceptual core is the social structure of the conversation situation: the relationship between the speaker, the listener and any other involved party. They proceded to draw up, on the basis of this core, an identification device, for the pronouns, in the form of a set of decisions. This set consists of four questions:-

(1) does the pronoun refer to the speaker?

(2) does it refer to the listener?

(3) does it refer to any other person?

(4) does it refer to only one person?

There are clearly other decisions to be made on the basis of particular answers from the above four. For example, if the answer to question (3) is "yes". then a further decision

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must be made to denote gender. The set also does not deal
with either status or syntactic case and thus further
questions must be asked.

Having proposed their analysis, Miller and Johnson-Laird
refrained from taking it further. They did not, for example,
use it to explain the possible order of acquisition of the
pronouns, nor why plural pronouns should occur later than
singulars, and the accusative case before the nominative. More
importantly it is difficult to see how the social structure of
speaker, listener and any other person can form the conceptual
core of the semantic field of pronoun. In other domains, such
as animal words, vehicle words, categories or colour terms the
conceptual cores of the fields appear to be concrete, and of a
broader, less specific nature than their related lexical
items. For example, if "chair" is the conceptual core, the
lexical items will be much more specific eg rocker, swivel
chair, armchair etc. When the social structure of the
conversation is seen as the conceptual core of the pronoun
system there seems to be much more of a qualitative difference
between the lexical items (you, me, him etc) and the core. It
would seem to make more sense if the word "pronoun" was taken
as the conceptual core rather than the speech event itself.
Further, if one uses the speech event as the core, then it is
difficult to see why the lexical entries related to the core,
should be limited to pronouns. Surely words such as "speaker"
and "listener", and even proper names would become as much a
part of the lexical field, as personal pronouns.

Clearly, there are problems with using a prototypical or
conceptual core theory to explain and define the field of

pronouns. Certainly most of the studies done by investigators into children's usage of pronouns have not adopted the conceptual core notion as their starting point. Most, in fact have begun by trying to fit the acquisition of pronouns to a "semantic feature" or "componential" analysis. (Baron & Kaiser, 1975; Sharpless, 1974; Waryas, 1973). The studies presented later in the "Experimental" section of this thesis, also employ a componential analysis as their starting point. Thus a much fuller description and evaluation of such theories is warranted, and the following chapter will attempt to do just this.

"When I use a word," Humpty Dumpty said, in rather a
scornful tone, "it means just what I choose it to
mean - neither more nor less."

"The question is," said Alice, "whether you CAN make
words mean so many different things."

"The question is," said Humpty Dumpty, "which is to
be master - that's all."

Alice was too much puzzled to say anything ....

SEMANTIC FEATURE HYPOTHESIS

INTRODUCTION

Semantic feature analyses have long occupied a place in the study of linguistics and psychologists (Bierwisch, 1967; 1969; 1971; Katz & Fodor, 1964; Jacobsson, 1970; Clark, 1973b etc). In general a semantic feature theory assumes that the meaning of any lexical item can be uniquely characterised and defined by a set of features. Often these features are seen as comprising an hierarchy, although this kind of structure is not essential to a feature theory. Jacobssen (1970) for example, did not use a hierarchy in his work on distinctive features for phonemes. For Jacobssen, the phoneme consisted of a collection of features, all of which had equal value. Whilst an hierarchical structure is not a necessary aspect of a feature theory, many theorists do employ one. However, sometimes the notion of hierarchy is implicit, for example in Clark's (1970) work on word associations. Here Clark seems to assume an implicit hierarchy in that some features are switched from "positive" to "negative" more easily than others. Other theories, in contrast, explicitly present an hierarchical structure of features (eg Katz and Fodor, 1964; Clark, 1973b), where the topmost feature is common to all items in the domain. The features further down the structure are dependent upon higher order features and more specific to a subset of items.

Descriptions of meaning such as these have been linked to various developmental principles to produce a theory of language acquisition. They have been used to predict such things as the stages of acquisition of a domain, the order of

acquisition of items within the domain, errors of interpretation that may occur, and so on. However their validity in doing so is by no means clear: One such theory is put forward by Eve Clark (Clark 1973b; 1974a; b; 1975) whose work comprises one of the most systematic representations of early lexical development.

In this chapter, Clark's version of a semantic feature theory will be examined and evaluated. A variety of studies looking at different kinds of lexical domains will be discussed, and evidence both for and against a feature analysis will be presented. In addition, some of the arguments surrounding the theoretical aspects of feature theories in general will be presented. To begin with, however, Clark's semantic feature hypothesis is outlined along with its rationale: what it is, and why it should be salient for language acquisition.

CLARK'S SEMANTIC FEATURE HYPOTHESIS

Clark's position is that the acquisition of a word involves the identification of the common conditions of application of that word, whenever it is used. Hearing a term, as yet not fully acquired, the child notes one or two of the most salient features of the object or event to which it refers. These he takes to be the common conditions of application. With progressive experience, of the word, the child further differentiates the conditions and builds up a set of criterial features. Eventually the child learns all the conditions of application and acquisition of the term is complete. In the beginning the child will attend to the more perceptual

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features such as size or mobility as the conditions of application. Later, the features become more complex and abstract. In order to illustrate this process of acquisition, Clark (1973b) used the example of the child learning the term "doggie". At first "doggie" is characterised by one perceptual feature alone eg four leggedness. The set of objects categorised as "doggie" will obviously be larger than the adult set since it will probably include other items such as "sheep", "cat", "zebra" and other fourlegged phenomena. As the child learns other features, he begins to use them critically to delimit his category until his general understanding of "doggie" coincides with that of an adult. He may, for example, soon acquire the feature "striped" to distinguish between a dog and a zebra. Or, he may add a second feature of "barks" to that of "fourlegged" to further characterise "doggie".

Clark proposed three general developmental principles which describe the semantic features system for any lexical domain. The first of these is the principle of overextension, where a general term is used to substitute for a more specific term. Until all the criterial distinguishing features have been acquired, the child can confuse general and specific terms. So, for example, the child may use "tall" and "big" as synonymous.

The second developmental principle of Clark's Hypothesis is borrowed from the work of Greenberg (1966): that of markedness. This phenomenon is best illustrated by the acquisition of antonymic pairs such as "wide" and "narrow" or "long" and "short". Within each pair the terms refer to the

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same dimension, eg width, length, but they do so in different ways. The "unmarked" term in the pair reflects the dimension in a positive way eg long, wide. The negative polarity of the dimension is referred to by the "marked" term eg narrow, short. Normally, the unmarked term also has both a contrastive usage (eg this pole is longer than that) and a nominal usage (eg this pole is two feet long). Clark (1973b) predicted that the child will learn first the dimension, then the unmarked term, and finally the marked term. At some point in his development, then, the child will not be aware of the criterial features distinguishing the two terms. This will result in his overextending the unmarked term to substitute for the marked term.

Finally, the third, and most comprehensive principle, is referred to by Richards (1979) as the "top to bottom hypothesis". It assumes that children learn the more general features of a word first, and progress to the more specific. If the features are structured hierarchically, the more general will appear at the top and will be acquired first. As one progresses down the hierarchy the more specific the features become, and the later they will be learned. Clark explained:

"An example of this sort of relationship is the overlap between the words "brother" and "boy". All brothers are boys but not all boys are brothers. The word "brother" in fact, singles out a subset of the category named by the word "boy". It is predicted in this instance that the child will confuse the more specific term ('brother') with the more general one ('boy') until he learns the other semantic features needed in the entry for 'brother'. Clark, 1973b. pp. 73.

The substitution of dimensionally simpler adjectives for more complex ones, in a study attempting to elicit antonyms,

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(Clark 1972) is taken as further evidence for overextension. The children, argued Clark, observe that the simpler term has certain similar features to the more complex term. When the more complex one has not been fully acquired and the distinguishing features are not known, the child overextends the simpler term thinking that the two are synomynous. Thus in response to the word "fat" the children might produce the word "small" as synonymous with the true antonym "thin".

The above description of Clark's Semantic Feature Hypothesis would indicate that the areas most likely to yield information about semantic structure in the early stages of language acquisition are the referential use of words, antonymic pairs and superordinate subordinate relations. By considering the extent and quality of the overextensions made, it should be possible to evaluate the three main principles of the hypothesis.

THE EVIDENCE IN FAVOUR

As evidence for the existence of overextensions in child language Clark (1973b) cited the diary studies from the nineteenth and twentieth centuries. These recorded the early speech of children from a variety of different language backgrounds. She said of the studies:

> "The accounts of this phenomenon (overextension) are
> remarkably alike and consistently report similar
> findings. As a result, overextension appears to be
> language-independent (at least at this early stage in
> acquisition) and is probably universal in the
> language acquisition process". Clark. 1973b. pp 77

More specifically, the studies all indicated that overextension occurred within approximately similar age ranges (1:1 to 2:6). Moreover, the phenomenon persisted for each

child, for up to one year and was followed by a sudden increase in vocabulary. It was also clear that whilst some words were overextended, others seemed to be fully understood. Finally, the features that appeared to be used criterially were, for the mostpart, perceptual eg motion, shape, size etc. A number of examples of the gradual delimiting of categories were illustrated by two of the diary reports (Pavlovitch, 1920; Leopold, 1949a). They show how new words were gradually substituted for various parts of a domain previously referred to by a simpler, overextended term, and thus appeared to support the overextension principle.

Chomsky (1969) and Piaget (1951) provided further evidence for the existence of overextension concerning the words "ask" and "tell" and complex relational nouns such as "friend", "brother" and "family". Chomsky's general finding was that children under eight years consistently interpret "ask" as if it meant "tell" although their comprehension of "tell" is accurate. Clark (1973b) explained this by asserting that "ask" and "tell" overlap in meaning but that "ask" has some additional properties. It involves a 'request' feature and contains the notion that a person outside the conversation is to supply an answer. "Tell" being simpler, is overextended until the additional, distinguishing features are acquired. Piaget, in his study found that children fell into three groups on the basis of their understanding of words such as "brother": those defining "brother" as "boy"; those who recognised that the family had to contain more than one child but who did not realise that each male sibling was a brother; and those who understood the reciprocal nature of the term.

Clark argued that the progress from stage to stage depends upon the acquisition of more specific and delimiting features.

Children also appear to overextend relational terms. When asked to differentiate between the words "more" and "less" in a comparative task, they reacted as if "less" is synonymous with "more". Their responses to "more", however, suggest that they understood it correctly (Donaldson & Balfour 1968). In the above experiment the stimuli were trees with apples hanging on them. Whilst 91% of the children responded correctly when asked to indicate a tree with more apples on it, 73% responded incorrectly when asked to point to the tree with less apples on it. This main result has been reproduced under various different sets of conditions, accommodating the experimental difficulties pointed out by H. Clark (1970) in his critique of the original experiment (Palermo, 1973; 1974; Holland & Palermo, 1975). Similar results are also reported by Donaldson & Wales (1970) for other relational terms including "same" and "different", "big" and "wee", "thick" and "thin", "tall" and "short". With all these pairs the children responded correctly more often to the positive-pole or unmarked adjective than they did to the negative-pole or marked term. Further, they tended to respond to the marked term as if it were synonymous with its unmarked counterpart, indicating the possibility that the principle of markedness affects their responses. A secondary finding in this experiment gives support to the "top to bottom" principle. The children responded more accurately to the more general pair of adjectives: "big" and "wee" than to the more specific pairs. A similar pattern of response has been observed in production

experiments. Children showed a strong preference for using unmarked rather than marked items, and general rather than specific terms (Wales & Campbell 1970). Also; responses to general pairs tended to be more accurate than those to specific pairs, the latter yielding errors in the direction of more general terms (Clark 1972b). Clark (1972b) found that the more specific adjective pairs could be ranked in terms of accuracy of response in a way which accorded with a semantic feature analysis. She postulated that the general terms are characterised by the feature $\{\pm$ dimension (3)$\}$, which refers to values along three dimensions. The child will substitute the general terms for the more specific terms when he is unable to differentiate between those indicating the dimensional properties of linearity, surface and volume. He first learns the feature of dimensionality before specifying further the type of dimensionality he is talking about (Clark, H. 1973).

Work on temporal terms provided further evidence in favour of the three principles of semantic feature hypotheses. Whilst temporal terms such as "before" and "after" are not marked or unmarked by linguistic criteria, unlike the dimensional adjectives, they can be characterised as positive or negative (Clark 1971a). The error patterns of the children in Clark's study (1971a) in which she examined comprehension and elicited production of temporal terms, appear to illustrate three stages of acquisition. In the first stage the children seem to have responded purely by an 'order of mention' strategy. This suggests that only the feature $\{\pm$ time$\}$ had been learned. Other children appear to have

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understood "before" correctly but they either responded to "after" by an order of mention strategy or they treated it as a synonym of "before". In the production condition they frequently overextended "before" to mean "after". Here the feature $\{\pm$ simultaneous$\}$ has been acquired but the criterial feature $\{\pm$ prior$\}$ has not. In the final stage the children were able to distinguish both terms in a manner suggesting complete acquisition.

More recently different parts of speech have been examined with a view to extending the application of semantic feature analysis. Children appear to confuse the meanings of locatives in a manner compatible with the principles of Clark's hypothesis. She found that children took "on" and "under" to mean "in" or understood "under" to mean "on" (Clark 1974b). The results are explained according to the relative semantic complexity of the three terms. "In" reflects the notion of containment which coincides with the nonlinguistic behavioural predilection to place objects inside containers. If the object is not a container, but has a supporting surface, the tendency is to place objects upon that surface. However, when both containment and a supporting surface are available, the former predominates. Thus the extent to which the semantics of the term matches the existence of nonlinguistic response tendencies appears to determine the relative complexity of the term. Clark called this idea the "Partial Semantics Hypothesis" to distinguish it from the notion of complexity based on semantic features alone.

Finally, Clark & Garnica (1974) obtained data on the deictic verbs "come" and "go", "bring" and "take". According

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to Fillmore (1966) the words "go" and "take" presuppose that the speaker is not located at the goal of the action. In contrast "come" and "bring" suggested that either the speaker or the listener is located there. From this analysis, Clark & Garnica (1974) attributed positiveness to the latter terms, and negativeness to the former. Their subjects, aged between six and nine years, were asked to attribute sentences containing the four terms to toy animals situated at various locations in the room. Performance with "come" and "take" was 75-85% correct at all ages. The accuracy of responses to "go" and "take" increased with age from 25% to 70-80%. Secondly, the responses to "bring" and "take" were not as accurate as those to "come" and "go". The former terms were seen as semantically more complex by Clark & Garnica due to their one additional feature: $\{\pm \text{ causative}\}$.

It would appear, then that the findings from empirical studies confirm the principles of Clark's Semantic Feature Hypothesis. Early diary studies provide evidence for the phenomenon of overextension, the third of the three general principles concerned with the hypothesis (Pavlovitch, 1920; Leopold, 1949a). Moreover, the overextensions noted are of a type that the hypothesis might predict.

Evidence in support of the other two general principles, markedness and the "top to bottom" notion, arises from a variety of different studies focusing on different types of words. Among these are: "ask - tell" (Chomsky, 1969); relational terms (Donaldson and Wales, 1970; Palermo, 1973; 1974); temporal terms (Clark, 1971a); positional adjectives (Clark, 1974b); and deictic verbs (Clark & Garnica, 1974). In

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these studies, children appeared to show, as one would expect, preferences for unmarked, as opposed to marked items, and a tendency to perform better with general as opposed to specific terms.

However, there are a number of studies where the findings appear to conflict with the evidence above. They seem to show completely different patterns of responding, and provide alternative explanations of semantic development to account for thier results.

THE EVIDENCE AGAINST

Huttenlocher (1974) has raised questions about Clark's interpretation of the diary data mentioned previously (Clark, 1973b). She pointed out that all the overextensions evident in the reports cited are production errors in which the children used one word to refer to a variety of objects. This, she felt, is indicative of the children's limited vocabulary but it does not necessarily imply an overgeneralisation of meanings. In her own longitudinal study, Huttenlocher found evidence for overextension in the production of words but no indication for its existence in comprehension. She argued that children use the words they have available when conveying a message, but they are aware that sometimes these words are not perfect for the job.

The acquisition of relational terms has also yielded results inconsistent with those predicted by Semantic Feature Hypothesis. Maratsos (1975) suggested a different order of progress in the understanding of "big". He compared three and five year olds' judgements of "bigness" when wide and short

stimuli were contrasted to tall and narrow stimuli. Adults and three year olds judged bigness on the basis of overall area. Four year olds, on the other hand consistently chose the taller object as the "big" one. Maratsos explained this result by talking about a period of decreased understanding of the word "big". Its once general meaning covering all three dimensions, becomes tied to the vertical dimension. Instead of overextending the general meaning to the specific, Maratsos' subjects appeared to have overspecified the general term.

Concerning such research on antonym pairs of spatial dimensions, Brewer and Stone (1975) and Townsend (1976) have offered alternative explanations of the results. They remarked that children's comprehension is normally tested with exemplars from a single dimension thus systematic errors always appear to be those of synonymy. A simple response bias towards choosing the more extended of the two stimuli could produce such findings as Clark and others report. Townsend (1976) also noted that whilst preformance with the marked term is generally poorer than that with the unmarked, it still exceeds chance level.

"A better test of the marking theory requires a situation in which the child can make an incorrect response other than the response appropriate to the unmarked comparative". (Townsend, 1976, pp 386).

Brewer and Stone (1975) attempted exactly this. They provided the child with a choice of objects of more or less extent, along different dimensions. Children aged between three and five years tended to make errors by choosing objects of the same pole but on different dimensions. For example, if asked to pick the "short one" they would choose, not the tall

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object (as predicted by Clark) but the narrow one. This would suggest that the children had acquired the polarity of the terms before the dimensions to which they belong, completely contrary to the notion of "top to bottom" which is one of the three general principles (and the most comprehensive) of Semantic Feature Hypothesis. Furthermore, Brewer and Stone's subjects did not respond any more accurately to the general antonym pairs than they did to the more specific pairs.

Similar results were obtained by Carey (1976) and Bartlett (1976). On the basis of her results, Carey suggested that what is first understood about this type of word is its relationship to some reference point as being either towards or away from zero. Only later is the actual underlying dimension learned. Bartlett supported this position, saying that children first acquire the general size terms "big" and "small". Other size terms are initially coded as synonymous with these. Neither the antonymic relationship nor the particular spatial dimension is understood at this point. When the dimensional component does become part of the term's meaning it does not necessarily do so at the same time as that of its polar opposite. At this stage, the two terms are listed independently as synonymous for "big" and "little" respectively. The asymmetric development of the positive and negative terms is due to the slower acquisition, overall, for negative polar terms.

In contrast, however, Eilers, Oller and Ellington (1974) found that their subjects responded more accurately to the marked terms than they did to the unmarked. This tendency is explained as representing a response bias rather than a

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semantic confusion. When the original procedure was repeated in the absence of the critical linguistic materials, the children consistently chose the less extended of any two stimuli. The difference in age between their subjects and those employed in previous experiments (their subjects were approximately one year younger) was given as another reason for the discrepancy in the results. It is possible that different strategies for the interpretation of marked and unmarked terms predominate at different ages. Unfortunately, since the experimenters did not look at older children, their hypothesis remained untested. Richards (1979) felt that it is unlikely. She argued that the finding of a response bias, albeit in favour of marked terms is significant. It adds weight to the idea that children's systematic choice of unmarked terms, in previous experiments, could also be due to response bias, rather than a semantic feature explanation.

So, it would appear that Clark's findings with relational terms could be entirely due to response bias and the limitations of a two choice task. Alternative explanations have also been put forward to account for the research findings with temporal reference. Johnson (1975) discovered that Clark's (1971) experimental design tended to produce more reversal errors (that is, the child responded to "after" as if it meant "before") whereas other studies (specifically, Amidon and Carey, 1972) tended to elicit omission errors from their subjects. Thus what appeared to be an overextension, was in fact an error arising out of the experimental design.

Amidon and Carey themselves, however, felt that their results demonstrated that children's poor performance on

"before" and "after" sentences was due to a response strategy rather than a lack of understanding. The children were tested on sentences containing "before" and "after" and others containing "first" and "last". In terms of semantic analysis, the two sets of terms are similar, but the only former pair necessarily occur in sentences containing subordinate clauses. The terms "first" and "last" were correctly interpreted by the children but the information contained in the subordinate clauses of the "before" and "after" sentences was consistently ignored. It would seem that when the order of mention of the two events corresponds to their order of occurrence, "before" sentences are easier than "after" ones. However, when there is no such correspondence, there are no performance differences. Furthermore, it seems that logical sequences also affect responses to temporal terms. When a logical sequence is described, children perform the logically prior event first, and then either proceed to the second event or stop. If the sequence is arbitary, they treat the main clause event as the prior event (French and Brown, 1977). Similarly, Harner (1976) found that performance with "before" and "after" was affected by the context of the reference to future or past, and whether the reference is remote or immediate. Her subjects understood "before" as a reference to a future event (eg the mouse before it climbs the ladder) earlier than they understood "after" as a reference to a past event (eg the mouse after it climbs the ladder). By contrast, when "before" was used to refer to the past (eg the day before yesterday) it was not understood as well as "after" as a reference to the future, (eg the day after tomorrow). It would appear then,

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that children perform better with references to the future, than they do to references to the past. This appears to be so, irrespective of the words used.

So, the evidence above seems to suggest that childrens pattern of responding to temporal terms, attributed by Clark (1971) to their acquisition of semantic features, is in fact due to other factors. The design of the experiment may contribute to this, to an extent, but in addition, the complexity of the sentence in which the temporal term is presented, the location of the temporal term within the sentence, and also contextual clues or logical sequences of events, affect performance.

Wilcox and Palermo (1975) put forward an alternative suggestion to that proposed by Clark (1974b) to explain children's responses to locatives. They argued the existence of a tendency to place objects in contextually congruent relationships with each other, regardless of instructions. In their study, their subjects disregarded the instructions if they violated normal contextual constraints. The 1;6-2 year old children simply made the easiest motor response available, whilst the 2;6-3 year olds placed the objects in their natural relationship with each other. Where there were no contextually determined relationships, between objects, the children did not appear to confuse one term any more than they confused the other two. This finding was reproduced by Grieve, Hoogenraad and Murray (1977).

Finally, the interpretations from the studies of deictic words (Clark and Garnica, 1974) have been queried by Richards (1976). She suggested that their results may not reflect

semantic development, but rather the coping strategies used for overly demanding tasks. To test this, she designed games where it was necessary for children to use deictic verbs. By four years old, the children could use "come" and "go" accurately, and the pattern of acquisition for "bring" and "take" differed from that dscribed by Clark and Garnica. At four years old, children understood "bring" but overextended it to mean "take". By five years old they used the two terms indiscriminately. At six years old they again used "bring" correctly but used either word to mean "take". Full adult usage was acquired by seven years.

It would appear, then that recent research has weakened the Semantic Feature Hypothesis. In many cases there has been a failure to find evidence for overextension and errors of synonymity in adjectival pairs. Some specific features appear to be acquired before the general features and even the dimensions. Other effects such as syntax and contextual factors may influence performance as much, as, if not more than semantic considerations. All these findings raise significant empirical questions about a feature theory description of semantic acquisition.

In addition to the empirical evidence above that questions the usefulness of the Semantic Feature Hypothesis, a number of writers have raised theoretical problems related to it. These are discussed below.

THEORETICAL PROBLEMS

One of the main difficulties with any feature theory is that it involves the abstraction of features from a whole

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concept, so that the concept may be understood. Nelson (1974) argued that no account is given of the source of these features. Moreover, in order to know which features to abstract one must already understand the whole concept:

> "the abstraction theory presupposes what it is meant to explain: namely the principle by which common elements are abstracted AS common and thereby the definition of the concept itself". (Nelson, 1974. pp 271).

In addition, even if one allows that a concept is comprised of features which it is possible to list, it is only when they are properly organised that they describe the concept as it is commonly accepted. For most feature theories this means an hierarchical structure but as Nelson pointed out, feature theory gives no generally agreed and specific method of weighting the features or integrating them into an organised, hierarchical, whole concept.

Rosch (1973) provided evidence to suggest that some concepts are not acquired feature by feature, but form natural categories intrinsic to biological makeup. These categories, being predetermined by the nature of the human organism, are also culturally universal. The terms referring to these categories are acquired as a whole, rather than feature by feature. Rosch's work, and that of Nelson (1974) have been linked by Palermo (1976b). He began by suggesting that a theory of semantic development should emphasise the communicative function of language. He felt that Semantic Feature Hypothesis ignores this function whilst concentrating too much on componential analysis. This, in turn, leads to a lack of concern with contextual factors. Bransford and Johnson (1972) have shown that different contexts give different meanings to the same words. Feature theories have

particular problems in accounting for this change in meaning.
Similarly, a feature theory is unable to account for the
metaphoric use of words. Metaphors are so pervasive
throughout language that the distinctions between metaphoric
and normal usage can be difficult to establish. Such phrases
as "the mouth of the river" and "crooked people" are so well
used in their metaphoric sense that their literal sense
becomes almost secondary. In a feature analysis, as soon as
one allows the changeable or metaphoric meaning of words, one
has to multiply the component features indefinitely. Thus the
feature set becomes unwieldy.

SUMMARY

Clark's Semantic Feature Hypothesis, then, is a discrete
and highly structured method of describing semantic
acquisition. It proposes three general principles which
predict the pattern of acquisition in young children:
overextension (where general terms tend to be used in place of
more specific ones); markedness (where unmarked terms, often
positively related to more general higher order feature, are
acquired first); and the notion of "top to bottom" (where
general features, at the top of the hierarchy are learned
first). A great deal of research has been carried out looking
at many different lexical domains, resulting in evidence
supporting the existence of the three principles, and the
appropriateness of the Hypothesis in general. However, other
studies have found conflicting results, again covering a
variety of domains, and it would now seem questionable as to
whether Clark's findings confirm her Hypothesis, or whether

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they result from other factors (eg research design, extra
linguistic or contextual clues, sentence complexity).

In addition, other writers have questioned the theoretical
basis of Semantic Feature Hypothesis, and have raised logical
arguments against the feasibility of such a theory. So, it
would seem that Semantic Feature Hypothesis may not be the
best way to conceptualise semantic acquisition. Nevertheless,
some of Clark's findings have been replicated by others, and
there are some lexical domains that it is difficult to fit to
any other explanation, satisfactorily. The domain of personal
or possessive pronouns would appear to fall into this
category, and will be discussed in the next section.

At last the Caterpillar took the hookah out of its mouth, and addressed her in a languid, sleepy voice.

"Who are you?" said the Caterpillar.

This was not an encouraging opening for a conversation. Alice replied, rather shyly, "I - I hardly know, sir, just at present - at least I know who I was when I got up this morning, but I think I must have been changed several times since then."

"What do you mean by that?" said the Caterpillar sternly. "Explain yourself!"

"I can't explain MYSELF, I'm afraid, sir," said Alice, "because I'm not myself, you see."

"I don't see," said the Caterpillar.

COMPONENTIAL ANAYLSES AND PERSONAL OR POSSESSIVE
PRONOUNS

INTRODUCTION

This chapter focuses on the relative usefulness of
semantic feature, or componential analyses, to explain and
predict the child's acquisition of the pronoun system. In the
previous chapter the evidence for the efficacy of such models
was reviewed, with respect to a variety of semantic domains.
In this chapter, a number of studies are described which adopt
such models to explain the development of the pronoun system.
Some of the problems with componential models specifically
related to their application to pronouns are also outlined.

One of the major areas of difficulty in using componential
models to predict pronoun acquisition is concerned with the
assignment of linguistic complexity to the pronoun set. As
already noted in the previous chapter, semantic feature models
must assume a rigid hierarchy of components if they are to
accurately predict the order of acquisition of the items in
the semantic domain. Using dimensional adjectives as an
example, the primacy of the component concerned with the
dimension (eg height, length etc), over other components to do
with the extent of the dimension (eg more vs less: long vs
short etc) is not questioned. Hence the model predicts that
children acquire the dimension component first. For a
componential analysis to be effective, therefore in predicting
the acquisition of pronouns, it is vital that an hierarchy of
components be postulated. Most theorists (Ingram, 1971;
Fillmore, 1971; Waryas, 1973; Sharpless, 1974; Deutsch and
Pechmann, 1978) use aspects of the linguisitic complexity of

the various pronouns as the components in the hierarchy.

Unfortunately, however, the various theorists do not seem able to agree about which aspects are salient for the analysis nor which take primacy. This problem is discussed later in this section, along with the different ideas postulated by the various investigators, concerning the aspects of the linguistic complexity of pronouns relevant to their acquisition. Finally, in this chapter, the problem of the shifting reference of pronouns, is examined and the implications that this may have for predicting pronoun acquisition are discussed.

THE EVIDENCE IN FAVOUR OF COMPONENTIAL ANALYSES

The evidence discussed in the last chapter, regarding the efficacy of semantic feature or componential analyses, leave many questions unanswered. Some evidence has indicated that they are useful models, (Clark, 1973b; Donaldson & Balfour, 1968; Donaldson & Wales, 1970; Clark, 1972b; Clark, 1974b;) whilst some evidence would indicate not. (Maratsos, 1975; Brewer & Stone, 1975; Townsend, 1976; Carey, 1976; Bartlett, 1976;). However, one of the main critics of such models, Carey, in her paper from 1982, has suggested that they may be appropriate for the pronoun system, even if inappropriate for other semantic domains. Carey argued that the domain of pronouns differs profoundly from other semantic domains (eg dimensional adjectives, temporal terms, deictic terms etc). She suggested that the domain is hardly semantic at all but forms a part of syntax. Firstly, the three basic components of pronouns; number, person and gender are marked in the

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syntax of almost all language. Often this marking is arbitrary with respect to semantics (especially in the case of gender). Secondly, a componential anaylsis of pronouns exhausts the lexical domain, in terms of the "primitives" needed for the child's syntax generally (eg pluralisation, noun-verb agreement etc). And finally, the three basic syntactic components, in pronouns, must be linked to the semantic distinctions if the child is to use pronouns accurately. Carey suggests, then, that a component by component explanation of acquisition may in fact be accurate where the components are motivated syntactically as well as semantically.

If this is so, then one might expect children to acquire personal pronouns according to their basic components. But what are the basic components of pronouns? Most investigators faced with this question have looked to the grammatical analysis of pronouns to provide their answer. They take the components to be: number, with its dichotomy of singular and plural; gender, with the distinctions of masculine, feminine or neuter; and person. According to the traditional grammarians, 'person' is composed of the distinctions between 1st person, 2nd person and 3rd person. So, one could postulate that any errors made by children, in the process of acquiring personal pronouns, should reflect a number of incomplete lexical entries in terms of number, gender and person.

In 1975, Baron & Kaiser examined children's errors with personal pronouns in a comprehension task. The children, aged between 3 and 5 years of age, were asked to respond to 3 sets

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of questions or requests.   The first set required the children to give out pairs of cut-out pants in response to an instruction eg Give him the pants.   The recipients of the pants were specified by the use of a personal pronoun in the accusative case (eg him, her, us, etc).   The second task required them to point to someone's feet.   Again, the individual concerned was specified by a personal pronoun, in the possessive case (eg his, her, our etc).   Finally the children were asked to describe the clothing of various individuals.   These were specified by a personal pronoun in the subjective case (eg he, she, we etc).   Thus the children's comprehension of six personal pronouns ('I', 'you', 'he', 'she', 'we' and 'they') in 3 different, syntactic cases, was examined.   Baron and Kaiser argued that, if children acquired pronouns component by component, then they would make more errors where one of the components (either number or person) was preserved, than complete errors.   For example, a child might respond as if to "our" when the pronoun "their" was employed.   The child would be preserving the component "number" (ie plurality) but losing the "person" component. A complete error would entail inaccuracies along both components (eg responding as if to "my" when "their" was employed).

The children, did, in fact make more partial errors (where one of the two components was preserved) than complete errors. They also made more partial errors than would be expected from a guessed-response probability.   Baron and Kaiser concluded that their results provide support for a component by component theory of pronoun acquisition.

In 1973, Waryas attempted to draw up an explicit model of

pronoun acquisition. Her emphasis was, again on components,
or features, and she tried, specifically to use it to look at
the order of acquisition of the pronouns. She presented a
linguistic analysis of the personal pronoun system in terms of
a set of binary semantic and syntactic features including,
again, both number and person. She differed from the
traditional grammarians, however in her analysis of the
"person" component. Her model showed "person" as representing
the role of the referent in the communication situation. Her
work was based upon that of Fillmore (1971) and Ingram (1971):
the concept of deixis, and more specifically, person deixis.
Ingram recognised that pronouns could be analysed not only in
terms of syntactic and semantic features (and phonological)
but also in terms of deictic features. Semantic features, he
argued, convey the meaning of language whilst syntactic
features mark elements of syntax or semantics which are
important but obscure semantically (eg the agreement between
nouns and verbs). Deictic features, on the other hand, handle
the fact that language is used for communication: to convey
messages between speakers and listeners. In other words,
deictic features are based entirely upon the speech act.
Within the speech act there are 3 basic roles: the speaker,
the listener, and the other person talked about. Thus, for
Ingram the deictic unit of "person" comprises three features:
$\{\pm$ speaker$\}$, $\{\pm$ listener$\}$ and $\{\pm$ other$\}$. So, for example, "I"
could be represented as $\{+$ speaker$\}$ $\{-$ listener$\}$ $\{-$ other$\}$.
The plus or minus choice within each feature allows for the
specification of pronouns that represent combinations of roles
eg "we - exclusive": $\{+$ speaker$\}$ $\{-$ listener$\}$ $\{+$ other$\}$.

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Waryas in 1973 based her model on the ideas above but also added two semantic as opposed to deictic features $[+ human]$ and $[\pm male]$ to distinguish between the pronouns "him", "her" and "it" as derived from $(+ other)$. She presented an analysis of the full personal pronoun system using a tree diagram. (See Table 2).

From this model, Waryas extrapolated hypotheses about the order of acquisition of the different pronouns.

The model indicated that there is an hierarchical structure of semantic features, which is based upon a set of binary decisions. Thus, Waryas predicted that one might expect to see some evidence of the hierarchy in a child's language development. She suggested that children would learn those pronouns comprising fewer features (eg "I": $\{+ speaker\}$; before those comprising more features (eg "He": $\{- speaker\}\{- listener\}$ $\{+ other\}$ $\{+ human\}$ $\{+ male\}$; She also suggested that, of the singular pronouns, "I" would be acquired before "you" and "you" before "he", "she" or "it" because of the primacy of the features $\{+ speaker\}$ $\{+ listener\}$ $\{+ other\}$.

Waryas used the findings of Huxley (1970) to provide evidence for her hypotheses. Huxley studied the development of subject personal pronouns in two children from age 2 years 3 months to age 3 years 10 months. From the beginning of the study, some forms of pronouns representing speaker, and representing listener were apparent in the vocabulary of both children. Neither child confused "I" and "you" nor was there any incorrect deictic usage for any pronoun. Also, Huxley found that, at all ages, the singular pronouns were more frequently used than the plural ones. Thus it would appear

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Table 2 : <u>WARYAS 1973 — TREE DIAGRAM OF PERSONAL PRONOUN SYSTEM</u>
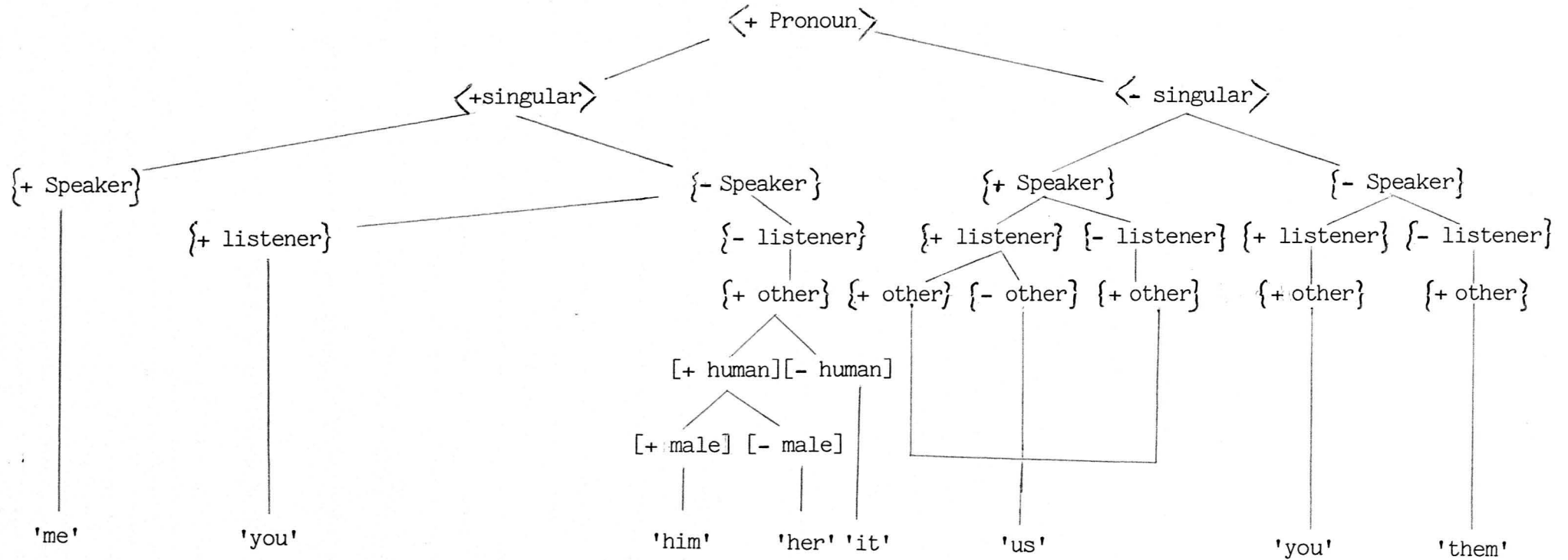
from Huxley's data, that the predictions made from Waryas'
model of personal pronoun acquisition, hold.

Further evidence to support a component - by - component
model of pronoun acquisition, is presented by Sharpless
(1974). Her study examined the order of acquisition of
singular personal pronouns in the possessive case in 9
children aged between 1;7 and 2;3. Sharpless looked at both
elicited and spontaneous production, and the comprehension of
pronouns. She concluded that the children performed best with
the pronoun "my", and worst with the pronouns "his" and "her".
The pronoun "your" fell somewhere between the two extremes.
However there were problems with this conclusion. In the
production tasks, the children's pattern of performance was as
described above. When the children were involved in
comprehension tasks, however, the relative order of
performance with the pronouns is more problematic. There were
two comprehension tasks involved in Sharpless' study: one
which placed the child in the role of Listener, and one which
placed him in the role of Other. In the former task, the
pattern of responding for 4 of the 6 children completing the
task did not fit the predicted order of 1st, 2nd and then 3rd
person. (For 2 children the sequence was unclear; another
child performed equally well with 1st and 2nd person pronouns;
and a 4th child performed best with 2nd person pronouns). In
the second task where the children took the role of Other, the
predicted order of 1st; 2nd; and then 3rd person was not
apparent for any child. (Nine children took part in the task:
for 3 children, no pattern was clear; one child performed
equally well with "my" and "your"; another with "my" and "his"

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or "her"; two children with "your" and "his" or "her", and two children performed best with "his" and "her"). However, Sharpless discounted these findings as anomalous, and attributed them to response bias, maintaining that, overall, her prediction of the order of acquisition of personal pronouns was proven.

From this evidence it would appear that, apart from Sharpless' anomalous findings, the use of component-by-component analyses to predict pronoun acquisition is appropriate. The analysis of errors made by children, in Baron and Kaiser's (1975) experiment indicates that children do acquire pronouns component by component. (Where the relevant components are number and grammatical person). The notion of person deixis expounded by Ingram (1971) and Fillmore (1971), and taken up by Waryas (1973) does seem to fit the empirical data provided by studies such as Huxley (1970), and Sharpless (1974). Children do appear to acquire the singular forms before the plural forms, and they also seem to learn the pronouns in the order predicted.

However, when the data from empirical studies is examined more thoroughly, a number of problems arise which cannot all be dismissed as "anomalous" findings.

PROBLEMS WITH THE COMPONENTIAL MODEL

In Baron and Kaiser's (1975) study, the children did appear to make partial errors more frequently than complete errors, and more often than expected. That is, they tended to make errors with only one of the components, more often than with both. Thus, Baron and Kaiser maintained that children

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acquire the components of pronouns, one at a time.
Unfortunately, however, some children appeared to consistently
preserve the number component, whilst others consistently
preserved the person component. This would indicate that no
universal order of acquisition of components exists; that
throughout development, a child is at least as likely to use
one component as another. On the other hand, Baron and
Kaiser's subject sample included children whose ages ranged
from 3 years to 5 years. In spite of this, they made no
attempt to analyse their results in terms of the relative age
of the children. Thus it is possible that children of
different ages preserved different components.

Baron and Kaiser presented their results in a table
showing the errors made in response to each pronoun. A close
examination shows that, in agreement with other studies
(Waryas, 1973; Huxley, 1970;) the children performed better
with the singular pronouns than with the plural pronouns. But,
contrary to other studies, they found that their subjects made
more errors (both partial and complete) with the 1st and 2nd
person pronouns (ie those involving the "speaker" and
"listener") than with the 3rd person pronouns (ie those
involving "others"). This result was held for both the
singular pronouns and the plurals. Thus, for Baron and
Kaiser's subjects, performance was better with "he" and "she"
than with "I" or "you"; and better with "they" than with "we".
For the singular pronouns, Waryas' model would have predicted
the reverse of this finding. Certainly in terms of the number
of features involved in deriving the various pronouns, "I" and
"you" are less complex. In addition, Baron and Kaiser's

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results do not agree with others. Huxley found that both "he" and "she" appeared later in the child's vocabulary than "I" or "you". Sharpless too, showed that children performed better with "my" and "your" than with "his" or "her". The only exception to this pattern was when the children took the role of "other" and the pronouns "his" or "her" referred to themselves. In this instance the pattern of performance was less clear.

So why should Baron and Kaiser's children have reacted differently to the singular pronouns? And why should the role taken by the children in Sharpless' experiment have altered the pattern of responding? One possible explanation to the former problem might lie in the design of Baron and Kaiser's experiment. In their test focusing on the accusative case, the children were asked to assign pairs of cut-out pants to a variety of individuals. The pants were of a size to fit two dolls, used in the experiment and referred to by the 3rd person pronouns. Thus is could be argued that the children, when in doubt, assigned the pants on the basis of fit, rather than use the pronoun (ie the pants would fit the dolls but not the experimenter or child). Again, from their table of errors, the children did appear to show a response bias in favour of the dolls, no matter what pronoun was employed.

Sharpless (1974) also described results that do not fit a componential model of pronoun acquisition. She found that, when the children took the role of "other" in the experimental task, they performed best with the pronouns "his" and "her". Sharpless explained these results by referring to a "shift in the salience of eye contact". This, she argued caused a

response bias in favour of "his" and "her". Unfortunately she said very little to account for why this should occur, and the reader is left unsatisfied as to the explanation.

For the plural pronouns, Huxley's findings (1970) agreed with those of Baron and Kaiser since both her children used the 3rd person pronouns ("they", their", etc) before the 1st or 2nd person pronouns. In fact, in Huxley's study, her children used "they" and "them" before the singular 3rd person pronouns "his" and "her". These findings seem to run contrary to Waryas' model, where one might expect, as in the singular, the 3rd person pronouns, would be acquired after the 1st and 2nd person pronouns. Certainly, according to Waryas, none of the plural pronouns should be learned earlier than any of the singular pronouns. However, one can argue that the pronoun "they" or "them" is actually simpler than the other plural pronouns, and possibly the singular 3rd person pronouns in terms of its features. Of the plural pronouns the 3rd person pronouns are the only ones which relate directly, in terms of features, to the singular pronouns. Sharpless explained the relationship very well, when she talked about "core" and "derived" plural pronouns. For Sharpless, there are two kinds of plural pronouns. "Core" plurals are made up of two singular referents, both comprising identical features (eg "they" = "he" and "he" or $\{+ \text{other}\}$ $\{+ \text{other}\}$. "Derived" plurals, on the other hand are made up of referents which do not share the same features (eg "our" = "I" and "you" or $\{+ \text{speaker}\}$ $\{+ \text{listener}\}$. In this analysis, therefore "they" as a core plural would be less complex than "we" or "you" as derived plurals. In comparison with the singular 3rd person

pronouns, "he" and "she", the 3rd person plural, "they" could also be considered less complex linguistically since it requires fewer features for its determination. The singular pronouns require the inclusion of the feature $[\pm \text{ human}]$ to distinguish between "it" and "he" or "she". They further require the feature $[\pm \text{ masculine}]$ to determine gender. Thus it is still possible to use the framework of a feature hypothesis or a componential analysis, including the findings above. There remains, however, some question as to how the order of acquisition of the pronouns is predicted, even if the salience and primacy of components has been established. Does the order of acquisition depend on the presence or absence of certain "marked" features? For example, does the presence of the feature $\{+ \text{ speaker}\}$ in the derivation of a pronoun, suggest that acquisition will be acquired earlier than those pronouns where it is absent? Or is acquisition concerned more with the linguistic complexity, in terms of the numbers of features required for the derivation of a pronoun?

It would appear, then, that, common to all such models, there is a problem as to deciding which are the salient features, which take primacy, and from there, how exactly one goes about predicting acquisition. All the investigators referred to in the first section of this chapter (Baron and Kaiser, 1975; Waryas, 1973; Ingram, 1971; Fillmore, 1971; Sharpless, 1974) would suggest that both number and person are salient components. Most would suggest that number takes primacy over person, but this has been disputed by Baron and Kaiser (1975) and Huxley (1970). In addition, it would seem that the two patterns of acquisition for the singular and

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plural pronouns could well be different (if one bases one's observations in terms of the three 'person' features). If this is so, then neither component would appear to have primacy. Perhaps, then there are other, different components involved in the derivation of personal pronouns that are more reliable for determining the acquisition of pronouns.

OTHER NOTIONS OF LINGUISTIC COMPLEXITY AND SALIENT COMPONENTS

In 1978, Deutsch & Pechmann attempted to test the notion that the theoretically derived order of complexity in German possessive pronouns accounts for their order of acquisition. They tested three different principles pertaining to the theoretical complexity of pronouns. The first principle, labelled the "proximal - nonproximal" contrast, dealt with the differential distances between the three roles in the communication event. According to Lyons (1968) and Fillmore (1971) there is a boundary between the Speaker and Listener on one side of the communication situation, and any Others. During any communication, the Speaker and Listener are normally in closer proximity to each other than to the Other, and there is likely to be more eye contact. So, if this principle of linguistic complexity has primacy, then any pronouns referring to the Speaker, the Listener or both, should be least complex. Those referring to Other (in any number) should be most complex; and those referring to mixtures of Speaker or Listener, and Others (eg Speaker + Other ie we) should form an intermediate group.

A second principle of complexity the "Speaker - Nonspeaker" contrast (similar to the idea of person) refers to

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the Speaker showing a preference for his own position. Thus
pronouns referring to the Speaker should be less complex than
those referring to the Listener. Those involving a reference
to the Speaker and another (eg Speaker + Other ie we) should
be less complex than those referring to the Listener and
another (eg Listener + Other ie you (pl)).

Finally, the third principle, is the "singular –
nonsingular" contrast. As in the previous studies where the
feature "number" was used, this principle assumes that
singular pronouns are less complex than plural ones. Deutsch
and Pechmann (1978) attempted to examine whether any or all of
these three principles were related to the order of
acquisition (or relative difficulty) of possessive pronouns.
They were also interested to find out which of the principles
appeared to take precedence for children, over the others.
Using a task where children had to match cards to owners, they
monitored the frequency of correct responses. They discovered
that the children's performances with the pronouns varied
according to the following pattern (from best → to worst):

Your $\rangle$ → our → our → our → Your(pl) $\rangle$ → Her → Their
My $\rangle$ (S+L+O+O) (S+L) (S+O) His $\rangle$

They argued, therefore, that the proximal – nonproximal
principle had primacy over the singular – nonsingular
principle. Apart from the relative position of 'our
inclusive' (speaker + listener + other + other) all pronouns
referring to either Speaker or Listener, preceded those
referring to Others. Also, to some extent, the speaker –
nonspeaker principle was apparent but overridden by the
singular – nonsingular principle. Thus all forms of "our"

where the Speaker is referred to, preceded "your" plural which refers to the Listener and an Other. The unexpected (according to the Speaker - nonspeaker principle) lack of difference in performance with "my" and "your" could, explain Deutsch and Pechmann, be due to the ages of their subjects. Most studies (Clark, 1977, Huxley, 1970, Sharpless, 1974 etc) agree that the 1st and 2nd person singular pronouns (I, me, my; you, your etc) are normally fully mastered well before three years of age. Deutsch and Pechmann's youngest child was five months older than this.

So, overall, the authors formed the conclusion that the order of acquisition of possessive pronouns is dependent upon their linguistic complexity in terms of proximity and singularity. Within this the proximity principle appears to have dominance over the singularity principle. Thus, Deutsch and Pechmann's conclusions would explain why some plural pronouns appear to be learned before some singulars. Unfortunately, from the literature, the most frequent example of a plural pronoun occuring before singular pronouns is the case of the 3rd person plural (ie they, them, their). This phenomenon would not fit with Deutsch and Pechmann's explanation, since, according to their rationale "their" should be acquired last of all. In fact, the performance of Deutsch and Pechmann's subjects with the various possessive pronouns bears very little resemblance to the performances of children observed in other studies. However, as already noted, the order of acquisition of the personal pronouns is by no means clear. Different investigators, using different techniques have found conflicting evidence. Whilst the

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linguistic complexity of the pronouns does appear to affect
their acquisition to some extent, some alternative explanation
is necessary to indicate why there have been so many
"anomalous" or conflicting results.

THE PROBLEM OF THE SHIFTING REFERENCE

Perhaps part of the problem lies with the deictic nature
of personal pronouns: the fact that the same pronoun can be
used to refer to different people according to their role
within the communication situation. When the child is
speaking, for example, "I" refers to himself, but when
listening, "I" refers to the speaker. Charney in 1980 tried
to take this into account when she investigated the
development of personal pronouns. For Charney, the adult and
correct representation of pronouns is "role" oriented. That
is, the adult can use or understand each pronoun to refer to
anyone, as long as that person occupies the appropriate role
in the dialogue, coded by the pronoun. (Thus "I" refers to
any person occupying the 'speaker' role). Children, however,
might employ a different system of representation of pronouns
such as a "person" oriented representation. Hence, the
pronoun will always refer to the same person, no matter what
role in the dialogue, they take up. So, for example the child
might always take "I" as a reference to himself, even though
he is occupying the role of "listener" or "other", in the
conversation. This system, if employed, would cause the child
to produce systematic "reversals" (ie calling himself "you"
and others "I"). Whilst there is some evidence supporting this
notion (Chiat, 1982), most children, from the literature,

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appear to acquire pronouns with very few such errors (Bloom,
Lightbown & Hood, 1975; Huxley, 1970; Chiat, 1981; Nelson,
1975; Sharpless, 1974; Bowerman, 1973;). In addition,
Shipley and Shipley (1969) provided evidence that children
tend not to take particular pronouns as referring to specific
people. They found that Quaker children tended to address
their parents correctly as "you", in spite of the fact that
the parents, in the children's presence, addressed each other
as "thee". It would appear that very few children, apart from
those suffering from infantile autism (Kanner, 1946)
consistantly make reversal errors to do with a "person"
oriented representation.

Alternatively, the child might begin to learn the pronoun
system with a sensitivity to the roles involved in the
dialogue, as in the adult "role" representation. Then, the
order of acquisition of the pronouns could only be affected by
their relative linguistic complexity. Most of the previous
studies reviewed here (Sharpless, 1974; Baron and Kaiser,
1975; Deutsch and Pechmann, 1978; Cruttenden, 1977; etc)
appear to have set out from this premise. They have attempted
to search for an order of acquisition of pronouns, without
regard for the variation in the pronoun's referent. As
demonstrated, earlier, the predictions made from the basis of
a 'role' representation, are not always accurate.

Charney (1980) put forward yet another possible
representation that the child might employ when acquiring the
pronoun system. She referred to it as a "person - role"
representation. Here, the child would learn, first, the
pronouns most relevant to himself as a participant in

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communication. So, in the early stages of pronoun

acquisition, the child would learn which pronoun referred to

himself as speaker, listener and other. Only later would he

generalise this knowledge to a representation of pronouns as

applied to other people. If children do adopt this

representation, then their performance with the different

pronouns should vary according to the role they adopt with the

dialogue. In other words, the 1st person pronouns ("I")

should be easiest when the child is Speaker; second person

pronouns ("you") when the child is the Listener; and 3rd

person pronouns ("he"/"she") when the child is the Other.

McNeill (1965) and Charney herself (1980) offered support

for the "person - role" hypothesis. McNeill studied one child

(from 1;7 to 2;3) examining her production and comprehension

of pronouns. He found that the child performed better with

"I" rather than "you" when the child was Speaker, but vice

versa when the child was Listener. Also, she learned "I"

referring to herself as Speaker, before "I" referring to her

mother as Speaker (when she, herself was Listener). But she

learned "you" referring to herself as Listener, before "you"

referring to her mother as Listener, (when she herself was

Speaker). In other words, the child learned the pronouns

referring to herself in the two roles, about 3 months before

she learned them as referring to other people.

Charney devised tasks to look at children's performances

with "my", "your" and "her" in the three different speech

roles: as Speaker, as Listener and as Other. She found that

the 1st and 2nd person pronouns ("my" and "your") were

certainly acquired according to the "person - role"

hypothesis. As Speaker, "my" was acquired before "your" but as Listener "your" was learned before "my". At the same time, the pronoun "my" was sometimes produced by the children (referring to themselves) before it was understood (referring to someone else). The pronoun "your" was always acquired as Listener (again, referring to the child) before it was understood to refer to the Other, and before it was produced by the child as Speaker.

When the results from the studies reviewed earlier, are examined, many could be used as support for a "person - role" hypothesis. Most of the data maintaining that children perform best with the 1st person pronouns, comes from production experiments. That is, they placed the child in the role of Speaker where 1st person pronouns referred to themselves. (Huxley, 1970; Wells, 1979; Deutsch and Pechmann, 1978; Goodenough, 1938; Burroughs, 1957). This hypothosis would also serve to explain Sharpless' anomolous findings. The children in her study responded differently to the various pronouns according to the different roles they adopted in the dialogue. If children use a 'person - role' representation then, as Listener, they should perform best with 2nd person pronouns, and as Other, with 3rd person pronouns. Sharpless' results, do not fit the above predictions perfectly but they do appear to be more akin to a "person - role" hypothesis than the usual "role" representation. The order of acquisition when the children took the role of Listener was by no means clear. However, when the children took the role of Other, two of the nine appeared to master the 3rd person first, and three more children performed best and equally well with the 3rd

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person and one other.

Unfortunately, the performance of Charney's own subjects, in the role of Other, did not support the "person - role" hypothesis. In fact, her results indicate that the 3rd person pronouns are acquired as "role" pronouns, with "her" producing the worst performances regardless of the child's role in the dialogue. When the child took the role of Other, (where "her" was expected to have produced the best results) the children performed equally well with "my" and "your", and better than with "her". Chiat (1981) used this latter result as an argument against a "person - role" representation of pronouns, which, she argued, is logically impossible. It is perfectly possible, she felt, for a child to use a "person" representation, as if the pronouns were equivalent to proper nouns; or indeed, a "role" representation, where the child matches the pronoun to its role referent. But a "person - role" representation would lead to the notion that a child knows the pronouns as they refer to himself, whilst being ignorant of those same pronouns as they refer to other people. Chiat argued that the child must discover the pronoun from the speech of other people. He must, therefore, first understand the pronoun as used in reference to those other people. Chiat, continued then, to try and explain the discrepancies found by Charney between the order of asquisition in comprehension tasks, and production tasks. She looked first at the tendency for children to perform best with 1st person pronouns, in a production task. Only three of Charney's subjects apparently were able to use "my", without understanding it in reference to someone other than

themselves. Chiat suggested that these three were using "my" as a part of rote phrase, and that, as an isolated pronoun it was not produced at all. She also suggested that, there is nothing surprising in the idea that children should understand "you" (as it refers to themselves) before they produce it (in reference to someone else). It has been well documented throughout the study of language development, that comprehension precedes production. Thus children may recognise the 2nd person pronoun, and respond to it, long before they produce it themselves. This is precisely what Charney found, and used as evidence for her "person - role" hypothesis.

A further problem with Charney's ideas for the acquisition of pronouns, is that she only dealt with the singular pronouns. The reader is left wondering whether the "person - role" representation, is intended to include the plural pronouns as well as the singular. If so, then the children should perform best with "our" in production tasks; best with "your" when addressed by a speaker; and possibly best with "their" when taking the role of Other. As already noted, there is some disagreement, in the literature, as to the order of acquisition of the plurals. However, there is some evidence from both comprehension and production tasks (Huxley, 1970; Baron and Kaiser, 1975; Cruttenden, 1977) to suggest that the 3rd person plural is acquired first, of all the plurals. This, of course, would suggest that Charney's "person - role" hypothesis cannot be extrapolated to predictions about plural pronoun acquisition.

SUMMARY

At this point, the argument appears to have travelled full circle. It began by examining the usefulness of a component model to predict pronoun acquisition. Whilst not discarding the notion of such a model, the evidence appeared to suggest that it was problematic. As with any feature or component model, one is only able to predict accurately, if it focuses on the relevant features, and if its assumptions about the primacy of those features are correct. Different authors have put forward different ideas about which features are relevant and which have primacy. However, none of them appear to be able to produce a model that will adequately fit the empirical evidence about the order of acquisition of pronouns. On the other hand, when examining the empirical evidence, one finds that there is no firm agreement as to the order of acquisition except in very general terms. Different studies, it seems, have found different patterns of performance. Explanations were put forward to account for why there might be such a lack of agreement. These culminated in the idea that the deictic nature of pronouns might cause the disagreement. It was suggested by Charney that childrens performance might vary according to the role they adopted with the dialogue. This appears to be the key to explain why the empirical evidence is confusing. However, this explanation does not account for children's performance with all pronouns. In fact it seems to relate only to their performance with the 1st and 2nd person singular. For Chiat, there are other, simpler explanations to account for the apparent anomaly in childrens performance with these two pronouns.

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So, it would seem that there is no adequate explanation of childrens acquisition of personal pronouns. But what is worse, there does not even appear to be anything more than general agreement about their actual order of acquisition.

"Take off your hat," said the King to the Hatter.
"It isn't mine," said the Hatter.
"STOLEN!" the King exclaimed, turning to the jury,
who instantly made a memorandum of the fact.
"I keep them to sell" the Hatter added as an
explanation:
"I've none of my own. I'm a hatter."
Here the Queen put on her spectacles, and began
staring hard at the Hatter, who turned pale and
fidgetted.

POSSESSION

INTRODUCTION

The previous chapters have shown that the lexical domain
of personal pronouns begins to be acquired early in language
development. Within the domain, the possessive pronouns also
seem to appear early (as early as 18 months as reported in
the studies by Kernan, (1969); Nelson, (1973); Huxley, (1970);
Goodenough, (1938); and others) particularly those possessive
pronouns referring to the child himself as possessor (ie "my"
or "mine"). It can be argued that, in order to produce and
respond to such words, appropriately, the child must have
developed some notion of the concept of possession.

In this chapter, the notion of possession will be
investigated, with particular emphasis on the child's ideas
about the concept. To begin with, the chapter will focus on
the evidence for the emergence of the possessive in the speech
of children, looking, not just at possessive pronouns but at
other possessive constructions also. (Brown, 1973; Bowerman,
1973a; Cazden, 1968; Rogdon, 1976; and others). Having
established how children talk about possession, it is also
important to investigate what they mean by it. Thus the
chapter moves on to focus upon the adult meaning of
possession: rules or conventions governing it; and the
different aspects of possession that exist. (Miller and
Johnson-Laird, 1976; Beaglehole, 1932; Snare, 1972; Fillmore,
1968; Brown, 1973; etc). These are compared to the findings
from studies investigating children's notions of possession;
its importance to them; its definition; the rules governing it
and the acquisition of possessions (Bronson, 1975; Furby,

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1976; 1977; 1978a; 1978c; 1978d; 1980b; etc).

One of the findings that is apparent in most studies on possession (Miller and Johnson-Laird, 1976; Furby, 1976; Brown, 1973; etc) with adults or children is that often the meaning of the possessive relationship itself, varies according to the type of object that is possessed. These results are discussed towards the end of the chapter particularly with respect to the social background, and age of the subjects in the studies, and in the light of the different aspects to possession and the rules that govern it.

There are clearly many different aspects of possession and the way in which children and adults perceive it. However there would not be space in this chapter to deal with each aspect thoroughly. But, one of the most important aspects of possession, for any possessor, must be that of sharing, or the control one has to allow others access to one's possession. Finally then, the results from studies looking at children's views on sharing and their sharing behaviours (Rheingold, Hay and West, 1976; Eisenberg-Berg, Haake, Hand and Sadalla, 1979) are reported later in the chapter and are discussed especially in terms of the age of the child and the qualities of the proposed sharer.

However, to start with, the chapter begins with the emergence of the possessive in language development.

EMERGENCE OF THE POSSESSIVE

As noted previously, the genitive (or possessive) form of personal pronouns emerges early in child language development; at about 18-25 months. (Goodenough, 1938; Huxley, 1970;

Kernan, 1969; Nelson, 1973; Léveillé and Suppes, 1976). The possessive has also been noted in the language of young children manifested by other means, by other researchers. Brown (1973) found, for example, that children who are just beginning to put two words together into a single utterance (what Brown referred to as 'Stage 1' speech) seem to produce something akin to a possessive. Brown gave the example of a child producing the utterance "Daddy chair" in a context where he was also pointing to the chair his father usually occupied. Brown argued that an utterance such as this, in context, can be taken as a possessive relation, with the child naming first the possessor and then the possession. In other words, the utterance can be glossed as a possessive where the child is saying "(That is) Daddy('s) chair". Brown looked at the speech recordings from ten different children, from different studies acquiring a diverse range of languages (eg English, Finnish, Samoan etc). All the children examined appeared to exhibit the possessive relation at a similar point in the language acquisition almost from the onset. (Bowerman, 1973a; Brown and Fraser, 1963; Brown, Cazden and Bellugi, 1969; Kernan, 1969; Rydin, 1971; Tolbert, 1971).

According to Cazden (1968), who looked especially at the noun inflection "-'s" for the possessive, children tend, in Stage 1 speech, to use possessives correctly at least 70% of the time they are required. Surprisingly, Cazden also found that in the majority of instances, the children chose to use the elliptic form of the possessive (eg "Daddy's", "Mommy's") rather than use a two word utterance including possessor and possessed (eg "Daddy's chair"; "Mommy's sock"). For Cazden

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this finding was especially interesting since the mothers of the three children in her sample all used the two word possessive form between seven and twenty times as often as the elliptic form.

Rogdon and Rashman in 1976, also looked at the possessive relation, specifically in children using one word utterances (holophrastic speech). Their subjects, aged between fourteen and thirtytwo months again tended to use the possessive in an elliptic context: when shown particular objects, they named the owner of the object. Several studies were carried out in the late 1960s and early 1970s, to try and establish whether children's one word utterances (holophrases) were actually equivalent to entire sentences. Investigators based their work on De Leguna's (1927) attempts to trace the development of holophrases in the acquisition of speech. For De Laguna, the child began simply using gestures to make himself understood. He then progressed to using single words, which eventually turned into "sentential holophrases" (one word standing in for a complete idea or sentence). Later the child incorporated gestures with his holophrases, and later still this gesture became replaced by a second word. At this point the child was using two word utterances.

Werner and Kaplan (1963) concluded from their investigation that development during the one word stage of speech was continuous with the development of multiword speech. Greenfield (1967; 1968) asserted that children used one word utterances in a general referential sense, and in order to assign properties to their owners. Gruber (1967) felt that children tended to "topicalise" their speech. In

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other words, they seemed to generate a topic (in the form, usually of a noun) and this was later added to, with another word as a comment. Rodgon in 1976, set out to try to show that the holophrase did represent a complete adult idea. She looked at holophrases already used by ten children (aged between 16 and 21 months). All had produced one word utterances for several months but none had yet begun to produce two word utterances. Rodgon attempted to train the children over five days, to produce two word utterances to stand in for three holophrastic relations: subject - verb - object sentences, locatives and possessives. She was successful in her training, including the training on possessives, such that the children began to use two word combinations of "possessor - possessed" construction. Rodgon concluded that, in the one word stage of speech, when children name the owner of an object, they are in fact demonstrating a peliminary awareness of possession.

Bloom (1973) however, did not accept that holophrases were evidence of linguistic relations such as possession. She felt that whilst the child associated 'owner' and 'owned' (as evidenced by the child naming the possessor when shown particular objects), in the holophrastic stage, he had not separated out, nor formed the appropriate linguistic link between the two. Quite simply, for Bloom, the child was just engaging in "naming" activities, since most of the owner naming activity was restricted to highly familiar associations only. Rodgon and Rashman (1976) attempted to test this hypothesis against their own notion that the child was demonstrating a preliminary notion of the posessive

relation. They showed children in the one word stage of speech, photographs of objects and persons, to elicit a one word utterance. They found that children tended to name the owners of objects when they were aware of the owner-owned relationship (usually when their parents were the owners) but they gave the object names when the owners of the objects were unknown to them. For Rodgon and Rashman, this behaviour indicated that the children did have a preliminary notion of possession, and that the objects also had separate status. In other words, they concluded that Rodgon (1976)'s hypothesis was correct; and that Bloom's (1973) notion that the children had not separated out the owner from the object did not hold for their subjects. Further evidence suggesting that children do have a notion of possession arises from the study by Mitchnick, Golinkoff and Markessini (1980) who found that children could comprehend possessive phrases whilst they were still in Stage 1 speech.

Many writers feel that the possessive relation, in English, is linked to the locative relation. Again, it is suggested that the locative appears early in "Stage 1" speech (Rodgon, 1976; Brown, 1973; Bar-Adon, 1971; Blount, 1969; Leopold, 1949) and it is somehow easier to accept De Laguna's suggestions for tracing the linguistic development back to the use of gestures for the locative relation. Lyons, (1967) suggested that the possessive relation is actually derived from the locative, in English. He proposed that possessives are distinct from locatives only in terms of the animacy of the nouns used. For example "Make the book come to me" (locative) is very close to "Make me have the book"

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(possessive). For Lyons, both types of sentence fall into the category of "stative" (as opposed to "actional") which sentences describe states or changing states of affairs. Within the "stative" category, they were both classified under the subcategory "relational" which sentences describe relations between different elements.

Miller and Johnson-Laird (1976) also saw the two relations as linked, but for conceptual reasons as opposed to Lyon's linguistic reasons. They argued that, if an owner is to use his possession, as the notion of possession allows, then he must have access to his possession. Whilst it is possible to own an item and yet be unable to use if (for example if one has lent it to a friend), in the majority of cases it is more usual to have one's possessions to hand. If so, then the relationship between the posssession of an object and the locative is clear: the use of a possessed object implies that the user must be within its region, or vice versa.

Further, the relationship between position and possession can be observed in the early speech of children. Greenfield, Smith and Laufer (1976) noticed that the naming of owners when presented with objects (possession) appears to emerge at the same time as primitive location utterances. Here the child will point to the location and name an object customarily kept there. If one accepts, therefore, that children have a preliminary awareness of location this early in their development, it follows that one must also accept that they have a basic understanding of possession.

It would seem then, that children begin to use the possessive construction in Stage 1 speech (Brown, 1973;

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Cazden, 1968;). They seem to begin by using one word
utterances naming the possessor for example "Daddy" which can
be glossed, depending upon the context, to indicate a
possessive relation (Rodgon, 1976; Rodgon and Rashman, 1976).
Children, also, it seems, are able to understand possessive
relations, at about the same stage in their language
development (Mitchnik, Golinkoff and Markessini, 1980). Some
investigators have linked the development of the possessive
construction to that of the locative, (Lyons, 1967) which also
occurs in language development at about the same time. In
fact, Greenfield, Smith and Laufer (1976) have provided
evidence to show that the two constructions might be linked
conceptually as well as linguistically, for young children.

All of the above evidence would suggest, therefore that
children are required in their behaviour to distinguish
between objects belonging to different people (including
themselves) and objects belonging to noone in particular.
Brown (1973) suggested from detailed analysis of the
transcripts from his subjects: Eve, Adam and Sarah, that
children, from early in their development, had primitive
notions of property and territoriality, expressed using the
possessive.

WHAT DOES POSSESSION MEAN?

Brown suggested that children's notions of possession are
mainly concerned with the idea that the possessor has prior
rights of use or access to his possessions. These rights
supersede those of any other person, in the child's case,
usually other members of the family. For Miller and

Johnson-Laird (1976) these ideas about possession do not differ significantly from the full adult understanding. Before looking at children's understanding of possession it may be useful to look at adult understanding for the purposes of comparison. Miller and Johnson-Laird saw possession as a conceptual rather than a perceptual matter. They compared possession to location to illustrate this point. In location, an apple moved from one position to another can be observed directly: it is a perceptual matter. For possession, however, a stolen apple does not look any different to any other apple. The problem is conceptual not perceptual. They saw possession as, for the most part, a social concept: our society revolves around property, its ownership and its exchange. A large part of our society's rules are to do with the determination of the ownership and offences against the ownership of property. These rules differ from society to society in their detail, but it is difficult to think of a culture or society where property and possession do not exist at all. Indeed there have been a number of anthropological studies which look at possession in different cultures (Ellwood, 1927; Herskovits, 1940; Lourie, 1920; Thurnwald, 1937) but there has really been only one which attempted to draw universal conclusions about the nature of possession. This study was by Beaglehole (1932) who focused on the notion of property in "primitive people". He defined ownership and possession of property, as "the appropriation to persons capable of enjoying them, of goods or values satisfying fundamental needs", where "appropriation" meant the establishment of an "enduring and intimate relation". Whilst

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this definition is somewhat loose (since it makes no comment about the nature of the "enduring and intimate relation") it provided Beaglehole with a starting point from which he could attempt a comparative anthropological study of possession.

A good deal of Beaglehole's analysis concerned the importance of magic in the beliefs of different cultures. Examination of possession in this context led him to conclude that "primitive" man sees personal property as somehow assimilated to the self. A part of the individual's "spirit-life" is integrated into the object, and the object is seen to be a part of the self . Beaglehole proposes this principle as a basic characteristic in humans. However, he also noted that different societies are governed by very different systems of property and ownership, and argues that the form of property in any social group is the result, not only of this apparent integration with the self, but also the result of established cultural patterns of the group. These, in turn depend on a variety of historical and economic factors. Beaglehole presented a convincing argument for the latter assertion but, for Furby (1978) his assertion that humans tend to integrate part of their self with their possessions, is speculative to say the least. Beaglehole has suggested one psychological basis for property but does not properly examine the extent to which cultural learning might affect this tendency. Otherwise, he suggested that environmental influences are important for shaping the various forms that ownership takes within different societies.

Other investigators (especially early in this century) also posited innate determinants of possessive behaviour

(James, 1890; Le Tourneau, 1892; Rivers, 1920). Indeed, most laymen, if asked to comment, would probably state that the human tendency to acquisitiveness was innate rather than learned. Wrightsman (1974) made a comment to this effect:

"'Man, by nature, desires to own and hold property' is a venerable assertion of human nature and one of the most closely analysed and most frequently cited assumptions of human nature in the history of human thought".

Thus, in order to try to understand the questions of "human nature" with respect to possession, a number of investigators have examined species other than humans for possible evolutionary precursors.

Again, Beaglehole (1932) is among the forefront of these investigators. He examined the behaviour of certain animals, representative of a number of different species, assuming that the existence of a notion of ownership in animals is manifested by defence against aggression or spoilation by others. As before, Beaglehole's assumptions here are questionable. Hallowell (1943) suggested that possession does not always require a defence against attack, and also that such a defence does not always indicate a property relation. However, it is difficult to see how else Beaglehole could have defined possession in animals without making similar assumptions. As Furby (1978) argued, the problem in defining possession is almost an insurmountable one, since the very meaning of possession and property is part of the research question.

Nevertheless, Beaglehole, using his earlier definition, concluded that acquisition among most animals is restricted to

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food storage, as an instinctive reaction to scarcity of food especially during winter. The few exceptional cases where other items were stored, he explained as curiosity, (particularly as aroused by shiny portable objects in birds), nest building impulses (especially in rodents), and the desire to use objects as adornments or playthings (mainly in apes). In other words, Beaglehole maintained that objects are acquired by animals solely to fulfill certain specific needs and desires. Defence of territory was seen by him as a separate phenomenon concerned with "sexual and parental impulses". So, animals do not have an "instinct for acquisition" rather, they collect items to satisfy their basic needs. When their possession of these items is threatened they will be defended, and in that respect they are a primitive form of property. However, it is clear that there is a limit to what we can learn about the origins and function of possession in humans by studying nonhumans.

A recent analysis by Snare (1972) returns the argument to its social origins. He offered three main conventions for the concept of possession or ownership of an object in Western society:

(a) it is not wrong for the owner to use the object, but wrong for others to interfere with his using it;

(b) if, and only if the owner consents, it is not wrong for others to use the object;

(c) the owner may permanently transfer the rights in (a) and (b) to specific others by consent.

These conventions do not govern other linked ideals such as the punishment of transgression, or the destruction of

property, but they do appear to be crucial in the notion of possession, and they do seem to apply to most cultural groups.

So, it would seem that whilst possession can be seen as a social concept the details of which can vary according to the economic and cultural patterns of each social group, the main theme of possession could well be universal. Indeed the similarity between different cultural groups has led some investigators to suggest that the tendency to acquire possession may well be innate. (Wrightsman, 1974). In order to look at this possibility, studies of other species have been undertaken (Beaglehole, 1932) but these show only that acquisitiveness in other animal groups tends to be related, in the most part to basic needs: food and water storage. Nevertheless, possession does seem to be and important aspect in the life of most humans, to the extent that, especially in "primitive" groups (Beaglehole, 1932) personal property tends to be somehow assimilated into one's concept of oneself. Certainly the basic "rules" or "conventions" protecting the owner's rights tend to be fairly constant across different social cultures: the right to use one's possessions; to control access by others to one's possessions; and to transfer ownership rights if one wishes (Snare, 1972). Following Snare's anlysis however, Miller and Johnson-Laird suggested that these three conventions deal only with one aspect of possession: that of inherent possession. They suggest that there are in fact at least two other aspects of possession, each with different conventions: accidental possession; and physical possession.

THREE ASPECTS OF POSSESSION

Inherent possession, then entails the owner's rights to use the possessed object, to allow its usage by others, and to transfer those rights to others. But what if the owner of the item has lent it to another person? Who, then is said to have possession of the item? Certainly the ownership rights remain with the original owner, but in terms of possession, it is the borrower who has access to the usage of the item. Miller and Johnson-Laird saw this problem as illustrating a second aspect of possession; that of accidental possession. For them, the essential condition governing inherent possession of an item is the permissibility of exclusive use. In accidental possession it is the possibility of usage that is in question. Once it becomes impossible for a person to use the object in question, he ceases to have accidental possession of the object. For example, if John owns a book he has exclusive rights over who reads it (inherent possession). If however, he lends the book to Peter, Peter may read it, (with John's implicit consent) but John may not be able to because he has lent it to Peter (accidental possession).

The notion of accidental possession again illustrates the close relationship between location and possession. It is virtually impossible for a person to have accidental possession of an item without there being also, a close locative relationship between them since usage of an item implies that it is within reach.

A third aspect of possession, as noted by Miller and Johnson-Laird, is that of physical possession. Physical possession, here, is seen to refer particularly to kinship

relations, 'part of whole' relations and the language of location. For the latter, the use of the verb "have" is paramount, and is exemplified by the sentence "The table has a lamp on it". The close relationship between locative and possessive relations has already been discussed, to some extent, however, it may be worth recording Beaglehole's (1932) views on the origin of the linkage. As he described it, the relationship between the two appears to be reflected in the history of the term "property". The Old English term "propete" and the Old French term "proprieté", both derived from the Latin "proprius" meaning "one's own" are also both linked to the modern French "propre", meaning "close" or "near". Thus, Beaglehole suggested, historically, property carried the implication of exclusive rights to an object because it is so close or near.

In terms of both kinship and "part of whole" these relations have been discussed at length by a number of investigators, when examining the contrast between "alienable" and "inalienable" possessions (Fillmore, 1968; Brown, 1973; Edwards, 1973; Lyons, 1967;). Basically, alienable possessions are optional possessions where an owner, if there is one can either distance himself from the possession, or relinquish ownership in some way. (eg car, toy, book, flower, space etc). Inalienable possessions, on the other hand are obligatory possessions, where there must be an owner, and where the owner might find difficulty in distancing himself from the object (eg my face, my foot) or where ownership cannot be relinquished (eg my mother, my son). Fillmore (1968) cited a particularly convincing example of these two

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types of possession when he contrasted the Fijian "uluqu" (meaning "my head" as an inalienable object attached to the neck) and "Kequ ulu" (meaning "my head" as an alienable object whose owner is about to eat it). The English possessive is ambiguous and there is no clear distinction in the language between alienable and inalienable objects; only in the semantics and the context of the sentence. Other languages, however do make a linguistic contrast. In French, for example, it is unusual to refer to one's own face as "ma figure" unless for emphasis. Normally, "la figure" is used. In one Chinese language alienable possession requires the particle "-de" whereas inalienable possession does not. Thus "the book is mine" would translate as "shu shi wo-de" whilst "the family is mine" would be "sia shi wo". However the distinction between alienable and inalienable possessions is not always clear. Fillmore (1968) noted that in one language, a person's left hand is treated as inalienable, whereas the right hand is seen as alienable. Also, the language of the Arapaho Indians provides some confusion when body lice are treated as inalienable objects.

It is by no means clear how far the relationship between a person and his inalienable possessions, is related to the possession of alienable objects. Brown (1973) went as far as suggesting that inalienable possessions might be better described by a different semantic altogether. Indeed, it is difficult to see how Snare's (1972) three main conventions for possession could apply. Certainly in terms of inalienable possessions, an owner could not, by definition, transfer possession rights to another person. To say, for example that

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another person now owns one's hands, is a nonsense, except in
metaphoric terms. At the same time, the conventions covering
permissibility of usage and prior rights to usage also sound
strained when referring to inalienable objects. Suggesting,
for example that a dog has the right to wag its tail, over and
above others wagging it, is again awkward, if correct. Thus
it is possible that the conventions covering inherent or
accidental possession of alienable objects, do not also govern
physical or inalienable possessions. Miller and
Johnson-Laird, however have suggested that there are
similarities between alienable and inalienable possessions.
Both relations are durative, for example, and both contain an
element of exclusiveness to the owner. For the purposes of
this study, then, all types of possession: inherent,
accidental, physical, inalienable or alienable; will be
included as a possession.

THE CHILD'S NOTION OF POSSESSION
    Possessiveness characterises a large portion of human
activity in our society, and there is ample evidence of
possessives occurring in the very early stages of child
language. It is surprising therefore that so little empirical
work has been undertaken to examine the origins and
development of possessiveness in children. There have been
studies, however, looking at social interaction among infants
and toddlers, and the possessive component in their behaviour
has been noted. A large proportion of the conflicts that arise
between young children, for example, are described, in the
literature, as issues of possession. In 1934, in a study of

nursery school children, Dawe concluded that 73% of the "quarrels" in children aged from 1 year 6 months to 2 years 6 months, were concerned with possession. The percentage was reduced for 3 to 4 year olds but it still remained over 50%. More recently Bronson (1975) found similar results in that 70% of the "disagreements" between 2 year olds involved taking or "tugs of war" over objects. Other studies (Smith and Green, 1975; Ross and Hay, 1977) have obtained remarkably similar results. Apart from conflicts over the use of objects, however, Bronson (1975) also reported incidents where two year olds have been engaged in a different kind of possessive behaviour. She noted one child, for example, who 'showed' a particular toy to a group of other toddlers, whilst loudly declaring "Mine".

These studies would indicate that children are capable of naming objects as belonging to someone, and that many quarrels ensue when one child attempts to take an object belonging to another. However, they do not really give any clue as to what possession really means to a child. In fact, from the literature, it would appear that only Furby (1976; 1977; 1978a; 1978c; 1978d; 1980b; Furby, Harter and John, 1975) has made any systematic attempt to examine the meaning and development of possession in children. Furby's work was centred on an open ended interview covering twelve different topics of enquiry concerned with the basic meaning and characteristics of possession and ownership. The interview was completed by almost three hundred subjects consisting of two overlapping samples. The first of these samples was an "American developmental sample" made up of subjects in five

different age levels: from 6 years old to adults of 45 to 50 years. The second sample was a "Comparative Cross cultural sample" consisting of three groups of subject: American, Israeli Kibbutznik, and Israeli city children. There were children of two age levels in each group: 6 year olds and 10 year olds.

Furby found that the meaning of possession, for both adults and children alike, was extremely complex: that possession or ownership can mean very different things depending on the type of object possessed, the means of acquiring the object, and how the object is related to a variety of aspects of the owner's life. However, she did find two basic components or themes which seem to be fundamental to the notion of possession, appearing in all age groups and across all three cultures. The first of these components was the sense of personal control associated with ownership. This relates back to Snare's (1972) three main conventions for ownership: control over one's own usage of the item; over its usage by others; and the ability to transfer this control to another, if desired. Furby's subjects felt that people can do whatever they wish to a possession, with very few restrictions, and they can permit or prohibit someone else's use of the possession.

A second component identified from the interview, was the association between possessions and the owner's sense of self. Both the meaning of and the motivation for possession appeared to be related to the subject's self-concept. Possessions seemed to be, in some way extensions of the individual. This finding is in agreement with Beaglehole's (1932) analysis of

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"primitive" man, and his belief that a part of the
"spirit-life" is integrated into the possessed object.

For the youngest children in her study, the 6 year olds,
these two components were very important. Furby, in her 1980a
paper speculated as to why this might be so. She suggested
that, in their early years, especially during the second
year of life children are very involved in discovering and
practicing the effects they can have on their environment.
Piaget, (1953) for example, noted that between 12 and 18
months, the child begins to actively and systematically
experiment with his environment. A little later, during the
second year, when his mobility increases rapidly, the child
typically gets into everything within reach and appears to be
ceaselessly exploring. However, Furby argued, this kind of
activity begins to present a threat both to himself and to the
objects in the surrounding environment. The child suddenly
has access to most objects in his environment and is likely to
manipulate and explore them in a way that might lead to
danger, or to the destruction of the object. Much of the
parental activity, then, at this stage, is concerned with
clarifying what the child can safely explore and what is off
limits. The distinction between the two has to be made clear
to the child, and, Furby suggested, one of the ways this might
be achieved is by using the linguistic labels "mine" and
"yours". Thus the child learns which objects he may
manipulate and these become associated with the notion of
personal control and which he is led to understand, "belong to
him". If this explanation is acceptable, it would clearly
result in the salience of "personal control" in children's

notions of possession. It might also go someway to explaining
why the pronouns "my" or "mine" are among the first to appear
in children's language.

The second component seen as important by young children
in Furby's work was the role of possessions in defining one's
self. The self is an elusive concept as far as empirical
investigation is concerned, especially when it is the sense of
self in very young children that requires exploration. The
majority of descriptions of the developing sense of self are
concerned with the child's slowly coming to differentiate "me"
from "not me". Seligman (1975) has suggested that much of
this differentiation is effected by the kinesthetic feedback
from the child's own actions:

"those 'objects' become self that exhibit near-perfect
correlation between motor command and the visual and
kinesthetic feedback; while those 'objects' that do not,
become the world".

Following this idea, Furby (1980a) postulated the notion
that an object might be considered part of the self according
to how far the state of the object depends on the child's
actions. Possessions become integrated with the child's sense
of self because they offer a high degree of contingent
control, almost as great as the control the child has over his
own body. Again, this notion might explain why "my" and
"mine" are among the first possessive pronouns produced.

Furby's interviews also produced other characteristics of
possession for children, although the details of each, and
their salience, appeared to change with age. From 7 years
onwards, the fact that possessions make possible some activity

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or enjoyment for the owner, was seen to be a defining characteristic. This factor took on increasing importance as the age of the subject increased. Possessions, then, appear to be seen as a means to an end, allowing the owner to do what he wishes. Only the youngest group, the 6 year olds, did not mention this characteristic with any degree of frequency, and Furby made no comment as to why this might be so.

Subjects of all ages, mentioned the acquisition process as a major characteristic of possession. However, for the youngest subjects the acquisition of possessions was very much a passive process, with others buying or giving them objects. By 10 years old, the process has become an active one with the child himself buying the objects or working for them. Furby (1980a) felt that this passive to active shift might have important implications for the meaning of possession at different ages. Her subjects frequently indicated that a passive means of acquisition resulted in a sentimental value for the object in question, and that the giver of the object must like the receiver. In other words, receiving an object as a gift has implications concerning the relationship between two individuals, and the receiver is dependent, to a certain extent, upon the giver. It is interesting to note, also, that the youngest of Furby's subjects tended to mention that "other people have things too" as a defining characteristic of possession. In other words, according to Furby (1978d) they tended to take possession as a kind of 'natural given', explainable in terms of everyone's engaging in it. This tendency is possibly a direct result of the youngest children's passivity in the acquisition process. Since

possessions, for them, suddenly appear as gifts, donated by others, then, presumably, other people have things given to them as well. Active means of acquisition, on the other hand, were reported by subjects as requiring the individual to expend effort or money to obtain desired objects. As a result, possession and the rights of usage appeared to be seen as more complete. In active acquisition the individual not only has control over his possessions, but also over the onset of possession.

A dimension mentioned fairly frequently by only the 6 year old subjects was the owner's "having or keeping" the object. Furby (1980a) put forward two possible explanations for this finding, to do with control over usage, and to do with a custodial or associational aspect. In terms of control over usage, she asserted that, if an individual frequently uses, or keeps an object, then that individual certainly has control over it in a very real sense, even if the rights to control may lie elsewhere.

The alternative explanation of association with the object implies that children see objects as belonging to them by virtue of being associated with them. This association might come about because the "owner" frequently uses the object, or even, perhaps, because the object is often in the same location as the "owner".

Both of these explanations are very much akin to Miller and Johnson-Laird's (1976) notion of "accidental" possession; where one may not have inherent possession (entailing ultimate permissibility of usage) but one does have the possibility of usage because the object is in reach. For the youngest

children, then, in Furby's study, it would appear that "accidental" possession is very much a reality. Why this characteristic was only mentioned by the youngest children is unclear, unless, perhaps, it is simply taken for granted by older subjects. Alternatively, older children may have learned to differentiate between inherent and accidental possession, seeing only the former as "true" possession.

Two other characteristics for ownership were mentioned in Furby's study, although not by the youngest subjects: "positive affect for the possession" and the "responsibility for the care" of objects. Both of these two factors appeared to become salient at around 10 years old. For Furby (1980a) this indicated that the parents of children aged 10 years and upwards were beginning to impress upon their offspring the importance of looking after their own things, and that, from about 10 years onwards, children are beginning to acquire items actively. This latter development means that they will not only have a greater stake in caring for their things (unlike younger children who acquire objects passively, they do not so readily see possession as a "given", rather the acquisition of objects costs either money or effort) but they participate more in the choice and selection of items. Thus a positive affect for possessions is more likely.

In the sample of Israeli children from the city and from kibbutzkin, the results from Furby's interviews seemed remarkably similar. The finding is somewhat surprising. One might have expected the Kibbutz children, at least, to show differences in the way they conceptualised possession, in comparison to the other two groups. The philosophy of the

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kibbutz places heavy emphasis on collective possession rather than personal ownership. As Bettelheim, (1969) wrote:

"In the kibbutz all private possession is shunned, whether of property, persons or experiences ... To the kibbutz infant, it is obvious that any private possession is undesirable, that everything is owned by the community, to be used and shared by it ... Thus, the feeling is deeply ingrained that to wish to possess is wrong, and the guilt about even having such a wish interferes with the desire for exclusive belonging".

In a study looking at the social behaviour of kibbutz children, Faigin (1958) commented that kibbutz children tended to focus on the social interaction and sharing aspects of property usage rather than the rules concerning property per se. Thus, the kibbutz children's notion of possession tended to reflect the values of the society in which they grew up: of communal ownership, and little private possession. However, from Furby's study, it would appear that the three groups of children responded in very similar ways to the interviews, and focused upon the same aspects of possession. The only apparent difference appeared to be that the two groups of Israeli children put more emphasis on what Furby termed "objective appropriateness" of the object for the owner. In other words, the children felt that their possessions fitted them, suited them, or that they knew how to use the objects. This result is probably unsurprising for kibbutz children since in a 'group-living' situation factors such as correct size might be highly salient determinants of which among a number of similar items, is assigned to them.

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However, this dimension was equally important for Israeli city children. Furby made no attempt to explain this phenomenon.

As a corollary question to "What does possession mean?", Furby also asked her subjects "Why do people possess things?" in order to look at the motivation for possession in children. At all age levels, two basic motivations were mentioned: to make possible certain activities or enjoyment; and the positive affect for objects. The youngest children also mentioned the process of acquisition to account for why people had possessions. Furby (1978d) suggested that this latter finding further illustrates the notion that young children tend to take possession for granted. A motivational explanation is not seen as necessary for children at this age; people own things simply because they acquire them. The idea that possessions allow certain activities or enjoyment is interesting. It suggests that children of all ages (and adults) see possessions as having an instrumental function and for Furby (1978d) this notion is linked to that of control over an object. She suggested that children perceive possessions as allowing them more control over their environment; either as a means to an end, or to create a desired effect. Associated with this is the idea that possessions are pleasurable (the positive affect for objects) which focuses on the emotion an owner experiences with respect to an object. Again, the positive affect may well be concerned with the means of acquisition of the object. For the youngest children, who tend to be passive in this process, the feelings may be associated with sentimental attachment to the object because it is a gift. In the older age groups, their own

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selection and choice of the object in an active acquisition process could influence their liking of it.

For the Israeli children of both age groups the findings were similar except that they also mentioned the rights to control usage more frequently, and the prevention of damage as motivating factors. Furby (1978d) concluded that both these factors for the kibbutzniks arise from their culture. In group living where almost everything is shared, it is unsurprising that two motivating factors for personal possession might be control over usage and prevention of damage. However, the Israeli city children also mentioned these two aspects. It would appear then, that in terms of cross cultural differences, there was a greater difference between Israeli and American children, than between Kibbutz and non-Kibbutz children. It is difficult to see why this might be so, given the wider cultural differences between these latter two groups.

So, it would seem from the linguistic studies (Brown, 1973; Cazden, 1968; Rodgon, 1976; and others) and from the research on property quarrels in infants (Dawe, 1934; Bronson, 1975) that possession is an important feature in the life of children as young as 2 years old. As Furby (1976; 1977; 1978a; 1978d; 1980b) noted, the notion of possession for both adults and children is extremely complex, however, in defining it, there are areas common to adults and children of different cultures. Firstly, the meaning of possession for most people is concerned with an owner's right to use his possessions, and to delimit access by others to his possessions. This is clearly similar to the first two of Snare's (1972) conventions

for property ownership. Secondly, similar to Beaglehole's (1932) finding, there appears to be an association of property with the owner's sense of 'self': Furby (1976) described this notion as possessions being seen almost as extensions of their possessor. Finally, the meaning of possession also seems to be linked to the process of acquisition of the items. For younger children this process is usually passive in nature whilst for children over 10 years, and for adults, it tends to be an active process. The motivation for possession, in all subjects is linked to allowing possessors to engage in various activities, and to the positive feelings derived from ownership.

However, the age of the subject does appear to affect the way they conceptualise possession. Older children and adults see possessions as increasing their enjoyment, and mention their responsibility for caring for their possessions. Children under seven years, on the other hand appear to see possession as being able to "keep" an item, similar to Miller and Johnson-Laird's (1976) notion of accidental possession. They also seem to take the ability to possess objects as an expected given phenomenon.

Surprisingly, there seem to be very few differences in the way people understand the meaning of possession, regardless of their cultural background. The major difference found by Furby (1978d) between American and Israeli children was that the latter tended to put more emphasis on the right to control access to their possessions, and the notion that the possessed objects were appropriate (in terms of fit, or suitability). Overall, then, Furby's (1978b) main conclusion is that the

notion of possession is highly complex, and whilst there appear to be universal elements to it, the details of the concept depend very much on the age of the subject, the means of acquisition, the relationship of the object to other aspects of the possessor's life, and the type of object possessed. This latter element, the type of possessed object, has been the focus of a number of studies.

TYPES OF POSSESSED OBJECTS

A further question asked by Furby (1976; Furby, Harter and John, 1975) in her interviews concerned the nature of possessions themselves. What kinds of things do children consider belong to them? She found that for the youngest children in both Israeli and American samples, toys and games were the most frequently quoted examples of possessed objects. Furniture and furnishings were also frequently mentioned by the youngest American children, along with sports and outdoor equipment. Items mentioned with moderate frequency by the youngest American children included play animals and fantasy figures (similar to toys), books and educational materials, and clothing. These latter two groups were mentioned more by older subjects. For the Israeli children, the non kibbutzniks also mentioned sports equipment but the kibbutz children did not. The books and educational materials were mentioned by kibbutz children but not by the Israeli city children, and arts and crafts materials were frequently mentioned by both groups of Israeli children (but not by the Americans). Neither of the Israeli groups seemed to mention play animals or fantasy figures with any frequency.

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Furby (1976) suggested that the items mentioned frequently by the subjects of her interviews very much reflected their cultural background, and the activities in which they were involved at certain ages. The Kibbutz children's references to arts and craft materials, for example, reflected the emphasis in the kibbutz on making personal possessions. Also, the very fact that the American children tended to mention more possessions than either of the Israeli groups (although the kibbutz children mentioned almost as many when their references to items form both children's house and their parent's house are combined) possibly reflects the emphasis in American society on personal property. The changes in references to groups of items with age may well indicate various shifts in activity as children grow up. If, as already noted, possessions are instrumental in enabling owners to participate in a desired activity, so, in the youngest groups, toys are particularly important as possessions for facilitating play. At an older age, clothing, especially in adolescence, increases in relevance because it allows the owner to express his individuality and establish his identity as a young adult.

In general Furby's (1976) examination of the nature of possessions was limited to tangible, material objects - alienable objects. However, it is worth noting that in coding the results of her interview, she did have categories covering people, and parts of the body; both inalienable items by definition; and pets, which have some features of inalienable and some of alienable possessions. She found that pets were mentioned moderately frequently by 10 year old American

children, but not by the Israeli children, and not by any other American age group. She speculated that the Israeli children rarely had pets as personal possessions. In the kibbutz, for example, most of the animals were concerned with the farm, and whilst the children might play with and care for them, the animals did not belong to them. The age at which the American children tended to mention pets, Furby suggested, is the age at which parents often buy pets for their children, as companions. This might explain why the younger children did not mention pets, and it is possible, perhaps that children older than 10 years (the next age group in Furby's interview study is 16 years) have lost some of their interest in animals, and are focusing on other areas of their lives. Pets, then may well be taken for granted, or seen as 'family' pets at this age.

Examples of "people" as possessions was mentioned only by adults in the American sample (and only by 23% of adults). However, in Furby's analysis this category also contained other items such as memberships and subscriptions, and appears really to have been a "catch-all" item for non-tangible objects. Thus it is impossible from Furby's (1976) data to discover exactly how frequently people were mentioned as possessions. It would make sense, however, to assume that the frequency was less than 20%. This rarity was not mentioned by Furby in her 1976 paper, but in 1978(a) she did suggest that, if people are seen as possessed by others, then the feature of control is implied. It is possible that jealous feelings arise when one loses one's influence, or control, over a person. This notion is interesting because it suggests that

the semantics of possession may be similar for inalienable and alienable objects. Both Brown (1973) and Miller and Johnson-Laird (1976) have questioned this possibility. Body parts, however, (similar to "part of whole" relations) were not mentioned by any of Furby's subjects with any frequency. It is worth noting the lack of frequency with which subjects mentioned inalienable objects as possessions. Perhaps, then, the semantics of the two types are different, or perhaps their lack of occurrence was concerned with Furby's methodology and the way the questions were phrased.

Brown, in 1973, noted that in Stage 1 speech children's use of possessives nearly all concerned alienable rather than inalienable objects. The few inalienable objects mentioned, were, in fact, almost entirely body parts. However, after Stage 1 speech, more inalienables do occur and there is little difference between the two in terms of frequency of occurrence. Interestingly, Brown (1973) divided alienable objects into two types: longterm possessions, for example toys, clothes, books etc; and shortterm possessions, for instance, food or drink, reserved theatre seats etc. This "shortterm" possession in terms of reserved seats, is again similar to the "accidental" possession described by Miller and Johnson-Laird (1976) where one may have the possibility of using an item, by consent, but one does not have the full rights of inherent possession. For food and drink, however, this analogy does not work. One has the full rights of inherent possessions, it is simply that one's possessions, if used correctly, may not last long! The children in Brown's (1973) studies produced both longterm and shortterm objects as

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possessions in Stage 1 speech (including the possession of

space eg "Daddy's study" which Brown sees as a longterm

alienable object).

Edwards (1973) divided alienable objects into two

different types of category (other than longterm/shortterm).

Based on the work of Chafe (1970) and Anderson (1971) he saw

them as falling into the categories of "permanent", similar to

inherent possession, or "transitory" which is almost analogous

to accidental possession. Examples of the latter might be a

stolen wallet or a borrowed book. Edwards looked for examples

of both permanent and transitory possession in the reports by

Piaget on one of his subjects, Helen, who was in the first

stages of language development. Edwards noted that all

references by Helen to inalienable objects, up to 2 years of

age, were body parts. She did not mention people as

possessions at all. In terms of transitory possessions, her

only references in this category were to situations where

different people were passing objects to one another. As for

permanent possessions, these were the most frequent in Helen's

speech, although all, up to 3 years of age, were in the

context of "static" possession. Until 3 years, suggested

Edwards, children have little idea about the transference of

proprietory rights. Edwards also made the point that Helen's

notion of possession in accordance with Brown (1973) and Furby

(1976; 1978a; 1978d; 1980) was concerned with priviledged

action, control over usage and habitual usage, of objects she

owned.

In 1980, Mitchnik, Golinkoff and Markessini, divided

inalienable possessions into "intrinsic" (or part-whole

relations eg Daddy's eye) and "reciprocal" (or kinship relations eg Mommy's baby). They tested the comprehension these two relations along with alienable possessions, in children from five groups based on mean length of utterance: early Stage I speech; late Stage I speech; Stage III speech; Stage IV speech; and post Stage IV. They found that, for the youngest children (early Stage I) the intrinsic possessions were better responded to, than either the reciprocals or the alienables. Otherwise, there was very little difference between the response patterns for alienable and intrinsic possessions. Reciprocal possessions, on the other hand appeared to cause more problems for all of the groups. Mitchnik et al explain these findings by suggesting that reciprocal relations require a working knowledge of the syntax of possession, apart from its semantics. For both alienable and intrinsic possessions, if children understand the possessive relation, it is easy to work out which of two objects is likely to be the possessor and which the possessed. For example, in the phrase "Mommy's ball" it is clear that the animate "Mommy" will be the possessor and the inanimate "ball", the possessed. To say "ball's Mommy" does not make sense, semantically. Likewise, in saying "the dog's tail" it is clear that 'the dog' is the possessor and 'the tail' is the possessed, since tails are parts of dogs. Again to say "the tail's dog" is a nonsense. Thus, both of these phrases, if the child is aware of a possessive relation, can be understood without reference to the possessive inflection '-'s'. For reciprocal possession, however, both objects can be possessors, and both possessions. The phrase "Mommy's baby"

is as acceptable, semantically as "baby's Mommy". Thus, in order to determine the true meaning of the phrase, the child must attend to the possessive inflection '-'s'.

So, in terms of different types of possessed objects, the intrinsic possessions, or body parts appear to be understood first, although whether they are actually seen as possessions is unclear, since none were referred to as such in Furby's interviews. Alienable possessions, both longterm and shortterm, permanent and transitory appear to be produced next, and these are the items that seem to most clearly characterise the concept of possession for children and adults alike. Finally, reciprocals are understood. Again this may mean that the possession of alienable objects and the reciprocal relationships between people take different semantics. On the other hand it may simply be that the problem lies in the nature of the reciprocal relationship itself where both parties are possessors and possessions at the same time. What is clear, however, is that the meaning of possession does vary according to the type of object possessed, as well as the age and social background of the possessor.

SHARING

Furby, in her interview studies also examined a number of different aspects about possession, including the explanations given for inequalities in personal possessions (1979); the perceived desirability of collective possession (1980b); and the decisions made to allow others to share possessions (1978c). Other studies (Miller and Johnson-Laird, 1976;

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Gentner, 1975) have examined the verbs concerned with possession; the state of ownership, and transfer of ownership. Clearly, the topic of possession and its surrounding areas, is immense. To include a brief description of each aspect here would not be possible if the discussion is to do justice to the investigators, hence their omission from this thesis. Suffice it to say that these aspects should not be overlooked by readers who are interested in the entire concept of possession.

However, one of these topics will be examined here: that of sharing and the decisions made to allow others access to one's possessions. There have been a great many investigations carried out focusing on sharing in children, and one of these by Rheingold, Hay and West (1976) looked particularly at children under 2 years of age. Rheingold et al found that children at this stage did tend to share their toys by giving them to others to hold, or by playing with the toys whilst in the possession of others (partner play). Further, they showed that young children will engage in sharing behaviour with strangers as well as with their own parents and that the recipient's behaviour (whether begging to play, behaving passively or actively joining in the play) did not afferct the children's sharing. The experiments also included different toys: familiar ones and new ones, but this factor did not affect sharing either. So, it would seem that as early as their second year, children tend to share with others what they find of interest in the world. However this study did not use objects belonging to the children, rather it employed toys belonging to the experimenters. In a later

study by Eisenberg-Berg, Haake, Hand and Sadalla (1979)
preschoolers (2 years 6 months to 5 year olds) were told
either that a particular toy was theirs to keep, or that it
belonged to the classroom. They found that all children
tended to defend the toy from being taken away, to a greater
extent when they thought the toy was their own. However, only
the older children (4 and 5 year olds) shared more when they
thought the toy belonged to the classroom. The children under
3 years old did not share more. Unfortunately, there were
methodological problems with this experiment, and in a later
study designed to eliminate some of these difficulties,
Eisenberg-Berg, Haake and Bartlett (1981) showed that children
under 3 years did respond differently when they thought a toy
belonged to them, rather than to the classroom. They
maintained possession for longer, they stated verbally that
they owned the toy, they defended the toy, and they shared the
toy less.

In a review of altruistic behaviour in children, Underwood
and Moore (1982) suggested that generosity as defined by
donating behaviour and sharing, increases with age (Elliot and
Vasta, 1970; Green and Schneider, 1974; Hadlon and Gross,
1959; Midlarsky and Bryan, 1972; Ugurel-Semin, 1952;
Underwood, Froming and Moore, 1977). Unfortunately, the
majority of the studies looked at donating behaviour, or a
type of sharing which has little to do with allowing others
access to a possession for a temporary period. Indeed within
social psychology the term "sharing" is often seen as
referring to generosity or donating behaviour. Frequently the
studies involve the child in giving money to charity or poor

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children (Canale, 1977; Olejnik, 1976; etc) or else in dividing a reward between themselves and others (Green and Schneider, 1974; Handlon and Gross, 1959; Midlarsky and Bryan, 1972; Ugurel-Semin, 1952; Staub and Noerenberg, 1981). Again, only Furby (1978c) has attempted to look at the relationships between control of usage of possessions, and sharing. From her interviews with subjects at age five and six years she found that children tended to share most with members of their own family. It was especially important for the children to perceive the sharer as nice, friendly or likeable. In other words, a major determinant for sharing seems to be the perceived quality of the relationship between owner and sharer. This finding was also true for older age groups also and especially important for the Kibbutz children. However, the 5 and 6 year olds in Furby's study also felt that sharing was a good thing and that not sharing was selfish. Whilst this held true for children up to about 10 years old, it is interesting to note that Furby's oldest subjects (16 years to adult) did not see it as a major consideration.

In terms of reasons for not sharing, the youngest children said that if the sharer were likely to cause damage to the property they would not share. By ages seven and eight years, children also mentioned that if the proposed sharer did not give access to his own property, then they would not share either. It is also interesting to note that both the Israeli groups in Furby's sample asserted the owner's right not to share, more strongly than did the American children. Indeed, the American children reported that they shared with much greater frequency than the Kibbutz children, who in turn

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shared more than the Israeli city children.

So, it would seem that from the age of about 18 months, children begin to allow all kinds of people access to all kinds of items in their possession (Rheingold, Hay and West, 1976) although this behaviour may be limited if they think that the possessed object is their own personal property (Eisenberg-Berg et al, 1979; 1981). There is some evidence to suggest that sharing behaviour of one kind or another, increases with age (Elliot and Vasta, 1970; Green and Schneider, 1974; Handlon and Gross, 1959; Midlarsky and Bryan, 1972; Ugunel-Semin, 1952; Underwood, Froming and Moore, 1977) but Furby's work (1978c) would suggest that whilst five and six year olds see sharing as a good thing, this notion decreases in importance with age. Young children, it seems tend to share unless they feel that the sharer may damage the possessed object. By seven years old, however, they see other reasons for not sharing, especially when the proposed sharer does not allow the child himself access to the sharer's property.

SUMMARY

There is linguistic evidence, from both production and comprehension studies, to suggest that children use and understand possessive relationships when they are in Stage 1 Speech (Brown, 1973; Cazden, 1968; Rodgon, 1976; Rodgon and Rashman, 1976; Mitchnik, Golinkoff and Markessini, 1980). If children of this age use and understand the possessive construction, then it is reasonable to assume that they have some idea of what possession actually means. For adults, the

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meaning of possession, although linked to some extent with their cultural and social backgrounds, seems to have some universal elements. It is associated with their sense of self in as much as possessions appear to be perceived almost as extensions of themselves (Beaglehole 1934). Moreover, there seem to be three major conventions tied up with the notion of possession relating to the rights of usage by a possessor, the rights to control access by other people, and the rights to transfer ownership (Snare, 1972). These latter three conventions are largely associated however with one particular aspect of ownership, that of inherent possession, and it has been suggested that other aspects such as accidental and physical possession may be governed by different conventions. For adults, however, when they think about possession as a concept, it is usually inherent possession that they define (Miller and Johnson-Laird, 1976).

The child's notion of possession differs slightly from the adult's although some elements are similar. Young children also tend to associate possession with the conventions of rights of usage, and rights to control access. They also see possessions as linked to their sense of self. But it would seem that the meaning of possession, for children, is also associated with the means of acquisition of particular items (Furby, 1976). For young children (under 6 years) also, it would appear that possession is almost taken for granted and is an expected phenomenon, even for children who come from cultures where there is more emphasis on collective as opposed to personal ownership such as Kibbutzism (Furby, 1976). Thus the meaning of possession seems to be linked, to some extent,

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to age, to cultural background, and to the type of object possessed.

Most people, when asked to list possessions will talk about tangible, material objects: alienable possessions. Inalienable possessions such as kin relations and parts of the body tend not to be elicited with any frequency (Furby, 1976). However, according to Brown, (1973) and Edwards, (1973) young children do tend to mention body parts using possessive constructions, as early as Stage 1 speech. Further research (Mitchnik, Golinkoff and Markessini (1980) has indicated that children tend to respond best to bodyparts, and worst to reciprocal (or kinship relations) using the possessive construction, whilst alienable objects appear to form an intermediate group. It is not clear, however, whether the three types of object are seen as objects that are possessed, or indeed whether the meaning of possession varies for each type.

Interestingly, it would seem that the type of object has little effect on whether children will share with others. From about eighteen months old, children seem to allow others access to their belongings (Rheingold, Hay and West, 1976), and they do not seem to be affected by the behaviour of the sharer, or indeed, the identity of the sharer. However, there is evidence to suggest that children tend to share less, and defend objects more, if they perceive the objects as personal as opposed to collective property (Eisenberg-Berg, et al, 1979; 1981). A variety of studies have reported that sharing behaviour tends to increase with age (Elliot and Vasta, 1980; Ugurel-Semin, 1952; Underwood, Froming and Moore, 1977) but

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Furby's work (1978c) has suggested that young children give fewer reasons for not sharing (than adults) and see sharing as a good thing. The only reason given by children under 6 years, for not sharing was the risk of damage to the property.

Overall, then the notion of possession, in some form or other, begins to be acquired very early in the child. Other variables, such as increasing age, and social background tend to affect the concept of possession, allowing it to develop and to become much more complex. The basic elements, however, tend to remain.

EXPERIMENTAL AIMS

The review of the literature concerning children's production and comprehension of personal and possessive pronouns suggested that their order of acquisition is by no means clear. Most investigators (Huxley, 1970; Cruttenden, 1977; Ingram, 1971; Waryas, 1973; Baron and Kaiser, 1975) would agree that there exist a few basic tendencies or general rules concerning the acquisition of pronouns. Plural pronouns tend to be acquired later than singulars, for example, and the first and second person singular pronouns seem to be the first acquired. However, there is conflicting evidence regarding the specific order of acquisition of the personal pronoun set (Bowerman, 1973; Menyuk, 1969; Deutsch and Pechmann, 1978; Baron and Kaiser, 1975; Sharpless, 1974; Wells, 1979).

A variety of different theoretical explanations have been proposed in the literature attempting to describe and predict personal pronoun acquisition. These include traditional semantic feature hypotheses (Ingram, 1971; Waryas, 1973; Sharpless, 1974), analyses of linguistic complexity (Deutsch and Pechmann, 1978; Sharpless, 1974) and suggestions about the way in which children represent the pronouns (Charney, 1980). Other writers (Chiat, 1981) have argued that the order of acquisition is more simply explained by a variety of different factors already well-established in the literature on language development.

Further, the literature has also suggested that children first begin to use the possessive construction by producing elliptic forms (eg Daddy's) or possessive pronouns (eg mine) as opposed to possessive determiners (eg my book) (Cazden, 1968; Rodgon, 1976; Rodgon and Rashman, 1976).

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The main aim of Experiments 1 and 2 therefore, was to attempt to establish a specific order of acquisition of possessive pronouns, and to compare the observed order in both comprehension and production tasks. As a secondary aim, they also sought to compare the ease with which children understood and used possessive determiners and possessive pronouns.

The order of acquisition of plural pronouns has not attracted a great deal of systematic study in the literature, consequently their relative order of acquisition, and the variables affecting acquisition, is less well established or researched than the singulars. What is clear from the literature, however, is that they cause more problems for children than do singular pronouns. A variety of explanations as to why this might be so, have been proposed in the literature. Linguistically, the production of plural pronouns is optional and they tend to be less specific than the alternative methods of expressing the same notion. Also, as pointed out by Sharpless (1974), their relationship to the conversational referents is more ambiguous and complex. Sharpless (1974) has suggested that the more straightforward this relationship (as in "core" plural) the earlier the pronoun is acquired. Alternatively, other theorists (Waryas, 1973; Ingram, 1971) suggested that the most salient feature, in a feature hypothesis model for pronoun acquisition is that of $\{+ \text{ singular}\}$ where $\{+ \text{ singular}\}$ is the unmarked form and as such is learned first.

In contrast, much of the empirical work examining children's abilities with plural possessive pronouns, including Experiments 1 and 2, have used the pronouns in a

rather unusual manner. Normally, plural possessive pronouns refer to collective (or shared) possession, but in the majority of the studies they have been applied in reference to two or more objects owned by two or more possessors, individually (Deutsch and Pechman, 1978; Baron and Kaiser, 1975). It may be, then that the comprehension of plural possessive pronouns is, in part, due to the rather bizarre manner in which the investigators have applied them.

Experiment 3 was designed to examine, in more detail, the relative order of acquisition, in a comprehension task, of plural possessive pronouns, and to try to account for why they cause more problems for children than singular pronouns. In addition, it was hoped, from the results of Experiments 1, 2 and 3, to evaluate the relative efficacy of the different theoretical explanations of pronoun acquisition, in particular those involving featural or componential analyses, and those focusing on linguistic complexity or pronoun representations (Waryas, 1973; Sharpless, 1974; Charney, 1980; Deutsch and Pechmann, 1978).

Experiment 4 was designed, primarily to compare the effects of the different types of possessed object on children's performance in a comprehension task. Most investigators agree that possession can be categorised according to the type of object possessed, into alienable or inalienable possession (Fillmore, 1968; Brown, 1973; Edwards, 1973; Lyons, 1967; Chafe, 1970; Anderson, 1971; Miller and Johnson-Laird, 1976; Mitchnik et al, 1980). Some writers have further divided these two basic types into subcategories: reciprocal and intrinsic inalienable objects (Mitchnik et al,

1980; Edwards, 1973); longterm and shortterm alienable objects (Brown, 1973); permanent and transitory alienable objects (Edwards, 1973).   The majority of writers have suggested that the semantics involved in the possessive relation are different, at least for alienable and inalienable objects, and possibly also with regard to the subcategories of objects. They provide empirical evidence for these suggestions by looking at the relative order of production of, and performance with the different categories of object.   Their results indicate that intrinsic inalienable objects appear earlier in children's speech followed by alienable objects, and finally reciprocal inalienable objects (Brown, 1973; Edwards, 1973; Mitchnik et al, 1980).   With regard to alienable objects, Brown (1973) suggested that longterm possession is understood prior to shortterm possession, and Edwards (1973) demonstrated that children produce instances of possession relating to permanent objects earlier than transitory objects.   However, no studies have been carried out to compare the effects of all these subcategories of possessive objects.   Experiment 4 set out to do just this. Further, it had been demonstrated in Experiments 1 and 2 that other variables related to the type of object might also affect children's performance, particularly the duration of ownership, and the wearing of the object.   Experiment 4 sought to compare the effects of these two variables and also, took into account the children's preferences for certain kinds of possessed object.

Finally, Experiment 5 was designed to look at the meaning of possession for children.   It had already been established

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in Experiments 1 to 4 and other studies presented in the literature review, (Goodenough, 1936; Huxley, 1970; Nelson, 1973; Léveillé and Suppes, 1976; Brown, 1973; Rodgon, 1976 and others) that very young children produce and comprehend the posssessive construction. In addition, investigations into young children's social interactions suggest that many quarrels are caused by disputes over possession (Dawe, 1934; Bronson, 1975; Ross and Hay, 1977). However, only Furby (1976; 1977; 1978a; 1978c; 1980b) has systematically investigated what possession actually means for children. Unfortunately even Furby did not examine children below six years of age.

Various suggestions have been made regarding child and adult concepts of possession. Snare (1972) defined possession in terms of control over others' access to objects, one's own rights of access to objects (both found to be salient in Furby's (1976) investigations) and the ability to transfer ownership rights if desired. Other theorists have suggested that, especially for young children, possession of an object might be linked to its location (Brown, 1973; Miller and Johnson-Laird, 1976; Greenfield et al, 1976) and Beaglehole (1932) has proposed an association between possessions and the possessor's sense of self. Furby, in her interview study (1976) discovered that the concept of possession changes to some extent with age in that different age groups use different definitions of the possessive relation.

Experiment 5 then, sought to replicate and extend the findings of Furby and others, by asking children under six years of age what possession meant to them. It also set out

to compare the meaning of possession as applied to different kinds of objects, to see if the concept changed in accordance with the predictions of Brown (1973), Edwards (1973), Mitchnik et al (1980) and others.

Overall, then, the experiments presented in this thesis were designed to examine some of the linguistic and conceptual aspects of possession, as perceived by children under six years of age.

EXPERIMENTAL

EXPERIMENT 1

INTRODUCTION

It was observed, in the literature review that the order
of acquisition of personal and possessive pronouns has, by no
means, been established. Different studies have proposed a
variety of conflicting orders, (Bowerman, 1973; Menyuk, 1969;
Huxley, 1970; Deutsch and Pechmann, 1978; Baron and Kaiser,
1975; Sharpless, 1974; Bloom, 1970; Wells, 1979) although most
would agree that some basic tendencies can usually be
observed. Previous work (Cruttenden, 1977; Huxley, 1970;
Ingram, 1971; Waryas, 1973; Baron and Kaiser, 1975) would lead
one to expect that the children, especially the younger
children, would have more difficulty with the plural pronouns,
than the singulars. However, no empirical work has yet been
carried out to compare the performance of children of
different ages, with the various plural pronouns.

Predictions about the relative difficulty of the singular
pronouns are complex. Evidence from some studies would
suggest that children should perform best with "my" because it
refers, in a comprehension test, to the speaker (Huxley, 1970;
Ingram, 1971; Waryas, 1973; Sharpless, 1974; Baron and Kaiser,
1975). However, Charney (1980) would predict that "your" might
produce the best results since it refers to the child himself,
in a study of comprehension.

The present experiment sought to investigate the relative
difficulty that children of different ages experience, in the
comprehension of seven possessive pronouns: four singular

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pronouns (mine, yours, his and hers) and three plural ones
(ours, yours(pl) and theirs). The degree of difficulty
experienced in each case was measured by the amount of time
taken to respond correctly, and whether or not the children
responded correctly at their first attempt. The ages of the
children ranged from 1 year 6 months; the age at which most
investigators agree that the onset of acquisition of personal
pronouns is beginning (Brown, 1973; Huxley, 1970; Léveillé and
Suppes, 1976; Kernan, 1969; Nelson, 1973) to 5 years when,
according to some writers, the more complex aspects of
personal pronouns are being mastered (Scholes, 1981; Chipman
and Dedardel, 1974). Other variables, such as the sex of the
child, and whether or not the child had siblings, were also
taken into account to investigate the extent to which these
factors might affect the level of comprehension of the
possessive pronouns.

Since much of the work on children's usage of possessive
constructions has indicated that very young children tend to
use an elliptic form (eg "Daddy's" or "mine") to indicate
possession (Cazden, 1968; Rodgon and Rashman, 1976; Rodgon,
1976) particularly in Stage 1 or holophrastic speech, then two
forms of possessive pronouns were employed for comparison:
the elliptic form or possessive pronoun (eg mine, yours,
his, hers etc) and the full form or possessive determiner (eg
my, your, his, her etc). Additionally, in order to try to
determine whether the children's performance was associated
with the use of pronouns, or whether it relates to their
understanding of the concept of possession itself, proper noun
references were also employed, again in two forms: the

elliptic form (eg Daddy's) and the full form (eg Daddy's chair). Whilst the use of proper nouns is perhaps not a perfect control (since there may well be differences in relative frequency and perhaps pragmatic usage of pronouns and proper nouns) it does provide grounds for supposing that any differences in the children's performance with the two types of possessive can be attributed to the use of possessive pronouns.

Finally, the review of the literature on possession has indicated that different types of possessed object can affect the way in which children define the meaning of possession (Brown, 1973; Edwards, 1973; Furby, 1976; Mitchnik, Golinkoff and Markessini, 1980). In the present experiment, seven different types of object were used (including longterm and shortterm, alienable and inalienable objects) to see if the type of object affected the children's comprehension.

SUBJECTS

The subjects comprised 28 children from a local day nursery and school, in four age groups: 1;6 to 2 year olds (mean age 1;9); 2;6 to 3 year olds (mean age 2;10); 3;6 to 4 year olds (mean age 3;10); and 4;6 to 5 year olds (mean age 4;10). For ease of reference the groups will be termed A, B, C, and D respectively.

There were 12 females and 16 males, and 13 children had either a brother or a sister living at home with them.

PROCEDURE

Each child was invited to play a "pointing game" with the

Experimenter. In order that a variety of different possessive pronouns could be used in the experiment, (my, your, her, his, our, your(pl) and their) the child participated in the game in the presence of the Experimenter, a second child and a doll (dressed so as to appear of the opposite sex to the second child). The two children were each given a bag of presents containing four objects: a novelty pencil, a felt pen, a book and a milky bar. The doll and the Experimenter had similar items in front of them. In order to establish their ownership of the items, the children were allowed to play with their presents for a short time before the experiment began. Then, as a pretest, the subject was asked to point to the nose of each of the 4 participants in turn, as specified by their names (eg Point to Sue's nose). This ensured both that the subject understood the task and that he was familiar with the name of each participant.

The Experimenter then presented the 28 test sentences in a random order (See Table 8 for an example set). The subject's responses were tape-recorded. Where the subject made an error, he was encouraged to "try again" until the correct response was attained. If no correct response was forthcoming within 1 minute, the sentence was abandoned and a latency of 60 seconds awarded. Where it became obvious that the child was distracted from the task, the experiment was halted until attention had been regained.

THE SENTENCES

Each of the sentences required the subject to indicate one or two objects specified by reference to their owner(s). Half

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of the sentences employed a possessive pronoun to do this, (eg
Here is a shoe: show me MINE; Point to YOUR book), and half
referred to the owner(s) by name (eg This is a pencil: point
to SUE'S; Show me ANDY'S nose). For each of these two
subsets, seven sentences named the type of object to be
indicated directly (eg Point to Sue's BOOK; Show me my NOSE)
and 7 identified the object using an elliptic reference to a
preceding sentence (eg Here is a BOOK. Show me SUE'S: This is
a NOSE. Point to MINE).

Within each set of 7 sentences, seven different
combinations of object owner(s) were used: four single owners
(Experimenter, subject, doll and 2nd child) and three pairs of
object owners (Experimenter and doll, subject and 2nd child,
doll and 2nd child). These combinations corresponded to the 7
possessive pronouns "my", "your", "his", "her", "our", "your"
and "their" respectively. (See Table 3). However, the
plural pronouns "our" and "your" are ambiguous in their
reference. "Your" could refer to either the subject and the
doll, or the subject and the second child; whilst "our" could
refer to the Experimenter and any or all of the other
participants. Thus, for sentences containing "your" or
"yours", "our" or "ours" there was an increased likelihood
that the child might respond correctly. For the sentences
containing the equivalent named references, of course, the
child was expected to respond only according to the names
given.

THE OBJECTS

7 types of object were used, presented in a random order.

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TABLE 3

Example set of twenty eight test sentences from Experiment 1.

A. Point to my book
    Point to my shoe
    Show me his milkybar
    Point to her hair
    Show me our hair
    Point to your felt pens you two
    Point to their milkybars

B. Show me (*1) Sue's shoe
    Show me (*2) Michael's shoe
    Point to (*3) Andy's felt pen
    Point to (*4) Joanne's hair
    Show me Sue's and Andy's felt pens
    Show me Michael's and Joanne's noses
    Point to Andy's and Joanne's shoes

C. Here is a shoe.   Show me mine
    Here is a nose.   Point to yours
    This is a felt pen.   Point to his
    This is a pencil.   Point to hers
    Here is a shoe.   Show me ours
    Here is a felt pen.   Show me yours, you two
    This is a shoe.   Point to theirs

D. This is a milkybar.   Show me Sue's
    This is a felt pen.   Show me Michael's
    This is a shoe.   Point to Andy's
    Here is a milkybar.   Point to Joanne's
    Here is a nose.   Show me Sue's and Andy's
    Here is a felt pen.   Show me Joanne's and Michael's
    This is a nose.   Show me Joanne's and Andy's

(*1) Name of experimenter
(*2) Name of subject
(*3) Name of doll
(*4) Name of 2nd child

Four were from the bags of presents distributed at the start
of the experiment: a milky bar (short term alienable) along
with a felt pen, a book and a pencil (all long term, alienable
possessions). Two inalienable objects were used (nose and
hair) and another long term alienable object (a shoe) which,
it was assumed, had been in the participants' possession for
much longer than the four objects from the bag of presents.
This latter object was included to see if the duration of
ownership had any effect on performance.

THE ANALYSIS

    The subjects' responses were timed from the tape-
recordings and any errors were noted. The scores for
latency to the correct response (or no correct response) were
analysed using a 4 way ANOVA. This looked at the effects of
age groups, the sex of the child, the owner(s) of the
object(s) in the sentences and form of reference (pronominal
or named, indirect or direct). A 3 way ANOVA focused on the
effects of siblings in the subject's family, the owner(s) of
the object(s) and the form of reference; and a further 2 way
ANOVA examined the effects of object type and age group.
Scheffé tests were carried out to further analyse the results.

    The number of correct first attempts were analysed using
six Friedman 2 way analyses of variance, again focusing on the
six variables above: age group, owner(s) of the object, form
of reference, sex of the child, siblings in the family, and
object type. Wilcoxon matched-pairs signed-rank tests were
used to examine significant results more fully.

RESULTS

All significant and non significant findings are shown in Table 4. As would normally be expected the children showed an overall improvement in comprehension with age. This effect was noticeable in terms of both latency to correct response (F = 20.63, df = 3, 24, p<.0005) and the number of correct first attempts (χr^2 = 13.76, df = 3, p<.01). Group A took longer to give the correct response when compared to the 3 older groups, and they produced fewer correct first attempts (p<.01) for all comparisons). There was no significant difference between Groups B, C and D in either measure. However the mean scores indicated a trend towards faster and more accurate responding with age, as predicted ($\bar{x}$ A = 27.02, 7.29; $\bar{x}$ B = 23.40, 18.43; $\bar{x}$C = 19.69, 19.29; $\bar{x}$D = 17.71, 23.29).

When each age group's responses to the different combinations of owners are compared, however, a more detailed pattern emerges. Figure A illustrates the average speed of responding to each combination of owners for each age group. It shows that for the 3 older groups (B, C and D) there was very little difference in comprehension with the single owners. Group A were very much slower than the older 3 groups in responding to the single owners although none of the differences were significant.

These results would suggest that, by 2 years 6 months, the child is well able to understand singular possessives, including possessive pronouns. Before this age he is still learning.

It is noticeable from Figure A that Group A's responses when the child himself was owner were much faster than when

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TABLE 4

All findings from Experiment 1 showing the degrees of freedom and the level of significance.

A.   Latency Data.

Main effects	F Value	df	p
Age	20.63	3,24	<.0005
Object owner	55.11	6,144	<.0005
Form of reference	11.67	3,72	<.0005
Object type	5.92	6,144	<.0005
Sex of child	0.90	1,17	ns
Siblings	0.20	1,10	ns

Interactions			
Age x object owner	2.49	18,144	<.001
Age x form of reference	0.33	9,72	ns
Age x object type	0.21	18,144	ns
Object owner x form of reference	2.57	18,432	<.0005
Sex of child x object owner	0.46	6,102	ns
Sex of child x form of reference	0.48	3,51	ns
Siblings x object owner	0.60	6,60	ns
Siblings x form of reference	0.19	3,30	ns
Age x form x owner	1.14	36,306	ns
Sex x form x owner	0.58	18,306	ns
Siblings x form x owner	0.84	18,180	ns

B.   Correct first attempts.

Effects	xr^2	df	p
Age	13.76	3	<.01
Object owner	87.08	6	<.001
Object type	24.60	6	<.001
Form of reference	6.49	3	ns

FIGURE A : Mean latency to correct response for each age group
to the different combinations of object owner(s).
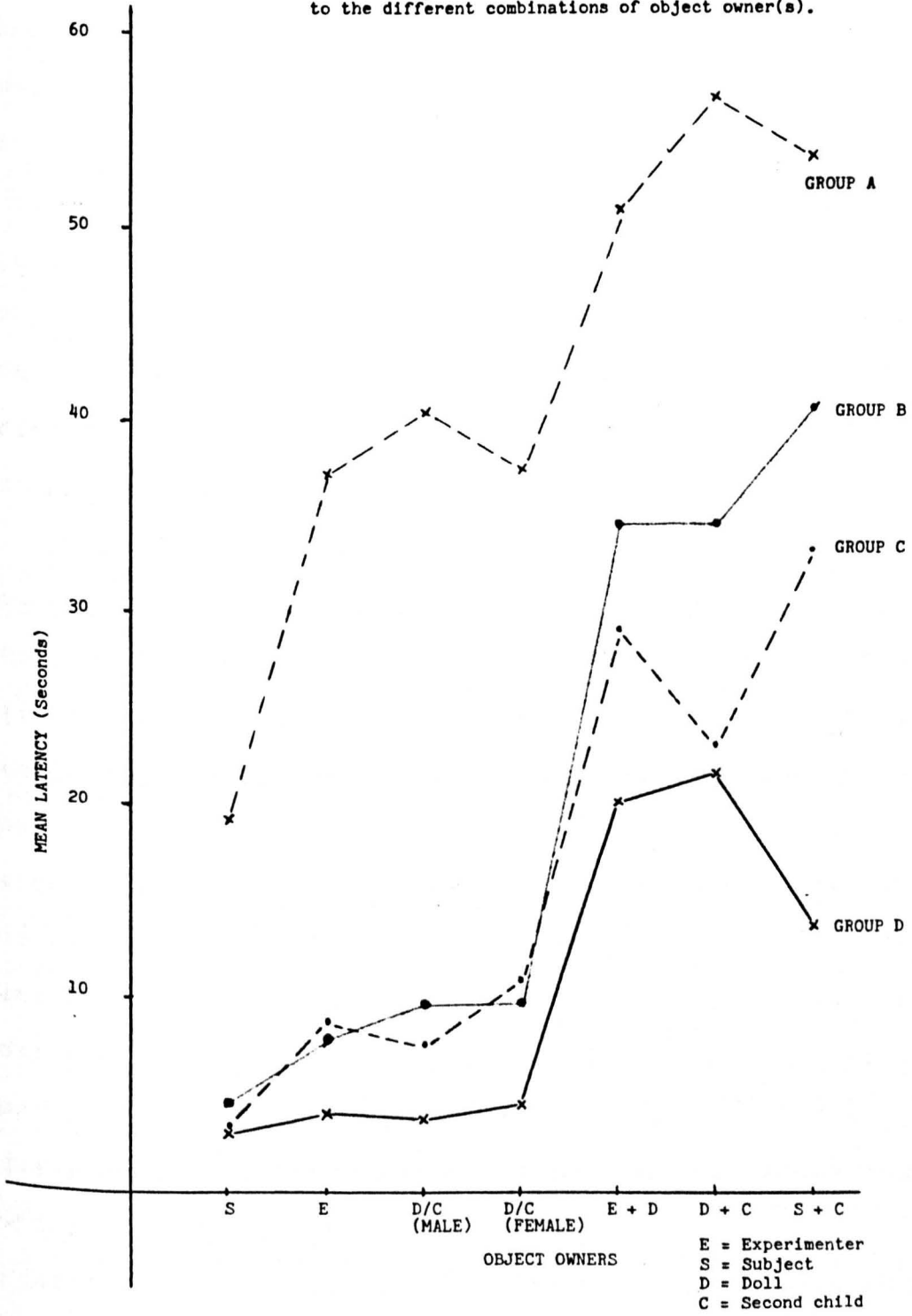
other single owners were used. The difference between Group A and the older groups was smaller in this situation, also, than when other single owners were used. Whilst none of these differences were significant, the results imply that the younger children are best able to cope with possessives that refer to themselves as the only owner. Their comprehension of possessives referring to the Experimenter as speaker in the conversation, was not so good. Indeed, there was very little difference between their responses to any of the other three single owners: Experimenter, doll or 2nd child.

All four groups responded more slowly to the pairs of owners, than to the single owners, but comprehension did appear to improve with age. Few of the differences were significant, however. The youngest two groups responded faster when they themselves owned the object, than for any of the pairs of owners (p<.05 for all comparisons). There were no significant differences between the pairs and the single object owners in the eldest age group, but in both Groups B and C the single owners produced faster responses than the pair "subject and 2nd child" (p<.05 for all comparisons). This particular combination of owners also produced the largest difference in comprehension between the age groups such that Group A responded more slowly than Group D (p<.05). It is possible, therefore, to assume that children have most problems when they were object owners with someone else, but that these problems decrease with age.

Overall, comprehension with the different combinations of owners varied (F = 55.11, df = 6, 144, p<.0005; χr^2 = 87.08 df = 6, p<.001) such that a definite pattern was observed. The

means of both measures indicated that comprehension was best when the child himself owned the object, and slightly poorer when the other single owners were presented. The children had more problems when any of the pairs of owners were used, in particular when they themselves were object owners with someone else. The only significant differences found, however, for the speed of responding pertained to the single owners compared to the pairs of owners. Comprehension was better with each of the single owners, than with any of the pairs (for all comparisons $p < .01$). This result was replicated when the number of correct first attempts was examined (for all comparisons $p < .01$). In addition, when the child owned the object himself, he produced more correct first attempts than with any other single owners (for all comparisons $p < .05$).

In summary then, it would seem that for the single owners, the 3 older groups responded similarly, whilst the youngest childrn's comprehension was not as good. They were, however, better at responding when they owned the object, than when other single owners were used. The comprehension of all 4 groups decreased when pairs of owners were presented, although generally their performance improved with age. Overall, the children had most problems when the child himself and one other were the object owners, but this result was mainly due to the performance of Groups B and C.

The form of reference to the object(s) (proper noun or pronoun, named object or elliptic form) also affected the result in terms of the speed of responding ($F = 11.67$, $df = 3$, 72, $p < .001$). The children's comprehension was best with the sentences containing the names of the owner(s) and the names

of the objects. Sentences containing pronominal references to the owners elicited much longer latencies ($p < .05$ for all comparisons) suggesting that such references are harder than proper noun references at all ages. For both types of sentence the elliptic forms lowered performance only slightly, but the differences were not significant. This pattern was also reflected in the number of correct first attempts with the four forms of reference, but none of the differences between the means were significant.

Figure B illustrates the children's speed of response to sentences containing the four different forms of reference, for each combination of object owner(s). Again it is clear that the children's comprehension was better with single owners than with the pairs of owners, for all 4 forms of reference. For the single owners, there was very little difference in the children's comprehension, with the four forms of reference. For the pairs of owners, however, the mean speed of responding to the four forms of reference, diverged, such that the pronouns produced slower responses. It would seem therefore that the plural pronouns caused problems for the children, although none of the differences between comprehension with the 4 forms of reference, were significant.

There were no significant differences in comprehension with the various combinations of owners, when the sentences contained the owners names. In contrast, when the owners were specified by pronouns, the differences in response times were more pronounced. The children's comprehension was poorer with each of the pairs of owners than when they owned the object

FIGURE B : Mean latency to correct response to each type of reference to the object, for the different combinations of object owner(s).
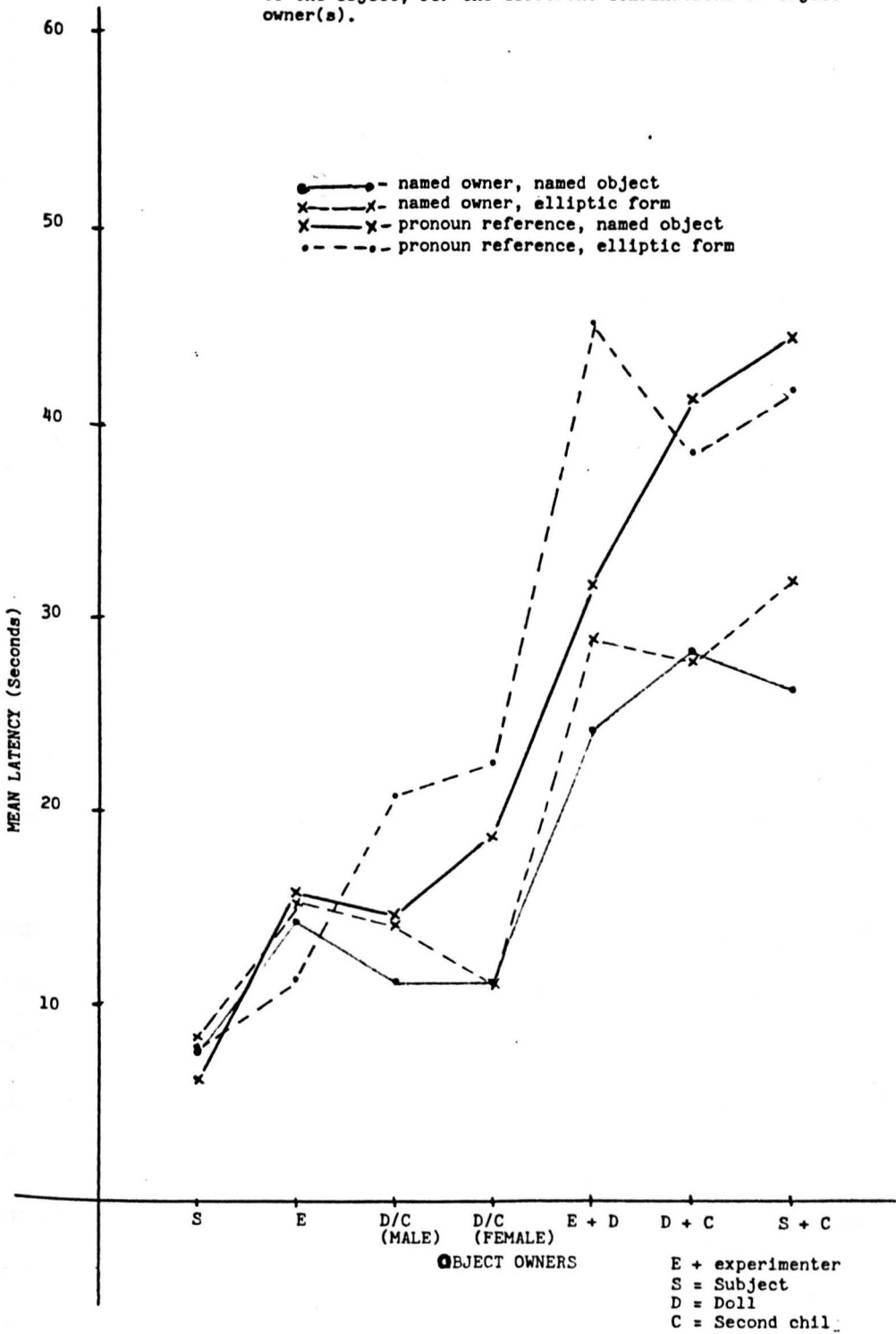
themselves (p<.01) or when the Experimenter owned the object (p<.05). This was so whether the object was named, or whether an elliptic form was used. In other words, the children responded faster to the singular pronouns "your/yours" and "my/mine" than to the plural pronouns "our/ours", "your/yours" and "their/theirs". When elliptic forms were employed, the children responded faster to all of the singular pronouns (ie "mine", "yours", "his" and "hers") than when the child himself and the second child (ie "yours" plural) owned the object (p<.05 for all comparisons).

The latency means for each age group, for the various object owners, are shown in Appendix 1, for both pronoun forms of reference, and propernoun forms of reference. Although there were no significant differences between the means, it is possible to see some general trends for both forms of possessive construction. On examining the results for the propernoun possessives, it would appear that all the children were relatively able to understand and respond appropriately when single owners were involved (although their speed of response increased with age). The means are so similar within each age group that any attempt to discover which object owner promoted faster responding is impossible. In responding to sentences naming two object owners, the youngest group performed poorly. The performances of the middle two groups (B and D) were much better, and it is reasonable to suggest that by 4,5 years, the children were well able to understand the possessive, where one or two owners were named. In responding to sentences containing possessive pronouns, however, a slightly different pattern emerges. The youngest group seemed

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unable to respond at all well to any of the pronouns except those referring to themselves or the Experimenter as possessors (your/yours and my/mine). Of these two, the pronouns referring to themselves were clearly better understood. The second youngest group, Group B, were able to understand all of the singular pronouns, however, but they did not perform well with the plural pronouns. Group C fared better with the pronouns "your" and "our", although the means indicate that they still caused a little difficulty. Group C were still unable, however, to understand the pronoun "their". In Group D this pattern was reversed. The pronoun "their" was responded to relatively well, whilst the pronouns "our" and "your" were still causing a few problems.

Finally, the type of object specified in the sentences also affected the children's comprehension (F = 5.92, df = 6, 144, p<.0005; χr^2 = 24.6, df = 6, p<.001). The means from both measures (latency to correct response and the number of correct first attempts) indicated identical patterns of performance with the different objects:
hair > nose > milky bar > shoe > felt pen > book > pencil. (See Appendix 2 for list of means).

The children responded best to "hair" as the object, and almost as well to "nose". Comprehension decreased with "milky bar" and more so with "shoe", "felt pen" and "book" until finally, using "pencil" performance was at its lowest level. However, only a few of the differences were significant. On both measures, the children's comprehension with "pencil" was worse than with either of the two inalienable objects "nose" and "hair" (p<.01 for all comparisons). The children

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also produced more correct first attempts with the inalienable objects, than with either "felt pen" or "book" (p<.01 for all comparisons) and "hair" elicited more correct first attempts than "shoe" (p<.01). So it would seem that children respond better to inalienable objects, as expected, than to alienable ones, but the differences are smaller when the object has been in the child's possession for a long period of time.

The experiment had also examined the effects of the child's sex, on performance, and the presence of siblings in his family. Neither of these two variables appeared to affect the results.

DISCUSSION

It would seem that, in accordance with previous studies (Brown, 1973; Huxley, 1970; Léveillé and Suppes, 1976; Mitchnik, Golinkoff and Markessini, 1980; Rodgon, 1976; and others) that the comprehension of the possessive (including the possessive pronouns) begins as early as 18 months. To begin with, the children understand the possessive as it relates to themselves as owners, but by 2 years 6 months they seem to understand it as it relates to all single owners of objects. Until 4 years 6 months, however, it seems that possessives relating to pairs of owners (including the plural possessive pronouns) cause problems for the children, particularly those where they themselves are one of the pair of owners.

The use of the elliptic form (eg "mine" or "Daddy's") instead of the full possessive construction (eg "my book" or "Daddy's chair") had only a minimal effect on the children's

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performance. In spite of the findings by Cazden (1968),
Rodgon, (1976) and Rodgon and Rashman (1976) that very young
children tend to use a kind of elliptic construction when
producing the possessive, the effect of an elliptic form in
this experiment was to slightly decrease performance. This is
perhaps due to the extra memory load imposed by an elliptic
form since to respond correctly, the child must not only
decide the identity of the possessor, but must also remember
the type of object in question.

The children clearly had more difficulty, in this
experiment, in understanding the possessive when pronouns, as
opposed to proper nouns were employed. However, the
difference in their performance with the two types of
possessive is largely due to their overall poor performance
with the plural possessive pronouns. Only the youngest
children showed any real difference in their responses to the
singular pronouns as compared to the proper name possessives.

From the means of the children's latency to correct
response with the different possessive pronouns, an
approximate order of acquisition can be tentatively deduced.
As expected, an in accordance with the findings of Charney
(1980), the pronoun referring to the child himself seemed to
be understood best, by all the children. The pronoun
"my/mine" was also understood by even the youngest children,
but performance was poorer. It is not possible to make
anything other than tentative conclusions about the relative
order of acquisition of these two pronouns, however, since the
differences between the means were not significant.

After 2 years 6 months, all of the singular pronouns seem

to be well understood. The plural pronouns, however do not appear to be acquired fully until 4 years 6 months. Other investigators have also found that the plural pronouns occur much later in development, so this result is not really surprising (Cruttenden, 1977; Huxley, 1970; Waryas, 1973; Baron and Kaiser, 1975). The means suggest that "their/theirs" might be the first plural possessive pronoun to be acquired. The performance differences, as noted above, between the singular and plural possessive pronouns, may be due largely to the acquisition of the words themselves, but it may also be associated with child's understanding of possession when it involves two owners. When propernoun possessives were presented instead of pronoun possessives, the children still had difficulty in responding quickly and accurately. All the single owner possessives were understood by even the youngest children, but only the oldest group responded well to the possessives involving pairs of owners. In particular, the possessives involving the child himself and another party seemed to cause problems.

Finally, the type of object possessed also seemed to affect the children's performance on the task. They performed best with the two inalienable objects (nose and hair) and worst with the three new longterm alienable objects (book, pencil and felt pen). The shortterm alienable object (milky bar) and the "long time owned" longterm alienable (shoe) appeared to cause more problems than the inalienable objects but fewer than the three longterm new alienable objects. These findings are in accord with those of Mitchnik, Golinkoff and Markessini (1980) who showed that children respond better

to inalienable body parts than to alienable possessions in comprehension tasks. The results also suggest that children respond better to items, the longer those items have been in their possession. It is unclear, however, why the children should have performed better with the shortterm item (the milky bar) than to the other three, new but longterm objects.

EXPERIMENT 2

INTRODUCTION

The results from Experiment 1 suggested that the pronoun "your/yours" might be the first to be acquired, from the set of possessive pronouns. Other studies, as presented in the literature review, however, have indicated that "my/mine" would be the first pronoun learned (Huxley, 1970; Ingram, 1971; Waryas, 1973; Sharpless, 1974; Baron and Kaiser, 1975). In contrast, Charney (1980) has suggested that the child first learns the pronouns that apply to himself and that his performance with pronouns will vary according to the role he takes in the conversation. In a production task then, Charney would predict that the children would perform best with the pronoun "my/mine" since it refers to their own role in the conversation. On the other hand, she would predict that children would perform best with the pronoun "your/yours" in a comprehension task, again because it refers to their own role. If this is so, then one would expect a shift in the children's performance levels from Experiment 1, a comprehension task, such that the children would perform best with "my/mine" when participating in a production task.

Experiment 2 attempted to demonstrate this shift, focusing on the children's production rather than comprehension of possessives. It required the children to describe, in their own words, the possessive relation between a variety of owners and their objects as indicated by the Experimenter. The children were not constrained in this study to using

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possessive pronouns only. Thus it was possible to look at the way in which they described the relationship of each of 10 combinations of owners to their objects (See Table 5). Four of these combinations were single owners: (corresponding to the pronouns "mine", "yours", "his" and "hers") and six were combinations of groups or pairs of owners. The pairs or groups of owners corresponded to the pronouns "theirs", "yours" and "ours" including the two different combinations of owners for "yours" (listener and other; listener, other and other) and the three different combinations of owners for "ours" (speaker and other; speaker, listener and other; speaker and listener). These are outlined in the analyses of personal pronouns by Ingram (1971), Waryas (1973), Fillmore (1971) and others. From Experiment 1 and previous research described in the literature review (Huxley, 1970; Wells, 1979; Cruttenden, 1977; and others) one might expect that children would tend to use possessive pronouns more frequently when describing the possessive relationship involving single object owners, than those involving pairs or groups of owners. No basis can be found in the literature for predictions on responding in the case of pairs or groups of owners. However, since the child was able to choose the wording for his own response, in this experiment, any lack of usage of plural possessive pronouns can not necessarily be taken to indicate a lack of acquisition of these pronouns. It may simply mean that the child prefers not to use them.

Again, Experiment 2 employed a variety of items as possessed objects, identical to those used in Experiment 1. It was expected that the same patterns of responding to the

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different types of objects, would be observed: the children would respond best to the inalienable objects, worst to the newer, longterm alienable objects, with the "long owned" longterm, object and the shortterm object (both alienables) falling somewhere between the other two groups.

SUBJECTS

The study employed the same subjects as those in Experiment 1 in the same age groups: A (1;6 to 2 years: mean age 1;9), B (2;6 to 3 years: mean age 2;10), C (3;6 to 4 years: mean age 3;10) and D (4;6 to 5 years: mean age 4;10).

PROCEDURE

The children were again tested in the presence of the Experimenter, another child, and a doll (dressed so as to appear of the opposite sex to the second child). Bags of presents were distributed to the four participants before the start of the experiment. They contained identical items to those used in Experiment 1 (a milky bar, a book, a novelty pencil and a felt pen). The children were allowed to play with their presents before the experiment began to establish their ownership, and they were "introduced" to the other participants to ensure that they knew their names.

Then the subject was asked to play a game and the procedure was explained to him. As a pretest, the subject was required to answer four questions. The Experimenter, whilst pointing to the milky bars of the four participants in turn asked "Whose is this?". The child was expected to respond by giving either the name of the owner in a possessive form eg

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"Sue's", or by giving an appropriate possessive pronoun eg "mine". Then the experimenter indicated a series of objects belonging to combinations of 1 or more of the 4 participants, asking "Whose is this?" or "Whose are these?". The combinations of owner(s) are listed in Table 5 along with the appropriate pronominal response expected from the subject. They were presented in random order for each subject.

The subjects' responses were tape recorded. Where the subject made an error, he was encouraged to "try again" until the correct response was given. If, after a minute he had not responded correctly, the question was abandoned and a latency of 60 seconds recorded. Where it became obvious that the child was distracted from the task, the experiment was halted until attention had been regained.

THE OBJECTS

The same seven objects used in Experiment 1 were employed, in random order: nose, hair, shoe, milky bar, pencil, book and felt pen. Where the Experimenter pointed to objects belonging to more than one of the participants eg subject and Experimenter, the same type of object was indicated for both owners eg the subject's milky bar, and the milky bar of the Experimenter.

THE ANALYSIS

The children's responses were timed from the tape-recordings and their style of responding, along with the type and frequency of any errors made, were noted. Any verbal answer containing a possessive reference to the

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TABLE 5

List of combinations of owner(s) from the group of four participants in Experiment 2, along with the appropriate pronominal response.

Owner(s)	Correct	Response
Subject		mine
Experimenter		yours
Doll		his/hers
Second child		his/hers
Subject and experimenter		ours
Subject and second child		ours
Subject, experimenter, second child and doll		ours
Experimenter and doll		yours
Experimenter, doll and second child		yours
Doll and second child		theirs

correct owner(s) was accepted as a correct response. For example if the Experimenter had indicated the books belonging to the Experimenter and the "male" doll, any of the following responses would be taken as correct along with a variety of alternative combinations:

    "Andy's and Sue's"
    "Andy's and Sue's books"
    "Your's and Andy's"
    "Your book and Andy's"
    "Your books"
    "Yours and his"

The scores for latency to the correct response (or no correct response) were analysed using two 3 way ANOVAS. The effects of age group, sex, and object owner(s); and age group, the presence of siblings in the family and object owner(s) respectively, were examined.

Another 2 way ANOVA focused on the effects of age groups and object type. Scheffé tests were carried out to further analyse any significant results.

The number of correct first attempt responses were analysed using five Friedman 2 way analyses of variance examining the effects of the 5 variables above: age group, object type, sex, presence of siblings and object owner(s). Wilcoxon matched-pairs signed-ranks tests were used to further investigate significant findings.

Finally, a quantitative analyses of the type of correct responses given was undertaken. Three types of response were examined: pronominal responses, naming responses, and responses involving a mixture of names and pronouns. Chi squared tests were employed to analyse the data.

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RESULTS

All of the results based on the speed and accuracy of response are listed in Table 6. As in Experiment 1, the children's performance improved with age ($F = 6.09$, df = 3, 24, $p<.01$: $\chi_r^2 = 13.16$, df = 3, $p<.01$). The youngest group (A) responded more slowly than any of the 3 older groups ($p<.01$ for all comparisons) and they produced fewer correct first attempts than Group D ($p<.01$). None of the other differences, between the groups were significant, but on examination of the means, on both measures, there was a trend towards better performance with increased age. ($\bar{x}A = 46.76$, 5.29; $\bar{x}B = 15.81$, 13.71; $\bar{x}C = 14.81$, 14.43; $\bar{x}D = 6.31$, 18.29).

This pattern becomes more complex, however, when one studies the speed of responding of the four groups, to the different combinations of owners (Figure C). A brief inspection of the graph reveals, as in Experiment 1, very little difference between the 3 older age groups in their performance with the single object owners. However the youngest children in Group A, responded much more slowly to the single owners, than did the older groups although the differences are not significant. Figure C also shows that the children in this youngest age group responded faster when they owned the object than when any other single owner was employed. (Again, however, the differences are not significant). These production results are very similar to those comprehension responses found in Experiment 1, and are not unexpected. What was rather surprising was the difference in the speed of response to the "male" and "female" doll or 2nd child, for this group. Although the difference was not

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TABLE 6

Findings from Experiment 2, based on responses speed and accuracy. The degrees of freedom and the level of significance are also shown.

A// Latency Data.

Main Effect	F Value	df	p
Age	6.09	3,24	<.01
Object owner	15.58	9,144	<.0005
Object type	11.78	6,144	<.0005
Sex of child	4.03	1,16	ns
Siblings	1.44	1,10	ns

Interactions			
Age x object owner	2.13	18,144	<.005
Age x object type	2.15	6,144	<.005
Sex of child x object owner	1.75	9,144	ns
Siblings x object owner	1.71	9,90	ns

B// Correct first attempts.

Effect	x_r^2	df	p
Age	13.16	3	<.01
Object owner	46.13	9	<.001
Object type	15.72	6	<.02

FIGURE C: Mean latency to correct response to each combination of object owner(s) for each age group

GROUP A

GROUP B

GROUP C

GROUP D

MEAN LATENCY (Seconds)

S E D/C   D/C E+D E,D C+D S,E S+C S+E
      (M)   (F)   + C   D+C

OBJECT OWNER COMBINATIONS

E = Experimenter
S = Subject
D = Doll
C = Second child
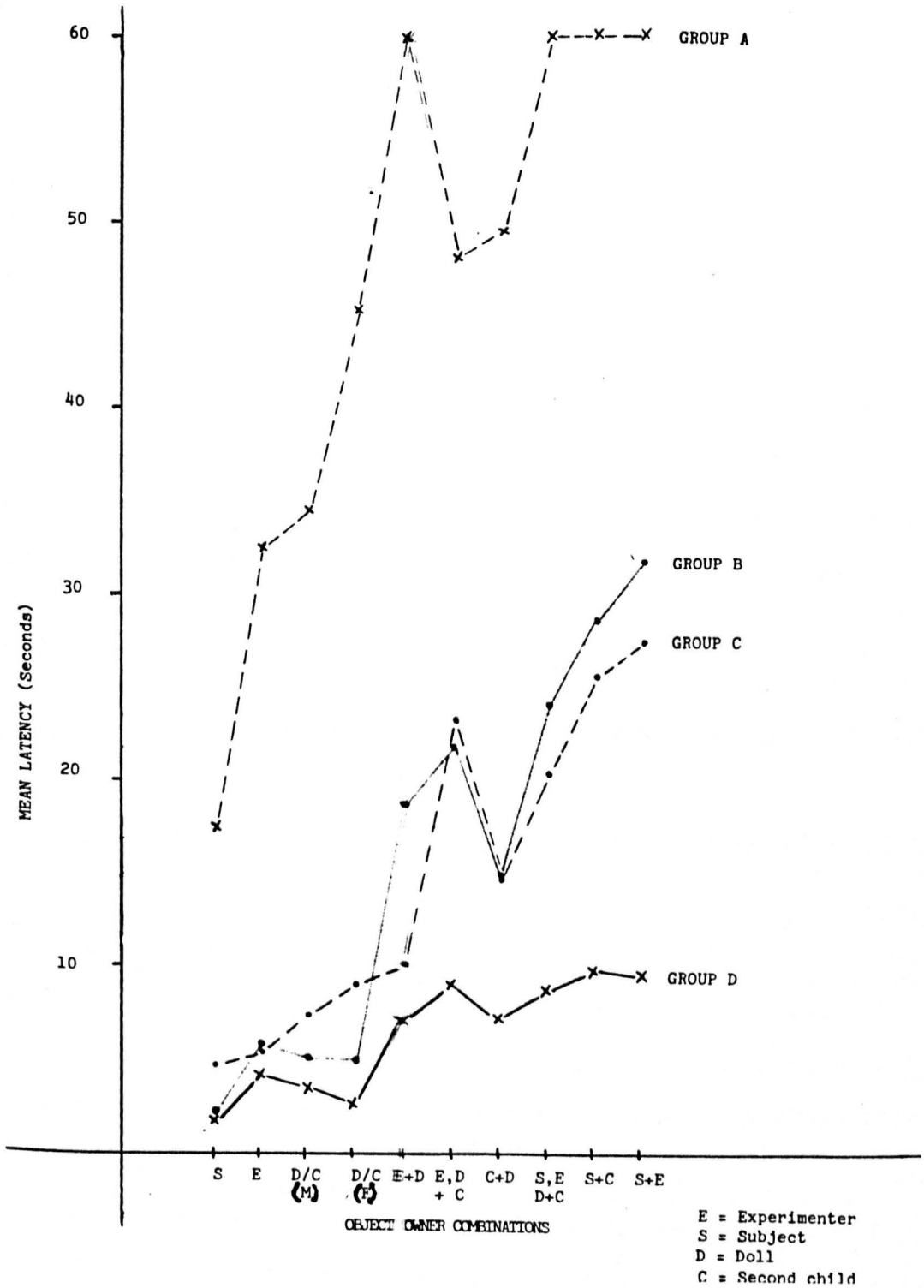
significant. Figure C shows that the younger children responded more slowly when the 'female' doll or child was the owner, than when the 'male' owned the object.

In response to the groups or pairs of owners, the means for Group D were only slightly higher than the means for the single object owners. This suggests that by 4.5 years, the children were well able to produce the appropriate possessive construction when two or more object owners were involved. The means for Groups B and C, for the groups or pairs of owners were somewhat larger than those of Group D but remarkably similar to each other. They appeared to follow identical patterns of relative performance for the different pairs or groups of owners, except when the doll and the 2nd child were the owners. In this case Group B responded faster than Group C, and performed better in response to this pair, than to any other pair or group of owners.

The only significant differences between the four age groups for the pairs or groups of owners, was between Group A and Group D. The mean speed of response for Group A was higher than for Group D, for four combinations of owner: subject and Experimenter; subject and 2nd child; subject, Experimenter, doll and 2nd child; and Experimenter and doll (p<.05 for all comparisons). The responses of Group A to these combinations were also significantly slower than when the child himself was the only owner (p<.05 for all comparisons). In all cases Group A's mean speed of response was 60 seconds. In other words none of the children in Group A were able to give correct responses if they owned objects in conjunction with other people (subject and Experimenter; subject and 2nd child; subject,

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Experimenter, doll and 2nd child) or if the Experimenter and doll were the object owners.

The similarities between the findings in Experiments 1 and 2 are striking. Both studies indicate that the youngest age group's performance is worse overall than that of the other three. They both suggest that children below the age of 2.5 years are still learning about the possessive construction as it relates to single object owners, and are best able to respond when they themselves own the object in question. By 2.5 years children can respond well to single owners, but until the age of 4.5 years, are still learning about the possessive relation when 2 or more owners are involved. After 4.5 years however children perform reasonably well no matter what combination of owners is presented.

Overall, performance with the different owner combinations in Experiment 2 reflects the pattern above (F = 15.58, df = 9, 144, p<.0005; χr^2 = 46.13, df = 9, p<.001). The means suggest that children perform best when they own the object themselves, and almost as well with other single object owners (subject > Experimenter > male doll or child > female doll or child). This pattern held for both measures, although no significant differences were obtained. ($\bar{x}S$ = 6.79, 1.82; $\bar{x}E$ = 11.96, 1.75; $\bar{x}M$ = 12.61, 1.67; $\bar{x}F$ = 15.48, 1.53).

The children produced fewer correct first attempts in response to each of the pairs or groups of owners, than they did in response to any of the single object owners (p<.01 for all comparisons). The means for the response speed indicate a similar pattern of difficulty, but some of the differences were not significant. Table 7 sets out the significant

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TABLE 7

Significant differences between children's mean latency to correct response for the various object owner combinations.

OBJECT OWNERS	S	E	D/C (M)	D/C (f)	D+C	E+D	E+ D+C	S+E +D+C	S+C	S+E
S										
E	ns									
D/C (Male)	ns	ns								
D/C (Female)	ns	ns	ns							
D+C	.05	ns	ns	ns						
E+D	.01	.05	.05	ns	ns					
E+D+C	.01	.05	.05	.05	ns	ns				
S+E +C+D	.01	.01	.01	.01	ns	ns	ns			
S+C	.01	.01	.01	.01	ns	ns	ns	ns		
S+E	.01	.01	.01	.01	ns	ns	ns	ns	ns	

differences between the speeds of response to the various combinations of object owners. Whilst there were no significant differences between the performance with the six pairs or groups of owners, the means for both measures show similar patterns of relative performance. For the latency data, the following pattern emerges:

Doll & 2nd child	>	Experi- menter & doll	>	Experi- menter doll & 2nd child	>	All 4 parti- cipants	>	Subject & 2nd child	>	Subject Experi- menter
$\bar{x}=21.38$		$\bar{x}=24.14$		$\bar{x}=25.73$		$\bar{x}=28.23$		$\bar{x}=30.93$		$\bar{x}=32.04$

So, the children performed best when the doll and 2nd child were the owners. The number of correct first attempts was highest in this case also. Slightly fewer correct first attempts were produced when the Experimenter, doll and 2nd child were the owners. For all other combinations, the children performed equally badly on this measure.

Thus, the children appeared to perform best when the doll and 2nd child owned the objects and worst when the child himself, was the owner with one or more other party.

A third variable examined was that of object type, which proved to affect performance in a manner similar to that observed in Experiment 1 (F = 11.78, df = 6, 144, p<.0005; X_r^2 = 15.72, df = 6, p<.02). Identical patterns of relative performance with the different objects, were produced for both the speed of responding, and the number of correct first attempts. "Nose" produced the best performance, and responding deteriorated in the following manner:
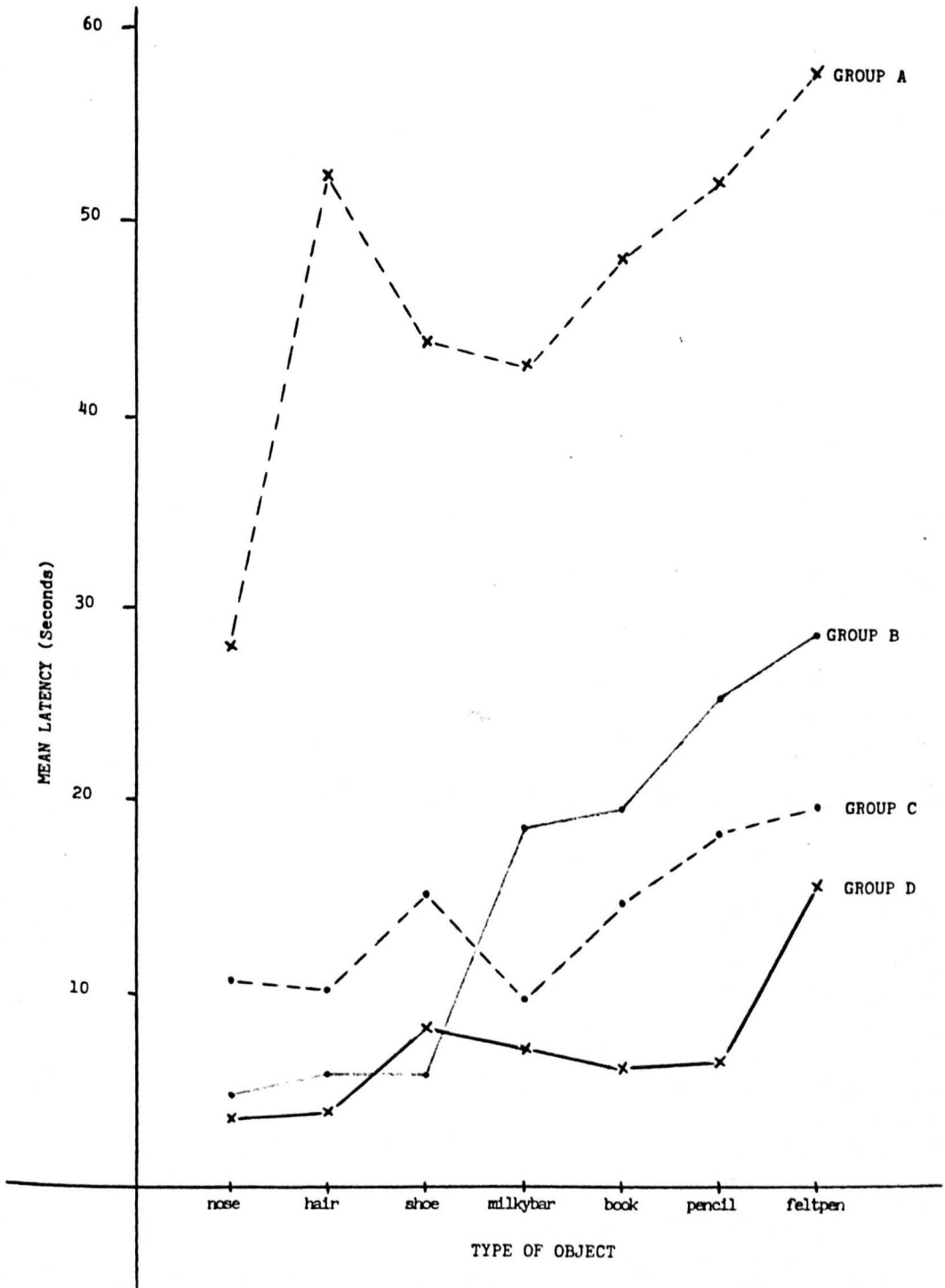
nose > hair > shoe > milky bar > book > pencil > felt pen
(See Appendix 3 for list of means). On both measures, the

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children performed better with the 2 inalienable objects "nose" and "hair" than with either "felt pen" or "pencil" (p<.01 for all comparisons of "nose"; and p<.05 for all comparisons of "hair"). The children's performance with "nose" on both measures was better than it was with "book" (p<.05). The speed of responding to "felt pen" was also slower than that to "shoe" or "milky bar" (p<.01 for all comparisons).

These results suggest that children work best with inalienable objects rather than alienable ones, particularly when the alienable objects are new longterm possessions. As such, the findings support the results from Experiment 1. It would also appear that "shoe" as a "long owned" longterm alienable object, and "milky bar" as shortterm object might form an intermediate group in terms of the way in which children respond, between inalienable objects and new longterm alienable objects.

The effects of object type on speed of responding varied, however, according to the age of the child. Figure D illustrates the mean speed of response for each age group to the 7 different types of object. From the graph, it is noticeable that the responses of the 3 older groups were similar for the two inalienable objects, "nose" and "hair". The three means diverge a little in response to "shoe" and more so for "milky bar" and "book". "Pencil" produced the greatest differences between the three groups but the means were more similar for "felt pen". This pattern appears to be due to the fact that Group D responded consistently quickly to all the objects (except perhaps to "felt pen" where their speed decreased. Group C's performance was also fairly

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FIGURE D: Mean latency to correct response for each age group
to the different types of object

Y-axis: MEAN LATENCY (Seconds)

X-axis: TYPE OF OBJECT — nose, hair, shoe, milkybar, book, pencil, feltpen

GROUP A

GROUP B

GROUP C

GROUP D

consistent for the seven objects, although a little slower in each case, than Group D.

In Group B, the children clearly performed better with the 2 inalienable objects "nose" and "hair", and with the "long owned" longterm alienable object "shoe", than the other four objects. However, none of the differences between the 3 groups, were significant for any of the objects, nor were the differences between the different objects for any one of the 3 older groups.

The youngest children were markedly slower than all the other age groups for all the objects. The difference between Group A and the 3 older groups was significant when "hair" was the object. The only other significant differences between the 4 age groups occured between Groups A and D when "pencil" and "felt pen" were the objects (p<.05 for all comparisons). Within Group A, the children responded noticeably more quickly to "nose" than the other objects, and noticeably more slowly to "felt pen". Indeed, when "felt pen" was the object, none of the children in Group A gave a correct response at all, since their mean latency was 60 seconds. It is unclear why these young children should respond more slowly to "hair" as compared to "shoe", "milky bar" or "book".

Apart from this latter result, the findings are not unexpected, and show that for the younger children particularly, the inalienable object "nose" presents far fewer problems than other objects. The three new longterm alienable objects "felt pen", "pencil" and "book" present most problems for children, but their performance on these items improves with age.

Finally, the children's style of response was analysed. In response to questions focusing on single object owners, nearly 60% of the children answered correctly with a pronoun. However, Table 8 looks at the various types of response for each of the combinations of object owners, and indicates quite an intricate pattern of responding. It shows that more pronouns as opposed to propernouns were given when either the child himself or the Experimenter owned the object (p<.001). In other words "my/mine" and "your/yours" were used frequently. When the doll or the second child owned the object, the reverse was true: children tended to name the owner using a propernoun rather than use the pronouns "his" or "her/hers" (p<.05 for all comparisons).

This indicates, that most children were able to use at least "my/mine" and "your/yours" correctly. It is more difficult to use these results to comment on their ability to use "her/hers" or "his" since, given the experimental conditions, pragmatic considerations might suggest that it would be more natural and polite to use the owners names.

For the pairs or groups of owners, not one child used a plural pronoun in their response. Less than a quarter of the responses (23%) involved the correct use of pairs of singular pronouns, and nearly half of the responses (45%) involved no pronoun at all. However Table 8 shows that the pronouns "his and hers" were used in preference to either mixtures of pronouns and propernouns, or two pairs of propernouns (p<.001 for all comparisons), when the 2nd child and the doll were the owners. This result is interesting since it contradicts the notion of the children using names for third parties for

TABLE 8

Types of correct responses (pronoun, proper noun or mixed) given for each of the object owner combinations.

Object Owner	Singular Pronouns	Plural Pronouns	Propernoun	Mixture
Subject	25	-	1	-
Experimenter	22	-	1	-
Doll/Child (M)	5	-	15	-
Doll/Child (F)	1	-	20	-
Sub Total	53	-	37	-
Experimenter + Doll	3	0	1	15
Experimenter + Doll + Child	0	0	13	3
Child + Doll	18	0	1	2
All Participants	1	0	18	0
Subject + Child	3	0	0	13
Subject + Experimenter	0	0	15	1
Sub Total	25	0	48	34
	78	0	85	34

pragmatic reasons as they did perhaps for the single owners.

The names of owners were given more frequently when the owners were: subject and Experimenter; all participants; and Experimenter, 2nd child and doll ($p<.001$ for all comparisons). The latter of these results, when the Experimenter, 2nd child and doll were the owners, is fairly straightforward. Experiment 1 has already shown that children have problems with the plural pronoun "your/yours", thus it would be logical to assume that they might avoid using it. However, in the first two cases, the use of names is fairly unnatural, since it involves them referring to themselves by name. Thus it is possible to assume that the children were trying to avoid using the plural pronoun "our/ours" which would normally be more appropriate in adult usage.

Mixtures of singular pronouns and names were given most frequently when the object owners were: Experimenter and doll; and subject and 2nd child ($p<.001$ for all comparisons). As such, the pronouns tended to be "your/yours" and "my/mine" along with the name of the doll or second child.

Thus, the children only used pairs of pronouns with any frequency when the doll and the second child owned the objects. This was in contrast to all the other cases, involving the doll and the second child as owners, either alone or with another party. In these cases, the doll and the second child were referred to by name.

The experiment had also set out to examine the effects of the child's sex, and whether or not he had siblings, on performance. Neither of these two variables were found to affect performance in any way.

DISCUSSION

The results from Experiment 2 are very much in agreement with the findings from Experiment 1, and other research discussed in the literature review. (Brown, 1973; Huxley, 1970; Léveillé and Suppes, 1976; Mitchnik, Gollikoff and Markessini, 1980; Rodgon, 1976; Rodgon and Rashman, 1976; and others). The production of the possessive, including the use of possessive pronouns, begins to occur as early as 18 months. Whilst the youngest children's performance in this experiment was clearly poorer than that of children aged 2 years 6 months and over, it was apparent that they were able to produce possessives relating to some object owners. It was also clear that their performance was best when they, themselves were the owner of the object. However at this stage, children seemed unable (except in a few cases) to produce possessives relating to situations where there were more than one owner. It was not until 4 years 6 months that these possessives were produced with any degree of speed or accuracy. Overall, then, it would appear that the first possessive relation learned, was that relating to their own ownership of an object. The other single owner possessives occurred by 2 years 6 months, whilst those relating to more than one owner caused problems until the age of 4 years 6 months. The possessives causing most difficulty for all groups of children seemed to be those where the child and another party were the owners.

In terms of the type of response given to describe the possessive relations, a clear pattern emerges. In cases where a correct response was given, the children tended to use the

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possessive pronouns "my/mine" and "your/yours" to describe their own possession and that of the Experimenter. This finding corroborates the results found in Experiment 1, where the children appeared to acquire these two pronouns first, and it replicates many of the findings from previous research where, again it has been demonstrated that "my/mine" and "your/yours" are produced early in the acquisition of pronouns (Charney, 1980; Wells, 1979; Brown, 1973; Huxley, 1970; Sharpless, 1974; Deutsch and Pechmann, 1978; and others).

The youngest children performed best when they themselves owned the object. Since all but one of the correct responses produced by the children in this situation were pronominal (ie "my/mine") it is reasonable to conclude that the children performed better with the pronoun "my/mine" than with the pronoun "your/yours". In Experiment 1, it was tentatively concluded that, in a comprehension task, the children performed better with "your/yours" than "my/mine". Thus it would appear that the shift in the performance levels from the comprehension task to the production task, predicted by Charney, (1980) has been demonstrated. The children in both Experiments 1 and 2 seem to perform best with the possessive pronouns when they refer to themselves as owners.

For the other single object owner situations (where the doll or the second child owned objects) most children tended to respond by naming the owners. One cannot assume, from this result that the children were unable to produce the pronouns "his" or "her/hers", however, especially in the light of results from Experiment 1, which demonstrated that children aged over 2 years 6 months are well able to comprehend these

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pronouns.   Previous research (Webster and Ingram, 1972;

Scholes, 1981; Böhme and Levelt, 1979; Wells, 1979; Deutsch

and Pechmann, 1978) has also demonstrated that children of 2

years 6 months to 3 years old are able both to produce and

comprehend "his" and "her/hers".   It is likely that the

children chose to respond in this way since pragmatic

considerations might suggest that it would be more "polite" to

use proper names to refer to others outside the immediate

conversation.

The pronouns "his" and "hers" were also avoided when the

children responded to other combinations of owners which

included the doll or the second child as owners.   In all

cases, propernouns were used, either in conjunction with other

propernouns, or with the pronouns "my/mine" and "your/yours".

However, the argument against the children's usage of proper

names for pragmatic reasons is supported by their tendency to

use the two singular pronouns "his and hers" rather than

proper names when referring to the situation in which both the

doll and the second child were object owners. In fact, this

situation was the only one where the children did tend to use

pairs of singular pronouns.   It is also possible, then, that

the children in this experiment found it easiest to produce

proper names than the pronouns "his" and "her/hers", but,

faced with the prospect of maybe having to use a plural

possessive pronoun (their) resorted to using the easier "his

and hers" combination.

A further argument against the pragmatic usage of types of

response, is the children's tendency to list the owners names

in two other situations (eg where the owners were: subject

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and Experimenter; all participants). In both of these cases, the children resorted to calling themselves by name; a rather unnatural act. It is reasonable to assume, therefore, that the children's productions reflected what they considered to be the easiest manner of responding. As such, it is noticeable that none of the children throughout the experiment, produced a plural possessive pronoun. This suggests that, even at the age of 5 years, the plural pronouns cause difficulty for children.

In addition to the difficulties presented to the children caused by the use of pronouns, it is interesting to note that the situations where more than one owner was involved, caused problems in themselves. In spite of the fact that the children could choose the manner in which they responded (and opted not to use plural pronouns) they still took longer to respond, and made more mistakes, when they were asked to identify more than one possessor. By 4 years 6 months, the children were able to produce appropriate responses swiftly. But below this age, particularly in the youngest age group, the pairs or groups of owner combinations appeared to cause them difficulty. Given these results, it is reasonable to assume that some of the problems encountered by the children in Experiment 1, where their task was to comprehend the plural possessive pronouns, was, partly at least, due to their lack of understanding of the possessive as applied to more than one owner. How much of their difficulty was caused by the use of pronouns and how much by the latter problem, is impossible to determine, however.

Finally, the type of object used in the experiment also

affected the children's performance. Although the ordering of the individual objects, in terms of their effect on performance, differed slightly from that found in Experiment 1, the ordering in terms of type of object corroborates Experiment 1's results. Again, the children performed best with the inalienable objects and worst with the three new, longterm alienable objects. Similarly, the shortterm, alienable object (milky bar) and the "long-owned" longterm object (shoe) caused more problems than the inalienable objects, but fewer than the other shortterm alienable objects.

  These results also agree with the findings of Mitchnick, Golinkoff and Markessini (1980), as detailed in the literature review and in the discussion of Experiment 1.

INTRODUCTION

The results from both Experiments 1 and 2 suggest that children have more problems in both the comprehension and production of plural possessive pronouns. The findings of other research discussed in the literature review also point to this conclusion in general terms (Huxley, 1970; Cruttenden, 1977; Baron and Kaiser, 1975; Wells, 1979; Deutsch and Pechmann, 1978; Goodenough, 1938) although some studies have indicated the early appearance of particular plural pronouns on occasions (Deutsch and Pechmann, 1978; Huxley, 1970; Wells, 1979). Plural pronouns have not attracted a great deal of systematic study in the literature. In fact many studies investigating the acquisition of pronouns have focused entirely upon the singular pronouns (Sharpless, 1974; Charney, 1980) or have looked only at selected plural pronouns (Scholes, 1981). Thus the relative order of acquisition of the plural pronouns is less well established than that of the singulars. Evidence from some studies (Baron and Kaiser, 1975; Cruttenden, 1977; Huxley, 1970) would suggest that "they" is acquired first, then "we" and finally "you(pl)", On the other hand, Deutsch and Pechmann (1978) and Wells (1979) suggested that "we" is learned first, then "you(pl)" and finally "their". The results from Experiment 1 would suggest that "their" is the first of the plural possessive pronouns to be acquired but no conclusions were possible regarding "our" and "your(pl)".

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Experiment 3 sets out to investigate children's
performance wih three plural possessive pronouns (our, your
and their) in a comprehension task, in a further attempt to
establish the relative order of acquisition. The performance
of the children was assessed, in the same manner used in
Experiments 1 and 2: the time taken to respond appropriately,
and the number of correct responses made.

Experiments 1 and 2 demonstrated that there are at least
two possible reasons why the children found difficulty with
plural pronouns. Firstly, the use of plural pronouns
themselves may have accounted for some of the problems
observed. Secondly, in Experiment 2, the children's
performance when describing situations where more than one
owner was to be identified was still poor, in spite of the
opportunity to avoid using pronouns. Thus the situation itself
might account for their poor performance.

In order to examine these two possibilities, all the
children in Experiment 3 were asked to respond both to plural
possessive pronouns (our, your and their) and to equivalent
pairs of singular pronouns (mine and his/her; yours and
his/her; his and her). Thus it was possible to examine the
degree of difficulty imposed by the use of plural pronouns.

At the same time, two experimental conditions were set up:
one in which the participants owned one object each; and one
in which the participants shared ownership of an object with
another party. So, in the first condition the subjects had to
comprehend the pronouns as they referred to two objects owned
by two owners (as in Experiment 1), whilst in the second
condition, the pronouns referred only to one object, shared by

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two owners. Thus it was possible to compare the degree of difficulty imposed by the experimental conditions of Experiments 1 and 2 (ie where two objects were owned individually by two owners) with that of a second "shared possession" condition.

Linguistically, there are several reasons why the plural possessive pronouns might prove difficult for children. Firstly, as seen in Experiment 2, their production is optional. It is perfectly possible, and acceptable to use an alternative mode of expression by combining two singular pronouns. These combinations of singular pronouns are also more specific since they indicate the precise members of the group of possessors, and they are presumably more familiar to the children since they employ words which also appear in singular contexts. Secondly, the relationships of the plural pronouns to their referents is not as simple as that of the singular pronouns, and they can be ambiguous. "Our" for example, can refer to the speaker and the listener; the speaker and other; or to the speaker, the listener and the other. So, to ask a child to point to "our" pencils, can be confusing. Thirdly, Sharpless (1974) has shown that the plural pronouns can be seen as falling into two groups: "core" pronouns, and "derived" pronouns. The first group are made up of two similar referents (eg "their" = "his and his" = other + other). The "derived" pronouns, by contrast, are made up of combinations of dissimilar referents (eg "our" = "my and your" = speaker + listener). Sharpless (1974) has suggested that, especially the derived pronouns, may well be more difficult for the child to understand because they are linguistically

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more complex. Given these suggestions, it is reasonable to predict that the children in Experiment 3 would perform better in response to the pairs of singular possessive pronouns than to the plural posssessive pronouns.

However, there are also reasons, why the experimental conditions where two objects as owned by two owners, might have caused problems for the children. It is possible that the children made pragmatic assumptions about their task as a result of the experimental conditions. In Experiment 2, the production task, the questions asked by the Experimenter all asked "whose is this/whose are these?", which may have led the children to expect that only one owner should be indicated. Hence they would have made more mistakes as a result of the experimental conditions.

Secondly, in Experiment 1, the comprehension task, the children were asked to "point to" objects belonging to the participants, as specified by a plural possessive pronoun. One could argue that, in reality, the plural possessive pronouns are most often used to denote shared or collective ownership (eg "our car" refers to that one car which belongs to Dad, Mum and me). It is possible that the children in Experiment 1 performed poorly because they inferred that the plural pronoun related to shared or collective ownership of an item. If this is so, then the reluctance of the children in Experiment 2, to use a plural pronoun is also explained. Since the possessive relation indicated by the Experimenter did not involve either shared or collective ownership, the children chose to use singular pronouns, propernouns or mixtures of the two rather than plural pronouns. This being so, one might expect in

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Experiment 3, that the children would respond better to the plural pronouns when the objects were shared one between two, than when each participant owned an object individually.

It could be argued, of course, that the inclusion of a shared ownership condition might impose an extra degree of difficulty into the children's task in that they may not understand the notion. However, the study by Eisenberg-Berg, Haake, Hand and Sadalla (1979) as reviewed in the literature review, would suggest that children as young as 2 years 6 months do understand this concept. Eisenberg-Berg et al found that children tended to allow others more access to collectively owned items, than personal possession, and to defend them less.

The subjects in Experiment 3 were aged between 2 years 6 months (when, according to Experiments 1 and 2, the children are beginning to learn about plural possessive pronouns) and 5 years. The possessed objects used were boxes of paints. The Experimenter was thus able to avoid giving clues about how many objects (one or two) should be indicated by the child, by simply saying "Point to our/your/their paints".

SUBJECTS

Twentyfour children from a local day nursery were employed in three age groups: 2;6 to 3 year olds (mean age 2;9); 3;6 to 4 year olds (mean age 3;9); and 4;6 to 5 year olds (mean age 4;9). For ease of reference, the groups will be termed B, C and D respectively. Each group contained four males and four females.

PROCEDURE

The children were given paint boxes, and in order to allow
them to establish ownership of the paints, they were asked to
paint a picture. The painting was performed in a "social
setting" in which the subject, the Experimenter, a second
child and a doll (dressed so as to appear of the opposite sex
to the second child) all participated. The situation was such
that, for half the children in each age group, the paint boxes
were shared by the participants, one paint box between two
(shared possession, Condition 1). For the other half of the
children, each participant had his own paint box (individual
possession, Condition 2).

Following the painting, the subject was asked to play a
"pointing game" and, as a pretest, was asked to point to: "my
paint brush"; "your paint brush"; "his paint brush" and "her
paint brush". This ensured that the subjects understood both
the task, and the singular possessive pronouns. Six test
sentences were then presented in a random order. The
sentences contained 1st, 2nd or 3rd person plural possessive
pronouns, or the equivalent pairs of singular pronouns, as
follows:

1. We have some paints; point to our paints (1st
   person).

2. You two have some paints, point to your paints
   (2nd person).

3. They have some paints; point to their paints (3rd
   person).

4. We have some paints; point to mine and his/her
   paints (1st person).

5. You two have some paints; point to yours and his/her
   paints (2nd person).

6. They have some paints; point to his and her paints
   (3rd person).

For sentence (1) a correct response entailed the child pointing to the paints of the Experimenter and any of the other participants. Sentence (2) required the child the indicate his own paints and those of either the second child or the doll. The remaining sentences were much less ambiguous in their reference and thus allowed only one possible correct response. Both sentences (3) and (6) required the child to indicate the paints of the doll and 2nd child; sentence (4) entailed him pointing to the paints of the Experimenter and the doll or the 2nd child and sentence (5) required him to point to his own paints and those of either the doll or the 2nd child.

It is clear from the above that there was a greater likelihood of the child being correct when responding to sentences (1) and (2) than the remaining sentences, simply because they allowed more variation in correct responses. Whilst unfortunate, this bias was seen as inevitable because of the nature of the plural pronouns themselves.

The children's responses were tape-recorded. When the children gave an initially incorrect response they were asked to "try again". If they subsequently failed to give a correct response within one minute, the sentence was abandoned and a latency of 60 seconds was recorded. It it appeared that the subject was distracted from the task, the experiment was halted until his attention had been regained.

Thus, it was possible to examine:

(a) the extent to which children understood the use of the different plural pronouns;

(b) whether children had greater difficulty in

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understanding plural possession if it involved the
use of specific plural possessive pronouns;

(c)   Whether children had greater difficulty in
understanding two individuals owning one item between
them (ie sharing) than in understanding two
individuals owning two objects, one each; and

(d)   Whether any of the above were affected by the age of
the child.

THE ANALYSIS

The subjects' responses were timed from the
tape-recordings and any errors were noted. The scores for the
latency to correct response were analysed usng a 4 way ANOVA
to test the effects of age possession condition (1 or 2),
pronoun-referent (1st, 2nd or 3rd person) and pronoun type
(singular or plural). Scheffe tests were used to further
analyse the significant results. The number of correct first
attempt answers was also analysed using 6 Friedmann 2 way
analyses of variance to examine the same variables. Wilcoxon
matched pairs signed ranks tests were used to examine the
significant results in more detail.

Whilst no statistical analysis was performed on the error
data, the results were tabulated for examination.

RESULTS

All the findings are listed in Table 9. As expected, the
children showed an overall improvement in performance with
increased age, in terms of both latency to correct response
and the number of correct first attempts (F = 57.8, df = 2,
18, p<.0005; χr^2 = 7.34, df = 2, p<.05). Group D produced

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TABLE 9

All results from Experiment 3 showing the degrees of freedom and level of significance.

A// Latency data.

Main Effects	F Value	df	p
Age	57.80	2,18	<.0005
Pronoun referent	27.83	2,36	<.0005
Pronoun type	5.78	1,18	<.03
Possession condition	0.30	1,18	ns

Interactions			
Age x referent	8.17	4,36	<.0005
Age x pronoun type	0.63	2,18	ns
Age x condition	4.33	2,18	<.03
Pronoun type x referent	0.03	2,36	ns
Condition x referent	4.38	2,36	<.02
Pronoun type x condition	1.63	1,18	ns

B// Correct first attempts.

Effects	χr^2 value	df	p
Age	7.34	2	<.05
Pronoun referent	29.38	2	<.001
Pronoun type	0.67	1	ns
Possession condtion	0.08	1	ns

correct responses faster than Group C (p<.01) who, in turn, were quicker than Group B (p<.01) ($\bar{x}B$ = 35.48; $\bar{x}C$ = 19.05; $\bar{x}D$ = 6.03). In terms of the number of correct first attempts produced by the children, again, Group B produced fewer than Group C (p<.05) and Group C produced fewer than Group D (but this result was not significant). ($\bar{x}B$ = 4.38; $\bar{x}C$ = 2.88; $\bar{x}D$ = 2.50).

The picture changes slightly when the children's responses to the different pronoun referents are examined for each age group. Figure E illustrates the mean latency to correct response for each set of referents, for all 3 age groups. A brief inspection of these results indicates that there was little difference between the three groups in response to the 3rd person referents (ie in response to "his and her" or "their"). The means diverged in response to the 1st person referents ("mine and his/her" or "our") such that the difference between Groups B and D was significant (p<.01).

However the means were most diverse for the 2nd person referents ("yours and his/her" or "your"). Here all the differences between the three age groups were significant: Group B were slower at responding than Group C (p<.01) and Group C were slower than Group D (p<.05).

Thus it would appear that all the children, even those in the youngest age group coped reasonably well with the 3rd person referents. The older two groups also performed with relative ease to the 1st person referents, but the youngest group appeared to encounter some difficulty. In response to the 2nd person referents, however, hardly any of the children in Group B gave a correct response (hence the very large

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FIGURE E : Mean latency to correct response to each pronoun referent for each age group.
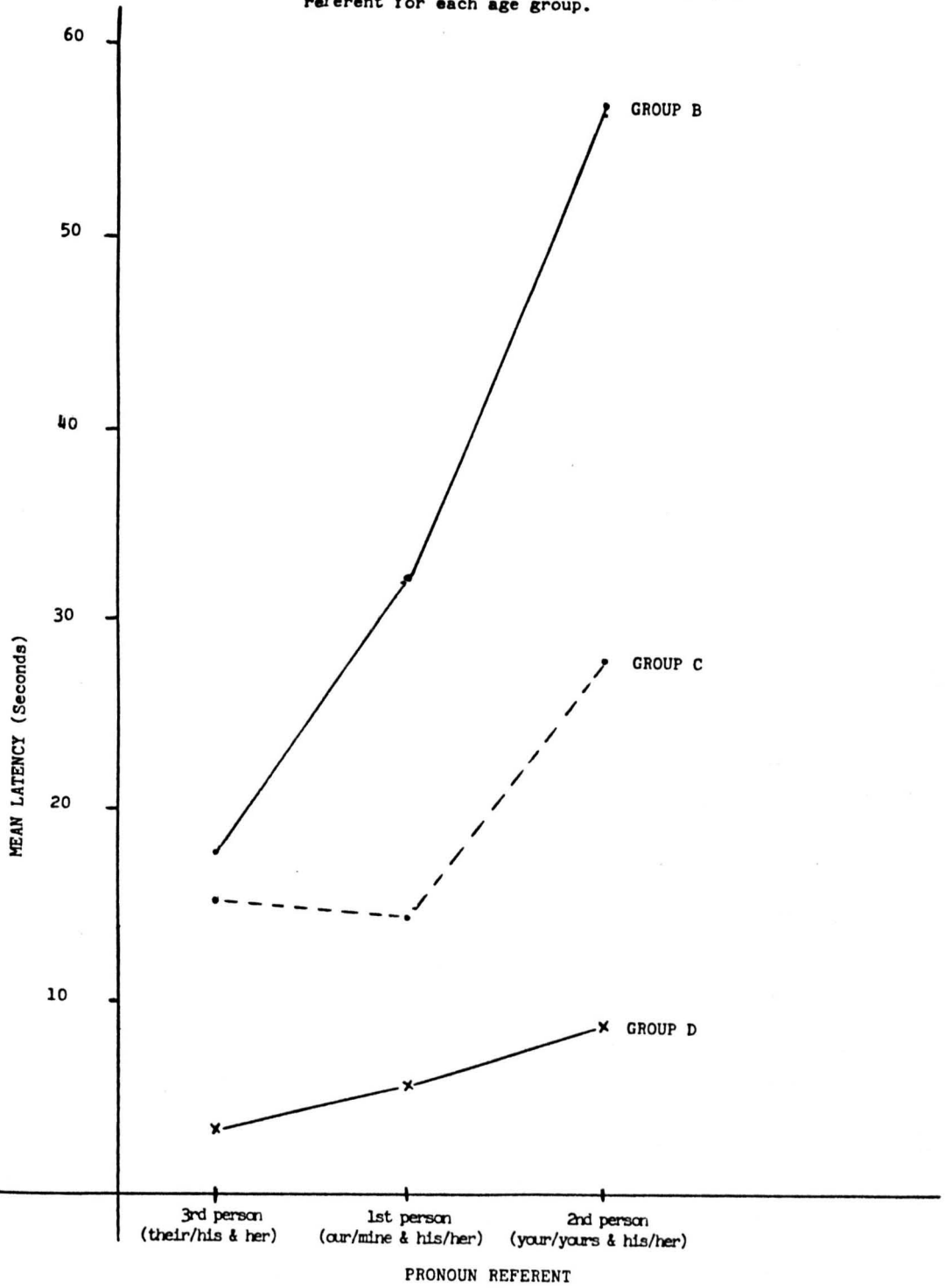
average latency score). Group C also had problems with this referent, although not to the same extent, but the children in Group D seemed to have very little difficulty. In fact, from Figure E it appears that Group D's speed of responding to all three referents was similar, indicating that they had few problems with any of the referents.

Group C encountered slightly more problems with 2nd person referents than with 1st or 3rd person referents, but the differences were not significant. The youngest children, however showed clear differences in performance with the three referents. They were almost as quick in responding to 3rd person referents as the older children, but their mean latency rose significantly when responding to the 1st person referents ($p < .05$). They were even slower at responding to the 2nd person referents ($p < .01$).

It would seem, therefore, that, as in Experiments 1 and 2, the children's performance overall, increased with age. However this is largely due to the performance of the younger two groups. Group D had little problem with any of the referents, Group C appeared to have difficulty with the 2nd person referents, and Group B appeared to respond well to the 3rd person referents, poorly with the 1st person referents, and encounter severe problems with the 2nd person referents.

Overall, the children's performance with the different referents varied on both measures ($F = 27.83$, $df = 2, 36$, $p < .0005$; $\chi r^2 = 23.36$, $df = 2$ $p < .001$) such that performance was best with 3rd person referents and worse with 2nd person referents. There were significant differences between the 2nd person referents and the other two in terms of the speed of

responding (p<.01 for all comparisons) and the number of correct first attempts (p<.05 for all comparisons). No significant differences were found between the 1st ad 3rd person referents. However, most of the differences between the referents can be accounted for in the performance of Group B. It is possible to assume from these results, that children are well able to cope with 3rd person referents by 2.5 years old. By 3.5 years they can also understand 1st person referents. However it is not until 4.5 years that they are able to respond to referents that include themselves as one of the owners of an object.

The type of pronoun (plurals or pairs of singulars) included in the sentences also appeared to affect the results. However, only the differences between the speed of responding was significant (F = 5.72, df = 1, 18, p<.03) such that the pairs of singular pronouns were responded to faster. This difference was reflected in the number of correct first attempts but it was not significant ($\bar{x}$ sings = 1.79; $\bar{x}$ plur = 1.46). Thus it would appear that the use of plural pronouns, as opposed to pairs of singulars did adversely affect performance, as anticipated.

There were no overall differences in performance according to whether the children shared the paint boxes or owned them individually. There were differences, however, in the speed of responding to each of the pronoun referents, for the two ownership conditions. Figure F illustrates the mean speed of response to the three referents, for the children in each ownership condition. Children who owned the paints individually (Condition 2) responded more slowly to the 1st

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FIGURE F : Mean latency to correct response for both possession conditions, to each pronoun referent.
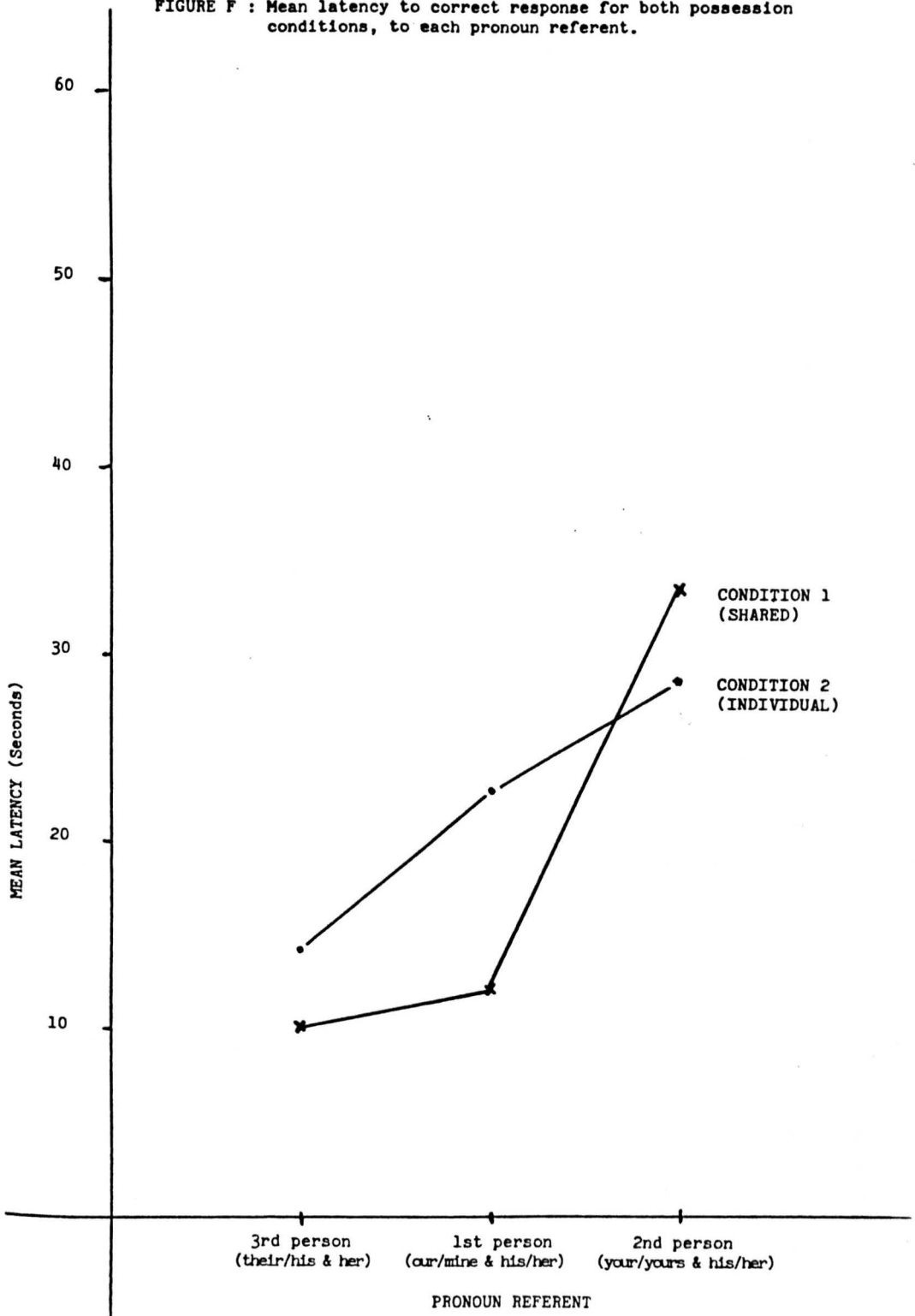
and 3rd person referents than children who shared the paints.
However, for the 2nd person referents the reverse was true:
children who shared the paints performed more slowly than
those who owned the paints individually. These results were
trends only, however, and none of the differences were
significant.

It is possible to explain this result by assuming that the
children take slightly longer to point to two paint boxes than
they do to point to one box. Hence, when they owned paints
individually, the children took slightly longer to respond
because they were required to point to two boxes, owned by two
individuals. However this pattern seems to be reversed
for the 2nd person referents where children who shared the
paints performed best. This is perhaps because all the
children found the notion of sharing much more difficult when
it applied to themselves as one of the owners. This argument
is supported by the fact that none of the differences between
performance with the three referents were significant when the
children owned the paints individually. When they shared the
paints, however the children responded much more slowly to the
2nd person referents (ie where they were themselves a joint
owner) than to either the 1st or the 3rd person referents
(p<.01 for all comparisons).

The performance of the children in the different ownership
conditions was also affected by age. Figure G shows the mean
speed of response of children in three different age groups
who owned their paints individually, compared to those who
shared their paints. It is clear from the graph that children
in Group D responded with equal speed, whether they shared the

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FIGURE G : Mean latency to correct response of the children in the two ownership conditions for each age group
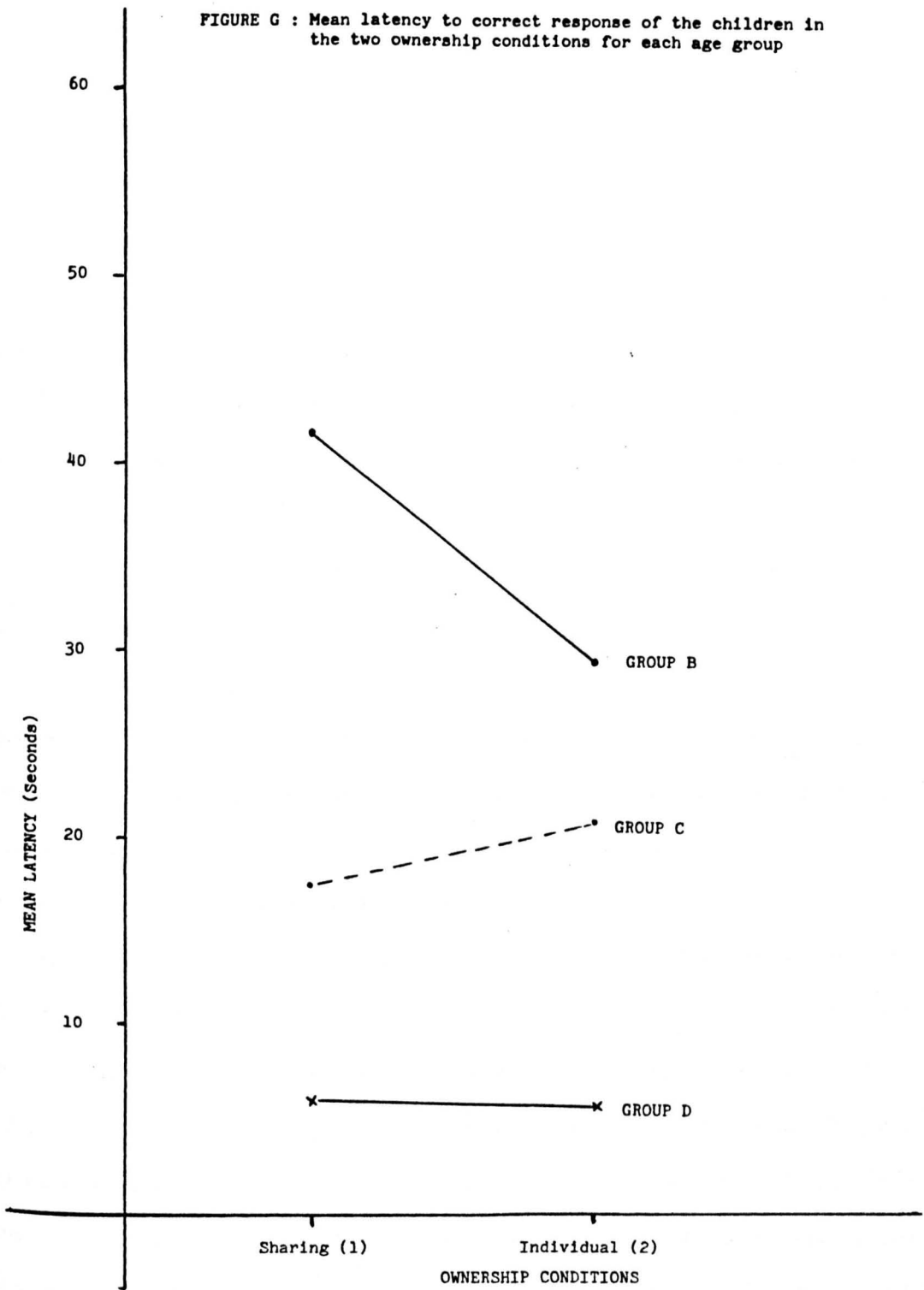
paints or owned them individually. Children in Group C

responded more slowly, but again there was little difference

between their performance in the two ownership conditions. In

the youngest age group however, the children responded faster

when they owned the paints individually, than when they shared

them (although the difference was not significant). Thus, the

only significant differences between the various means were

between Group B, and Groups C (p<.05) and D (p<.01) amongst

the children who shared their paints.

These results suggest that before the age of 3.5 years,

children have problems in coping with the notion of sharing

objects. The finding is especially noteable since it is

reasonable to assume that pointing to two objects requires

more time than pointing to one object. Thus there should be

a bias in terms of speed of responding toward faster

performance in the sharing condition.

Contrary to expectations, the children's performance with

the two types of pronouns, was not affected by the ownership

conditions. It had been suggested that the children in

Experiments 1 and 2 might have performed poorly with the

plural pronouns (or avoided using them) because they implied

sharing. Thus it had been hypothesised that the children in

the sharing condition might perform better with the plural

pronouns than the pairs of singulars, and that their

understanding of the plural pronouns in relation to sharing

might be better than in relation to individual ownership.

Whilst no significant differences were found, the latency

means for the two ownership conditions, with respect to the

two types of pronoun indicate that the reverse was actually

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true. There was virtually no difference between the means latency for the two ownership conditions when the children responded to singular pronouns ($\bar{x}$ sharing = 17.94; $\bar{x}$ indiv = 17.86). In the individual ownership condition the children's latency with plural pronouns was only slightly higher ($\bar{x}$ = 19.19) but their latency increased with plural pronouns in the sharing condition ($\bar{x}$ = 25.67). This would suggest that the difficulty in understanding plural pronouns is increased slightly when they refer to shared objects.

The errors in responding made by the children to the various pronoun referents, are shown in Table 10, for all age groups, and both conditions. They were surprisingly unilluminating. However, two findings are clear: first, that most of the errors made retain the notion of plurality. Very few of the children responded as if to a singular pronoun. Secondly, the most frequent type of error involved the child pointing to himself and one other, regardless of the pronoun referent to which he was responding. This finding is interesting since, from the results concerning the performance with the pronoun referents, one would expect the reverse. The speed of responding and the number of correct first attempts with the 2nd person referents, suggested that the children were reluctant to consider themselves as joint owners with another person.

DISCUSSION

In agreement with the findings of Experiments 1 and 2 it would appear that the children's performance, overall with possessive pronouns increases with age. Also, as expected

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TABLE 10: ERRORS MADE BY ALL SUBJECTS IN RESPONSE TO DIFFERENT PRONOUNS

Response \ Pronouns	Our	Your	Their	Mine & His/Her	Yours & His/Her	His & Her	Total
E + Doll/Child	–	1	0	–	1	0	2
S + Doll/Child	5	–	3	4	–	2	14
Doll + Child	0	2	–	0	1	–	3
E + S	–*	7	4	1	5	2	19
S	1	2	0	1	2	0	6
E	3	0	0	1	0	0	4
Doll/Child	0	1	1	0	0	1	3
TOTAL	9	13	8	7	9	5	51

* Two responses of this type were made to the pronoun "our". They were counted as correct responses.

from the previous two experiments and the research presented in the literature review (Huxley, 1970; Cruttenden, 1977; Baron and Kaiser, 1975; Wells, 1979; Deutsch and Pechmann, 1978; Goodenough, 1938) the children performed better with the pairs of singular pronouns than with the plural pronouns. One of the more unexpected findings however, was that the pattern of acquisition for the pronouns appears to be the same, for the plural pronouns, as for the pairs of singular pronouns. The 3rd person is acquired first, then the 1st person, and finally the 2nd person.

So, it would appear that the acquisition of plural possessive pronouns has begun by the latter part of the 3rd year, with the pronoun "their", and to a lesser extent, the pronoun "our". By the end of the fourth year these two pronouns evoke similar responses, and the acquisition of "your" has begun. It is not until the end of the 5th year however, that a similar level of performance is achieved for all three personal pronouns. This proposed order of acquisition is in accordance with some studies discussed earlier in the literature review (Baron and Kaiser, 1975; Cruttenden, 1977; Huxley, 1970). However, it is in direct conflict with the results from other studies (Deutsch and Pechmann, 1978; Wells, 1979). Equally, the results do not seem compatible with Charney (1980)'s suggestion that the child first acquires pronouns which refer to his own role in the conversation. According to Charney, the pronoun "your" (listener + other) should have been the first to be acquired. On the other hand, Sharpless' (1974) notion of core and derived plurals does seem to fit the data such that "their",

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(other + other) as the only core plural involved in the experiment is acquired first. However, Sharpless' analysis does not explain why "your" (listener + other) causes more problems in comprehension than "our" (speaker + other). Since both are derived plural pronouns, one would not expect the comparatively large differences in response which were particularly marked in the youngest age group.

However, there were no apparent differences in the order of difficulty for the plural pronouns and the pairs of singular pronouns. This result is surprising in the light of results from Experiments 1 and 2, and other research on singular pronouns (Huxley, 1970; Ingram, 1971; Waryas, 1973; Sharpless, 1974; Baron and Kaiser, 1975) which demonstrates that "my" and "your" are understood, and used much earlier than either "his" or "her". It is difficult to see why young children should cope more easily with pairs of pronouns that, individually, they find more difficult, unless a factor other than the words themselves affected the results.

The children's performance overall did not appear to be affected by the type of ownership (shared or individual) in the experimental situation. However, it is clear from the results that the youngest age group did encounter problems in the shared possession condition. This would imply that children under 3 years 6 months have not fully grasped the notion of shared ownership. Above this age however, the children performed equally well in both conditions suggesting that picking out two items owned by two individuals is just as difficult as picking out one item 'shared' by two individuals. However, a closer examination of the responses to the

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different pronoun referents wihin each ownership condition revealed that the children performed better in the shared ownership condition than in the individual ownership condition with the 3rd and 1st person referents (their/his and her; our/mine and his/her). This result was reversed when the children were responding to the 2nd person referents (your/yours and his/her). In the shared possession condition, the children's performance was better than it was in the individual possession condition. Since the 2nd person pronouns are the only ones used in this Experiment which refer to the child himself, it is possible to infer that children find the notion of shared ownership problematic when it applies to themselves.

So, the evidence does suggest that plural pronouns are acquired later than singular pronouns. However, it would also appear that the experimental conditions employed in requiring the child to pick out two items belonging to two owners also affects the results such that children had more difficulty with pairs of pronouns that, individually they find relatively easy (eg 'mine' and 'yours'). On the other hand, when the children faced alternative conditions in the shared ownership condition the youngest group in particular, appeared to encounter even more problems. In addition, all the children seemed to have problems in the shared ownership condition when they themselves were one of the possessors.

INTRODUCTION

Previous research presented in the literature review has
indicated that possession can be categorised according to the
type of object possessed (Fillmore, 1968; Brown, 1973;
Edwards, 1973; Lyons, 1967; Chafe, 1970; Anderson, 1971;
Miller and Johnson-Laird, 1976; Mitchnik et al, 1980).
Primarily possessed objects are seen as either alienable,
where the possession is optional (eg toys, food, clothing) or
inalienable, where possession is obligatory (eg body parts,
kin). Many theorists have suggested that for children at
least, the semantics of the two kinds of possession may differ
(Brown, 1973; Edwards, 1973; Mitchnik et al, 1980).

Moreover, other studies have suggested that the basic
categories of alienable and inalienable can be analysed
further. Brown (1973) suggested that alienable objects can be
divided into items that are in possession for relatively long
periods of time (longterm) such as toys or clothes; and items
that are normally owned for only short periods of time, such
as theatre seats or comestibles (shortterm). Similarly,
Edwards (1973) divided alienable possessions into permanent
or transitory possessions where permanent objects were those
where the owner has full ownership rights over the object, as
opposed to transitory objects where ownership is more tenuous
(for example a borrowed book or a stolen wallet). Mitchnik,
Golinkoff and Markessini (1980) on the other hand, looked at
inalienable possession, and divided it into reciprocal

possession, and intrinsic possession. Basically, reciprocal possession referred to kin, whilst intrinsic possession referred to body parts or part-whole relations.

A variety of studies have provided evidence to support the notion that different semantics may be involved in each of the different "subcategories" of possession. Furby (1976; Furby, et al, 1975) demonstrated that both children and adults appear to see possession as relating, for the most part, to alienable objects. In her interview studies, her subjects named large numbers of alienable objects as possessions whilst, very few subjects cited inalienable objects. Brown (1973) also, suggested that, when people talk about possession, they tend to do so in the context of alienable items. These findings would suggest, perhaps, that children, when beginning to acquire the concept, understand possession in terms of alienable objects, before extending it to include inalienable possession also. In fact Brown (1973) demonstrated that, in Stage 1 speech, children's use of possessives nearly all concerned alienable objects. Furthermore, Edwards (1973) showed that permanent possessions were mentioned most as examples of possessions, with very few references being made to transitory objects. However, he also noted that his subject (aged under 2 years) did mention some inalienable objects as possessions, and that these were all body parts. Brown (1973) also found that the few inalienable objects metioned by his subjects were body parts or intrinsic objects.

In contrast, however Mitchnik et al (1980) found that their subjects (also in Stage 1 speech) actually responded better in intrinsic possessions than either alienable objects

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or inalienable reciprocal objects. The results from
Experiments 1 and 2 would also suggest that young children
perform better in response to body parts than to a variety of
types of alienable objects. They would also indicate that
shortterm alienable possessions (in this case, chocolate) are
responded to better than longterm possessions (eg books or
felt pens) and that the length of time that an object has been
in possession also affects children's performance.

This experiment set out to compare children's performance
with a variety of different kinds of object, belonging to the
Experimenter or to themselves, in a comprehension task. It
employed both inalienable (reciprocal and intrinsic) and
alienable objects, the latter group including longterm and
shortterm items, permanent and transitory items, items that
had been owned for a long time, and new items. It also
employed a number of items that could be worn, and compared
the effect on performance when the owner was wearing the
object, to that when he was not, in case this affected the
childrens' responses.

It was expected that intrinsic inalienable objects would
be responded to best, and reciprocal inalienables, worst.
Permanent possessions should be better understood than
transitory ones, and the objects owned a long time should be
responded to better than the newer items. In addition, the
children were asked to name their preferred possession, from
the new alienable objects available in the Experiment, to see
if preference for a particular object might also affect
performance.

The children ranged, in age, from 1 year 6 months when

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according to most investigators (Brown, 1973; Edwards, 1973; Mitchnik, Golinkoff and Markessini, 1980) the possessive construction is beginning to appear, to 4 years old. Thus any changes in the patterns of responding as a result of age, could also be examined.

SUBJECTS

The subjects comprised 23 children from a local nursery school, in three age groups: 1;6 to 2 year olds (mean age 1:9); 2;6 to 3 year olds (mean age 2:8); and 3;6 to 4 year olds (mean age 3:9). The groups will be referred to as A, B and C respectively, for convenience. There were seven children in Groups A and C: 4 boys and 3 girls in Group A, 3 boys and 4 girls in Group C. Group B consisted of 9 children: 5 boys and 4 girls.

PROCEDURE

The Experimenter was introduced to the children as a friend of one of the nursery staff who had some gifts for them. Bags of presents were given out to the children, containing: a tube of Smarties, a toy animal, a toy watch, and either a bracelet (for the girls) or a novelty bowtie (for the boys). The Experimenter had a duplicate set of presents in front of her. The children had also been asked to bring to the experiment a toy from home, and a toy borrowed from the nursery school. Attempts were made to match these toys from a pool of mixed toys so that if the child brought a teddy from home, and a car from the nursery, the Experimenter placed in front of her, a teddy and a car. These were described as

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belonging to the Experimenter.

The children were allowed to play with their presents and
to wear their watches for a short while before the study
began. They were requested not to wear the bracelet or bowtie
"in case they got lost". The subject was then asked which of
the toys he preferred, and to identify his best friend at the
nursery school. His responses were noted. Finally, he was
invited to play a "pointing game" with the Experimenter, and
as a pretest, was asked to point to a number of items around
the room to ensure that the task was understood. The
Experimenter then asked the child to point to 20 objects in a
random order half belonging to himself, and half to the
Experimenter. The objects in question were specified by the
use of a possessive pronoun, either "my" or "your" eg "Point
to my Smarties", or "Show me your animal".

The children's responses were tape-recorded. If the
children pointed the wrong object they were asked to "try
again". Where no correct response was obtained within one
minute, a latency of 60 seconds was recorded, and the object
abandoned. If the subject became distracted during the test,
the experiment was halted until attention had been regained.

THE OBJECTS

Ten types of object were used in the study (see Table 11).
Two of these were inalienable objects; one being intrinsic
(nose) and the other a reciprocal object (friend). The friend
of the Experimenter was identified by the Experimenter as the
nursery teacher, whilst the subject's friend had been
identified earlier. Both individuals were easily seen through

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TABLE 11

List of objects used in Experiment 4, along with an explanation of their
type.

Object	Type
	<u>inalienable</u>
nose	intrinsic
friend	reciprocal
	<u>alienable</u>
smarties	shortterm
toy animal	new, long term
toy watch	new, long term, wearable, worn
bracelet/bow tie	new, long term, wearable, unworn
shoe	"long owned", long term, wearable, worn
coat	"long owned", long term, wearable, unworn
toy from home	"long owned", long term
borrowed toy	transitory

a large window next to the subject. Eight alienable objects were employed, including four new objects which had been given to the subject as presents just before the start of the experiment. One of these was edible and therefore shortterm (Smarties); one was a longterm alienable object (toy animal); and two were longterm items that could be worn (toy watch and bracelet/bowtie). Of these latter two, the subject was instructed to put on the toy watch, but not the bracelet or bowtie. Two more items that could be worn were used in the study, one of which the child was wearing (shoe) and one that he was not wearing (coat). It was assumed that both of these items had belonged to the child for a reasonably long period of time, and they were thus seen as "long owned" longterm alienable objects. The children had been asked to bring to the experiment, a toy from home, and a toy borrowed from the nursery. They represented a "long owned" longterm alienable object, and a transitory alienable object respectively. As far as possible, the Experimenter duplicated these two items with similar objects belonging to herself (in the case of the toy from home) and similar objects belonging to the nursery (in the case of the borrowed toy). The Experimenter also had a set of identical, new longterm objects in front of her, and was wearing a toy watch, and shoes. A coat belonging to her was placed on the back of her chair.

THE ANALYSIS

The children's responses were timed from the tape-recordings and any errors that they might have made were noted. The scores for the latency to correct responses were

analysed using a 3 way ANOVA to examine the effects on performance of age, object type and object owner. A second 3 way ANOVA re-examined the same variables but used only 4 of the object types including the child's preferred object. Scheffe tests examined the significant results further.

The number of correct first attempts was analysed using a Kruskall-Wallis one way Analysis of Variance, looking at the effects of age. A series of Mann Whitney U tests further analysed the significant results. The effects of object owner were examined using a Wilcoxon Matched-pairs signed-ranks test, and a series of 1 sample Chi-squared tests were carried out to look at the effects of object type, including preferred object.

RESULTS

(Table 12 lists all the results obtained from Experiment 4). As predicted from the previous studies, the children showed an overall improvement in performance with age, on both measures. (F = 72.19, df = 2, 20, p<.0001; H = 112.47, df = 2, p<.001). The means on both measures, for the three groups indicated an increase in performance from Group A to Group C ($\bar{x}A$ = 38.80, 2.71; $\bar{x}B$ = 20.28, 7.0; $\bar{x}C$ = 5.54, 10.0). The youngest children gave fewer correct first attempts than the children in Group B (p<.001), and Group A (p<.001). They were also slower at responding correctly than Group A (p<.01). There were no significant differences on either measure between the older two groups.

In terms of the children's performance overall with the two different object owners, Experiments 1 and 2 would suggest

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Table 12

All results from Experiment 4 showing the degrees of freedom and the level of significance.

A// Latency data.

Main Effects	F Value	df	p
Age	72.19	2,20	<.0001
Object Owner	38.40	1,20	<.0001
Object preference	10.60	3,60	<.0001
Object type	11.47	9,180	<.0001
Interactions			
Age x object preference	3.10	6,60	ns
Age x object owner	5.87	2,20	<.01
Age x object type	2.78	18,180	<.0005
Object type x object owner	4.14	9,180	<.0001
Age x object type x object owner	2.85	18,180	<.0005
Object owner x object preference	11.15	3,60	<.0001
Age x object owner x object preference	3.65	6,60	<.005

B// Correct first attempt data.

Effect	Value	df	p
Age	H = 112.47	2	<.001
Object owner	Z = 3.5	-	<.001

that they should respond faster and more accurately when they

owned the objects themselves. This prediction holds the

children gave more correct first attempts, and responded

faster when they owned the objects than when the Experimenter

did (F = 38.40, df = 1, 20, p<.0001 = 3.5, p<.001).

Experiments 1 and 2 would also predict that this effect should

decrease with age, and again Experiment 4 found this to be so.

Figure H illustrates the mean latency scores for the three

age groups in response to the two object owners. It shows

that the major differences in speed of response to the two

object owners occur in Group A (p<.01) and Group B (p<.01).

There was almost no difference in the speed of response to

the two object owners in Group C. The means indicate that for

both object owners, the oldest children responded fastest and

the youngest children slowest. However, Figure H shows that

children owned the objects, than when the Experimenter did.

the differences between the age groups were smaller when the

When the children were the object owners only the youngest

group's performance was significantly worse than that of the

older two groups (p<.01 for all comparisons). When the

Experimenter owned the objects, however, there were

significant differences between all three groups (p<.01 for

all comparisons). Indeed, the youngest children had a mean

latency of almost 60 seconds, and 4 of the youngest group

failed to respond correctly at all when the Experimenter was

the possessor. Thus it would seem that, whilst overall, the

children had more problems when the Experimenter was owner,

this effect is reduced as the child grows older.

The type of object used in the experiment also affected

FIGURE H : Mean latency to correct response to each object owner for each age group
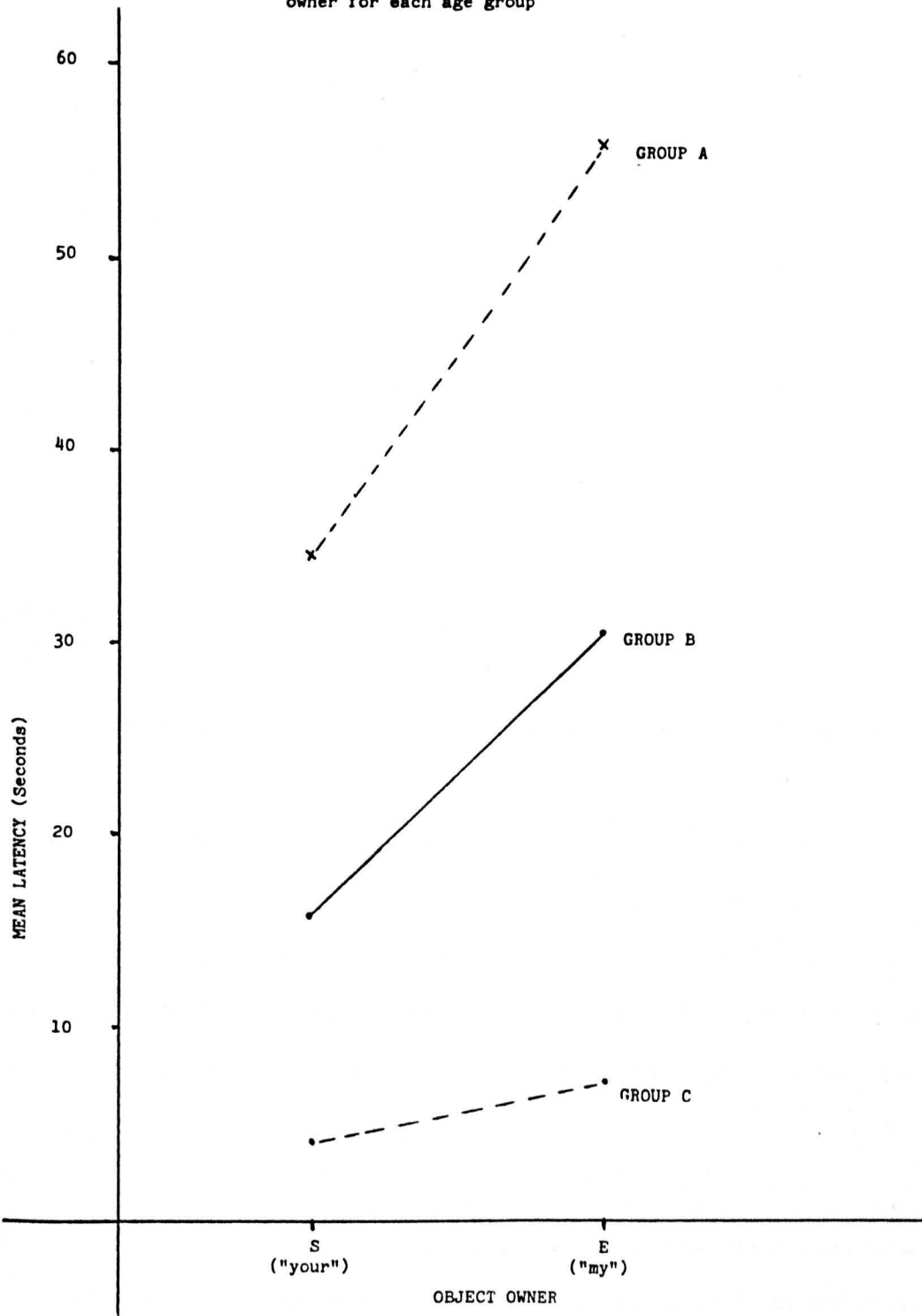
the children's performance on both measures ($F = 11.47$, $df = 9$, 180, $p<.0001$; $X^2 = 19.32$, $df = 9$, $p<.05$). The means from both the latency scores, and the number of correct first attempts, indicate similar patterns for the relative performance with the different objects. (See Table 13 for details of the mean scores). The children performed best when "nose" was the object and there were significant differences, on both measures, between "nose" and five other objects: "toy from home", "coat", "bowtie/bracelet", "borrowed toy" and "friend" ($p<.05$ for all comparisons). "Animal" also elicited fewer correct first attempts than "nose" ($p<.05$). Thus, as expected, the inalienable intrinsic "nose" presented fewer problems for the children, than any of the other objects.

There appears, from Table 13, to be very little difference in the measures of performance for "shoe", "watch" and "Smarties". The number of correct first attempts for "shoe" and "watch" was identical, with "Smarties" eliciting slightly fewer. In terms of speed of responding, "Smarties" and "watch" produced the same mean latency whilst "shoe" produced correct responses almost as quickly. These three, the shortterm object, and the two wearable, worn objects, one new, one "long owned", appear to make up an intermediate group. The children's performance with them was slightly worse than with an inalienable intrinsic object but better than with the remaining six objects (although none of the differences were significant).

Performance deteriorated when "animal", "toy from home" and "coat" were the objects. The children gave fewer correct first attempts (the same number for all three) and they took

TABLE 13:   Mean scores for the latency to correct response and the number of correct first attempts for the various object types.

OBJECT TYPES	NOSE	WATCH	SHOE	SMARTIES	ANIMAL	TOY FROM HOME	COAT	BOW TIE/ BRACELET	BORROWED TOY	FRIEND
LATENCY IN SECONDS	10	17	19	17	23	26	29	33	35	36
CORRECT FIRST ATTEMPTS	38	33	33	28	21	21	21	20	20	16

longer to respond. The children's speed of response was best when "animal" was the object (that is, the new alienable object), and slightly higher when "toy from home" was employed (ie "long owned" alienable object). When "coat" was used as the object (ie "long owned" alienable, wearable but unworn object) the speed of responding was slowest.

Using "bowtie/bracelet" and "borrowed toy" reduced levels of performance still further, but only slightly. Equal numbers of correct first attempts were produced for the two objects, but the children responded more slowly to the "borrowed toy" than to the "bracelet/bowtie". Again, however, the differences are not significant. The children did respond more slowly to the two objects than to "nose", "watch" or "Smarties" (p<.05 for all comparisons) however, and more slowly to "borrowed toy" than to "shoe" (p<.05).

On both measures, performance was worst when "friend" was the object in question. Children gave fewer correct first attempts than with any other object, in particular "nose", "shoe" and "watch" (p<.05 for all comparisons). They also responded more slowly than they did with these three objects or with "Smarties" (p<.05 for all comparisons).

So, it would seem that the children performed best with the inalienable intrinsic object ("nose") and worst with the inalienable reciprocal object ("friend"). Of the alienable objects the shortterm objects ("Smarties"), and the two wearable and worn objects, both "long owned" and new ("shoe" and "watch", produced the best performances, second only to "nose". The ordinary alienable objects, new and "long owned" ("animal" and "toy from home") along with the "long owned"

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wearable unworn object ("coat"), caused the children slightly more problems. Worst of all, however, apart from "friend", was the performance with the transitory object ("borrowed toy") and the new wearable but unworn object, "bracelet/bowtie".

This pattern of performance was further complicated, however, by the age of the children. Figure I shows the mean speed of responding of each age group to the different types of object. It suggests that the majority of differences in responding to the objects, occurred in the two youngest groups. For Group C the differences were minimal. In Group B, the major differences occurred when the objects "nose", "watch", "Smarties" and "shoe" were compared to the remaining objects, particularly "coat", "bracelet/bowtie", "borrowed toy" or "friend". For the youngest children, none were able to respond correctly when "bracelet/bowtie", "borrowed toy" or "friend" were objects. Their performance with the remaining objects was slightly better, and best of all when "nose" was the object. None of the differences between the speeds of response to the various objects were significant, however, for any of the age groups.

The results suggest that the youngest children have severe problems with inalienable reciprocal objects ("friend"), transitory objects ("borrowed toy") and new alienable, wearable but unworn objects ("bracelet/bowtie"). These problems persist, but to a lesser extent, until the children reach the age of 3.5 years. This is illustrated in Figure I by the divergent means of the age groups for these three objects.

For the inalienable intrinsic object ("nose"), the

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FIGURE I : Mean latency to correct response to the different
object types for the three age groups
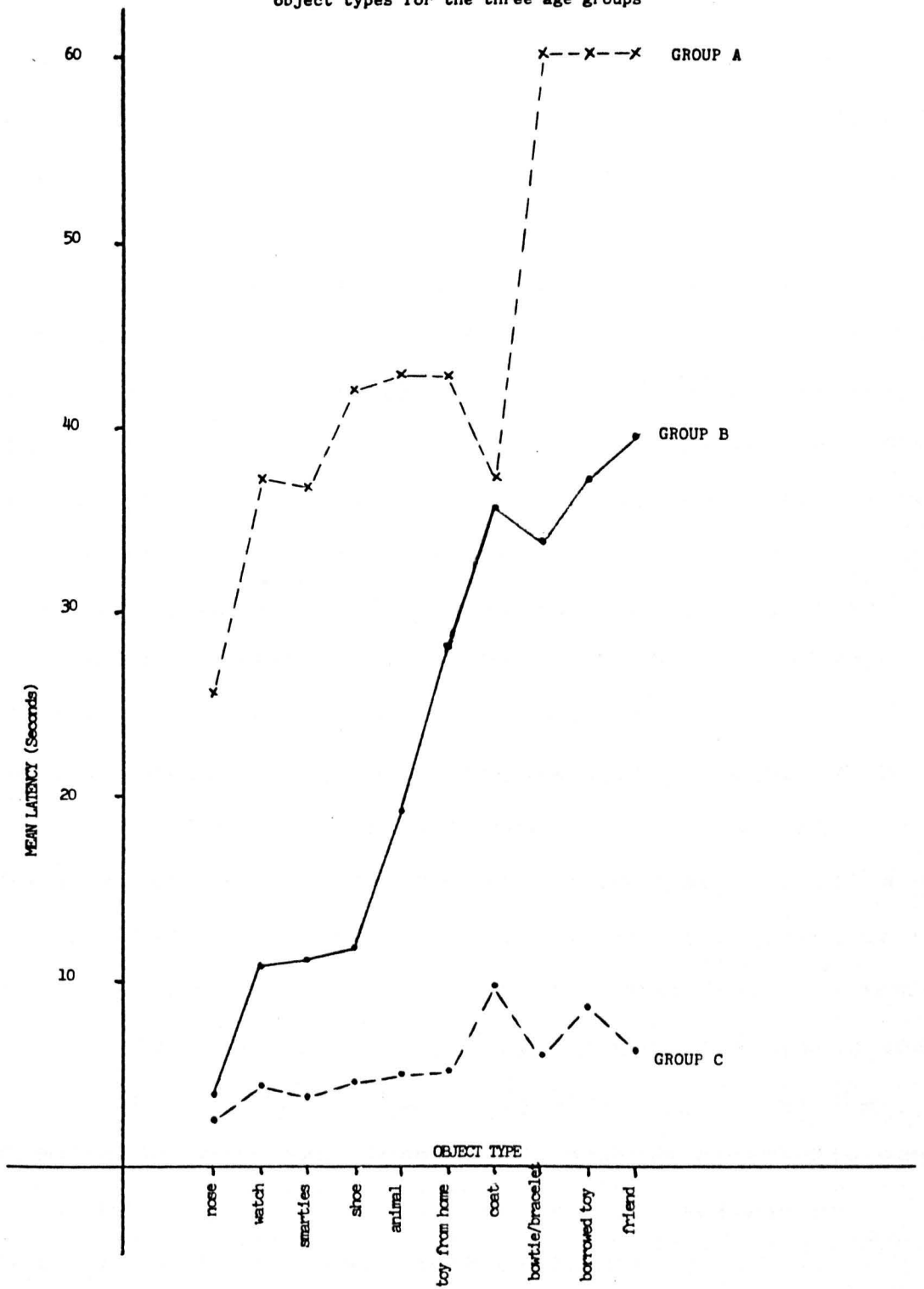
shortterm objects ("Smarties") and the two alienable wearable and worn objects ("watch" and "shoe"), children aged above 2.5 years perform with very few problems. Before this age, the children still appear, from Figure I, to be learning. The children's performance with the remaining objects improves with age, hence the differences between the means of the three groups, in Figure I. However, none of the differences between the three groups was significant for any of the object types.

The children's performance with the different objects was also affected by the identity of their owner. Figure J shows the speed of response to the ten types of object for both owners: child and Experimenter. With all the objects the children responded faster when they owned the objects themselves. However, Figure J suggests that for most of the objects, the differences between performance according to the two owners, was very small. For "toy from home", "coat" and to a lesser extent, "Smarties" however, the differences were larger, although still not significant. Both "toy from home" and "coat" are "long owned" objects, and not attached to their owners (as in the case of shoe). Thus it may be that the children found their own "long owned" objects relatively easy, but those belonging to someone else, where there was no obvious link with the owner, more difficult.

Figure J also shows that the differences in speed of response to "bracelet/bowtie", "borrowed toy" and "friend" when compared to the other objects, were more pronounced when the child was the owner. This is perhaps because the "borrowed toy" (transitory object) did not really belong to them, and because the "bracelet/bowtie" had been in their

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FIGURE J : Mean latency to correct response to the different object types for the two object owners.
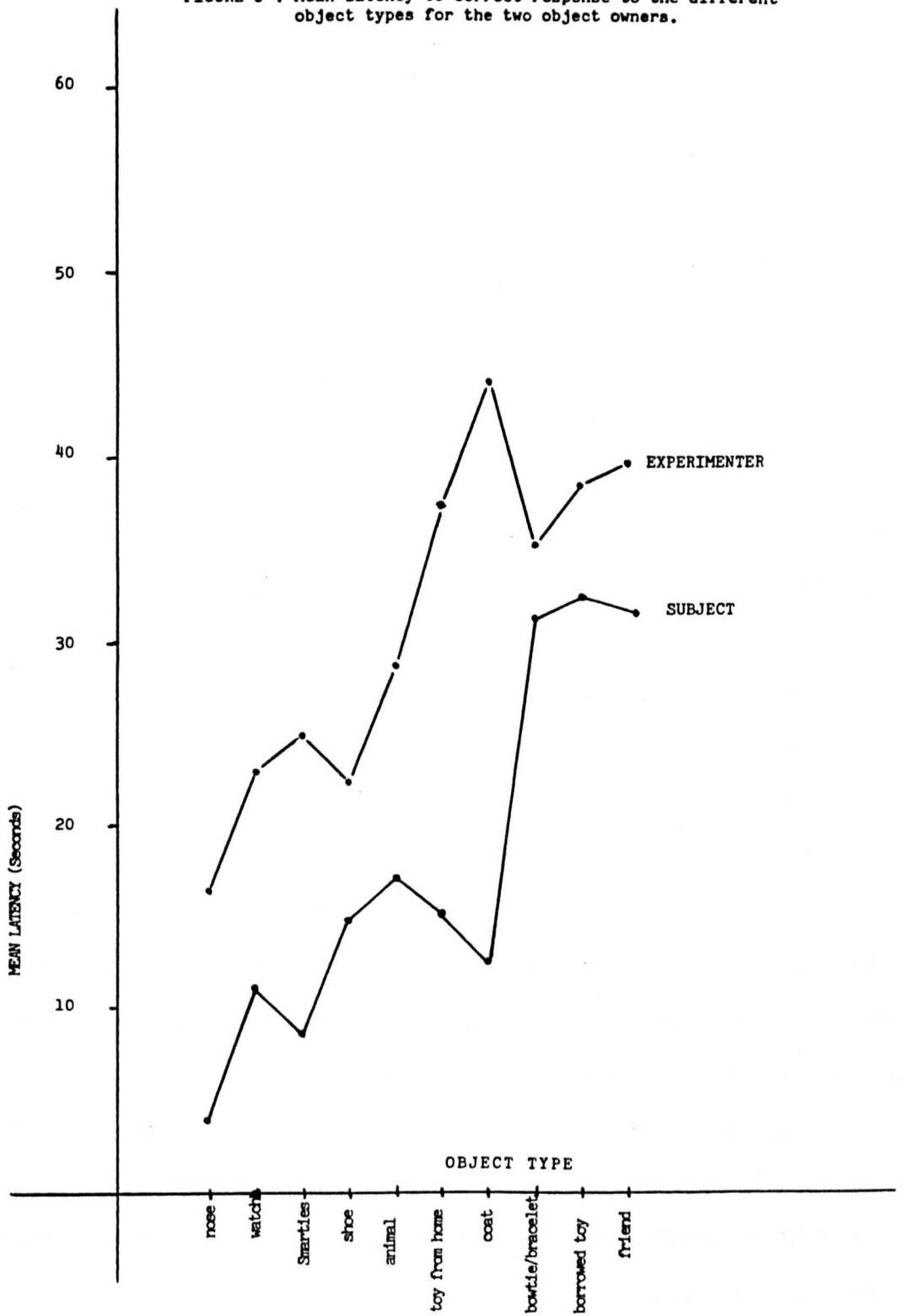
possession for a short time, and was not worn as intended. The "friend" as a reciprocal object might well not have been seen by the children as any kind of possession. However, again, none of the differences between performance with the different objects were significant, when either of the participants were the owners.

From Figures K and L it is also clear that the performance of children in each of the age groups with the various types of object, differed according to the identity of the owner. It would appear that there was little difference in the speed of response to all the objects, no matter who owned them, for the oldest age group (Group C). These children at 3.5 years old, seemed well able to cope with all the objects, no matter who the owner was.

Children in Group B, however, appear to have experienced more difficulties with a number of objects. When the child owned the objects, Group B's responses to "friend", "borrowed toy" and "bracelet/bowtie" were slower than to other objects. This again suggests that, for whatever reasons, younger children find these harder. Their difficulties were not so pronounced as those of Group C, however, who were unable to respond correctly at all, to the same three objects. It may be, that the child, at about the age of 2.5 years, is learning about these objects. Group B also had problems with these three objects, along with "coat" and "toy from home", when the Experimenter was the object owner. For "nose", "watch", "Smarties" and "shoe" they responded with similar speed when the child owned the objects compared to when the Experimenter was the owner. This is not surprising since, apart from

FIGURE K : Mean latency to correct response to the different objects for each age group when the subject is the object owner.
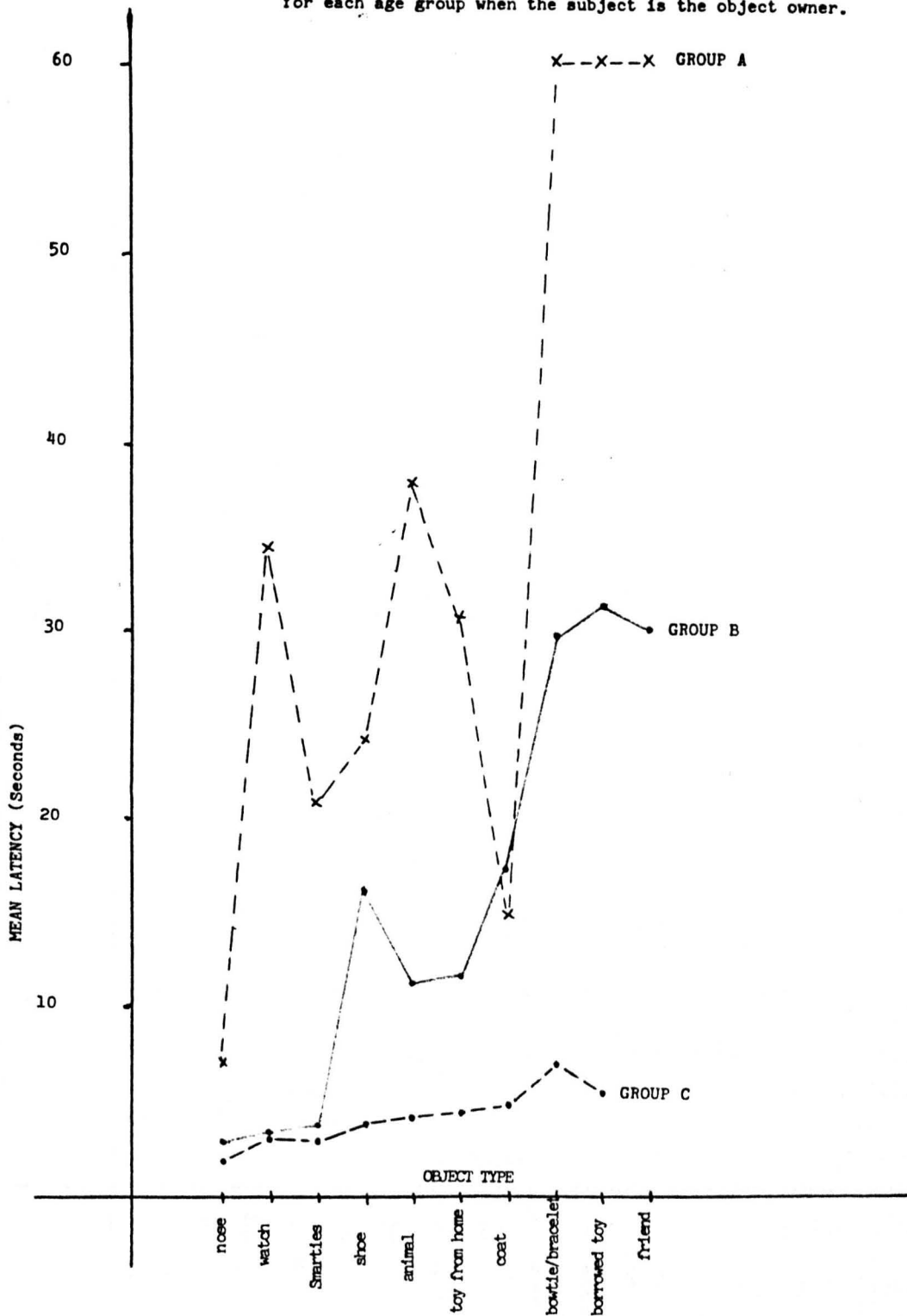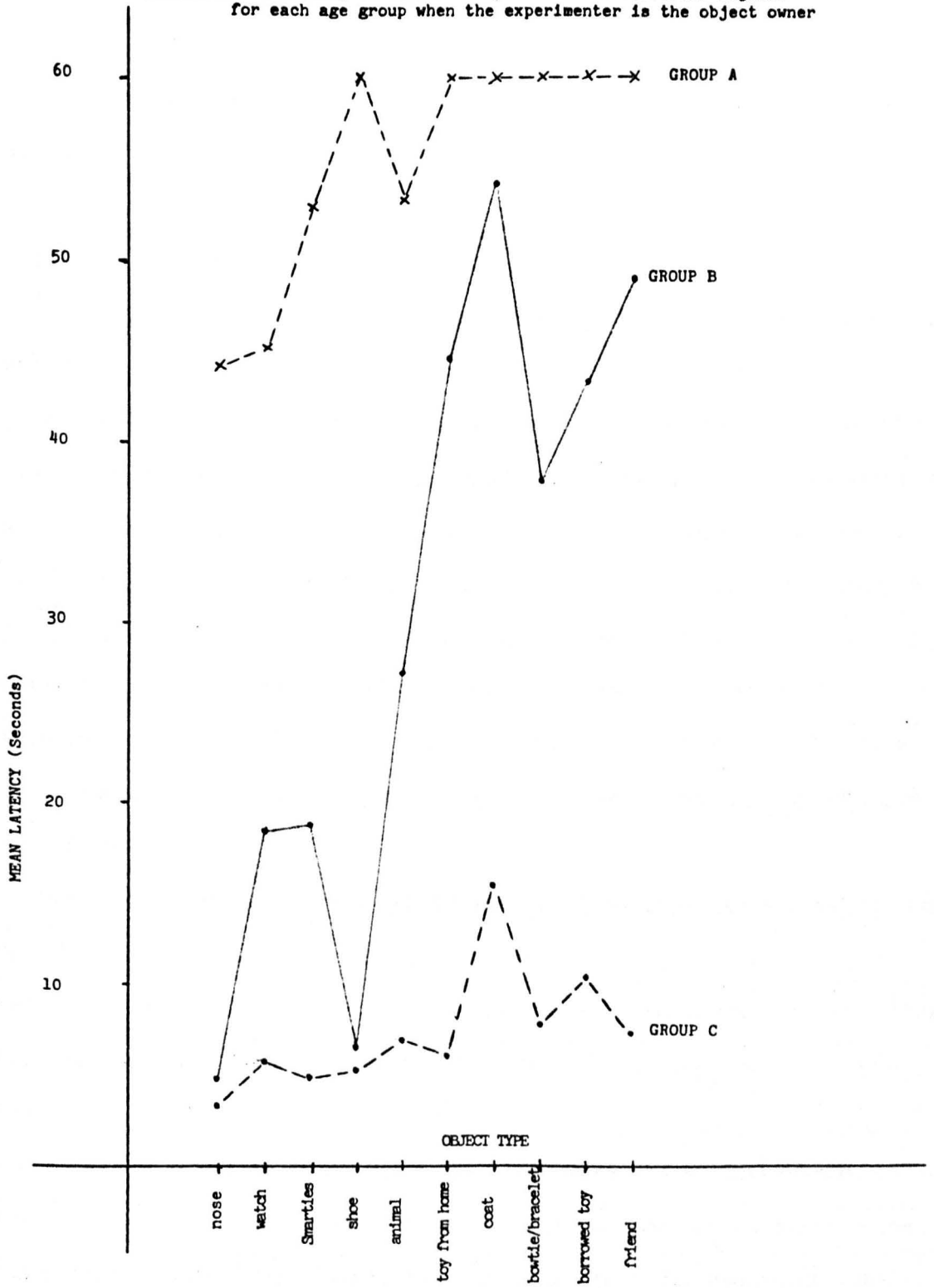
FIGURE L : Mean latency to correct response to the different objects for each age group when the experimenter is the object owner

"Smarties", which the child was normally eating throughout the experiment, all the other objects were physically attached to their owners.

In the youngest group, when the Experimenter owned the objects, there was little difference in the relative speed of responding to the different objects. "Nose" and "watch" (again both attached to the Experimenter) produced slightly better performance, but in general the speed of responding was slow. Indeed the children seemed unable to respond correctly at all to "shoe", "toy from home", "coat", "bracelet/bowtie", "borrowed toy" and "friend". This suggests that at 1.5 years, the children are really only able to cope with objects belonging to others if they are physically attached to their owners (and not always under these circumstances, as in the case of "shoe").

When the child owned the objects, Group A were unable to respond correctly to "friend", "borrowed toy" and "bracelet/bowtie". They responded faster however to all the other objects, than they did when the Experimenter was the owner.

It would appear then that by 3.5 years the children responded well to all the objects, no matter who owned them. Before 2.5 years, the children were unable to respond to transitory objects ("borrowed toy"), inalienable reciprocal objects ("friend") or new alienable wearable but unknown objects ("bracelet/bowtie") no matter who owned them. Otherwise they were much faster at responding to their own objects than those of the Experimenter. Indeed, none of these children were able to give correct responses to any of the

Experimenter's objects, apart from her "nose", "watch", "Smarties" and "animal". Even these objects produced slow responses. They performed well, almost as quickly as the older children, with their own "nose", and the differences between Groups A and B were not large when responding to their own "watch", "Smarties", "shoe" and "coat" in particular.

Group B performed almost as well as the oldest children for all their own objects except "bracelet/bowtie", "borrowed toy" and "friend". These latter three caused some problems. Group B also performed with similar speed to Group A when the Experimenters' "nose" and "shoe" were presented. They took slightly longer when her "watch", "Smarties" and "animal" were the objects in question. For the remaining items, Group B's performance was worse when the Experimenter owned the objects than when the child did.

So, one can state that even the youngest children can respond well to their own objects provided they are either physically attached to them ("nose", "watch" and "shoe") or the item is edible ("Smarties"). The older two groups also coped well with these items when they belonged to the Experimenter, but Group A had more problems here, particularly with "Smarties" and "shoe". Both the younger two groups had problems with "bracelet/bowtie", "borrowed toy" and "friend". None of the children in Group A could respond to these objects no matter who the owner. In Group B, the difficulties were less severe, but still noticeable, particularly when the Experimenter owned the objects.

The youngest children appeared also to have problems with all of the objects owned by the Experimenter, but not with

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those owned by themselves, suggesting that, even with items attached to other people, they are unclear about possession as it relates to anyone other than themselves. Unfortunately it is not possible to be too sure of any of the above findings since none of the differences between the different mean scores were significant.

Quite apart from the way the different types of objects influenced performances, the children's speed of response and the number of correct first attempts were affected by their preference for certain objects (F = 10.60, df = 3, 60, p<.0001; X^2 = 9.16, df = 3, p<.05). The children's performance with their "favourite" object was compared to their performance with "nose" (as an inalienable intrinsic object) "toy from home" (as a "long owned" longterm alienable object) and another new alienable object from the bag of presents, not chosen as the child's favourite.

The children performed almost as well on both measures with their favourite object as they did with "nose", and better than they did with either "toy from home" or "other object". However, only the differences between the favourite toy and the other new object were significant on either measure (p<.05 for all comparisons).

This finding did not vary with the child's age but it was affected by the identity of the owner (see Figure M). Figure M suggests that when the Experimenter was the owner, the children's speed of responding to their favourite item hardly differed from that with the other new item. When the child was owner however, the favourite object produced faster responding than all objects except "nose". Thus when the

FIGURE M : Mean latency to correct response to the 2 object owners for four object types including the childs preferred item
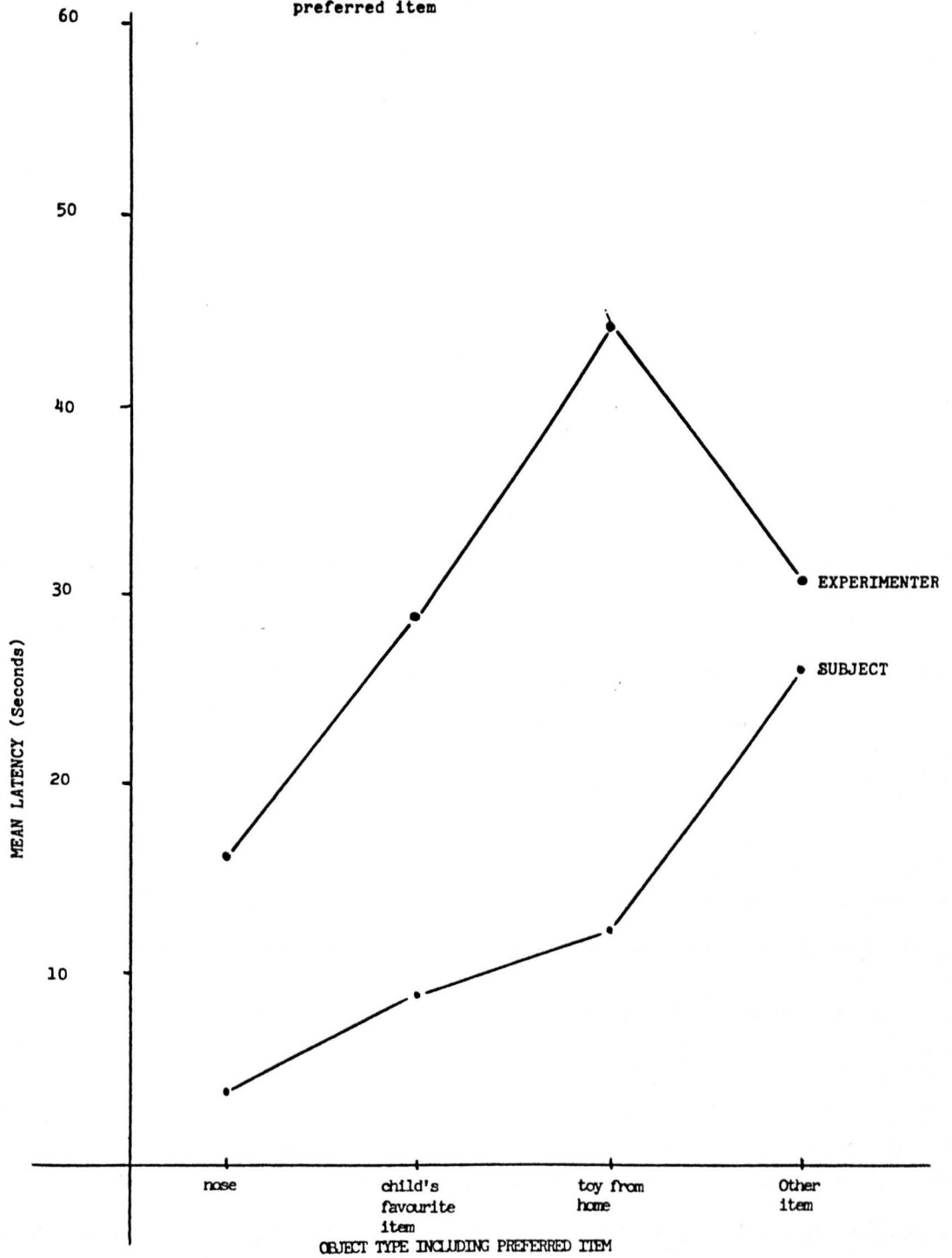
Experimenter was the owner, the only significant differences were between "nose" and the other three objects (p<.05 for all comparisons). When the child was owner, however, the children responded faster to "nose" and to "favourite object" faster than to the "other object" (p<.01 for all comparisons).

In other words, the children were much better at establishing their own possession of a favourite item, than they were at establishing some other person's ownership of the same. From the graph, it is clear that the differences in performance between the Experimenter as owner and the child as owner were greater when "toy from home" or "favourite toy" are the objects in question. There were significant differences in the speed of responding when the child was owner, compared to the Experimenter as owner, for both objects (p<.01 for all comparisons). The identity of the owner affected performance only slightly for the other two objects.

Figures N and O show that this pattern of responding is affected by the age of the child. The children in the oldest age group responded equally well to the four objects regardless of the owner's identity. The pattern reported above, then, is due mainly to the performances of the younger children. Group B responded almost as well as Group C, to "nose" no matter who the owner was. They performed equally well with the 'favourite object' when it belonged to themselves, but much more slowly when it belonged to the Experimenter. The "toy from home" produced quite serious problems for this group when it belonged to the Experimenter, whilst, as reported previously, the children responded reasonably well to their own "toy from home". Their

FIGURE N : Mean latency to correct response for each age group to
the four object types including the childs preferred object
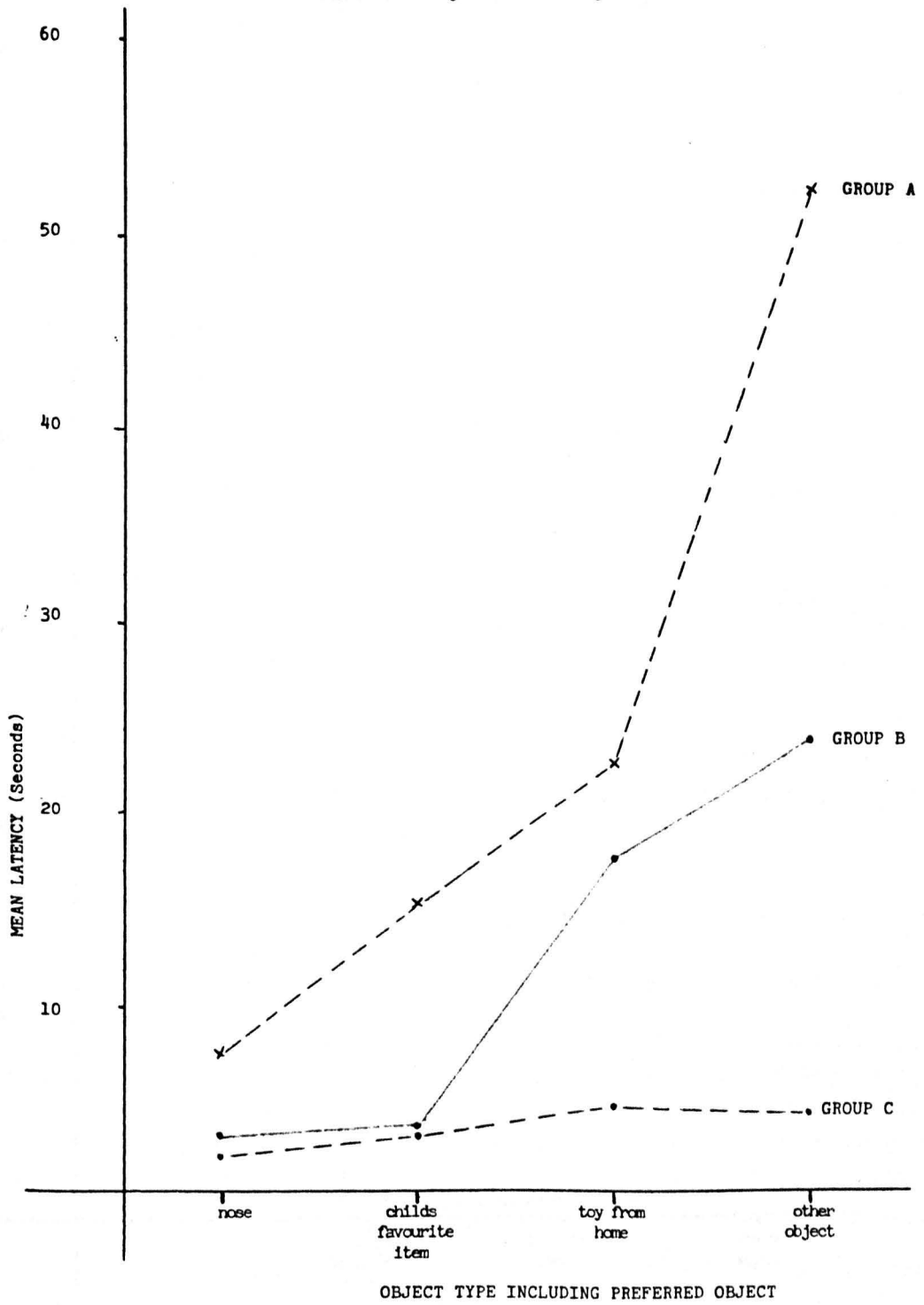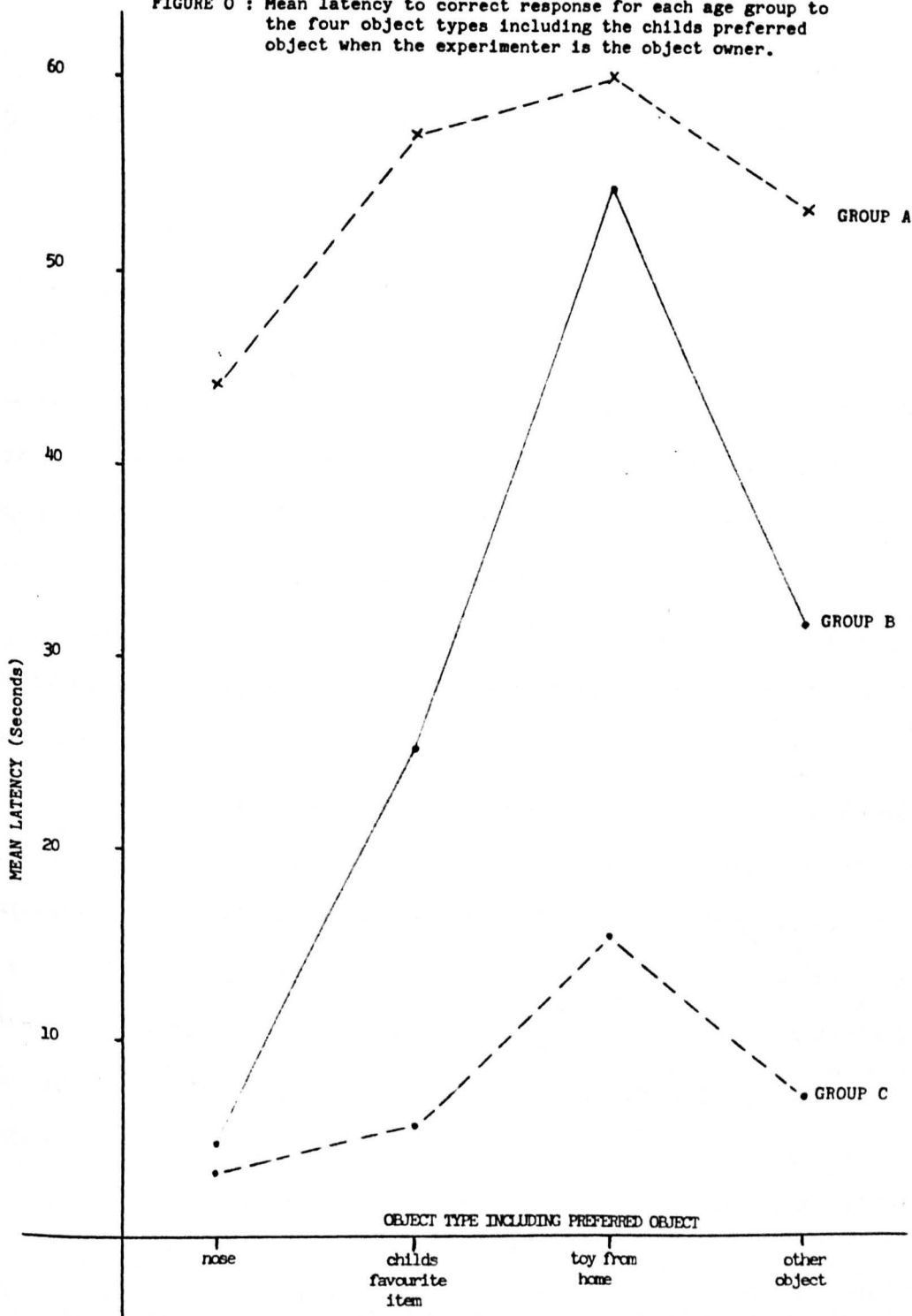when the subject is the object owner.

FIGURE 0 : Mean latency to correct response for each age group to the four object types including the childs preferred object when the experimenter is the object owner.

performance with the "other object" was similar no matter who the owner was, and it was generally poorer than that of Group C.

The youngest group, also responded with relative ease to their own 'nose', and encountered a few more problems with their own "favourite toy". Their performance deteriorated with their "toy from home" and worsened again with their "other object". When the Experimenter's objects were presented, they performed poorly with all objects, especially the "toy from home". Their best performance was with "nose", but the "favourite toy" and "other object" were almost identical in the response speed they elicited, as was the case in Group B.

It would seem then, that the effect of presenting the child's "favourite toy" diminishes with age, and is no longer apparent at 3.5 years. In the younger two groups, the children responded much faster to their own favourite toy than to that owned by the Experimenter. In the latter case, the object was treated no differently than any other new alienable object.

DISCUSSION

As expected, the children's performance overall increased with age. In agreement with the results of Experiment 1 and previous research (Charney, 1980; Huxley, 1970; Ingram, 1971; Waryas, 1973; Sharpless, 1974; Baron and Kaiser, 1975) the children responded best to the pronoun "your" (as referring to themselves as owners) than to the pronoun "my" (as referring to the Experimenter as owner). However, the differences in

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performance with the two pronouns did decrease with age.

The type of object used in the experiment also affected performance. Overall, the children performed best with intrinsic inalienable objects, confirming the findings from Experiment 1 and 2, and the results of Mitchnik et al (1980). Also in agreement with a study by Mitchnik et al, the results from this experiment showed that children have most difficulty with reciprocal inalienable objects. So, it would appear that children understand possession best when it relates to intrinsic inalienable objects, and worst when it relates to reciprocal inalienable objects. Their understanding of it in relation to alienable objects seems to be better than in relation to reciprocal objects but worse by comparison to intrinsic objects.

By 3 years 6 months, however, children are well able to understand possession concerning all kinds of objects, so that most of the differences found in this Experiment, were due to the performance of children below 3 years 6 months (in the youngest two groups). Children in this age group also seem to understand possession better when it involves some kinds of alienable objects rather than others. As predicted from Edwards (1973), children under 3 years 6 months are better able to cope with permanent objects, as opposed to transitory ones. In fact, none of the very young children (under 2 years) were able, in the Experiment to respond correctly to transitory objects. They were also unable to respond correctly to new wearable but unworn objects, although it is not clear why, since their responses to other new items, and other wearable but unworn items, were better.

So, it would seem that the first items to be understood as possessed objects, at 1 year 6 months, are intrinsic inalienable objects. By 2 years 6 months, some alienable objects: shortterm items, and items that are worn, are also understood. The ownership of other alienable objects is also developing, but is not fully understood until 3 years 6 months. Transitory items, and reciprocal inalienable objects appear to cause most difficulty.

In addition, the length of time that an object has been in possession, the better the children understand the nature of possession, although this latter effect seems only to operate for their own objects. Perhaps, then it is familiarity with a particular object that enhances the understanding of possession, rather than simply the length of time the object has been owned. The children are familiar with objects they have had for a long time, and thus their possession has been well established.

Finally, the children's preference for particular objects also seems to increase their understanding of possession, especially when they own the preferred item. Again, however, this effect decreases with age. By 3 years 6 months, possession is understood in relation to all kinds of objects regardless of who owns them, and regardless of preference.

EXPERIMENT 5

INTRODUCTION

Experiments 1, 2 and 3 looked at young children's understanding and production of possessive pronouns. They demonstrated that children tend to talk about and understand the possessive relation very early in development, sometimes as early as 18 months (as also seen from previous studies presented in the literature review: Goodenough, 1938; Huxley, 1970; Nelson, 1973; Léveillé and Suppes, 1976; Brown, 1973; Rodgon, 1976; and others). Other studies, looking at social interaction in young children have suggested that many of the quarrels and conflicts that occur are concerned with issues of possession (Dawe, 1934; Bronson, 1975; Smith and Green, 1975; Ross and Hay, 1977). However, the above investigations, whilst indicating that children can understand and apply certain words, and tend to become quarrelsome when a possession is threatened by another, have not really given any clue as to what possession means to the child. Only Furby (1976; 1977; 1978a; 1978c; 1980b) has made any systematic attempt to do this, but even she did not look at very young children. Furby found, however, that by six years old, the child defines possession in terms of his own rights of access to an object, his control over other's access to an object (as predicted by Snare, 1972), the association between his possessions and his sense of self (also put forward by Beaglehole, 1932) and the means of acquisition of an object.

Other writers have suggested that, especially for young children, the meaning of possession may be linked to the location of objects (Brown, 1973; Bar-Adon, 1971; Leopold,

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1949; Lyons, 1967; Miller and Johnson-Laird, 1976; Greenfield, Smith and Lanfer, 1976). Furby also found that her six year old subjects tended to talk in terms of "having" or "keeping" an item, when asked about the meaning of possession. One might expect, then, that young children would define possession in any one or more of these ways. However, Furby also discovered that the meaning of possession given by her subjects tended to change with age. Entirely different explanations of possession were given by children and adults of different age groups although some of the explanations occurred in all groups (particularly those relating to the owner's control over access to an object, and the link between the object and the owner's self perception).

This experiment sought to examine by means of interview the meaning of possession for children aged from three years and six months (much younger than any previous studies) to six years (in an attempt to replicate Furby's findings with her youngest group of subjects). The different responses from children of different ages were compared to see if the meaning of possession altered across the age groups.

In addition, the interview looked at different kinds of owned objects, especially intrinsic inalienable objects, reciprocal inalienable objects, and alienable objects, to see if children's ideas about possession changed with respect to the different types. Some writers have suggested that the semantics of possession may change according to these three types of object (Brown, 1973; Edwards, 1973; Mitchnik, Golinkoff and Markessini, 1980; Furby, 1976, Furby, Harter and John, 1975) and certainly the results from Experiment 3

demonstrated that children's performance varies significantly with the different kinds of object. Hence this interview included sections to examine the children's notion of possession as it affects body parts (intrinsic inalienable objects) and kin (reciprocal inalienable objects) as well as alienable objects which were the main focus of Furby's (1976) study.

In fact Furby (1978a) did make some suggestions about the possessive relation as it relates to people, or in this case, kin, indicating that the notion of control (as applied to alienable objects) might be involved. Hence, she felt, jealous feelings might arise if the "possessor" felt he was losing control or influence over his "possessed object". In order to examine this possibility, questions concerning the control aspect of possession as related to kin, and to body parts, were included in the interview. Different types of alienable objects were also used in the interview: clothing; longterm and shortterm objects, permanent and transitory objects, pets, longowned and new items, money (token items), territorial items such as bedrooms and large items such as houses. Edwards (1973) and Experiment 4 both demonstrated that children appear to encounter more difficulty with some of the above objects than others. Thus the interview set out to compare children's ideas about possession as related to the different kinds of object. It also investigated the possibility of there being items that were not possessed or even "unpossessable" according to the children's view.

Finally, the children were asked about the possessive relation as it affects collectively owned items, and those

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objects belonging to other people. In Experiments 1, 2 and 3 the results indicated that more problems arose for children dealing with plural possessive pronouns and, in the singulars, those relating to others as owners. (This has also been illustrated by other studies: Charney, 1980; Cruttenden, 1977; Huxley, 1970; Waryas, 1973; Baron and Kaiser, 1975). It is possible that part of the difficulty experienced by children regarding these words concerns their perceptions about collective possession, or others as owners, in addition to the problems arising from the words themselves. Hence it was expected that the meaning and "rules" about collective possession, and possession relating to other people as owners, might differ from possession relating to their own objects.

SUBJECTS

Twenty four children from a local nursery and primary school were employed in 3 age groups: 3;6 to 4 year olds (mean age 3;8); 4;6 to 5 year olds (mean age 4;10) and 5;6 to 6 year olds (mean age 5;9). The groups will be termed Groups C, D, and E respectively. Each group contained 4 males and 4 females.

PROCEDURE

The children were asked if they would talk to the Experimenter about "some of the things that belong to them". If they agreed, they participated in a structured interview given by the Experimenter. The interview was undertaken in three parts, with breaks of at least an hour between each part to alleviate boredom. For some of the children the interview

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took place over 2 days.

(After completion of the interview, the children were
rewarded with bags of jellybabies).

The children's responses to the questions and any
additional remarks were tape recorded, and later transcribed
for analysis.

THE INTERVIEW

The interview fell into three distinct parts:

(1)   Part A comprised six sections. It required the child
      to provide as full a list as possible, of his own
      possessions. It asked the child to define possesion
      and attempted to discover whether this meaning
      changed according to the type of object possessed.
      The types of objects suggested to the child covered
      the following (an example of the actual objects used
      to illustrate each object type is given in brackets):

      intrinsic inalienable   (nose)
      reciprocal inalienable   (Mum)
      longterm, permanent, alienable   (teddy)
      shortterm, permanent, alienable (sweets)
      transitory alienable   (school reading book)
      clothing worn at time   (jumper)
      territory   (bedroom)
      token   (money)
      large item   (house)
      pet   (Tigger, the cat)

      Part A also looked at items that the child perceived
      as "not possessable", and then focused upon the
      different methods of acquisition involved in
      possession. The final two sections examined the
      relationship of possession to reciprocal objects
      (kin) and to intrinsic objects (body parts). They
      attempted to look at such topics as the meaning of

possession in terms of these two types of object, the child's perceived control over access to the objects, and the possibility of transferring ownership rights over these objects.

(2) Part B of the interview focused on alienable objects owned by the children. It comprised three sections and attempted to investigate the child's own access to his things, his control over access by others, and the implications for the child of breakage or loss of his things, and his rights of transfer.

(3) Finally, Part C was in two parts, the first part dealing with shared and collective possession. Again it examined the access to such objects by the child himself, and other people, the implications of breakage, and the transfer of ownership of such items. The second section investigated similar aspects of access, breakage and transfer, but this time in relation to objects belonging to other people.

(For more details of the complete interview, see Appendix 4).

If the children appeared not to understand the question, or if they encountered problems in answering the question, a series of "prompt" or paraphrased questions were provided to help him. Where possible, examples from the child's own list of 'items belong to him' were used to illustrate points and provide examples.

THE ANALYSIS

Unfortunately, because of the small numbers of children participating in the experiment, very little in the way of statistical analysis could be done, without rendering the results meaningless. Therefore, for the most part, the results are presented in terms of descriptions of the types of responses received, and general trends. A qualitative analysis of this kind clearly leaves a lot to be desired, and any attempts to generalise these trends found from this sample to others should be undertaken with caution. Finally, it should be borne in mind that the children's responses do not necessarily represent their full and complete perceptions or cognitions about possession. In any study of this kind the reader should be aware that the children were able to say as much or as little as they chose, by way of answering the questions.

RESULTS

1 (a) Objects mentioned by children as possessions

Overall, the children mentioned 140 different objects that they owned. The age of the child did not appear to have any effect on the number of objects listed by the children, such that the mean for each age group was between 5 and 6 objects. However, when the objects mentioned were grouped into object "types", it weas apparent that the youngest children tended to list items of similar types, whilst the older children's listed objects were spread across more categories. (The youngest group mentioned objects from 7 categories, the middle group, from 9 categories, and the eldest group, from 11

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categories).

The categories of objects, and the numbers mentioned by
each age group, are given in Table 14. The table shows that
all the children tended to mention alienable objects far more
frequently than inalienable objects. However, inalienable
objects were mentioned by 3 children (surprisingly, all boys)
from the two older age groups. All of the inalienable objects
mentioned were reciprocal objects, and all referred to their
immediate family relations (eg Mum, Dad or sibling). None of
the children mentioned intrinsic inalienable objects. Of the
alienable objects listed, the most popular category was that
of "dolls and accessories". Children of all ages mentioned
items from this group, but, not surprisingly, most were girls
(12 girls and 6 boys). "Teddys and cuddly toys" and
"bikes/prams/trolleys" were also mentioned by the majority of
children, but predominantly the youngest age groups. The
latter category "bikes/ prams/trolleys" also tended to be
cited mostly by boys (9 boys as opposed to 4 girls). Boys of
all ages also tended to mention their "cars or space toys".
(Only 2 of the children citing these objects were female).

Less frequently mentioned overall were "pets", although
half the children from the two youngest groups cited pets in
their list of objects. The older children (from the two older
groups) also mentioned "books/pens etc" with moderate
frequency. Other categories of object were cited by only a few
children. The youngest two groups mentioned the only
shortterm alienable objects, sweets (all girls), and two
children under 4 years old also cited "games and puzzles".
"Clothing and watches etc" were given as examples of possessed

TABLE 14

Experiment 5:   Categories of objects mentioned by the children, and the numbers mentioned by each age group.

CATEGORIES OF OBJECT	AGE GROUPS			
	C	D	E	Total
Dolls and accessories	6	6	6	18
Teddy/cuddly toys	7	6	3	16
Cars/space toys	5	4	5	14
Bikes/prams/trolleys	5	5	3	13
Pets	4	4	–	8
Books/pens/paints	–	2	4	6
Clothes/watches/jewellery	–	1	3	4
Sweets/edibles	2	1	–	3
Musical instruments	–	–	3	3
People	–	2	1	3
Games/puzzles	2	–	–	2
Furniture/Wendy house	–	–	2	2
Security blanket	–	–	1	1
Toy sets eg farmyard, fort etc	–	–	1	1

objects by some children in the two older groups, but other categories (security, blanket, furniture etc, musical instruments, and toy sets) were only mentioned by the oldest children.

The results appear to reflect, to some extent, at least, the differences in the interests and activities between the ages and the sexes. Hence girls tended to mention dolls whilst boys tended to cite toy cars and bicycles. Younger children mentioned cuddly toys, sweets and pets, whilst older children listed clothing, books, and musical instruments.

1 (b) The meaning of possession

All the children were able to give at least one defining characteristic of possession, but the younger children clearly had more problems with this, and required more prompting. Overall, the children listed eight defining characteristics of possession generally. Table 15 lists the eight characteristics and shows the total number of children from each age group who mentioned them. By far the most popular response to questions about the meaning of possession, was to paraphrase the possessive relation (eg "its mine") or to describe the physical appearance of the object in some way (often by referring to the fact that it had the child's name on it somewhere). Children from all groups were likely to respond in this way. The older children also tended to define possession in terms of their ability to control access to the object, in terms of their own usage ("I can play with it") or in terms of other people's access to it ("You can't play with it unless I let you").

Some children from the older two groups also mentioned the

TABLE 15

Experiment 5:   Defining characteristics of possession
given by the children from each age group.

DEFINING CHARACTERISTICS	AGE GROUPS			
	C	D	E	Total
Paraphrase (eg it's mine)	4	2	3	9
Description, name tags	3	4	2	9
Control over access	-	1	6	7
Keeping	-	4	1	5
Acquisition	-	2	3	5
Others have possessions	1	-	-	1
Location	-	1	-	1
Reference to higher authority	1	-	-	1

means of acquisition as a defining characteristic of possession (eg "Mummy bought it for me"), and the children from the middle group, particularly, sometimes talked about keeping the item, as a defininition of possession (eg "I keep it"). Three other characteristics were mentioned by one child only. From the youngest group, one child referred to "other people having things too" as a way of defining possession, and a second child mentioned the location of her possessed objects. (They're in my cupboard, at home"). One child from the middle group defined possession in terms of reference to a higher authority: "Its mine because Mummy says so".

Children in the youngest group chiefly responded with a paraphrase, or by describing the object. In the middle age group these two strategies were still popular, but children also talked in terms of "keeping" objects and to a lesser extent, the means of acquisition of the objects. In the eldest group the most frequent definition, however, involved the child's control over access to objects, although paraphrasing, describing and the means of acquisition were also mentioned.

The children's definition of possession also altered according to the type of object involved. When talking about possession of people (reciprocal inalienable objects) they chiefly tended to define possession according to the role of the person "possessed". For example where "Mum" was the object, 15 of the children mentioned her caretaker role. However, 3 also said that she had "always been theirs"; three described her physically; two used location to describe the possession (eg "she stays at home"); and one mentioned the

means of acquisition (in its broadest sense): "She's mine because she had me". When talking about intrinsic inalienable objects (nose) the children nearly all referred to the obligatory nature of the possession (eg "its stuck on my face") but in addition, two children gave a paraphrase to define possession; and three children gave a description of their noses (eg "its got freckles"). The different alienable objects also tended to elicit different definitions of possession. These are presented in Table 16.

For clothing (worn at the time of the interview) the children most frequently either described the object, or spoke of the fit of the object (eg "its too small for anyone else to wear"). They also mentioned, with moderate frequency, the location of the object (eg "I keep it in my drawers") or the fact that it had their name in it.

When talking about possession in terms of a longterm, permanent possession (usually, their teddy), most children spoke of the location of the object, however a few also described it, and some defined possession in terms of their own access to it (eg "I can play with it"; "I can take it to bed").

The possession of pets was almost always defined by its location (eg "it lives at home") or by the child's caretaking role (eg "I have to take him for walks").

For sweets (shortterm alienable objects) the children tended to respond chiefly with paraphrases, or by mentioning the means of acquisition of the sweets (eg "Mum gave them to me"), but a few also talked about their own access to them (eg "I can eat them").

Table 16.   Experiment 5:   Different alienable objects and the definitions of possession.

DEFINITION   ALIENABLE OBJECTS

	Clothes	Teddy	Pet*	Sweets	Money	Room	House	Schoolbook	Total
A	1	5	1	3	5	1	2	-	17
B	1	1	-	2	-	7	7	-	18
C	1	-	-	2	-	-	-	-	3
D	-	-	8	-	-	-	-	-	8
E	-	-	-	8	4	1	-	2	15
F	8	5	1	2	-	6	11	3	36
G	7	-	-	-	-	-	-	-	7
H	5	-	-	-	-	6	-	11	22
I	-	2	-	6	9	-	-	8	25
J	-	-	-	-	-	1	-	-	1
K	4	10	6	-	6	-	-	-	26
L	-	-	-	-	-	-	2	-	2
M	-	3	3	1	-	5	2	2	16

KEY
A - Control over own access to object
B - Control over usage by others
C - Keeping
D - Caretaking of object
E - Paraphrase
F - Description
G - Fit of object

KEY
H - Owner's name on object
I - Acquisition
J - Others also have similar objects
K - Location of object
L - "Its always been mine"
M - Don't know

[*Only 18 of the children had pets]

When talking about money (tokens) the majority of children talked about the means of acquisition, but a few others mentioned the location of the money (eg "I keep it in my moneybox"), their own access to it (eg "I can spend it"), and some paraphrased possession (eg "its mine").

The possession of their room (or for 3 children who did not have their own room, their place in the classroom was frequently defined in terms of control over the usage by other people (eg "You can't come in"; "No-one else can sit there"). Other children described their bedrooms or spoke of their name being on the bedroom door. Five of the children, however were unable to define possession in terms of their own bedrooms.

For very large items, usually their house, the children again most frequently described their house, but a few also mentioned the control over other's access.

Finally, the possession of the transitory object, the school book, was most frequently defined in terms of the owner's name being on their reading card, inside the book, or else by the fact that the teacher had given the book to them (acquisition). So, it would seem that, whilst children tend to define possession most often by paraphrases, or by describing the possessed object (and to a lesser extent in terms of their control over access to the object) their definition of possession does alter slightly according to the type of object that is possessed.

In general then, children tend to define possession by paraphrasing the possessive relation, or by describing objects that belong to them. This is particularly true of the youngest children. As their ages increased, other definitions

were used beginning with the idea of "keeping" objects to, eventually, talking about the means of acquisition and their control over access to objects.

1 (c)   Non possessables

Half of the children said that everything belonged to somebody: that there was no such thing as an unpossessable, or even a non possessed object. However, the children of different ages did respond differently. In the youngest group, all but one child felt that everything was owned by someone. The three prompt items (tree, bird and bus) were also seen as possessed objects. Trees, for example were seen as being owned by gardeners, planters or woodsmen. Buses tended to be seen as owned by their drivers or the passengers and birds, if not caged and owned by their keepers, belonged to "the sky" or to "God". Thus in the event of the child not knowing who the "owners" of these objects were, they all tended to attribute ownership.

In the second age group (4;6 to 5 years old) only three of the eight children felt that everything was owned by someone. The remaining five children gave examples of "non possessables" such as "the sea" or "the sky". One child also mentioned "big buildings like banks or libraries" in this category. In response to the three prompt objects, they tended, however, to respond in the same way as the younger children, attributing ownership to "God", "the sky" or "each other" in the case of 'birds', and to "gardeners" or "drivers" in the case of 'trees' and 'buses'. Only 1 child felt that birds did not belong to anyone.

Of the eldest group, however, six children thought

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that there were objects that were "unpossessable" or "not posessed". Examples of such objects ranged from "stolen", "lost", "worn out" things, to large items such as "parks" and "factories". Six of the children felt that the three prompt items might belong to someone, but did not necessarily have to be owned by anyone.

It would appear then, that the youngest group felt that everything belonged to someone, and tended to attribute ownership in the event of not knowing who the owner was. The eldest group, however, did allow that something might not be owned by anyone. Large communal items were often seen as 'unpossessables' especially by the middle age group, but the older children also mentioned items where ownership was disputed or difficult to attribute (such as stolen, lost or worn out objects).

1 (d) Methods of acquisition

The age of the children also appeared to affect the number of different methods of acquisition of objects they listed. The youngest group were only able to produce two methods: other people giving them objects, and other people buying objects from them. The middle group, listed on average three different methods: buying, giving, making, stealing (which was mentioned by only two children) and lending (mentioned by only one child). By contrast, the eldest group mentioned, on average, five different methods of acquisition, including giving, buying, making, stealing, borrowing, lending and finding. When the children spoke of their own things it was clear that the main means of acqusition for all of them were essentially passive: other people tended to give, make

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or buy things for them.
group mentioned their own ability to buy things, mostly sweets
or small toys.

1 (a) Reciprocal inalienable objects (kin)

Again, the age of the children appeared to affect their
perception of the "possession" of reciprocal inalienable
objects (in all cases, their mother was used as the object in
question). The youngest group tended to paraphrase the idea
of perception (eg "she's mine"). They accepted that their Mum
was also Mum to any siblings, but were definite that she could
not be Mum to anyone else ("because she's mine"). The middle
group, also felt that Mum could not be Mum to anyone else
(siblings apart). One child from this group responded in the
same manner as the youngest children, by paraphrasing the
possessive relation, and two children explained the relation
by stating that to be a Mum entails "having a baby". Seven of
the children defined the possession using the role that Mum
plays (eg "she looks after me"). However, all were adamant
that even if their mother looked after another person, this
would not necessarily make her their mother. By way of
explanation three of the children suggested that their
mother's location might play a part in the possessive relation
(eg "she'd have to run away" to be someone else's Mum) and one
child referred to a higher authority (eg "she said she
wouldn't"). The eldest group, on the other hand, were all
very clear that the "possession" of a Mum entailed more than
her role in looking after her children or her location. Six
of the children talked about their mothers "having them" in
addition to her caretaking role, and the remaining two stated

that, even if their Mum looked after someone else or even lived with them, she would only be their "pretend Mum".

In terms of the children's perception of their control over their mothers actions the younger children's responses tended to suggest that they were in control of their mothers' "cuddling" behaviour. In Group C, 5 of the 8 children gave the impression that Mum must cuddle them on demand. None of these five felt that they had to ask for a cuddle, they simply went to her and cuddled her. They also indicated that their Mums were not able to refuse to cuddle them. The remaining three children suggested that their mothers were able to postpone cuddles if there was a good reason (eg "if she's too busy she can"), and all three stated that if this were the case, they should wait until Mum was ready to cuddle. However, only two of these three said that they asked for cuddles, the remaining child, again stated "I go and climb on her knee".

From this group, 6 of the 8 said that their Mum was not allowed to cuddle other people unless they approved, stating that they would "get cross" or "pull her away". Four of these children included their siblings as "other people". The remaining two children felt that their mother retained control over the people she chose to cuddle.

This notion of controlling their mother's actions tended to decrease, however, with age. In Group D, only 5 of the 8 said that they did not need to ask for a cuddle, and only 2 of the 8 stated that Mum had to cuddle on demand. The remaining 6 said that Mum was not required to cuddle if she did not wish to, and that if this were the case, they waited until she was

ready. Only four of the eight children did not allow her to cuddle other people (although "other people" for this group did not include siblings). The remaining children felt that it was their mother's decision to cuddle whoever she chose even if the children, themselves, disapproved.

By five years and 6 months very few of the children saw themselves as controlling their mother's behaviour. Six of the eight children felt that they should ask for a cuddle and all of the eight allowed that Mum had the right to refuse or postpone a cuddle. Furthermore seven of them also allowed that she had the right to choose the people she cuddled, even if the children themselves disapproved.

All the children, from all three age groups said that their Mum would belong to them for a very long time. Some were more specific (eg "until she dies"; "until I'm grown up"; "forever") but all children agreed that they could not give her away or relinquish their "possession" of her. In terms of sharing her, all children in the youngest group felt that they could not (or would not) share her with someone else. Three children from the middle group and five from the eldest group allowed that they could share their mothers but only in terms of her caretaking role but insisted that "she'd still be MY Mum". The remaining children did not think that sharing their mother with someone else (apart from siblings) was possible.

The results indicate then, that children's perception of the meaning of possession as it relates to kin, alters as the child's age increases. The younger children tend mostly to paraphrase the relation (eg "she's my Mum"). As they grow older, children tend to use the role played by their mother as

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an explanation of possession, and it is not until they reach their sixth year that they talk about mothers "having babies" to explain the relationship. Younger children also seem to feel that they have more control (in terms of cuddles from mum on demand, and control over whom she cuddles) than older children, who allowed that their mother controlled her own behaviour. All the children saw the mother - child relationship lasting a long time.

1 (f) Intrinsic inalienable objects (body parts) In all cases the child's nose was used as the intrinsic object. There did not appear to be any age differences in the way children talked about the "possession" of their noses. All but two of the children defined the possession of their noses in terms of the obligatory nature of the possession (eg "its stuck on"). The remaining two children gave a physical description of the nose by way of defining the meaning of the possession (eg "its got freckles"; "its full of cold").

The children also saw themselves as having a great deal of control over access to their noses. All suggested that, in order to "toot" their noses, one should ask permission and that they could refuse (eg "you must ask, and if I say no, you can't"). In addition they were also clear that they could not relinquish the ownership of their noses, simply because of the obligatory nature of the possession (eg "it won't come off").

2 (a) Alienable objects: child's access The child's control over his own access to his alienable objects (in this interview, usually his toys), appears to increase with age. In the youngest two groups only four children (two from Group C and two from Group D) stated that they had unlimited access

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to their things. The remaining children said that their
mother had some degree of control over when they used their
things (eg "(I can play with them) whenever I want, unless
Mummy says no"; "not at bedtime"). In addition seven of the
sixteen children in these two groups (4 from Group C, 3 from
Group D) felt that their mother had even more control over
their access to particular toys, usually large of expensive
toys or those involving an element of supervision to ensure
safety (eg rocking horse, garden swing, scalectrix). All of
these seven were reqired to ask their mother's permission
before playing with these toys. In the eldest group, however,
all 8 children indicated that they had full control over their
access to their own toys: they could play with whatever they
wished whenever they wished without seeking permission.

    2 (b) Access by others

    All the children, except 2 from the youngest group,
allowed access to some of their things by some other people.
Overall, the children tended to allow their family and their
friends access, although this pattern changed slightly with
age. In the youngest group, whilst six of the eight children
allowed their family access, only two of these six also
allowed access to their friends. (In addition, two of the
eight did not allow access to anyone else). In Group D, again
all the children allowed their family to play with their toys,
but four also allowed access to friends. By Group E, however,
six of the eight children allowed both friends and family to
play. It would seem, then, that the child allows more access
to others the older he becomes.

    However, it may be that the decision to allow others to

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use his things is not actually in the child's control, and that the above differences simply reflect the child's increasing social circle. Six of the eight children in Group C, for example, stated that their mother decided who was to have access to the toys, rather than the child deciding. The remaining two children felt that they controlled access. Neither of these two children had siblings.

In Group D, all the children with siblings stated that their mums had control over their siblings access to their toys. (In one case, often against the child's wishes). In terms of access by friends, three children said that their mothers had control and a further two indicated that this was so for some of their toys (again, usually the larger, expensive toys or those requiring supervision eg bikes, scalextric etc). Otherwise, the child himself decided who was allowed to play with his toys. In the eldest group, the mums appeared to have control, again, for four of the children, over access to their toys by their siblings. Two children, however retained control over their siblings' access. Overall, the children had control over their friends' access to their toys, apart from, in two cases, expensive toys or those requiring supervision.

Thus it would appear that, for the most part, children with siblings do not have control over their siblings' access to their toys. Control over the access of their friends to their toys tends to increase with age, although mothers seem to retain some control when the toys are expensive or require supervision. Some children also mentioned that their friends were required to ask permission to play with their toys,

although four children (one from Group D and three from Group
E) stated that "special friends" did not have to do this.
There were also differences in the control over access
according to the nature of the object in question. As
indicated earlier, mothers tend to retain control over access
to the more expensive toys and those requiring supervision.
In addition, however, some children tended to make exceptions
in the degree of access they would allow, depending on the
item in question. Four children, for example, said that
no-one else was allowed to play with certain of their toys,
and in three of these cases, this ban seemed to override the
fact that their mothers, generally, controlled access by
others. For some toys, then, the child does appear to retain
control over access by others. When the child and another
person wished to use an object belonging to the child, at the
same time, the children suggested two strategies, overall.
Seventeen children (6 from Group C, and 7 from Group D, and 4
from Group E) suggested turn taking. However, in all cases,
the child thought that he should play first, since the toys
were his. Alternatively, 12 children suggested playing with
the toy together (2 from Group C, 4 from Group D and 6 from
Group E).

   2 (c) Breakage, Loss and Transfer

   The children, generally and regardless of age, seemed
unconcerned about losing or damaging their own property. Only
six children in all, suggested that their parents might be
upset about loss or breakage. The remainder appeared to
expect that the parents would simply replace or repair lost or
damaged items. However, two of these children, both from the

eldest group did make the distinction that loss or damage to expensive items might cause more problems from their parents.

When other people damaged or lost the childrens things a slightly different pattern emerged. In the youngest group, whilst 5 said that damage or loss would not matter, 3 said that their mother would be cross. Only 3 children from the middle group said that damage or loss would not matter, however. The remaining five from this group said that they, themselves would be cross, and one of these said that they would refuse access to other toys as a result. All of the children in the middle group suggested that the loss or damage should be compensated (eg "he'd have to buy me another one"). Similarly, all children in the eldest group would be unhappy if someone lost or damaged their things. Two said they would refuse access in future, and all expected compensation for the loss or breakage. It would appear, then, that as the children increased in age, they see loss or damage as a reason for refusing access in the future. There was also an expectation of compensation by the older two groups, not apparent in the youngest age group.

Regarding the "giving away" of items, or transference of ownership rights, only one of the youngest group felt able to give away his things. Even so, he said, he had no wish to do this. The other 7 children did not think they could give their things away because "Mum would be cross". Six of the middle group also felt that they were unable to give away their possessions (for the same reason). The remaining two thought they could give away "little" things but not "big" things without their mother's consent. Similarly in the

oldest group, 5 children said they could

give away little things, whilst three needed their mother's

consent first. Again it seems that the children's own control

of their property increases with age, but their mother's

consent especially for "big" things remains an influence even

at 6 years old. Only five of the children in the eldest group

thought that someone else could give away their things, and

even these five felt that their consent was required first.

The remaining children were adamant that no-one else could

transfer the ownership rights on their property, not even

their mothers.

3. Collective ownership and other people as Possessors

(1) Collective ownership

The children's awareness of items owned collectively

appeared to increase with age. None of the children in the

youngest group thought it was possible for something to belong

to two people at the same time. Six of the eight children in

the middle group were of the same opinion with two of them

stating that collective ownership would result in fights,

disagreements and subsequent damage to the object in question.

Two of the children on the other hand, did allow the

possibility of collective possession, but only one was able to

give an example of an object belonging both to herself and

another person (a rocking horse). By contrast, only three

children from the eldest group said collective possession was

impossible two of whom suggested that it would lead to

disputes. The remaining five accepted collective possession

but only two could give examples where they owned an object in

conjunction with someone else (a garden swing, and a Wendy

House).

Since only three children were able to give examples of items they owned collectively with another person, the family television was used by the Experimenter as an example of a collective possession. For all children, one of the group of possessors (the family) owned the television more than the rest. Usually this possessor was Dad (18 children) but in a few cases, Mum was seen as the main possessor (6 children). In terms of usage, all of the children except 2 in Group E said that each member of the family could watch the television. The remaining two said that only their parents could watch it, the children in both families having their own set elsewhere. (For the purpose of this interview, the children's TV was used as an example of the collective possession). For the youngest group, and six from the middle group, one or both of their parents controlled the children's access to the TV. Thus these children could only watch TV if their parents approved. The remaining children (two from Group D and all from Group E) said that they had access whenever they wished. The children were also asked who had control over programme viewing, in terms of the decision about which programmes or channel to watch. For the youngest children, and three children from the middle group, one of their parents usually made the decision. (In all cases except two from the middle group, the decision was left to Mum rather than to Dad). The remaining five children from Group D decided themselves which channel to watch, even if Mum or Dad, apparently wished to watch something else. In the oldest group, however, five chidren appeared to have control over the

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set unless there was a programme on TV that one of the parents wished to see. Then, their parents took control. Of the remaining three children, two (who had their own sets) made the decision, and in one case, Mum decided the programmes.

If the children were to break the family TV, the perceived consequences varied according to their age. In the youngest group, all children felt that the breakage would not matter and expected the damage to be repaired. Three children from the middle group also indicated the same. Five of these children however expected that their parents would be angry and four felt that they would be punished. All the children in the eldest group said that their parents would be cross, and four thought they would be punished by donating their pocket money to help the repair bill.

All of the children felt that they themselves could not give away the TV set (even those two who watched "children's" sets). The majority of children (five from Groups C and E, and four from Group D) felt that no-one could give away the TV set, unless another was bought to replace it. The remainder of children felt that Dad (or in 2 cases from the eldest group, Mum) could give the set away if he wished.

So, it would seem that children's awareness of collective possession increased with age. When presented with an example of collective possession all the children thought that one of the group of possessors (other than themselves) had more ownership rights than others, although the children had access to the set. Again, however, their access (without parental approval) increased with age, as did their control over which programme should be viewed. Breakage was not seen as

problematic for the youngest children, but sanctions were expected amongst the older children. In terms of transfer of ownership rights, most children felt that none of those in the possessing group could do this unless provision was made for a replacement.

2. Other People as Owners

All the children felt the same way about other people's possessions. They all agreed that it was possible for others to own items, and that, should the children themselves wish to use such an item, they must obtain permission from the owner. The owners also were seen as having prior access and control over the usage of their property. The children also felt that they could not give away an object belonging to someone else and if they were to break such an object, then all said that they should replace it.

DISCUSSION

The interview first asked about the kinds of objects the children saw themselves as owning. Furby (1976) and Furby, Harter and John, 1975, demonstrated that the objects named by their subjects in a similar study tended to be nearly all alienable objects and appeared to reflect the subjects lifestyle. Hence they found differences according to the age, and to some extent, the cultural background of their subjects. Similarly, the results from this experiment show that the children mentioned objects reflecting their interests and age group. The youngest children, for example mentioned more cuddly toys whilst the oldest children mentioned a wider selection of types of objects but also included more books or

"educational" materials and more musical instruments. Almost all the items cited by the children were alienable, longterm, permanent objects, as in Furby's work. Not one of the children cited any intrinsic inalienable objects but a few did mention reciprocal inalienable objects (eg Mum or Dad). Whilst these results are similar to Furby's findings, they are contrary to the suggestions made by Brown, (1973), Edwards, (1973) and Mitchnik, Golinkoff and Markessini, (1980). These latter studies would have predicted that intrinsic inalienable objects would be cited, especially by younger children, much more frequently than reciprocal inalienable objects.

Furby in 1976, also examined children's ideas about the different methods of acquisition of their objects, finding that, for younger children these methods tended to be "passive". Most of her six year old sample had objects bought for them or given to them. Very few actively acquired objects for themselves. The results of this experiment replicate Furby's findings. Most of the children acquired their possessions (alienable objects) passively. Only the eldest group actively bought or swapped items for themselves, and even these children only acquired small, inexpensive items, actively.

The meaning of possession did, as expected (Furby, 1976) alter according to the age of the children. The majority of the children tended either to paraphrase the possessive relation (eg "its mine"), or to describe the physical appearance of one of their possessions. These two strategies were especially popular amongst the youngest children. In the middle group, the children also talked about "having" or

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"keeping" an object, as in the case of Furby (1976)'s six year olds. The six year olds in this interview, however used different explanations of possession. They spoke of their right to control access (their own and other peoples') to the object, and they mentioned the means of acquisition of particular objects. Again, both these strategies confirm Furby's (1976) findings although her results suggest that these two strategies are used by all age groups. It would seem then, that very young children do not see possession in quite the same way as adults or older children. The common explanations of the possessive relation which seem to occur in older children and adults, do not appear in young children's reasoning until they reach their sixth year. The location of the object in question, seen as linked to the concept of possession by many writers (Brown, 1973; Bar-Adan, 1971; Leopold, 1949; Lyons, 1967; Miller and Johnson-Laird, 1976; Greenfield, Smith and Lanfer, 1976) was important for the children in this experiment, but only with certain possessed objects (clothing, teddy bears, pets, money and kin). Other explanations of possession were also critical for certain types of objects: name-tags, for example were given in explanation as relating to clothing, transitory objects and territory; the child's role as caretaker was important with respect to pets; the fit or appropriateness of an object was critical for clothing; and the means of acquisition was especially important for both shortterm objects and tokens (ie money). Thus, in agreement wih Furby, (1976) the definition of possession does appear to ater slightly in relation to different types of object. None of the children however,

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regardless of the object type, mentioned the association of a possession to their sense of themselves, as predicted by both Furby (1976) and Beaglehole, (1932). In addition, some children, particularly those over 4 years of age, felt that certain objects, especially large items (eg buildings or parks) were "unpossessable". The youngest children, however felt that everything must belong to someone and tended to attribute possession to an owner of some kind where they were unsure. Older children, in response to the question of unpossessable objects, cited examples where ownership was complex (eg lost, stolen or unwanted objects).

With regard to alienable objects in particular, it would seem that the children's access to their own possessions increases with age. For the youngest children, their mothers retain a great deal of control over their own access and that of their friends. As the children reach their fifth year, however, their own control increases. They begin to decide when they can play with their toys, and which of their friends can play with them. However, even at six years of age, their mothers tend to control access to expensive toys or those requiring supervision, and in addition, most children with siblings reported that they were powerless to prevent access by their siblings to their toys. In the light of these findings, then, if is hardly surprising that only the eldest group said that possession involved control over access to possessions. For most children especially those under five years of age, such control is not a part of possession. The only exception to this state of affairs concerns "special" or "favourite" toys. Here, some children did manage to ban

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others from access to the toys, overriding the control exhibited by their mothers.

In her paper (1978a) Furby suggested that perhaps her youngest group (the six year olds) tended to take possession for granted. To some extent the children from this experiment also provide evidence for this notion, particularly those under five years of age. When asked about the consequences of loss or breakage of an item, regardless of who caused the loss or breakage, the younger children appeared unconcerned, but expected that a parent would repair or replace the object. As the children reached their sixth year, however, they began to recognise that the loss or breakage of expensive items might be problematic and they began to see the loss or breakage of their own items by others as a reason for not sharing their things in the future. They also began to expect compensation in some form for the lost or damaged object. Since, for the youngest children, the main means of acquisition of objects was passive, their responses are not surprising. The transfer of ownership rights was also controlled more by the older children than the younger ones, who tended to see their parents as controlling their right to give objects away, rather than themselves. However, for all children, the larger, more expensive objects were not to be given away without parental consent.

With regard to inalienable objects, the results suggest that, in accordance with most writers (Brown, 1973; Edwards, 1973; Mitchnik, et al, 1980; Furby, 1976) the semantics of possession are slightly different, although not radically so. All the children in the experiment referred to the obligatory

nature of possession with regard to body parts (intrinsic inalienable objects). They all seemed to see the control over access by others to their noses as relevant and they realised that they were unable to "transfer possession rights" (ie they could not give away their noses). Similarly, for reciprocal inalienable objects, the children were all adamant that they could not give away their mothers and most accepted (although many could not explain why) that their mother could not belong to anyone else except themselves or their siblings. Thus, again, all seemed aware of the obligatory nature of the possessive relation. When asked about the meaning of the possessive relation the children's responses differed according to their age. The youngest children, again paraphrased the relation, but the middle group talked about their mother's role (although most accepted that even if their mothers performed that role for someone else, she would not necessarily become that person's mother also). Only the eldest group referred to the biological relationship between mother and child, as a definition of the possessive relation.

As predicted by Furby (1978a) the aspect of control over ones possessions was relevant with regard to the possession of reciprocal inalienable objects, but more so for the youngest children. At three years six months, the children saw themselves very much as the controller of their mother's cuddling behaviour: they dictated when cuddles would occur and who with. This perceived control did diminish with age, however. By their sixth year the children saw their mother as much more in control of her own actions: she had the right to refuse them cuddles, and she could cuddle others as she

pleased, even against the child's wishes.

It would appear then, that possession as it relates to alienable and inalienable does have similar aspects, especially in terms of the notion of control over the possessed object (and particularly for young children). However, the means of acquisition differs, and the obligatory nature of the relationship with regard to inalienable objects is critical for young children, in its definition.

Also as expected, from the linguistic studies, the children had little understanding of collective possesion (Cruttenden, 1977; Huxley, 1970; Waryas, 1973; Baron and Kaiser, 1975) to the extent that only the children in the oldest age group were able to volunteer an example of collective possession. Nevertheless when provided with an example (the family TV set) the results suggest that the awareness of collective possession does increase with age. The children's access to the television and the control over viewing channels also appeared to increase with age. However, the sanctions following breakage also affected the oldest children, reflecting perhaps their increased responsibility. Rgarding the transfer of ownership rights of collective possession, all the children felt that none of the group of owners could do this without replacing the original set. So, in comparison to private property, the only differences seen by the children with respect to collective possessions, appear to be those regarding transfer of ownership rights. However, since the majority of children were unable to provide an example of collective possession, and most felt that, regarding the TV set, one person "owned it more" than the rest

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of the ownership group, it could be argued that the TV set does not constitute a collective possession.

Surprisingly, the rules accorded by children with respect to others possessions are more akin to the adult concept of possession than the rules concerning their own possessions. Given the findings of the linguistic studies presented earlier (Charney, 1980; Huxley, 1970; Cruttenden, 1977; and the results of the Experiments 1 and 2) this result is unexpected, although most studies have indicated that by three years and six months, children have little difficulty with possessive pronouns relating to others as owners.

DISCUSSION

THE ACQUISITION OF POSSESSIVE PRONOUNS

The results from both Experiments 1 and 2 support the view that possessive constructions (Léveillé and Suppes, 1976; Brown, 1973; Edwards, 1973; Rodgon, 1976; Rodgon and Rashman, 1976 and others) and more particularly possessive pronouns (Menyuk, 1969; Bowerman, 1973; Huxley, 1970; Bloom, 1970; Sharpless, 1974; Baron and Kaiser, 1975; Deutsch and Pechmann, 1978; Wells, 1979) begin to be both produced and understood by the time the child reaches 18 months. It would appear, also from the results, that the first pronouns to be acquired are those referring to the child himself as owner, supporting the findings of Charney (1980) and McNeill (1963). Thus in comprehension situations, when someone is speaking to the child, and he takes the role of "listener", he understands the pronoun "yours" earliest. In contrast, in production situations when the child is the "speaker" he first produces the pronoun "mine". These results would appear, at first glance, to contradict much of the data from previous studies which suggested that children's acquisition of the personal pronoun system begins with the learning of the first person singular "mine". (Bloom, 1970; Huxley, 1970; Sharpless, 1974; Cruttenden, 1977; Wells, 1979). However, since most of these investigations focused on the child's production of pronouns, the results from Experiments 1 and 2 are actually in accordance with their findings. Even Sharpless (1974) who examined both production and comprehension of personal pronouns, found "anomalous results" when she attempted to fit her data to a semantic feature model which predicted that "mine" would always be acquired earliest. A reinterpretation

of her findings along the lines proposed by Charney (1980) can leave the reader with little doubt that her subjects were performing best with the pronouns that referred to their own role in the different test situations.

Shortly after the acquisition of the pronouns referring to himself, the child appears to acquire the pronouns referring to the other person within the communication dyad. Thus, when the child is "speaker" (in a production situation) the next pronoun to be acquired is that referring to his "listener": the pronoun "yours". When he is the "listener" himself, (in a comprehension situation) the second pronoun acquired is "mine", referring to the "speaker" in the conversation. Again, these results support the results from the majority of previous research (Bloom, 1970; Huxley, 1970; Cruttenden, 1977; Wells, 1979; Charney, 1980, Deutsch and Pechmann, 1978).

The remaining singular possessive pronouns "his" and "hers", pose slightly more of a problem with regard to assigning their position in the order of acquisition. In Experiment 1, they appeared to cause more difficulty than "mine" (referring to the Experimenter) but the differences between the means were so small that one is unable to make anything more than tentative suggestions. In the production situation in Experiment 2, very few of the children chose to use pronouns in their response, preferring instead to employ propernoun references. This might indicate, again that the 3rd person pronouns, (those referring to one of people outside the communication dyad) cause more problems for children to the extent that, given a choice, their use is avoided. Alternatively there may have been pragmatic reasons for the

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children's preference for propernames in this context: they perhaps considered it more polite or natural to respond in this manner. However, if this is the case, it is difficult to see why, when referring to both people outside the dyad, the children tended to say "his and hers" as opposed to employing propernoun references. If one assumes that the avoidance of the 3rd person pronouns does suggest that they are more problematic than other singular pronouns, then the results from Experiment 1 and 2 (however tentative) have replicated the findings from the majority of previous research (Huxley, 1970; Cruttenden, 1977; Sharpless, 1974; Wells, 1979; Charney, 1980; Deutsch and Pechmann, 1978). Only Baron and Kaiser's study in 1975 has indicated an alternative order of acquisition suggesting that "his" and "hers" might be acquired before "yours" and "mine". But, as previously discussed, this particular result might be entirely due to a bias in the children's responses brought about by a flaw in their experimental design.

Regarding the acquisition of the plural pronouns again the results appear to agree with most of the previous studies in that the plurals do not appear to be acquired until much later than the singulars (Cruttenden, 1977; Baron and Kaiser, 1975; Goodenough, 1938). The early appearance of some plural pronouns (usually "theirs") as reported in some investigations (Deutsch and Pechmann, 1978; Huxley, 1970; Wells, 1979) was not replicated by the experiments in this thesis. However, the evidence for the later acquisition of plural pronouns stems for the mostpart from the two comprehension studies: Experiments 1 and 3. In the production task from Experiment 2

none of the children even attempted a plural pronoun,
preferring other modes of expression as their responses. One
can assume, as in the case of the 3rd person singular
pronouns, that the children's avoidance of plural pronouns is
indicative of the extra difficulty they impose. However, this
asumption is by no means clearcut. The use of plural pronouns
is optional and the children's preference for other modes of
expression may simply indicate a choice not a lack of ability.
Nevertheless, in the light of the data from the comprehension
tasks, it is likely that the plural pronouns are actually
acquired later than the singulars. Both comprehension
experiments would suggest that "theirs" (referring to both
people outside the communication dyad) is acquired first, in
agreement with the work of Baron and Kaiser (1975), Cruttenden
(1977) and Huxley (1970) but in direct contrast to other
studies which have suggested that "theirs" is the last of the
plurals to be learned (Wells, 1979; Deutsch and Pechmann,
1978).

The remaining two plural pronouns appear, from Experiment
3, to be acquired in the order "ours" first, and then "yours",
again replicating previous studies (Baron and Kaiser, 1975;
Cruttenden, 1977; Huxley, 1970). However, if, as is
suggested, the relative performance of young children varies
with different singular pronouns with respect to their role in
the conversation, then it is also possible that the children's
performance with plural pronouns might vary also.
Unfortunately since none of the children in Experiment 2 used
plural pronouns, this thesis can provide no evidence as to the
performance of children with plural pronouns under production

conditions, when they take the role of "speaker".

From the evidence provided by the experiments in this thesis, it would appear that at 18 months children have acquired the pronouns referring to themselves. This is quickly followed by the pronouns referring to the other person in the conversation dyad. By 2 years 6 months all singular possessive pronouns have been learned, and the first plural pronoun "their" is beginning to be understood. By the end of the fourth year both "their" and "our" are understood, but it is not until the sixth year that "your" is properly comprehended.

EXPLANATIONS FOR THE ORDER OF ACQUISITION

From the literature review it was clear that many investigators looking into pronoun acquisition, had used a semantic feature or componential model as their starting point. (Ingram, 1971; Waryas, 1973; Sharpless, 1974; Baron and Kaiser, 1975). Even Carey (1982), one of the major critics of such models, has argued that they might well be appropriate to explain the acquisition of personal pronouns. Probably the most explicitly presented feature model describing the acquisition of pronouns is that by Waryas (1973). Unfortunately, the predictions made from this model do not agree with the empirical findings from this thesis concerning the actual order of acquisition of pronouns. One of the major problems with the model is that it relies upon, to use Charney's (1980) expression, a "role" representation of pronouns. In other words the model assumes that children will acquire the pronouns referring to one particular

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conversational "role" before those referring to other roles. Thus Waryas' model predicts that the first pronouns acquired are those referring to the role of "speaker" (me, mine, I) regardless of the experimental conditions. As shown earlier, this prediction would be applicable to those situations where the child takes the role of "speaker" (production tasks), but not to those where he takes the role of "listener" (comprehension tasks). Since the child appears to take a "person-role" representation of pronouns (Charney, 1980) (in other words he first learns those pronouns referring to his own role in the conversation, then those referring to the roles of others) then any feature or componential model of acquisition must also take this into account. So, one might represent the acquisition of pronouns using three different diagrams of semantic features; one for each of the roles taken up by the child in the conversation. Alternatively, one might simply add an extra semantic feature to the existing tree to take primacy over $\{\pm \text{ speaker}\}$ but not $\{\pm \text{ singular}\}$. The extra feature would be labelled $\{\pm \text{ self referring}\}$ to account for the importance of the child's own role in the conversation.

However, even with the inclusion of the extra feature $\pm$ self referring, the traditional feature model still encounters problems in predicting the order of acquisition of the plural pronouns. According to Waryas' model, "them" is the last pronoun to be acquired. This is in direct contradiction to the empirical findings from Experiments 1 and 3, where "their" was the first plural to be acquired. In order to explain this finding retaining the notion of a semantic feature model, and using the existing features, one

must argue that they operate in the opposite direction to their function with regard to the singulars. For example the feature $\{\pm \text{speaker}\}$ appears to take primacy over $\{\pm \text{listener}\}$ and $\{\pm \text{other}\}$ for the singular pronouns. In addition the unmarked form is clearly $\{+ \text{speaker}\}$. With respect to the plural pronouns, however, one must either assume that $\{\pm \text{other}\}$ takes primacy, or that the unmarked forms of the remaining features are $\{- \text{speaker}\}$ and $\{- \text{listener}\}$. Even the new feature proposed above $\{\pm \text{self referring}\}$ must operate such that the unmarked forms is $\{- \text{self referring}\}$ with respect to the plural pronouns. But the rearrangement of existing features is illogical at best. Alternatively one could assume a completely different set of features as salient for the plural pronouns, making the semantic feature model even more unwieldy. It would thus be easier by far to simply discard semantic feature or componential approach as irrelevant or inappropriate to describe the acqusition of personal pronouns.

An alternative explanation of the order of acquisition was put forward by Deutsch and Pechmann (1978), focusing on the linguistic complexity of each pronoun. They listed three principles: the proximal - non proximal principle; the speaker - nonspeaker principle; and the singular - nonsingular principle. Of the three, only the singular - nonsingular principle appears to have relevance to the results found in this thesis, since the children clearly acquired the singular pronouns before the plurals. For the speaker - nonspeaker principle, Deutsch and Pechmann (1978) did state that as 'Speaker' the child would show a preference for his own

position. The results from Experiment 2 would confirm this, with respect to the singular pronouns. But it is difficult to see why the pronoun "theirs" should be the first plural pronoun acquired in the comprehension tasks, or why the pronoun "yours" should elicit better performances than other singulars in comprehension tasks, if one accepts that such a principle has relevance. Likewise with the proximal - non proximal principle, it is not easy to see why the children should perform best with "theirs" of all the plural pronouns. In their own studies of course, Deutsch and Pechmann observed a completely different order of acquisition of pronouns that did fit, to a large extent, with their model. In terms of the results from this thesis, however, it is clear that, apart from the singular - nonsingular principle, their explanations of pronoun acquisition are not appropriate.

It would appear that of all the explanations discussed in the literature review, the only one of real relevance in terms of the ordering of the singular pronouns, is that of Charney (1980). Her notion that children use a "person-role" representation of pronouns clearly fits the results of both the comprehension and production experiments. It would be interesting to see what might have happened in a task where the child took a role outside the communication dyad. Charney's prediction would certainly be that they would perform best, in that context, with the pronouns "his" and "hers" (presumably dependent upon the sex of the subject). Unfortunately, in her investigations, Charney (1980) did not include the plural pronouns, and it is clear that, if extrapolated to include plural pronoun acquisition, her

explanation is inappropriate. One would expect, from her emphasis on the child's own role in the communication, that the pronouns "ours" (when the child was speaker) or "yours" (when he was listener) would produce the best performances. This was clearly not the case. Only Sharpless' (1974) analysis of "core" and "derived" plural pronouns seems to explain satisfactorily why "theirs" should be the first plural pronoun acquired by children, as the only "core" plural pronoun of the three. However, even Sharpless' analysis is unable to explain why, of the two "derived" plurals, children should acquire "ours" before "yours".

So, there does not appear to be any satisfactory, linguistically based explanation to account for the order of acquisition of the entire pronoun system, although Charney's (1980) suggestions do appear to fit the acquisition of the singular possessive pronouns. Perhaps some of the problems with the plural possessive pronouns can be accounted for by the child's understanding of the plurality of possesion itself, rather than simply their understanding of plural pronouns. The results from Experiment 3 indicated that the pattern of performance with the plural pronouns was exactly the same as that with their corresponding pairs of singular pronouns (ie the children performed best with "his and hers" and worst with "yours and his/hers"). In the light of the results with singular pronouns in Experiments 1 and 2, this result is surprising. One might have expected instead that the children would perform best with "yours and his/hers" and worst with "his and hers". It is difficult to see why the children should have coped more easily with "his" and "hers"

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than with "ours" or "mine" when the pronouns were presented in pairs, whilst, in contrast they performed worst with "his" and "hers" when the pronouns were presented individually. Even when the children were able to use alternative modes of expression to pronouns (in Experiment 2) or were asked to respond to pairs of proper nouns (in Experiment 3) their performance with plurals was significantly worse than with singulars (including singular pronouns). In fact, their pattern of performance with alternative modes of expression both singular and plural was remarkably similar to their pattern of performance with the pronouns. This would suggest that the supposed order of acquisition of personal pronouns may in reality, have very little to do with the children's understanding of pronouns themselves, but more to do with their understanding of references in general, to people and more especially with respect to this thesis, their understanding of references to people as possessors.

If one accepts this suggestion, it is possible to view the results as indicative of the child's acquisition of possessive references, rather than pronouns per se, and the explanation of the findings becomes somewhat easier. It would appear from the results that there is a series of stages in the child's acquisition of possessive references. Figure P illustrates these stages. The first stage, lasting until the child reaches about 2 years 6 months, indicates that he is well aware of those items belonging to himself, and those that do not. Presumably he is made aware of this distinction by the degree of access he has to different objects. It is not important for him, at this stage to assign ownership of those

THE STAGES OF ACQUISITION OF POSSESSIVE REFERENCES
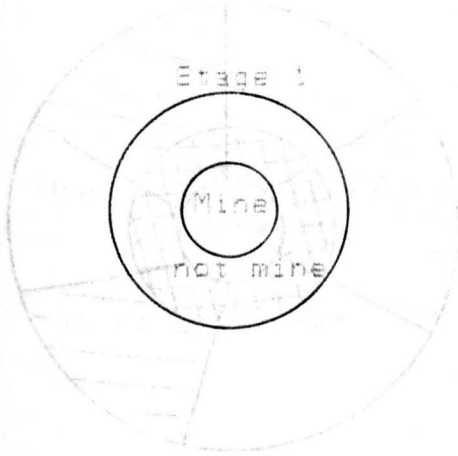
Stage 1

This stage lasts until approx 2 years 6 months. The child has categorised the objects in its world into two classes: Those belonging to himself ("mine") and those belonging to others ("not mine").

Stage 2
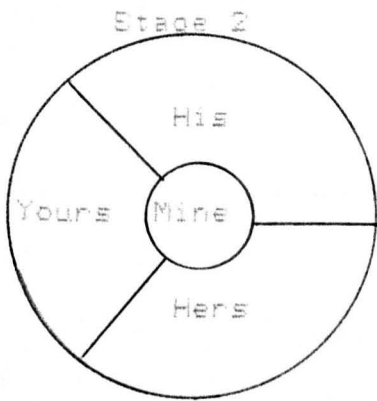
By 3 years he has further subdivided those objects not belonging to himself and has assigned them to various other individuals, but still only assigns one owner to each object.

Stage 3
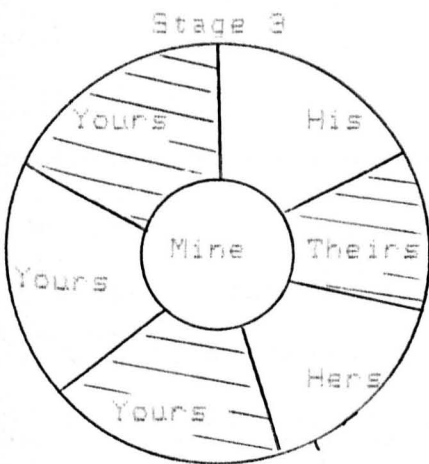
At 4 years the child has grasped the notion of possession as it relates to more than one person (dual ownership) and can now recognise that an object can be owned collectively. However, he still has problems in understanding those relations where he himself is one of the possessors involved in the ownership.

items not belonging to himself, he needs simply to know that some objects are "out of bounds". By three years old, however, in the second stage, he has learned to assign different objects to different possessors, aware that other people, aside from himself, have possessions too. It is not until the child reaches four years old, that he begins to understand possession relating to more than one owner (dual or collective /shared) possession. Even at this stage, however, he has not really acquired the idea well enough to understand those possessive relations where he himself is one of the possessors involved in dual or collective ownership: his own possessions are still very much his alone. (Further evidence for this penultimate stage is provided by the children's reactions to questions about collective ownership in Experiment 5. The children in the youngest two groups all had difficulty with the idea of collective ownership, especially as it related to themselves, and were all unable to provide examples of items owned jointly by themselves and another). The final stage when all the possessive references are beginning to be acquired, occurs during the child's sixth year. He now understands all possible combinations of dual ownership, and is beginning to recognise examples of collective ownership where he is one of the possessor group. There is evidence from the 5th Experiment to suggest, however that whilst the child at 5 years old might understand the possessive reference in this context, he might still not have acquired the full meaning of the relationship. Even children in the oldest group in Experiment 5 (up to 6 years old) felt that, in collective ownership, one person of the possessor

group "owned the object more" than the others.

So, although an order of acquisition of possessive pronouns has been established, it would seem that none of the existing linguistic explanations of acquisition are appropriate or adaptable. Instead, it has been suggested that the acquisition of possessive pronouns has more to do with the child's developing an understanding of possession and of references, in general, to people as possessors. A four stage model of this development has been proposed, based on the findings of Experiments 1, 2, 3 and 5.

WHAT POSSESSION MEANS FOR CHILDREN

It would appear from Experiments 1, 2 and 3 that children use and understand the possession construction from about 18 months old. It does not necessarily follow, however, that young children understand the concept of possession in the same way as adults. Experiment 5 provided some information as to how children really do understand possession. The first major finding, corroborating the observations of Brown (1973), Edwards (1973), Furby, Harter and John, (1975) and Furby (1976) was that children aged over 3 years 6 months when talking about possession, tend for the most part, to mention it with reference to only alienable objects. The definitions of possession generated by the children, can be taken only as referring to the possession of alienable objects. The extent to which these definitions change with respect to other kinds of objects will be discussed in the next section. For the present, the children's understanding of the possession of alienable objects will be reviewed.

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As predicted from previous work (Brown, 1973; Edwards, 1973; Furby et al, 1975; Furby, 1976) the children's explanations of the meaning of possession did alter slightly with their ages. The youngest children tended simply to describe certain of their objects or to paraphrase the possessive relation (eg "its mine"). They appeared to be answering the question "how do I know this object belongs to me?", rather than explaining the meaning of possession itself. It is not clear from their responses whether they were not aware of the meaning of possession, or whether they were simply unable to explain it. In other words, the children might be well aware of the meaning of possession but lacking simply in the metalinguistic or other metacognitive abilities necessary to describe it. Interestingly, these two strategies for explaining possession (para phrasing and describing possessed objects) also occurred with some frequency amongst the older two age groups although the older children often expanded their answers to include other definitions as well. This might suggest that explanation of possession was not easy for any of the children, regardless of their actual awareness of the concept itself. One cannot assume, therefore that these metalinguistic and metacognitive skills are an inherent part of the acquisition of the concept of possession.

By four years and six months the children began to describe possession in terms of "having" or "keeping" objects, similar to the responses of many of Furby's (1976) six year olds. This explanation clearly has relevance to the work of many writers (Brown, 1973; Bar-Adon, 1971; Leopold, 1949; Lyons, 1967; Miller and Johnson-Laird, 1976; Greenfield, Smith

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and Lanfer, 1976) who have suggested that the young child's concept of possession is linked to an objects location. "Having" or "keeping" an object suggests that the object is kept in a location that the child frequents. On this basis one can perhaps suggest that the notion of "accidental" possession (Miller and Johnson-Laird, 1976) is paramount at this age. However, the idea of "having" or "keeping" an object, almost by definition must also be associated with the child's own access to the objects, similar to the first of Snare's (1972) three conventions governing possession.

The second of Snare's (1972) conventions, the right to control the access of other people to one's possessions, does not appear to become relevant for children until they reach the end of their sixth year. Many of the children in the oldest group in Experiment 5 defined possession in this way, as well as in terms of their own rights of access to their possessions, but none of the younger children spoke of their rights to control access by others. On further investigation, Experiment 5 demonstrated that young children do not actually see themselves as having this right. For children under five years of age, this control over the access of others, tends to lie with their parents. It appears that their Mothers, in particular, decide who will play with the children's toys, rather than the children themselves. Hence it is not surprising that the element of control over other's usage is not included in the young child's definition of possession, since in reality it is not for them a part of the possessive relation. Even the oldest children did not appear to control the access of their siblings to their toys (although many

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wished they could) and for expensive toys or those requiring supervision, again this control was retained by the parents. The notion that one has the right of access to one's possessions (Snare, 1972) is also not relevant for the youngest children and this may explain why those under 4 years of age did not define possession in this manner. Again, for children under 4 years (and a few older than four) their mother tends to have at least some control over the children's usage of their toys.

Snare's (1972) third convention governing possession focusing on the ability of an owner to transfer his ownership rights to another individual, was not mentioned by any of the children in Experiment 5. Indeed, when investigated in detail in the interview, only the older children, over five and a half years felt they were able to give away their possessions without parental consent. Even these children felt they could not give away "big" or expensive items. For the remaining children, again, their parents had the rights to transfer ownership not the children themselves.

Other explanations of possession, similar to some of those reported by Furby (1976) were given by the children in Experiment 5 with respect to different kinds of alienable objects. The possession of clothing, for example was often explained by the fit of the garments, and the presence of name tags on various items was also given by way of definition of their possession. To some extent, however, both of these responses can be seen as variants of a description of the possessed object, which has been shown to be a common theme in the way children answer questions about the meaning of

possession. Also in accordance with Furby's (1976) findings some children mentioned the means of acquisition of objects to define ownership. This was largely the case when they spoke about shortterm items, tokens (money) or transitory items but it was also used in reference to other objects. The means of acquisition of items is especially interesting since the results from Experiment 5 indicate, again in agreement with Furby (1976) that young children tend to acquire their possessions passively. Objects are either bought for them, or given to them. Furby's results have indicated that older children and adults tend to acquire items actively, by buying or making them, for example. Certainly in Experiment 5, some of the children in the oldest group did allow that they actively acquired small items, but for the most part, all the children acquired their possessions passively. Furby (1976) has suggested that the fact that young children acquire possessions passively might account for their understanding of possession as "natural given"; their taking it for granted. Some of the youngest children in her sample defined possession in terms of "everyone having some (objects)" which she felt, exemplified this notion. In Experiment 5 only one child used this reasoning to define possession, but the tendency of the younger children to take possession for granted was illustrated by their feelings about loss or breakage of their belongings. When asked about the consequences of such a loss or breakage, regardless of who caused the damage, the children under five years old simply expected their parents to replace or repair the object. In the eldest group, however, the children began to expect some compensation if another person

broke or lost their belongings and some saw loss or damage as
a reason for limiting the access of others to their toys in
the future. They also recognised that, especially regarding
large or expensive items, their parents (the providers of the
object) might be angry should the children themselves damage
or lose one of their toys. Hence the children under five did
seem to take their possessions for granted, but this notion
decreased towards the end of their sixth year.

Further definitions of possession including that put
forward by Beaglehole (1932) concerning the association of
possessions with the owners sense of self were not mentioned
by any of the children. It would appear that the concept of
possession for children over five years of age, is almost akin
to the adult concept, incorporating two of Snare's (1972)
three conventions of possession: the right of access to one's
belongings, and the right to control the access of others.
Only the ability to transfer ownership rights is missing from
the young child's definition. Below five years of age the
notion of the location of the object, or accidental possession
(in terms of "having" or "keeping" an object) is paramount.
Very young children, under four years however do not appear to
be able to explain their concept of possession. This may well
indicate only a lack of metalinguistic or other metacognitive
abilities. But from investigations of their responses to
questions about their access to, and their control over
other's access to their possessions, it is difficult to see
how one could describe possession where a young child is the
owner. Certainly all the "adult" rules about ownership rights
do not appear to apply to the young child as a possessor, but

instead pertain to his parents. One can only assume that young children see something as belonging to them because they have been told it is theirs (either verbally or by means of being given a "present") hence their tendency to paraphrase the possessive relation when asked to explain it. Presumably also the frequency of usage might play a part in their understanding of the concept. If they are told it belongs to them, and allowed to play with it frequently, then the relationship with the object becomes established. In addition it is apparent that young children tend to take the possession of items for granted. They acquire objects passively, and expect them to be repaired or replaced should loss or damage occur.

DIFFERENT OBJECTS AND THE MEANING OF POSSESSION

Experiments 1, 2, 4 and 5 have provided evidence to support the view of many investigators (Brown, 1973; Edwards, 1973; Mitchnik, Golinkoff and Markessini, 1980; Furby, 1976) that the meaning of possession might differ with respect to particular types of possessed objects. Experiments 1, 2 and 4 indicated that children's performance on both production and comprehension tasks involving the use of possessives, did vary according to the type of object possessed. This effect however, diminished with age. Experiment 5 indicated that children's definitions of possession, the "rules" they perceive, and the means of acquisition of possessions, also differed according to the type of object involved.

As predicted by Mitchnik et al (1980), children in Experiments 1, 2 and 4, performed best with intrinsic

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inalienable objects (body parts), especially the youngest children under three years old. At the same time, these children tended to perform worst with reciprocal inalienable objects (kin), with alienable objects eliciting performances somewhere between the other two object types. Interestingly, however, other research (Brown, 1973; Edwards, 1973; Furby, 1976) including Experiment 5, has demonstrated that when talking about their possessions, children tend to mention alienable objects far more frequently than inalienable ones. Moreover, of the few inalienable objects that are mentioned, nearly all are reciprocal inalienable (kin relations) and very few are in reference to body parts (intrinsic inalienable objects). This apparent anomaly in the findings might be taken to imply that the meaning of possession is very different for the three types of possessed object. However, Experiment 5 further demonstrates that, in fact, this is not the case. There certainly do appear to be some differences in the way children conceptualise possession for the three types of object, but these differences are not so radical as one might expect.

With regard to body parts (intrinsic inalienable objects), children of all ages tended to define their possession by referring to the obligatory nature of the relationship (eg "its stuck on"), although other strategies common to the possession of alienable items (paraphrasing and describing the object) were also used by some. The means of acquisition of the body parts also reflected the obligatory nature of the possession (eg "it grew"). Of the three conventions for ownership noted by Snare (1972) again only the first two

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appeared to be relevant for the children (the right of access to one's belongings, and the control over other's access to one's belongings). However unlike their responses to questions about alienable objects, when talking about body parts it was clear that, even for the youngest children, their control over access (theirs and others) was total (eg "you must ask, and if I say no, you can't"). Whilst, for alienable objects most children, particularly the youngest group, saw their parents as retaining some control over who, including the child himself, should have access to his things, in contrast for inalienable objects the decision appeared to rest entirely with the child himself. Snare's third convention, the ability to transfer ownership rights to another person, was clearly not seen as relevant by the children with respect to body parts. Given the obligatory nature of the possession of body parts, this is hardly surprising and probably reflects the adult view also. However, it is interesting to note that, for alienable objects, the right to transfer ownership was also not relevant for the children (apart from a few of the older children) although for different reasons. One could therefore suggest that apart from the clearly obligatory nature of the possession, the children's concept of possession with respect to body parts is more akin to the adult notion of possession, than their concept of possession with respect to alienable objects. This might imply that the concept of possession was actually acquired earlier for body parts than other objects. If so, then the children's tendency not to mention body parts when talking bout their possessions could simply be due to the fact that the relationship is so well

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established, they take it for granted. Clearly, the complexities of possession as it relates to body parts do differ from those involved in the possession of alienable objects, since the relationship of an owner to his body parts is by definition, obligatory and thus the body part cannot be stolen, borrowed, lost or given away. Nevertheless for children at least, it would seem that the main elements of possession are similar with respect to body parts as for alienable objects, and indeed, may be actually established earlier in development.

For reciprocal inalienable objects (Kin) Experiment 5 showed that the children's definitions of possession changes with age. Children under four years of age tended, once again to paraphrase the possessive relation (eg "she's my Mummy"), as they did when talking about the possession of alienable objects. Between four and five years however, the children tended to focus upon the role played by their mothers, to explain the nature of possession (eg "she looks after me"), although most accepted that if their mothers performed a similar role for another person she would not necessarily become that person's mother. To some extent, the children's emphasis on their mother's role as a definition of the possessive relation could be seen as a form of description of their mothers, in this case focusing on her function rather than her physical appearance. Thus the children under five years old can be seen as defining the possession of reciprocal inalienable objects by using the same strategies as for the possession of alienable objects: by paraphrasing or by describing the object. Only the children over five years of

age tended to refer to the biological nature of the possessive relationship or, in its widest terms, its obligatory nature (eg "she had me"). The two conventions (Snare, 1972) of the right of access to one's belongings, and the right to control the access by others did appear to be relevant for reciprocal inalienable objects, particularly with respect to the youngest children. Children under four years of age seemed to see themselves as very much in control of their mother's cuddling behaviour, although this perception diminished with age. By the time they reached their sixth year, they saw mother as in control of her own actions, even when these actions ran contrary to the children's own wishes. Of course, this latter result must reflect to some extent, the children's increasing awareness of their mothers as free, volitional beings in charge of their own actions. What is interesting, however, is the younger children's notion that the mother/child relationship entails such a degree of control over the mothers' actions by the child himself, indicating perhaps, that the semantics of possession are very similar for the possession of kin and the possession of alienable objects. For reciprocal inalienable objects, therefore, the child's perception of his control over access decreases with age, whilst, in contrast, for alienable objects, his control seems to increase with age. The third convention, that of the ability to transfer ownership rights, again was not seen as applicable to their kin, by any of the children in Experiment 5.

Once again, then it would seem that, for young children the meaning of possession as related to reciprocal inalienable

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objects does not differ from its meaning when involving alienable objects. However, the distinctions between the possession of alienable and reciprocal inalienables do appear to become more obvious as the child grows up, particularly with respect to the rights to control access to one's possessions. Nevertheless, the similarities of the children's understanding of the concept as related to the two types of object are clear, particularly for the children under five years of age. On this basis, it is difficult to see why reciprocal inalienable objects, in Experiment 3, caused such problems for the younger children. Since the meaning of the possessive relation for reciprocal inalienable objects appear to be so similar to those involving the possession of alienable objects, one must perhaps return to the explanation put forward by Mitchnik et al (1980) to account for the poor performance of very young children. This focuses on the syntax of the possessive rather than the semantics. For both intrinsic inalienable objects and alienable objects, the child does not require a working knowledge of syntax to distinguish the possessor from the possessed object. In phrases such as "Mummy's ball" or "My hand" it is clear that the animate "Mummy" or "My" will refer to the possessor whilst the inanimate "ball" or "hand" will refer to the possessed object. For reciprocal inalienable objects, this reliance upon the animacy of the two terms does not help to distinguish the possessor from the possessed, since both terms are animate, and since the relationship is reciprocal (ie both can be possessors of each other). So, in order to determine which of the two is the possessor, and which the possessed, the child

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must rely entirely upon the syntax of the phrase.

Interestingly, the children in Experiments 1, 2 and 4 also performed better with some of the alienable objects as opposed to others. As predicted by Edwards (1973), for example their performance with transitory objects was poorer than that with permanent objects. Somewhat surprisingly in the light of Brown's (1973) findings, shortterm objects seemed to present fewer problems than longterm ones. In addition, the children seemed to respond better when they had owned the items for a longer period of time, and when, for wearable items, the object was worn by its possessor. It is reasonable to assume that the duration of ownership of an object increases the likelihood of a good performance by the children simply because the relationship between possessor and possessed is better established. Similarly with the worn items, the children may have performed better because the association between the possessor and the possessed is stronger. This may also be the case for both permanent possessions (as compared to transitory ones) and shorttrm items (as opposed to longterm ones). For permanent objects, the child has both inherent possession and accidental possession (Miller and Johnson-Laird, 1976), whilst for transitory objects the child has only accidental possession since the inherent possession rights involve another owner. It could be argued, therefore that the possessive relation is much more firmly established with regard to permanent possessions than transitory ones. In the case of the shortterm possessions in Experiments 1, 2 and 4, the children were usually involved in the process of eating their possessions during the course of the interview. Hence,

the possessive relation, presumably was again, firmly established.

In addition, in Experiment 5, the children clearly distinguished between the different types of alienable possessed object with respect to their definitions of possession and the means of acquisition of those objects (see Experiment 5 results, section 1(b)). Whilst the main elements of the possessive relation were similar for the different objects, the type of object did appear to reflect minor differences in their perception of possession. More specifically, as in Furby's (1976) interview study, the objects they perceived as being theirs tended to refect their lifestyle, and so their age group. Thus children under four years old spoke more about their teddy bears and other cuddly toys, whilst older children who had started school, mentioned educational materials more and, for example, musical instruments. It is hard to imagine that young children do not actually possess books, or that older children do not own a teddy bear or a cuddly toy of any sort. One can only assume, then, that the lists of objects generated by the children were not exhaustive by any means, but comprised of those items most important to the children, or those most used, and hence those for which the possessive relationship was better established.

When asked about the meaning of possession involving different items however an interesting pattern of responses was observed. For toys (in this case teddy bears) which are permanent, longterm alienable objects, the children spoke of the location of the toys, described the toys, or talked in

terms of their rights of access to them. For clothing, too
(also according to Brown (1973) and Edwards (1973) falling
into the category of permanent longterm alienable objects)
the children mentioned the location of the objects, and
described them. They also mentioned the fit of the clothing,
and the fact that some contained name tags, but as discussed
earlier, both of these strategies can be seen as forms of
description of the objects. The possession of shortterm items
(in this case, sweets) and money tended to be explained by
paraphrasing the relationship, or by detailing the means of
acquisition of the objects (eg "Mummy gave me them"), although
the children also talked of the location of, and their access
to their money. The similarity between the explanations of
possession for shortterm items and money is interesting since
in one sense, money could be seen to some extent as a
shortterm object. It could be argued that money is only
really a means to an end, and that it is not viewed as a
valued possession in the same way that one might value a
longterm possession: to collect and to keep as an individual
item. Instead, one tends to acquire amounts of money and to
spend it over a relatively short period of time, suggesting
that it may in fact be more akin to a shortterm possession
than a longterm one.

In the same way, transitory items, might almost by
definition be seen as shortterm items since the "owner" has
only accidental possession of the object. In as far as the
object may well have to be returned to its "real owner" at
some time in the future, the "accidental owner" has,
therefore, only shortterm possession of it. Hence, it is not

surprising to find that the children in Experiment 5 tended to explain the possessive relationship involving transitory items by detailing the means of acquisition of the items, as they did with respect to shortterm objects. They also, however mentioned the fact that their names were on the transitory items but this might simply have been due to the use of a school or nursery reading book as an example of a transitory object.

Finally, the children's preference for certain objects seemed to affect their performance in Experiment 4. Again, one can argue that, for preferred objects, the possessive relation is better established, for the child, and the results from Experiment 5 go some way to providing evidence for this suggestion, since in the oldest group especially, the children's control over access to their favourite toys was much clearer.

It would appear then, that although many writers (Brown, 1973; Edwards, 1973; Furby, 1976) have suggested that the meaning of possession is different for children according to whether the object possessed is alienable or inalienable, in fact this might not be the case. Whilst there do seem to be differences in the way children respond to, and think about alienable and inalienable possessed objects, there also appear to be differences in the way they think about different inalienble objects, and different alienable objects. In addition, the main elements of the possessive relation are similar for all objects, irrespective of their type. The results suggest, instead, that for young children, their definition of possession depends much more upon the extent to

which the possessive relationship is established (and this relationship can be strengthened in many ways) than the type of object involved in the possession.

COLLECTIVE POSSESSION AND OTHER PEOPLE AS OWNERS

It has been observed in the literature (Cruttenden, 1977; Baron and Kaiser, 1975; Goodenough, 1938) and from Experiments 1, 2 and 3, that children encounter more difficulty in responding to plural possessives. The four stage model of the acquisition of possession described earlier also suggests that the reason for this difficulty is to some extent at least, concerned with the nature of dual and collective possession. In addition the results from Experiments 1 to 4 also indicate that children are more aware of the possessive relation when they themselves are the possessors, than when other people own objects. Again, the four stage model suggests that the acquisition of possessives begins with the child learning to distinguish his own possessions from other objects. These two findings might indicate that young children do not understand the notion of shared possession, and are not fully aware of possession as it relates to others as possessors.

In Experiment 5, the children were asked directly about the concept of collective possession and the rules of access and usage pertaining to such objects. They were also asked about the access and usage of objects belonging to other people. Regarding their responses to collective possession, the results from Experiment 5 indicate that children up to the age of six years have very little understanding of the

concept. Only three of the children were able to give an example of the existence of a collectively owned item, and most suggested that collective possession was an impossibility. The few that did allow its existence maintained, nonetheless, that one person of the "ownership group" must own the object to a greater extent than the others. However, when the example of the family TV set was presented to them as an example of collective possession, it would appear that the only differences perceived by the children between personal and collective possession, were the rules concerned with the transfer of ownership rights. For the family TV set, all the children agreed that noone in the ownership group had the right to transfer ownership rights, unless they provided a replacement set for the family. The fact that so few differences between personal and collective possession is somewhat surprising, however, it is possible that the children did not actually perceive the family TV as a collective possession. It is likely, instead that they saw it as an object owned by one of their parents, but used by the family, and as such, an item of personal possession (see Experiment 5 results, section 3(1).

With respect to the concept of other people as owners, the results from Experiment 5 demonstrate that children aged over 3 years, six months DO fully understand, and can apply the "rules" governing other people's possessions. The children accept that other owners of objects have the right of access to their belongings, that they have the right to control the access of others, including that of the children themselves, and that the owners can transfer the ownership rights of their

belongings. In addition, they understand that if they should
break an object belonging to someone else, they should repair
or replace it. In some ways these findings are not surprising
since all the previous experiments suggest that by 3 years and
six months, children are well able to understand and use
possessives in relation to other, single owners. However,
what is surprising about these results is that all the
children in Experiment 5 demonstrated a full adult
understanding of the notion of possession according to Snare's
(1972) analysis, in relation to other people's possessions.
As already noted earlier in this discussion they did not
always define the possession of their own objects in terms of
all three of Snare's conventions. It is apparent then, that
the definitions of possession given with respect to their own
belongings, do not imply a lack of understanding or a partial
understanding of the meaning of possession, but instead a
reflection of their perception of their status as a child,
still subject to the authority of their parents.

THE IMPLICATIONS FOR FURTHER RESEARCH

The experiments presented in this thesis have suggested
that the order of acquisition for possessives, including
possessive pronouns follows a specific pattern illustrated by
a four stage model. However, the proposed model for the order
of acquisition is based upon the results from experiments
where the child takes the role of speaker or listener alone.
The implication of such a model would suggest that should the
child take the role of "other" in a conversation situation,
the pattern of performance would be such that he would still

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respond best when he, himself was the owner of the objects. In terms of the possessive pronouns, therefore the child should perform best with "his" or "her" as they refer to himself, and of the plural pronouns, he should have most problems with the pronoun "theirs" (referring to himself and one or more other people). Further work should be carried out in order to test this hypothesis. In addition other studies with different experimental designs (eg spontaneous production studies, card matching designs etc) should be undertaken to ensure that the results obtained here are not simply a by-product of the experimental conditions.

Experiment 5, the interview study, produced a number of interesting observations about the way in which young children conceptualised possession. Many of the observations appear to replicate and extend the discoveries made by Furby (1976; 1977; 1978a; 1978c; 1978d; 1980b) from her examinations of the concept of possession. Nevertheless, the subject sample in Experiment 5 was extremely small, and as a result, only tentative suggestions could be made. Before any firm conclusions about the meaning of possession for children under six years old can be put forward, a great deal more work, with many more children, must be undertaken.

Regarding the different types of possessed object, and their differential effects upon the performance of children, and their conceptualisation of the possessive relation, again these studies need to be extended. In many cases, only one example of a particular object type was included in the experiment (for instance the use of sweets as an example of the shortterm alienable object). It may be, therefore, that

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the pattern of results, and the remarks made about the different objects have more to do with the individual examples presented, than with their theoretical classification into object type. Further work must be undertaken, therefore, to clarify this point.

Finally, the experiments presented here have concentrated, for the mostpart, on the linguistic and conceptual aspects of the understanding of possession. Often it has proved difficult to disentangle the children's actual awareness of possession and its meaning, from their metalinguistic or other metacognitive abilities. It would be interesting to see to what extent the hypotheses formed from these studies are actually borne out in the way children behave.

APPENDICES

APPENDIX 1

Experiment 1: Mean latency scores for each age groups in response to the seven combinations of object owner(s) for sentences containing pronouns, and those containing propernouns.

PROPERNOUNS

AGE GROUPS

OWNERS

	A	B	C	D
S	20.22	6.50	3.14	3.43
E	34.93	10.93	9.50	4.65
Male D/C	30.72	2.72	5.00	3.58
Female D/C	27.72	5.21	13.25	4.36
E & D	45.08	27.08	22.22	11.72
D & C	51.43	33.14	18.79	13.29
S & C	53.57	30.65	20.57	7.93

PRONOUNS

	A	B	C	D
S	18.43	2.79	3.57	2.72
E	40.29	4.14	8.29	3.29
Male D/C	50.36	14.07	10.26	4.07
Female D/C	47.07	14.43	8.79	4.79
E & D	56.93	42.22	36.21	28.93
D & C	60.00	48.65	49.15	14.50
S & C	60.00	38.86	26.15	34.93

where: S = Subject
        E = Experimenter
        D = Doll
        C = Child

APPENDIX 2

Experiment 1: List of means showing ease of comprehension
of possessive construction with seven different object types:
latency to correct response and number of correct first
attempts.

OBJECT	LATENCY MEANS	CORRECT RESPONSE MEANS
hair	12.34	3.08
nose	16.51	3.04
milky bar	20.01	2.52
shoe	22.41	2.44
felt pen	22.30	2.28
book	23.83	2.12
pencil	30.66	1.80

APPENDIX 3

Experiment 2: List of means showing ease of production of possessive construction with seven different object types: latency to correct response and number of correct first attempts.

OBJECT	LATENCY MEANS	CORRECT RESPONSE MEANS
nose	11.77	3.02
hair	18.06	3.35
shoe	18.15	2.64
milky bar	19.44	2.58
book	22.10	2.47
pencil	25.47	2.36
felt pen	31.14	2.19

Experiment 5:   The Possession Interview

A.   Meaning of Possession

    1.   List of personal possessions:

       Can you think of some things that belong to you?
       Some things that are yours? As many as you can.

    2.   Meaning/definition of possession:

       What does it mean when we say something belongs to
       us?

       When you say "this is mine" what do you mean?

       Is that the same for all your things?

       What about your ......   clothing worn
                                       reciprocal
                                       intrinsic
                                       toy
                                       teddy
                                       pet
                                       shortterm
                                       token
                                       territory
                                       transitory
                                       large item

    3.   Non possessables:

       Can you think of anything that doesn't belong to
       anyone?

       What about a tree
                   bus
                   bird   ?   Who does that belong to?

    4.   Acquisition of objects (exhaustive list):

       How do people get things?
       How do things come to belong to people?
       Can you think of any more ways?
       How did you get your things?

    5.   Reciprocal inalienable objects:

       What do you mean when you say your (Mum) belongs
       to you?
       What makes her yours?
       Is she anyone else's (Mum)?
       How could she become someone else's (Mum)?
       What do you do when you want (Mum) to cuddle you?
       What happens when you want a cuddle, and (Mum)
       doesn't?

Can (Mum) cuddle anyone?
What would they have to do if they want your (Mum)
to cuddle them?
Can (Mum) cuddle someone if you say 'no'?

How long will she be your (Mum)?
Can you give her away?
Can you share her with someone else?

6. Intrinsic inalienable objects:

What do you mean when you say your nose belongs to
you?
What makes it yours?

Suppose I wanted to "toot" your nose? Could I?
What would I do?
Could I do it, if you didn't want me to?

Can you give your nose to someone else?

B. Alienable objects

1. Child's access:

If you want to use your things, what do you do?
When can you use your things?
Who decides?
Is that the same for all your things?

2. Access by others:

Who else uses your things?
What do they do if they want to use them?
When can they use them?
Who decides? Can they use them if you don't want
them to?
Is that the same for all your things?
Suppose you and someone else both want to use your
things at the same time.
Then what happens?
Who would end up using them?
Is that the same for all your things?

3. Would it matter if you lost or broke something of
yours?
What would happen?
Can you give away your things?

What if someone else lost or broke it?
Would it matter?
What would happen?
Is that the same for all your things?
Can someone else give away your things?

C. Collective possession and Others as Possessors:

1. Collective possession:

Can something belong to two people at the same
time?
Can you think of anything that belongs to you and
someone else?
Something that is yours and someone elses?

Does it belong more to one person or both of you
the same?

Who uses it?
Who uses it most?
Who decides who uses it?
Suppose you and (x) both wanted to use it together
- then what?

Would it matter if you broke it?
What would happen?
What if (x) broke it?

Can you give it to someone else?
Could (x) give it away?

2.   Others as possessors:

Do other people have things that belong to them?
Can you use other people's things?
What would you do if you wanted to?
What if they don't want you to?
If you wanted to use it and they were already
using it, what would happen?

Would if matter if you broke something belonging
to someone else?
What would happen?

Could you give it away?
What would happen?

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