



WORD

ISSN: 0043-7956 (Print) 2373-5112 (Online) Journal homepage: <https://www.tandfonline.com/loi/rwrd20>

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To cite this article: Susan M. Ervin (1962) The Connotations of Gender, WORD, 18:1-3, 249-261, DOI: [10.1080/00437956.1962.11659776](https://doi.org/10.1080/00437956.1962.11659776)

To link to this article: <https://doi.org/10.1080/00437956.1962.11659776>



Published online: 04 Dec 2015.



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The Connotations of Gender

Language may influence the perception and recall of things and events through many aspects of its structure. One source of influence is through systems of classification. Any lexical or grammatical marker constitutes a classifier if it has a greater than chance correlation with semantic determinants or with determinants in the social situation of speech. The lexical contrast of "man" vs. "woman" is a classifier for a semantic difference, and the choice is predictable if we control the referent, by asking informants to name people or pictures of men and women. The contrast of "cat" vs. "kitty" is a classifier correlated with social determinants, and the choice is predictable if we control the audience of speech.

It has been demonstrated clearly by Brown and Lenneberg that a system of lexical classification, English color terminology, systematically influences memory.¹ Such a lexical system is explicit in its semantic correlates, and lexical selections have minimum predictability from the utterance structure alone.

Many grammatical markers also have semantic correlates—English plurality, for example. The peculiarity of such grammatical, in contrast to lexical, classification is that it may be mandatory even when there is no appropriate semantic or social cue, or when the feature is of minimal importance to the speaker. Thus its semantic associations may be attenuated.

If the correlation is perfect, the learning of the linguistic contrast may encourage earlier learning of the associated referential discrimination. Casagrande's finding that young Navaho-speaking children were more likely than were English-speaking Navaho children in the same community to sort objects on the basis of form, is an example of the influence of a completely consistent classification system, the Navaho verb stems.²

¹ R. W. Brown and E. H. Lenneberg, "A Study in Language and Cognition," *Journal of Abnormal and Social Psychology* XLIX (1954), 454–462.

² J. B. Carroll and J. B. Casagrande, "The Function of Language Classifications in Behavior," in *Readings in Social Psychology*, ed. by E. E. Maccoby, T. M. Newcomb, and E. L. Hartley (New York, 1958), pp. 18–31. Casagrande's study illustrates also the important point that classifiers in language provide only one form of training among many; two English-speaking control groups differing widely in cultural environment contrasted as sharply in performance as the Navaho-speaking and non-Navaho-speaking Navaho children.

A correlation that is less than perfect may both stimulate the learning of referential discriminations and influence the connotations of the exceptional items. English form classes such as mass nouns and verbs are examples of a less than perfect semantic correlation. Brown has pointed out that a higher proportion of the conversation of children concerns the tangible, visible world, and that, in their speech, form classes may have greater semantic consistency than in adult speech. He gave children nonsense words in various linguistic environments, such as "a sib", "some sib," and "sibbing," and demonstrated systematic choice of pictures in accordance with the linguistic markers. Thus pictures of confetti-like heaps were chosen as "some sib," contoured simple objects as "a sib," and pictures of actions as "sibbing."³ Thus the meaning of ambiguous items—the nonsense words—was influenced by the dominant features of meaning of the grammatical class to which they belonged.

THE ANALYSIS OF GENDER

Gender is an instance of an imperfectly correlated grammatical system of classification. In many Indo-European languages the names of males belong to the masculine gender and of females to the feminine gender. Whether an animate-inanimate distinction is made varies with the language. We are concerned here with the assignment of meaning to new items. Presumably, the connotations of sex difference should generalize to members of the masculine and feminine classes, even if the referent is abstract or inanimate.

Gender systems differ in certain respects.⁴ There is considerable evidence in psychological research about the processes by which stimulus generalization and mediated generalization occur. We shall extend these conclusions to make certain predictions about the effects of differences in gender systems. Stimulus generalization refers to the extension to a new stimulus of a response learned to another stimulus.⁵ Thus, animals trained to approach, for food, or to avoid, because of shock, a door painted with a particular hue, will extend this response, without training, to doors with other hues. The more similar the hue the greater the transfer of the response. Mediation refers to the role of intervening responses rather than

³ R. W. Brown, "Linguistic Determinism and the Part of Speech," *Journal of Abnormal Social Psychology* LV (1957), 1-5.

⁴ A sophisticated analysis of the history of gender is available in I. Fodor, "The Origin of Grammatical Gender I, II," *Lingua* VIII (1959), 1-41, 186-214.

⁵ S. A. Mednick and J. L. Freedman, "Stimulus Generalization," *Psychological Bulletin* LVII (1960), 169-200.

simple similarity in generalization. Thus if we shock subjects whenever they see a drawing of some drinking glasses, and later show them among other drawings, a picture of spectacles, they may show physiological alarm reactions because they have covertly labelled both as "glasses." We know that semantic responses are highly transferable.⁶

On psychological grounds, we may make certain predictions about semantic generalization in grammar:

(1) The larger the proportion of items, in terms of frequency of usage, which share a specific and observable semantic correlate, the greater the generalization. Thus, in a two-gender system with masculine and feminine gender, many items will refer to inanimate objects with qualities irrelevant to sex. If a three-gender system places many of these inanimate referents in a neuter class, a higher proportion of the masculine items may refer to males and more of the feminine items to females. In the latter system, generalization should be greater.

(2) The less the overlap between classes, the stronger the generalization. By overlap is meant manifestly inappropriate classification. Latin *poeta*, *agricola*, and *nauta* when they refer to males are syntactically masculine, but they follow a predominantly feminine declension. The same is true of Italian *il dentista*, *il poeta*, *il propheta*, *il artista*, *il messia*, which have the feminine final vowel. Since these nouns are syntactically masculine, the force of the deviation is somewhat vitiated. It would be expected that such cases, like deviant verb inflections, might survive only in frequent forms or in elite groups, since analogy would tend to suppress them in daily conversation. A few cases of complete overlap appear in Italian, in which a male referent is named by a feminine form which is also syntactically feminine: *la guida*, *la guardia*, and *la tigre*.

In evaluating overlap, a consistent direction of prediction must be used, for example from referent to classifier. Frequency of the cases should be considered, as well as observability of the sex contrast. Assignment of baby chicks to one class, regardless of gender, is irrelevant inclusion since sex is not evident. It may be that some of the animal classifications men-

⁶ For a discussion of semantic generalization, see C. E. Osgood, "The Nature and Measurement of Meaning," *Psychological Bulletin* XLIX (1952), 197-237, and Gregory Razran, "The Observable Unconscious and the Inferable Conscious in Current Soviet Psychophysiology: Interoceptive Conditioning, Semantic Conditioning, and the Orienting Reflex," *Psychological Review* LXVIII (1961), 81-147. Recent summaries of studies on the effects of language which include discussions of verbal mediation are S. M. Ervin and W. R. Miller, "Language Development" in the *National Society for the Study of Education Yearbook, 1963: Child Psychology*, and A. E. Goss, "Verbal Mediating Responses and Concept Formation," *Psychological Review* LXVIII (1961), 248-274, the latter being considerably the more extensive and technical.

tioned by Bonfante, e.g. *la tigre*, represent both rarity in observation of the referent and lack of obvious secondary sex differences.⁷

(3) Generalization is reduced if one of the classes is closed. In such a case new terms will be assigned to the open class regardless of the attributes of the referent. The effect of such a restriction would be to increase overlap between classes.

In some languages, new terms are assigned according to semantic criteria if they exist, but all the items without a semantic basis of assignment are put into one of the classes. In the Navaho system of stem classifiers of verbs, metaphorical terms are put into the "round object class." When one brings news or sorrow, the verb has the round object stem. For visible objects, however, there is semantic consistency.⁸ The effect of such a rule is to decrease the proportion of semantically relevant items in the round object class, as described above in (1), but not to increase overlap.

(4) The larger the number of markers of gender in an utterance related to a given item, the greater the generalization will be. If there is a phonetic similarity between the linguistic cues in the various markers, then those markers become more strongly related to the semantic contrast. In Italian the fact that both adjectives and nouns use *-o* vs. *-a* to mark gender strengthens the association of each with sex. It is in fact improbable that speakers could sustain a system in which phonetically similar morphemes were associated with male referents in a nominal form and female referents in a modifier. A few high-frequency exceptions might be tolerated but the tendency would be towards consistency.

In addition, differential frequency of occurrence of particular modifiers with gender markers would modify the connotations of those markers. If *delicata* occurs more often than *delicato*, differential meaning accrues to the suffixes.

(5) The greater the cultural importance of the semantic distinction, the greater the generalization. Other factors being equal, more generalization

⁷ G. Bonfante, "Semantics, Language." In *Encyclopedia of Psychology*, Ed. by P.L. Harriman (New York, 1946), pp. 847-851.

⁸ Whorf has stated that the Navaho category is only partially consistent semantically, citing the metaphorical extensions. B. L. Whorf, "Grammatical Categories," *Language* XXI (1945), 1-11. My own evidence in trying to predict stems used by informants for systematically varied referents and in eliciting word-associations accords more with the conclusions of Hoijer. Harry Hoijer, "Classificatory Verb Stems in the Apachean Languages," *International Journal of American Linguistics* XI (1945), 13-23. There is nearly a perfect semantic predictability for physical objects. The selection seems to be semantically rather than linguistically conditioned since a "rug" occurs both with a long object or flat flexible object stem, depending on its state, whether rolled or spread out.

might occur within a class correlated with sex differences than within one based on fine form properties of objects.

Our first set of hypotheses consists of a set of predictions about the variables that are related to degree of semantic generalization. The variations may occur between different languages, or between classifiers within one language.

Which aspects of meaning will be generalized? Taking gender as an example, there is an anatomical distinction, but we assign sex by these ultimate criteria only at birth or with animals. Most of the time we judge human sex on the basis of secondary, imperfectly correlated contrasts such as size, type of clothing, hair style, and voice. Finally, cultural experience and verbal practice differentiate the sexes and the masculine or feminine nouns which refer to them. We may therefore expect to find three different bases for meanings which might be generalized: (a) sexual symbolism associated with anatomical differences or sexual relations; (b) physical properties varying in their correlation with sex, such as size; (c) cultural associations such as contrasts in beauty, slowness, laziness, and stability. Within a given culture, we can predict systematic contrasts in meaning between masculine and feminine words with no animate referent.

GENDER ASSIGNMENT OF LOAN WORDS

How would one test such hypotheses? One source of evidence is the gender assignment of loan-words from a language without gender markers into a language with gender markers. In many American immigrant languages, English loan words have been given gender markers. In analyses of loans into German, Norwegian, French, and Portuguese, certain common features have appeared: (1) Natural sex is usually pre-eminent. (2) If there is a virtual homonym, or if there is phonetic similarity between the English word as borrowed and the usual phonetic features of the gender markers in the borrowing language, the associated gender is assigned. Thus English *-ing* often yields French *-ine* (f.), German *-ung* (f.), and English *-er* often becomes German *-er* (m.), French *-eur* (m.), Portuguese *-a* (f.).⁹

(3) There may be a strong preference for one gender or the other. Thus in Norwegian and in Portuguese there is a bias toward masculine assignment, and in German towards feminine assignment of loanwords.

⁹ Leo Pap, *Portuguese-American Speech* (New York, 1949), p. 104; C. E. Reed, "Gender of English Words in Pennsylvania German," *American Speech* XVII (1942), 25-29; E. F. Haden and E. A. Joliat, "Le Genre Grammatical des Substantifs en Franco-Canadien Empruntés à l'Anglais," *Publications of the Modern Language Association* LV (1940), 839-854.

(4) The gender of the native word which best translates the borrowed word may be adopted. Sometimes whole semantic classes are thus affected, as in the French-Canadian preference for feminine gender for names of machines and masculine gender for cloth. Haugen has protested this principle. He argues that loanwords "were used precisely because the native word escaped the speaker or because he had never heard a native word for the idea in question. There is no reason to suppose that his sub-conscious should have whispered the gender of the native 'equivalent' to him when it failed to deliver the equivalent itself."¹⁰ Haugen's objection to the principle does not seem to be valid. There are cases of semantic specialization, where both borrowed and native word are retained, and here gender transfer seems quite likely. Further, if gender produces particular semantic associations with words and their referents, it is possible that these associations might be recalled when the details of the word itself are momentarily lost. This is a common experience in the psychopathology of memory, when a proper name is temporarily forgotten, but certain letters, the number of syllables, or the ethnicity of the name may be recalled. Also, tachistoscopic perception research (or "subliminal" perception) shows that recognition or recall are by no means all-or-none affairs, but that partial aspects may be recalled when the whole cannot.¹¹ Whether such transfers actually occur is an empirical issue.

These factors represent a series of potential bases of assignment, which could conflict with each other. Ideally, they should be ordered in terms of relative strength so that unambiguous predictions can be made. Haugen's statement that "all nouns become masculine unless they were associated with a homophonous feminine or neuter morpheme or a female creature" represents a statement of priorities of factors that permits prediction.¹² If two factors of equal strength conflict, gender assignment may vacillate, which Haugen reports was the case in 18% of the nouns he studied.¹³ Some factors may be absolute; e.g. all female creatures may be called by feminine names without exception. On the other hand, the other three factors seem to be matters of degree, and in the case of homophony the particular phonetic form in which a word is borrowed must be known. Our point here is that the analysis of loans should approach as closely as possible to a perfectly predictive system. Until such an attempt is made,

¹⁰ Einar Haugen, *The Norwegian Language in America* (Philadelphia, 1953), v. 2, p. 449.

¹¹ Israel Goldiamond, "Indicators of Perception: I. Subliminal Perception, Subception, Unconscious Perception: An Analysis in Terms of Psychophysical Indicator Methodology," *Psychological Bulletin* LV (1958), 373-411.

¹² Haugen, *op. cit.*, 448.

¹³ Haugen, *op. cit.*, 442.

and the exceptions can be isolated, it cannot be known either whether the fourth factor is present, or whether any influence may be attributed to connotations.

TABLE 1. BONFANTE'S LIST OF MATCHED ITALIAN WORDS*

	<i>gloss for Feminine</i>	<i>gloss for Masculine</i>
buca	cave; grave; post office box; billiard pocket	narrow, round hole, quite deep; key hole; ear passage; small room
capana	hut, child's playhouse	small hut, cabana
cosa	thing	(pej.) vague thing, "stuff"
famiglia	family	servant
gamba	leg	stem of a plant, candlestick
pozza	puddle	well
sacca	soft bag for clothing, laundry bag	sturdy bag, often deep and narrow, for coal, potatoes, golf clubs; sleeping bag; type of dress
secchia	pail, pail-full	pail

* Bonfante, 847.

TABLE 2. MATCHED ITALIAN WORDS.

	<i>gloss for Feminine</i>	<i>gloss for Masculine</i>
banca	bank (for money)	bench, counter
broda	(pej.) watery stuff	broth, juice
capotta	tent, car top of cloth	overcoat
fiasca	flat-sided flask	round-sided flask
fila	row, line	thread
faschia	band, bandage	bundle
folia	leaf	sheet of paper
fossa	grave, ditch	long ditch
frutta	piece of fruit, fruit in markets	fruit on a tree; fruits of labor
legna	pile of firewood, lumber	wood
mela	apple	apple-tree
	(Many contrasts of the fruit and tree are similar)	
pala	spade	pole, stick
pendula	pendulum clock	pendulum
piana	plain; window frame	plain; story or floor
picca	spade, pike, spear	pinnacle
pizza	pie	goatee; beak; pinnacle; lace
porta	door	port, harbor
posta	point of a sharp object	place, location; period (punctua- tion)
suffitta	garret, penthouse	ceiling
suola	sole of shoe	soil, earth
tavola	board	table
tela	canvas material	cloth panel, gore
torchia	large printing press	small press; typographical machine
tuba	musical instrument	pipe, tube
vela	sail	veil

Thus the available evidence on loanwords does not help us to know whether gender markers carry any connotations which generalize. Bonfante has presented a more controlled source of evidence: the analysis of items which share a common root and etymology but which differ in gender. We will discuss only his examples in Italian, which are presented in Table 1.¹⁴ Gender in Italian is consistent, with minimal overlap, agreement rules, and phonetically similar markers for adjectives and nouns. Because there are only two genders and both classes are open, each class contains many items in which sex is irrelevant. One would expect under such circumstances that the connotations of sex difference would extend or generalize to these irrelevant items. The extent of generalization should be less than in an otherwise similar three-gender system.

Bonfante claims that these items reveal a strong size contrast: "The feminine in *-a* often indicates an object larger or more comprehensive than the corresponding masculine in *-o*."¹⁵ Neither this list, nor a longer one in which we have added further items in Table 2, seems to present overwhelming support for this statement. Such evidence should be based first on systematic or complete selection of instances, and a method of size judgment by neutral native speakers. Neither of these precautions was taken. While Bonfante's method is considerably more controlled than the analysis of loan lists, both techniques omit an essential step, namely the assessment of the semantic judgments of the speech community, separately for each item, without knowledge by the informants of the hypothesis tested.

CONNOTATIONS OF ARTIFICIAL WORDS

The following study represents a first step necessary in testing the hypotheses presented earlier—the use of a method giving an adequate range of instances and semantic judgments by native speakers. Nonsense words were presented to Italians. Because they were artificially constructed, it was possible to control the phonetic factors which influence connotations, and to make completely equivalent lists of masculine and feminine forms. Such a method may be considered an artificial and more systematic analogue of Bonfante's, and it permits assessment of connotations when the influence of denotations is completely removed.

¹⁴ Bonfante, *op. cit.*, 847. Bonfante states his agreement with a point made by Leo Spitzer in "Feminización del Neutro," *Revista de Filología Hispanica* III (1941), 361, that the feminine is bigger because it embraces and envelops while the masculine penetrates: "es también lo que abarca al hombre, lo recibe en su regazo, es más amplio que él y lo contiene."

¹⁵ Bonfante, *loc. cit.*

*Method*¹⁶

Informants. Data were collected from 32 Italian bilinguals in Boston. They were given a test of language dominance, in which the difference in total time to name a set of 120 simple pictures in Italian and in English was measured. The Italian-dominant and the English-dominant on the test differed radically in their life histories. All of the Italian-dominant informants came to the United States after the age of nine, whereas none of the English-dominant came after six, and many were born in Boston.

Materials. A list of thirty root morphemes was prepared, of consonant-vowel-consonant form, by systematically rotating vowels and consonants. These were carefully checked against a dictionary and a sample of informants to remove items that were meaningful or reminded people of meaningful words. Two forms of the test were constructed, so that the same root was given a masculine suffix on one form and a feminine suffix on the other. Half the informants received each form.

Instructions. "Some people think that you can guess what words mean just by the way they sound. I have some words here from a dialect of Italian that you don't know. Some of them are names of strong things, weak things, good things, and bad things, and so forth. See if you can guess the description from the way the words sound. I will give you the word, and then ask you to choose which description is better. For instance, GICA—buona o cattiva? If you know any of the words, please tell me." Because of the dialectal variations in the subjects, the instructions were given in English.

Procedure. Each of the thirty words was given with four descriptive pairs in the appropriate gender: *buono o cattivo*, *grosso o piccolo*, *bruto o bello*, *delicato o forte*. The informants who were hesitant were encouraged to guess. These particular dimensions were chosen because evidence obtained from American students had suggested that there were different evaluations of *man* and *woman* on scales involving either value (*bad-good*, *pretty-ugly*) or potency (*strong-weak*, *big-little*).¹⁷ Without prior testing of Italians,

¹⁶ These data were collected as part of a study sponsored by the Social Science Research Council Southwestern Project in Comparative Psycholinguistics, a project directed by J. B. Carroll. The services of David Arnold in recruiting informants and collecting the data are gratefully acknowledged.

¹⁷ A complete description of data showing correlations with masculine-feminine of various scales, for American informants, can be found in C. E. Osgood, Charles Suci, and P. H. Tannenbaum, *The Measurement of Meaning*, Urbana, 1958. The technique has also been used cross-culturally (see the abstracts in *International Journal of American Linguistics* XXVII (1961), 260-263). Evidence obtained by the author from Navahos suggests that the size dimension should be divided into *tall-short* and *wide-narrow*. Men were rated as longer and narrower than women. The Italian term *grosso* like English *big* or *large*, does not distinguish height and breadth.

these scales were selected as possibly related to physical and cultural sex contrasts.

After the choices for the nonsense words, the informants were asked to place *gli uomini* and *le donne* or *le femine*¹⁸ on scales representing each of these four dimensions. They were asked to judge them on scales with seven points rather than two points, as for the nonsense words. Half were asked to judge men first, and half women, with the direction of the scales varied to avoid directional preferences.

Results. Our assumption is that the judgments of the nonsense words are generalized from judgments of nouns with animate referents. Thus the first point to test is whether the informants thought men and women differed on the four scales. The statistical tests used on Table 3 compare the differences that actually appeared with those that might have occurred by chance among thirty people (two did not complete this part of the test). All the differences were too great to be due to chance. *Le femine* were consistently rated as prettier, weaker, and smaller than *gli uomini*. There was a slight tendency to rate women as better (*buona*) but it was smaller than the other differences, especially in the English-dominant informants.

TABLE 3. RATING OF "MEN" AND "WOMEN" ON ATTRIBUTE SCALES.

Attribute poles ^a	<i>gli uomini</i>	(<i>le femine</i>) <i>le donne</i>	Difference	Chance probability of difference ^b
Bello—bruto	2.53	1.57	0.96	<0.01
Buono—cattivo	2.98	2.78	0.20	<0.05
Delicato—forte	4.37	2.29	2.08	<0.01
Piccolo—grosso	5.14	3.99	1.15	<0.001

^a Values have been corrected in direction so that the left attribute pole had a value of one and the right, of seven.

^b Evaluated by correlated *t*-test, for thirty informants.

It is possible that people who regard women as bigger than men might also rate feminine nonsense words more often as *grosso*. For this reason, we separated the informants into two groups according to the direction of their ratings of *gli uomini* and *le donne* (*le femine*). The nonsense ratings were examined separately for the two groups. It did not appear that the individual rating was the important factor; even the deviant individuals went along with the majority in saying, for example, that masculine words more often were *grosso*. These idiosyncratic ratings of *gli uomini* and

¹⁸ It was ascertained first whether *le donne* or *le femine* was the informant's customary term.

le donne (le femine) may come from thinking of particular persons while doing the ratings; evidently these idiosyncratic factors do not play a part in the nonsense ratings of the same informants.

TABLE 4. DIFFERENCES IN NUMBER OF MASCULINE AND OF FEMININE NONSENSE WORDS WITH SPECIFIED DESCRIPTION BY ITALIAN-DOMINANT INFORMANTS.

Description	Average difference ^a	Chance probability ^b	Number of informants
Bruto	1	<0.005	12
Cattivo	1	<0.05	14
Forte	1	<0.001	12
Grosso	2	<0.05	13

^a With 15 masculine and 15 feminine words, the differences could range between -15 and +15. The number of feminine words given the description was subtracted from the number of masculine words so described.

^b Evaluated by the Wilcoxin Signed Ranks Test.

On Table 4, a few words were eliminated which an informant said sounded familiar. For this reason the number of informants is not the same for all words. For each informant, we subtracted the number of feminine words rated, e.g., *grosso* from the number of masculine words so rated. Theoretically, this value could range from -15, if no masculine and all feminine words were said to be *grosso(-a)* to +15 if the reverse obtained. If there is no systematic difference, the values would show a chance fluctuation around zero.

It can be seen on Table 4 that the average values differed slightly but systematically from zero, for the Italian-dominant informants. The difference was reliable for all four scales, but was most reliable for *bruto* and *forte*.

Such results might have occurred if the informants guessed our intent, and directed themselves to choose according to gender. However, there were no cases of sufficiently consistent patterns to suggest that this was the case.

We can conclude that there is a tendency to ascribe different connotations to masculine and feminine words in Italian, and that the differences are related to differences in the connotations of *gli uomini* and *le donne (le femine)*.

DISCUSSION

We have presented a simple technique for discovering the connotative contrast associated with a classifier by a given language community. The

scales used were abbreviated versions of a more extensive mapping. Inspection of Tables 1 and 2 suggests other important dimensions which might show even stronger contrasts. We have merely shown the existence of a contrast, not its extent or magnitude. Also, we have assumed that testing of *gli uomini* and *le donne* (*le femine*) would give sufficient evidence of a contrast for nouns with animate referents, but perhaps some terms for familiar animals would give stronger contrasts.

What are the implications of the gender experiment for natural language and for meaningful words? Obviously, people do not regard apples or apple-trees as inherently masculine or feminine on the basis of grammatical gender. In everyday experience, the obvious attributes of objects far outweigh any increment of association derived from gender. While some speculations on the origins of gender have suggested that some inanimate objects were first viewed as animate (sun-moon, night-day, earth-sky), and assigned to contrasting genders,¹⁹ still the great majority of everyday objects do not have these properties. Some shapes and substances do have sexual connotations. These features may in the past have had an influence on gender assignment.

Generalization of connotations is least important when the association of a word and a tangible referent is well-learned and automatic, and when the semantic referent is unambiguous and its properties are obvious. Probabilistic aspects of experience are more important when language is being learned, when a situation is ambiguous, or when active commerce with the environment is minimized and thought and feeling are maximized.²⁰

¹⁹ G. Bonfante, "L'animismo nelle lingue indoeuropee," *Sprachgeschichte und Wortbedeutung*, 1954, pp. 33-56.

²⁰ S. M. Ervin and G. Foster, "The development of meaning in children's descriptive terms," *Journal of Abnormal and Social Psychology* LXI (1960), 271-275, regarding learning. On gender, Roman Jakobson has collected some pertinent examples: "Ways of personifying or metaphorically interpreting inanimate nouns are prompted by their gender. A test in the Moscow Psychological Institute (1915) showed that Russians, prone to personify the weekdays, consistently represented Monday, Tuesday, and Thursday as males and Wednesday, Friday, and Saturday as females, without realizing that this distribution was due to the masculine gender of the first three names . . . as against the feminine gender of the others. . . . The fact that the word for Friday is masculine in some Slavic languages and feminine in others is reflected in the folk traditions of the corresponding peoples, which differ in their Friday ritual. The widespread Russian superstition that a fallen knife presages a male guest and a fallen fork a female one is determined by the masculine gender of . . . 'knife' and the feminine of . . . 'fork' in Russian. In Slavic and other languages where 'day' is masculine and 'night' feminine, day is represented by poets as the lover of night. The Russian painter Repin was baffled as to why Sin had been depicted as a woman by German artists; he did not realize that 'sin' is

There are certain points, therefore, where we may look for the reflection of connotations on natural language. One is during learning, when errors would tend towards consistency; in fact, learning of grammatical classes is probably facilitated considerably by any consistent semantic associates. Other points deserving of systematic investigation are borrowing and coinage, metaphor and slang, humor, poetry, and visual representation of abstractions. In this study we have taken only the first step, by showing that Italian gender carries meaning.

Modern linguists have rightfully been critical of semantic assumptions which are either untested or untestable. Yet there are certain points in linguistic contact and change and in stylistic differentiation where semantic influences may be significant, and where formal analyses may be supplemented. We have shown that it is possible to test semantic statements about contemporary languages, believing that the systematic assessment of the semantic aspects of formal categories will prove to be important in the study of the uses of language.

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feminine in German . . . , but masculine in Russian. . . . Likewise a Russian child, while reading a translation of German tales, was astounded to find that Death, obviously a woman . . . was pictured as an old man . . . *My Sister Life*, the title of a book of poems by Boris Pasternak, is quite natural in Russian, where 'life' is feminine, but was enough to reduce to despair the Czech poet Josef Hora in his attempt to translate these poems, since in Czech this noun is masculine." R. Jakobson, "On Linguistic Aspects of Translation," in *On Translation*, Ed. by R. A. Brower (Cambridge, Mass., 1959), p. 237.

²¹ For other recent studies employing semantic differential ratings of nonsense words, see M. S. Miron, "A Cross-Linguistic Investigation of Phonetic Symbolism," *Journal of Abnormal and Social Psychology* LXII (1961), 623-630, and N. N. Markel and E. P. Hamp, "Connotative Meanings of Certain Phoneme Sequences," *Studies in Linguistics* XV (1960-1961), 47-61. The latter paper is concerned with phonesthemes, or sub-morphemic sequences with some meaningful associations.