

UNMARKED USES OF MASCULINE FORMS: CROSS-LINGUISTIC EVIDENCE*

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How do children acquire unmarked uses of masculine terms? The answer to this question may be of significance for research in both the areas of language acquisition and of women and language. In the area of language acquisition, one of the central concerns has to do with the acquisition of word meaning and the relationships between words. The acquisition of unmarked uses of gender markers may lend insight into children's approaches to word meaning. In the area of women and language, one of the key areas of interest has been unmarked uses of masculine terms, their source, and their impact on the status of women. Yet little is known about children's acquisition of these forms. The purpose of this study was to pose some questions regarding the acquisition of unmarked masculine terms and to provide some first answers to those questions.

Studies on the acquisition of gender have primarily focused on non-generic uses of gender. Research on English has focused to a large extent on children's naturalistic use of pronouns and their abilities to interpret anaphoric pronouns in a variety of sentential contexts. These studies reveal that children learning English know and respect pronoun gender at an early age. In a study of two children's utterances between about 2;3 and 4 years of age, Huxley (1969) reports no errors in gender for third person pronouns, although there were errors in case. Brener (1983) reports in a study of children's understanding of I, you, he, and she that children aged 2;8 to 5;7 generally respected gender in responses to he and she, even though they occasionally made errors of choosing a first or second person participant rather than a third person participant. In another study, Wykes (1981) asked four-year-olds to act out sentences with puppets. The sentences came in pairs in which the first sentence contained the puppets' names, the second contained pronouns referring to the same puppets. In one condition, the puppets were of distinct sexes, so the names and pronouns were of distinct genders. When these gender cues were present, the children were very successful (90% to 100% success) in assigning the pronouns, even when there were up to three pronouns in the second sentence. Umstead and Leonard (1983) similarly reported that their 3- to 5-year-old subjects had little difficulty in identifying the correct referent for he in cases of within-sentence anaphora (in which the pronoun follows the co-referential noun in the same sentence).

Studies on languages that have grammatical gender have cen-

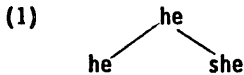
tered on a somewhat different concern. These studies have addressed the question of whether children learning a language with grammatical gender initially approach gender as sex-related or as marking distributional properties of lexical items. Percival (1981) suggests that in languages with grammatical gender there is a sort of tug-of-war between grammatical and natural gender. He cites historical and dialectal cases of neuter nouns with female referents becoming feminine by taking on the feminine articles, feminine nouns with male referents becoming masculine by taking on masculine articles, and feminine abstract nouns becoming masculine by taking on masculine articles when they refer to males. In addition, nouns themselves occasionally change their morphology to harmonize with natural gender -- e.g., Latin *nurus* "daughter-in-law" changing from the masculine *-us* ending to the feminine *-a*. See also Bendix (1979).

In the acquisition of grammatical gender, the approach taken by children appears to be dependent on the relative degree of multifunctionality of the surface forms used to mark gender (Mulford 1985). Mulford (1985) found a discrepancy between children's acquisition of gender in Icelandic and their acquisition of gender in languages like German and French. In a test of children's understanding of Icelandic sentences containing masculine, feminine, and neuter pronouns in contexts of arrays of people, animals, vehicles, and nonsense objects, Mulford found that 4- to 8-year-olds' performance on nouns whose gender corresponded to the real-world sex of their referents was consistently better than their performance on nouns whose gender had no relation to real-world sex (i.e., was strictly grammatical gender), and their performance on familiar syntactic gender was markedly better than on unfamiliar syntactic gender for all but the youngest group, who treated syntactic gender at a chance level. She found that "It was not until age seven that children's ability to assign characteristic gender to nonsense words based on formal, phonological information alone exceeded chance" (448). These findings contrast with those of Böhme & Levelt's (1979) for German and Karmiloff-Smith's (1979) for French. Both of these studies found that children relied heavily on syntactic and phonological cues in these languages for gender assignment, even when these cues contradicted semantic gender information. Mulford argues that the difference in the results appears to be linked to the functional diversity of the gender markers in Icelandic as opposed to their relative lack of multifunctionality and variability in German and French.

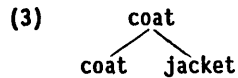
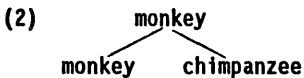
In the area of women and language, there have been a variety of concerns surrounding the use of gender, especially unmarked uses of masculine terms and potential links to an inferior status for women. Major among the issues addressed are the question of a causal relationship between sexism in a culture and the lan-

guage used in that culture, the question of whether language is of trivial or major importance in influencing the status of women, the issue of whether sexism resides in the language or in speakers and listeners of that language, the question of the relevance of etymology, and the question of whether the kind of language change encouraged by some feminists is too difficult or artificial to work. (See Bendix 1979, Blaubeurgs 1980, Bodine 1975, Cameron 1985, Lakoff 1975, MacKay 1983, Martyna 1983, McConnell-Ginet 1979, Percival 1981, Spender 1985, and Tvard 1977 for a review of these and other issues from a variety of perspectives.) In exploring these issues, some researchers have provided evidence that at least some English-speaking adults treat generic masculine terms as if they mean "male." Some studies have involved meta-linguistic or semi-meta-linguistic tasks, in which subjects are asked to judge whether a given sentence or paragraph that contains generic nouns in combination with the pronoun he or she, or neither, could refer to one or more males or one or more females (MacKay and Fulkerson 1979, MacKay 1980, 1983, Martyna 1980). Others have tested subjects' comprehension or production of sentences containing unmarked uses of masculine nouns or he more directly (Martyna 1980, Schneider and Hacker 1973). In all of these studies, subjects have responded less neutrally to unmarked masculine terms than to sex-neutral terms. For example, MacKay (1980) gave college students two paragraphs to read that contained prescriptive he referring to neutral antecedents (person, writer, and the like). At the end of the paragraphs, there were three multiple choice questions, one of which assessed subjects' comprehension of he. Subjects had to respond to, e.g., "The beginner discussed in the paragraph is (a) male; (b) female; (c) either male or female." Only 20% of subjects chose (c); 80% chose (a) on 63% of the trials, and no one chose (b) (MacKay 1983). In the same study, three other groups of subjects read the same paragraphs with a neologism (E, tey, or e) replacing he. In these cases, 80% or 90% of the subjects chose either male or female in response to the question regarding the character's sex (MacKay 1980, 1983).

It is not entirely clear, however, what the best interpretation of these results is. One possibility is that male-specific responses are due to the ambiguity of the masculine terms; alternatively, they may be due to a "generic=male" bias that arises perhaps from infrequent exposure to non-sex-specific uses of the masculine forms. According to the former possibility, the results could be interpreted as simply indicating that masculine terms are ambiguous, in that they can refer to two levels. On the lower level, such terms refer only to males, in contrast to the equivalent feminine terms; at the higher level, they refer to both males and females. We might show this ambiguity as in (1).



This is comparable to, e.g., monkey in (2), in which the term monkey can be contrasted, at a lower level, with, e.g., chimpanzee or can be used generically to include these and other anthropoid apes (cf. OED, monkey, I.1.). Another example is coat, which on one level contrasts with jacket, and on another can be used to include jackets, as in (3).



Any time ambiguous words are used out of context, and even at times within specific contexts, one can expect a split in listeners' interpretations if they are forced to choose between the separate interpretations. Thus, if asked, "How many monkeys did you see at the zoo?" one might not know whether to include chimpanzees. Some respondents may include them, others may not.

On the other hand, many researchers argue that generic masculine terms lead users of the language to "think male, rather than male and female" (Schneider & Hacker 1973: 17), and that it is for this reason that generic masculine forms tend to be interpreted non-generically (Spender 1985, Cameron 1985). In this regard, MacKay (1980) suggests that although context will usually disambiguate potentially ambiguous sentences, in the case of he, the dominant "male" interpretation is so salient that it limits "the resolving power of the context" (p. 447).

The argument is as follows: With the help of context people normally perceive one and only one interpretation of ambiguous words, but they perceive salient or common meanings more readily than nonsalient or uncommon ones....As a result, salient or common meanings may be perceived even when context favors the alternate interpretation. In particular, speakers of English encounter the specific use of he about 10 to 20 times as often as the supposedly generic use (see Graham 1973), and they tend to perceive the male interpretation of prescriptive he even in clearly generic contexts. The end result is a positive feedback cycle: The relative infrequency of prescriptive he fosters non-generic interpretations, but the more frequently prescriptive he is interpreted nongenerically, the greater the likelihood of nongeneric interpretations in the future. This positive feedback cycle explains the relative ineffectiveness of context in the present study. (MacKay 1980: 447-448)

Besides this question of whether male-specific responses are due to the ambiguity of masculine forms or to infrequent exposure to generic uses, a second, related, question that arises is whether results showing that generic masculine terms are interpreted as referring to males are peculiar to English. In particular, results with he and his may be related to the fact that they and their are often used in conversational English instead of he and his. Perhaps English speakers, from children on up, are not hearing he and his being used in unmarked contexts, so they never fully develop a non-sex-linked interpretation of he. In contrast, in other languages in which unmarked uses of masculine forms are more prevalent, speakers may discover the unmarked status of masculine terms earlier and more easily.

With the above issues in mind, this study was designed to explore two major questions: (1) First, when do children begin to interpret unmarked uses of masculine terms generically? It may be that children begin with sex-specific interpretations of masculine terms and never fully move away from sex-specific links for these terms. Such a progression would help explain male-specific responses in the studies on adults. (2) Second, do children learning a language in which unmarked uses are more prevalent than in English come to a neutral interpretation of masculine terms before, or more completely than, children learning English? The answer to this question will help to illuminate whether adult responses indicating male-specific interpretations of neutral masculine terms are due to the fact that those terms are ambiguous or to the relative lack of frequency with which masculine terms are used generically in conversational English. If due to ambiguity, children learning both types of language should give evidence of male-specific responses to masculine terms, in equivalent numbers. If due to relative infrequent exposure, children learning English should give evidence of this type of response more often than those learning a language in which the masculine is regularly used neutrally.

The particular languages chosen here were English and Spanish. Spanish differs substantially from English in the use of gender. While English is a natural gender language, Spanish shows grammatical gender. All nouns in Spanish are assigned to either the masculine or feminine gender, and nominal modifiers must agree with the gender of the noun. In cases in which a noun root can refer to both males and females, the masculine form is regularly used to refer neutrally to both males and females. Thus, e.g., niñ- means "child," niño "boy," and niña "girl," but niño can refer to a child of unspecified sex:

- (4) Busc - o a un niño - o
look for, 1p.s. animate object a (masc.) child-masc.

que tenga tres herman - o - s.
that has, 3p.s. subjunctive three sibling-masc.-pl.

"I am looking for a child (any child) that has three brothers and/or sisters (three siblings)."

- 5) Tod - o - s los niños - o - s tienen
All-masc.-pl. the (masc. pl.) child-masc.-pl. have

que acostarse.
to go to bed

"All the children have to go to bed."

Such neutral uses of masculine terms are abundant in everyday speech.

The particular hypothesis explored here was that English-speaking children will start with a sex-linked interpretation of masculine terms and move to a neutral interpretation only at an advanced age, and perhaps even then not completely, while Spanish-speaking children will come to an early understanding that masculine terms can be used neutrally.

METHOD

An experiment was conducted in which 4- to 11-year-old children were asked to respond to sentences containing masculine, feminine, and non-sex-specific forms by choosing male and/or female referents for those sentences.

Subjects

Subjects were 64 monolingual English-speaking children ("ME"), 64 monolingual Spanish-speaking children ("MS"), and 128 bilingual English-/Spanish-speaking children between the ages of 4 and 11. Half of the bilingual children were assigned to a bilingual English ("BE") group, and were tested in English, half to a bilingual Spanish ("BS") group, and were tested in Spanish. For each of the four groups, there were eight children at each age, half male and half female. In addition, 8 English-speaking and 8 Spanish-speaking (monolingual or Spanish-dominant) adults were tested to provide a base with which to compare the child data. All subjects lived in the Miami-Dade County area.

Materials

Non-linguistic stimuli:

Fourteen pictures were drawn on standard-size typing paper. In each picture, there were seven or eight animate creatures, usually people. In each case, there were five individuals that belonged to the general class of people or creatures mentioned by the noun being used, whether that noun referred exclusively to males or females or to members of both sexes. For half the pictures for each noun type, three of these creatures were male and two were female, for the other half, three were female and two were male. The rest of the creatures in the picture were outside this class. (For example, for the sentences with astronaut, there were two female astronauts, three male astronauts, a boy and a girl. For the sentences with actor, there were three male actors, two actresses, and three people in the audience.) The positions of the male and female representatives of the general class were balanced across the 14 pictures so that equivalent numbers of males and females occurred on the extreme left, on the extreme right, and in the middle of the page.

In addition to the fourteen pictures, sets of six or more stickers were prepared. Each set consisted of stickers representing the same object. Some sets had identical members, some sets had members that varied by color and/or shape. These stickers represented such items as whistles, balloons, trumpets, masks, sunglasses, ice cream cones, and the like.

Linguistic stimuli:

The linguistic stimuli consisted of sentences in which three major types of nouns and four modifiers occurred. The noun types were as follows:

- 1) Sex-specific nouns ("SS"). These nouns are restricted in use to one sex or the other, and unambiguously refer to that sex alone. Two masculine and two feminine nouns were used.
- 2) Non-sex-specific nouns ("NSS"). These nouns can be freely used to refer to either males or females.
- 3) Unmarked nouns ("U"). These are nouns that can be used in either a restricted fashion, to refer to males alone, or in a general fashion, to refer generically to both males and females.

In choosing the specific nouns to be tested, attempts were made to come up with a set of nouns that could be used for both the languages tested. Thus, the criteria used for placing a noun into a given category had to be met by the lexical items in both

languages. This was possible in most cases, although some exceptions had to be made in the case of unmarked nouns. The nouns used in the two languages were as follows:

| | <u>English</u> | <u>Spanish</u> |
|---------------|----------------|----------------|
| SS: masculine | boy | varón |
| | dad | papá |
| | | mujer |
| feminine | mom | mamá |
| | | bebé |
| NSS: | baby | bebé |
| | student | estudiante |
| | artist | artista |
| | astronaut | astronauta |
| U: | actor | actor |
| | salesman | vendedor |
| | Chinaman | chino |
| | policeman | doctor |
| | Scout | niño (boy) |
| | Smurf | hijo (son) |

A fourth class of nouns, the marked equivalents ("Ma") of the unmarked nouns (actress, saleslady, etc.) were also used, as described below.

In addition to the nouns, four modifiers were used in constructing sentences. One was a masculine modifier, one was feminine, and two were not marked for gender. In English, gender outside the noun is marked on subject, object, and possessive pronominal forms -- he, she, his, her, hers, and the like. In Spanish, gender outside the noun is marked on subject and direct object pronouns, articles, and adjectives. In constructing stimuli sentences, it was deemed important to find sentences with equivalent numbers of gender markers across the two languages. In order to meet this requirement and yet end up with the most natural-sounding sentences, the lexical items marked for gender outside the noun consisted of the possessive adjectives his and her in English and the articles los and las in Spanish. In English sentences were constructed with a, their, his and her; in Spanish with un/una ("a"), su ("his/her/their"), los, and las, as follows.

In English, nouns from the groups above were placed in sentences such as "Every X wants a/his own/her own/their own Y," where X is the noun and Y an every-day object represented by a sticker. In Spanish, nouns from the groups above were placed in sentences such as "Cada X quiere un/su propio Y" and "Los/las X quieren sus propios Y's."

For each language, four sets of 14 sentences, A to D, were

drawn up. In each set, one noun from each of the first three noun types, SS, NSS, and U, occurred with each of the four modifiers, for a total of 12 sentences. The sets differed in which of the four nouns occurred with each of these modifiers, so that no noun occurred with each modifier more than once across the four sets. In addition, two more sentences were constructed by taking the feminine counterparts of the two remaining unmarked terms and placing them with the masculine (his/los) and feminine (her/las) modifiers. The feminine nouns used were balanced across the four sets of sentences so that each child received an unmarked noun or its marked equivalent only once. For all sentences, four verbs wants/quiere, needs/necesita, gets/recibe, and should have/debe tener were used. These were distributed so that each verb occurred with a different noun in each noun group across the four sentence groups, A to D.

Procedure

Subjects for each age group were randomly assigned to sentence group A, B, C, or D, one boy and one girl to each group. Each subject was tested individually. Sessions lasted approximately fifteen minutes. At the beginning of each session, subjects were told in the relevant language that they and the experimenter were going to play a sort of game. "We're going to look at some pictures, and in each picture, something is missing. You and I are going to stick the things that are missing on the pictures." Three practice items were used. In these, children were told "Every X needs a Y," and were encouraged to give Y's to all the X's. With these practice items, if children did not give a sticker to every member of the relevant category, they were prompted with questions such as "Now does every girl/babysitter/doctor have an umbrella?" "Are you sure?" These practice items were followed by the test items, presented in random order. Each linguistic stimulus was uttered twice.

Two aspects of subjects' responses were recorded on a data sheet. First, the subject's assignment of stickers to male and female members of the category named by the noun in question and to male and female non-members were recorded, and the order in which those assignments were made. Second, children's remarks or questions were noted whenever they occurred. The present report focuses on the first of these, children's choices of male and female referents.

RESULTS

Preliminary χ^2 analyses indicated that, within language groups, there was no statistical difference across the four

groups of sentences, A, B, C, and D. All subsequent analyses were, therefore, conducted on the data from the four sentence groups combined.

In their responses to the linguistic stimuli, subjects could have performed in a variety of ways. First, they may or may not have respected the non-sex-relevant boundary of the noun in question. Thus, in response to astronaut, for example, subjects may have chosen only astronauts, respecting the boundary of the noun, or they may have chosen individuals in the picture that were not astronauts. In response to salesman, they may have chosen only salespeople or they may have gone outside the boundary of the noun and chosen buyers instead of or as well as salespeople. Secondly, subjects may or may not have respected the gender of the noun in responding to linguistic stimuli. Thirdly, they may or may not have respected the gender of the modifier in their responses. The statistical analyses reported on here were aimed at determining the extent to which subjects' responses followed these three options.

Non-Sex-Relevant Noun Boundary

The first set of analyses tested children's performance relative to the non-sex-relevant boundaries of the nouns. Children's abilities to respect the noun boundary are an indication of at least some familiarity with the meaning of the noun; responses that went outside this boundary suggest, in general, a lack of familiarity with the noun. (There is one exception to this, noted below.)

First, the data for the sentences in which SS, NSS, and U nouns appeared were tested. Because the data were categorical, all statistical tests were conducted using loglinear analyses. When ME and BE were combined and contrasted with MS and BS, and language, age of subject, sex of subject, noun type, and modifier type were treated as variables, loglinear analysis showed somewhat distinct results when a full model, in which all interactions were included, and when a reduced model, in which all non-significant interactions were excluded, were considered. With the full model, the main effects of age ($\chi^2 = 95.22$, $p < .0001$) and noun type ($\chi^2 = 7.57$, $p < .0227$) were significant. Language ($\chi^2 = 3.72$, $p < .0537$) and sex of subject ($\chi^2 = 3.35$, $p < .0672$) were not significant but bordered on significance, and modifier type and all two-way and greater interactions were non-significant. With the reduced model, age ($\chi^2 = 91.15$, $p < .0001$) and noun-type ($\chi^2 = 10.96$, $p < .0042$) remained significant, and language ($\chi^2 = 6.00$, $p < .0143$) and sex of subject ($\chi^2 = 4.46$, $p < .0346$) became significant.

Both the full and the reduced models reveal that for both the English and Spanish language groups, 4- and 5-year-olds went outside the noun category significantly more often than the older children, with 4-year-olds going outside the noun boundary 25.07% of the time, 5-year-olds 12.53% of the time, and the older children an average of 4.70% of the time. In addition, NSS nouns elicited the fewest responses that went outside the noun boundary (5.29%), while SS and U nouns elicited this type of response 9.75% and 9.44% of the time, respectively. The reasons for the higher level of responses outside the noun boundary for SS and U nouns seem distinct, however. With SS nouns, the problem seemed to be one of determining the generality of application of particular nouns. With boy/varon, for example, children often asked whether the instruction included the fathers in the picture. With U nouns, in contrast, the problem seemed to be one of not being acquainted with one or another of the nouns. With two nouns in particular -- salesman/vendedor and actor -- several children showed signs of not knowing these words, asking, for example, what the noun meant. In addition to these very strong effects, the reduced model suggests a tendency for the Spanish-speaking children to go outside the non-sex-relevant boundary of the noun somewhat more often than the English-speaking children (9.4% of the time versus 6.93% of the time), and for boys to go outside the noun boundary more often than girls (9.59% of the time vs. 6.71%).

In a subsequent analysis on SS, NSS, and U nouns, the four language groups were separated into ME, BE, MS, and BS. Under this analysis, both age and noun type remained significant, under both the full and reduced models. For age, $\chi^2=70.41$, $p<.0001$ (full model); for noun type, $\chi^2=7.23$, $p<.0269$ (full model). Language and sex of subject were no longer significant. The four language groups appeared to form a continuum with ME and MS at two extremes, with 6.55% and 10.55% responses outside the noun boundaries, respectively, and the bilinguals in between -- with 7.30% for BE and 8.22% for BS. When only the monolinguals, ME and MS, were compared, only age was significant ($\chi^2=45.96$, $p<.0001$) under the full model; age ($\chi^2=44.92$, $p<.0001$), language ($\chi^2=3.91$, $p<.0479$), and noun type ($\chi^2=7.26$, $p<.0265$) were significant under the reduced model.

Tests similar to these for SS, NSS, and U nouns were conducted on all four noun groups, SS, NSS, U, and Ma, with the masculine and feminine modifiers. When ME and BE were combined and contrasted with MS and BS, there were main effects of language and age in the full and reduced models. (For language, $\chi^2=4.31$, $p<.0378$; for age, $\chi^2=88.48$, $p<.0001$.) But, as in the analyses above, the effect of language became non-significant when the four language groups were separated and when only the monolinguals were compared. All other effects appeared

non-significant for both the four noun groups and the monolinguals.

The combined results of these tests indicate a robust effect of age in relation to subjects' responses that went outside the boundary of the noun, with 4- and 5-year-olds going outside the noun boundary more often than the older subjects. In addition, there was a fairly strong effect of noun type, suggesting perhaps less familiarity on the whole with U nouns. Finally, these results suggest possible weaker effects of language and sex of subject, wherein Spanish speakers had a tendency to go beyond the noun boundary more often than English speakers, and boys more often than girls.

Noun Gender

The second set of analyses tested whether subjects responded on the basis of the gender of the nouns in the linguistic stimuli. For these and all subsequent loglinear analyses, two sets of tests were conducted. First, tests were conducted on only those responses that respected the non-sex-relevant boundaries of the nouns. It is possible that when a child did not respect the non-sex-relevant boundary of a noun, it was simply because he or she was not familiar with that noun. Thus, an examination of only those responses that respected non-sex-relevant boundaries of nouns may give the truest picture of the subjects' knowledge of and performance on the gender-relevant aspects of the linguistic stimuli. On the other hand, subjects may have been familiar with gender-relevant aspects of the linguistic stimuli and yet not be entirely certain about the non-sex-relevant boundary of the nouns. So a second set of tests included all responses, whether they respected the non-sex-relevant boundaries of the nouns or not. In all cases, the statistical results of these two tests were comparable. Therefore, only the former results will be reported below.

In addition, all analyses below, like those reported above, were conducted under full and reduced models. In all cases, these two revealed identical effects for the analyses below, so only the full model figures will be reported.

In order to determine whether children were basing their responses on the gender of the nouns in the linguistic stimuli, the following criteria were established. Responses to SS nouns were deemed to respect noun gender if only members of the sex corresponding to the gender of the noun were chosen (e.g., only females in response to moms). Responses to NSS and U nouns were considered to respect the noun gender if subjects chose both males and females. The choice of both males and females is in

accordance with prescriptive guidelines for these two groups of nouns. This response mode was chosen not because I necessarily agree that speakers should or in practice do follow those guidelines, but simply as a convenient, principled base from which to evaluate the data. Responses to Ma nouns were considered to respect noun gender if subjects chose only females.

SS, NSS, and U Nouns:

First, the data for the SS, NSS, and U nouns were analyzed. When ME and BE were combined and contrasted with MS and BS, and language, age of subject, sex of subject, noun type, and modifier type were used as variables, loglinear analyses revealed significant main effects of language, noun type, and modifier type, and a significant interaction of noun type with modifier type. English and Spanish were significantly different at $\chi^2=14.58$, $p<.0001$; noun type was significant at $\chi^2=71.33$, $p<.0001$; and modifier type was significant at $\chi^2=32.70$, $p<.0001$. The interaction between noun type and modifier type was significant at $\chi^2=12.78$, $p<.0466$. No other significant two-way or greater interactions occurred.

Both language groups respected noun gender to a large degree. However, the significant effect of language indicated that English-speaking subjects respected the noun gender more often (89.96% of the time) than Spanish-speaking subjects (83.76% of the time). The effect of noun-type was due to the fact that both language groups respected the gender of the noun more often with SS and NSS nouns than with U nouns. With SS nouns, subjects respected gender 92.47% of the time, and with NSS nouns 90.89% of the time. (That is, subjects chose males in response to masculine SS nouns, females in response to feminine SS nouns, and both males and females in response to NSS nouns.) In response to U nouns, however, subjects respected noun gender only 77.20% of the time. (That is, subjects chose both males and females in response to U nouns less often than in response to NSS nouns, and restricted their responses to either males only or females only in 22.80% of their responses to U nouns.) These results suggest that U nouns are less sex-neutral than NSS nouns (but also much less sex-specific than SS nouns). (This finding should be considered in the light of the previous finding that subjects were less familiar with U nouns than with SS and NSS nouns. However, one would expect less familiarity with U nouns to have led children to give stickers to a broad array of individuals in the picture, not to a well-defined subset. In addition, when the two U nouns that were most problematic for children (salesman/vendedor and actor) are eliminated from the figures, children still gave sex-specific responses to U nouns 21.10% of the time, still well above the 9.11% for NSS nouns.)

Finally, the significant effect of the modifier type was due to the fact that the use of the feminine modifiers her and las caused subjects to deviate from the gender of the noun more often (21.90% of the time) than the use of a/un(a) (9.76%), their/su (8.19%), or his/los (12.70%). The modifier X noun-type interaction was due to the fact that the effect of the feminine modifiers was minimal for SS nouns and strong for both NSS and U nouns, but most dramatic in the case of NSS nouns. See Table 1.

TABLE 1

Subjects' Responses According to Noun Gender
For Each Noun X Modifier Type

| | SS | NSS | U | Total |
|----------|-------|-------|-------|-------|
| a/un(a) | 94.4 | 94.8 | 80.9 | 90.24 |
| their/su | 95.6 | 98.0 | 82.0 | 91.81 |
| his/los | 91.1 | 94.2 | 76.4 | 87.30 |
| her/las | 88.8 | 76.1 | 69.3 | 78.10 |
| | 92.47 | 90.89 | 77.20 | |

When similar analyses were conducted separating the four language groups, language, noun type, and modifier type remained significant, at $\chi^2=15.32$, $p<.0016$, $\chi^2=61.09$, $p<.0001$, and $\chi^2=29.71$, $p<.0001$, respectively. The ME subjects respected noun gender 89.76% of the time, the BE subjects 90.15%, MS subjects 81.80%, and BS subjects 85.69%. Analyses of monolinguals likewise revealed main effects of language, noun type, and modifier type ($\chi^2=9.64$, $p<.0019$, $\chi^2=27.82$, $p<.0001$, and $\chi^2=14.75$, $p<.0020$, respectively). The noun type X modifier type interaction was no longer significant for either the four language groups separated ($\chi^2=10.75$, $p<.0963$) or for the two monolingual groups ($\chi^2=10.47$, $p<.1063$), however.

SS, NSS, U, and Ma Nouns with Masculine and Feminine Modifiers:

In a subsequent set of analyses, children's responses according to noun gender were re-examined for all four noun groups, SS, NSS, U, and Ma, with the masculine and feminine modifiers. As in the case of SS, NSS, and U nouns with all modifiers, there were significant main effects of language and noun type and a significant interaction for noun type times modifier type. How-

ever, there was not a significant main effect of modifier type. With ME and BE combined and contrasted with MS and BS, language was significant at $\chi^2=16.04$, $p<.0001$; noun type at $\chi^2=68.89$, $p<.0001$; and noun type X modifier type at $\chi^2=27.26$, $p<.0001$. (Similar figures were obtained when the four language groups were separated and when only monolinguals were compared.) The noun type X modifier type interaction was due to a lowered number of both-sex responses to NSS nouns when these occurred with feminine modifiers and a lowered number of female-only responses to Ma nouns when these occurred with the masculine modifiers. See Table 2.

TABLE 2

Percentage of Responses that Respected Noun Gender,
for SS, NSS, U, and Ma Nouns
with Masculine and Feminine Modifiers

| | SS | NSS | U | Ma | Total |
|--------------------|-------|-------|-------|-------|-------|
| Masculine modifier | 91.1 | 94.2 | 76.4 | 57.3 | 79.89 |
| Feminine modifier | 88.8 | 76.1 | 69.3 | 74.2 | 77.13 |
| Total | 89.93 | 85.23 | 72.87 | 65.87 | |

In addition to these effects that were similar to those for SS, NSS, and U with all modifiers, the analysis of all four noun groups with the masculine and feminine modifiers revealed significant interactions of language by noun type ($\chi^2=8.31$, $p<.0401$) and of age by noun type ($\chi^2=36.47$, $p<.0193$). The first of these was due to the fact that a relatively low proportion of the Spanish-speakers' responses to Ma nouns respected noun gender (see Table 3), the second to the fact that 4- and 5-year-olds respected the noun gender of Ma nouns much less often than the older children (an average of 47.9% versus 70.5% for the two groups, respectively).

TABLE 3

| | SS | NSS | U | Ma | Total |
|---------|-------|-------|-------|-------|-------|
| English | 93.0 | 88.1 | 74.3 | 77.4 | 83.23 |
| Spanish | 86.8 | 82.2 | 71.4 | 53.4 | 73.62 |
| Total | 89.93 | 85.23 | 72.87 | 65.87 | |

Taken together, these analyses revealed strong effects of language, noun type, and modifier type. English speakers respected noun gender more often than Spanish speakers. All subjects respected noun gender with SS and NSS nouns more often than with U and Ma nouns: They quite consistently gave male-only and female-only responses to SS nouns and both-sex responses to NSS nouns. With U nouns, however, the tendency to give both-sex responses was less consistent than with NSS nouns, and with Ma nouns the tendency to give female-only responses was less pronounced than with SS nouns. Female-only responses for Ma nouns were especially low for Spanish-speaking subjects. Finally, the feminine modifiers her and las led subjects away from both-sex responses for NSS and U nouns, and the masculine modifiers his and los led subjects away from female-only responses to Ma nouns.

Modifier Gender

A third set of loglinear analyses examined whether the masculine and feminine modifiers led subjects to choose male-only or female-only responses. The data for all four noun groups, SS, NSS, U, and Ma, with the feminine and masculine modifiers were analyzed. When ME and BE were combined and contrasted with MS and BS, and language, age of subject, sex of subject, noun type, and modifier type were used as variables, loglinear analyses revealed significant main effects of age ($\chi^2=20.11$, $p<.0053$), noun type ($\chi^2=122.36$, $p<.0001$), and modifier type ($\chi^2=85.49$, $p<.0001$), and a significant interaction of noun type with modifier type ($\chi^2=101.58$, $p<.0001$).

The significant effect of age was due to the fact that at 4 years of age, children were less likely to respect the gender of the modifiers than at the older ages, and at 10 and 11 years of age, children were more likely to respect the gender of the modifiers than at the younger ages. The proportion of responses that respected modifier gender at each age were as follows: 4: 21.84%, 5: 26.36%, 6: 26.67%, 7: 30.74%, 8: 30.58%, 9: 31.40%, 10: 38.68%, 11: 40.25%.

The main effect of noun type was due to the fact that responses according to the gender of the modifier were distinct for all four types of nouns. 50.00% of the responses to SS nouns were in accordance with the modifier gender, while only 14.35% of the responses with NSS nouns, 22.15% of the responses with U nouns, and 38.91% of the responses with Ma nouns were in accordance with the gender of the modifier. The high percentage of responses in accordance with the modifier gender in the cases of SS and Ma nouns can be attributed to the fact that, as seen above, children's responses to these types of nouns were largely sex-specific in accordance with the gender of the noun. Since

half the time the gender of the sex-specific modifier matched the gender of the noun, these figures, which are approximately half those reported above for the proportion of responses to SS and Ma nouns that were according to noun gender, may be attributed to the children's responding according to the noun gender. In the cases of the NSS and U nouns, on the other hand, responding on the basis of the noun gender meant choosing both males and females in the pictures. For children to respond according to the modifier gender, they had to depart from this general tendency and choose individuals of a single sex. In order to determine whether there was a difference in children's reliance on modifier gender in responses to stimuli with NSS and U nouns, a separate χ^2 analysis was conducted. This analysis revealed a significant difference: $\chi^2 = 9.52, p < .005$. This suggests that children were more likely to be influenced by the modifier gender in cases of U nouns than in cases of NSS nouns. However, it should be recalled that the analyses above revealed that children were more likely to respond with sex-specific responses in cases of U nouns -- even with the non-sex-specific modifiers -- than with NSS nouns. Thus, a greater number of responses in accordance with the gender of the modifier in the case of U nouns may be explainable in the same fashion as the greater number of responses in accordance with modifier gender in the case of the SS nouns.

The significant effect of modifier type was due to the fact that there were more female-only responses with the feminine modifiers (43.26%) than male-only responses with the masculine modifiers (19.04%). This was primarily due to the fact that children failed to give male-only responses in the case of the masculine modifiers with NSS and Ma nouns and gave overwhelmingly female-only responses in the case of the feminine modifiers with Ma nouns, as indicated by the significant noun type X modifier type interaction. See Table 4.

TABLE 4
RESPONSES ACCORDING TO MODIFIER GENDER FOR EACH NOUN TYPE

| | SS | NSS | U | Ma | Total |
|--------------------|------|------|------|------|-------|
| masculine modifier | 46.4 | 5.8 | 22.4 | 2.6 | 19.04 |
| feminine modifier | 53.4 | 23.1 | 21.9 | 74.2 | 43.26 |
| Total | 50.0 | 14.4 | 22.2 | 38.9 | |

Subsequent analyses in which the four language groups were separated revealed similar findings. For age, $\chi^2=18.77$, $p<.0089$, for noun type $\chi^2=98.29$, $p<.0001$, and for modifier type $\chi^2=73.02$, $p<.0001$. For the noun times modifier interaction $\chi^2=87.75$, $p<.0001$. Analyses comparing only the monolingual groups revealed similar significant effects of noun type ($\chi^2=46.02$, $p<.0001$), modifier type ($\chi^2=40.07$, $p<.0001$), and noun type by modifier type ($\chi^2=49.21$, $p<.0001$). However, age was not significant ($\chi^2=10.56$, $p<.1590$).

DISCUSSION

The above data reveal various aspects of children's use of the noun and modifier types tested here. First, apart from a tendency for boys to go outside the non-sex-relevant boundaries of nouns more often than girls, sex of subject was never significant. Thus, girls and boys appear to learn noun and modifier gender, as tested here, in an equivalent fashion. Second, in general, in both languages, the subjects primarily responded according to the noun gender, regardless of the modifier present in the stimulus. That is, they chose male-only or female-only individuals in response to SS nouns, both males and females in response to NSS and U nouns, and female-only individuals in response to Ma nouns. (Female-only responses to Ma nouns were less prevalent in Spanish than in English, however.) Third, noun gender was respected more often with SS and NSS nouns than with U and Ma nouns. This suggests that U nouns are less neutral than NSS nouns (but also much more neutral than masculine SS nouns), and that Ma nouns are less sex-specific than feminine SS nouns. Fourth, modifier gender was generally uninformative in children's responses. Modifier gender did not influence responses at all in cases in which the noun was marked for gender. That is, in the cases of SS and Ma nouns, modifiers whose gender conflicted with the gender of the noun did not lead children away from responding according to noun gender. Modifier gender was somewhat influential, however, in cases in which the feminine modifiers occurred with nouns not marked for gender -- especially NSS nouns. Fifth, the effect of noun gender was more pronounced in English than in Spanish. This suggests that English noun gender is generally more sex-relevant for children than Spanish noun gender. The lower proportion of female-only responses to Ma nouns in Spanish supports this conclusion.

One initial hypothesis of this study was that English-speaking children start with a sex-specific interpretation of his and her and never fully move away from this sex-specific approach, while Spanish-speaking children may similarly start with sex-specific interpretations of los and las but discover neutral uses of masculine forms earlier. What was found, instead, was that

both English- and Spanish-speaking children generally pay little attention to the modifiers, or at least do not treat them as being important in determining the sex of referents. However, children notice the feminine modifiers in both languages more than they notice the masculine modifiers. Responses to stimuli with the masculine modifiers were never significantly different from those with a/un(a) or their/su.

What does this mean with regard to the initial questions raised regarding the possibility that male-specific responses to generic masculine forms may be language-specific for English and regarding the question of whether such male-specific responses are due to ambiguity or to a lack of exposure to generic uses of masculine forms? These results suggest a mixed picture. On the one hand, the data reveal that the gender of nouns in English is more sex-relevant than the gender of nouns in Spanish. Noun gender was generally more influential in English than in Spanish, and English Ma nouns appeared more sex-specific than Spanish Ma nouns. On the other hand, the effect of modifiers in the two languages appeared the same. There was no language X modifier interaction. In both languages, the feminine modifiers influenced responses in favor of female-only responses for NSS and U nouns, while masculine modifiers did not lead subjects to give significantly more male-only responses with any type of noun. This leads to a picture in which there seem to be degrees of markedness across the various forms and across the languages in question. Looking first at the nouns, at one extreme, there are the totally sex-neutral forms, the NSS nouns. At the other extreme lie the most sex-restricted forms, the SS nouns. Between these lie U and Ma nouns, the latter of which are less sex-specific in Spanish than in English. In addition, the Spanish nouns are less sex-specific in general than English nouns. Turning to the modifiers, a/un(a) and their/su are totally sex-neutral. The feminine modifiers are more sex-specific than the masculine modifiers, but these together are much less sex-relevant than the gender of nouns. We might illustrate these relationships as in (4).

(4) Sex-neutral Sex-restricted
 <----->

NSS < U < Ma, Spanish < Ma, English < SS

Spanish nouns < English nouns

a/un(a), their/su, his/los < her/las < noun gender

The conclusion to be drawn from these results is that English- and Spanish-speaking children were not significantly treating the masculine modifiers as indicating male-only refer-

ence. Whatever slight tendency there might have been to give more male-only responses with his and los was present in equivalent degrees in the two languages. This suggests that any tendencies found in studies of English to give male-only responses to masculine modifiers is related to the ambiguity of those modifiers, rather than to the frequency of exposure to them. There are two qualifications to this conclusion. First, the results for noun gender in the present data show that gender in English is more sex-related than gender in Spanish, which might be expected from the fact that gender in Spanish is grammatical gender. This may give the English speakers more of a gender=sex bias that was, for one reason or another, not captured in this study. Secondly, there could be some changes in children's understanding of these forms after the age of 11. The above-mentioned tendency to pay greater attention to the modifiers at 10 and 11 years of age suggests this is a possibility. Such changes would be consistent, for example, with Cain, Weber-Olsen, & Smith's (1987) findings for Spanish. However, the adults tested here performed in a fashion that was parallel in all respects to the performance of the oldest subjects. Thus, it appears unlikely that there would be significant changes in children's performance on these items during the teen years.

NOTE

*This study was supported in part by a faculty development grant from the College of Arts and Sciences of FIU, and by a Title III grant to the Linguistics Program of FIU. I would like to express my gratitude to Graciela Anrrich, Debbie Hasson, and Judy Jameson for their invaluable help in collecting the experimental data, and to Paulette Johnson for her tireless assistance in conducting the statistical analyses reported here. In addition, I am grateful to the principals, directors, teachers, and children of Loyola and West Lab Schools and of the Family Literacy Center for allowing me to use their students as subjects.

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