

## EXCHANGE

### LINGUISTIC RELATIVITY: TRANSFORMING THE RELATIVE INTO THE INSENSIBLE: A REPLY TO CLARKE ET AL.<sup>1</sup>

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I should like to respond to Clarke et al. concerning their recent paper entitled "Gender Perception in Arabic and English" which appeared in your journal, *Language Learning*, vol. 31, no. 1, 1981. In this paper, the authors appear to have erred in several directions regarding logically and intuitively inappropriate interpretations of their data and offering an incorrect reading of the conclusion reached in Guiora et al. (1980) concerning the Michigan Personality and Language Research Group's position on the Whorf-Sapir hypothesis.

Over a number of years, the Michigan Personality and Language Research Group has investigated two distinct questions bearing on the relationship between grammatical structure and psychological phenomena: To what extent does the amount of gender loading in a language affect (a) the age of gender identity attainment (see Guiora et al. 1981 and Paluszny et al. 1973) and (b) the assignment of meaning to essentially asexual objects (see Guiora and Sagi 1978 and Guiora et al. 1980). It is obvious that Clarke et al. have confused these two series of studies by stating, "The results of those studies indicated that adult speakers of English, Finnish, and Hebrew categorized object/concepts in essentially the same fashion regardless of the native language" (p. 159). No Finnish subjects were ever used in the assignment of meaning studies, but only in the gender identity studies. The reader is referred to the original studies for a correct summary of the conclusions.

The results from these two series of studies have shown that the age of gender identity attainment is affected by gender loading in the language while assignment of meaning to asexual objects/concepts is not. This has led to a modified reinterpretation of the Whorf-Sapir hypothesis which states that linguistic features may have an effect on the rate of some

<sup>1</sup> Mark A. Clarke, Ann Losoff, Margaret Dickenson McCracken, and JoAnn Still, "Gender Perception in Arabic and English," *Language Learning* 31:159-169 (June 1981).

psychological processes but that "shared human experience is stronger than that of the particular constraints imposed by the structure of language" (Guiora et al. 1980). Clarke et al. replicated the Guiora study dealing with assignment of meaning with an Arabic population and found results contrary to Guiora et al. (1980) leading them to state: "The results of this study, while decidedly tentative, indicate that gender loading influences Arabic speakers' perception of seemingly asexual objects and concepts" (p. 163). I believe this conclusion to be both methodologically unreportable and intuitively unreasonable.

The Semantic Differential Test used by Clarke et al. was originally devised by Guiora (1976) to test the degree of assignment of meaning, specifically, the qualities of maleness or femaleness, to essentially asexual objects or concepts. The test assumes a logical distinction between an object or concept and the word that names it (between a referent and its reference) and is constructed to test the hypothesis that for those languages which assign a grammatical gender to the reference, a contaminating assignment of psychologically experienced relatedness of the object/concept may also occur. That is to say, if a word is assigned as masculine or feminine (grammatical gender), a subsequent and corresponding male or female assignment (psychologically experienced sex attribute) will also occur. While not explicitly stated, it seems apparent that the assumption underlying the construction of the test is that the gender assignment to the reference will influence the sex assignment to the referent. An example may clarify the issue. For the word "book," assumed neutral in sex ascription (i.e., the referent of "book" not being considered more male than female or vice versa), the fact that it is assigned a masculine grammatical gender in Arabic may influence an Arabic speaker's perception of the referent, that is, he or she may experience a book (not the reference "book") as intrinsically more male related than female related.

In interpreting the results of this test, any responses in the expected direction (neither sex ascribed to either gender group for neutral words, male and female ascribed to masculine and feminine groups respectively for the consonant words, and male and female ascribed to feminine and masculine groups respectively for the dissonant words) are assumed to show that linguistic markers have no effect in assigning meaning to the referents of the words, the degree of maleness and femaleness being determined by the semantic intension of the referent itself. In the Guiora studies (Guiora and Sagi 1978 and Guiora et al. 1980), results reflecting the dominance of semantic intension over gender assignment were always

found. (It can be seen that for the consonant words the interpretation is ambiguous, being attributable to either the semantic intension of the referent or the linguistic marker.)

There are three distinct logical levels of description operating in the Semantic Differential Test: the original semantic sexual connotation of the referent, the grammatically assigned masculine/feminine gender of the reference, and the assigned sexual intension—maleness or femaleness—of the referent presumed to be the outcome of having processed information from the other two, logically prior, levels. This processing is considered to affect the perception of the referent through a biased contamination by the reference.

Unfortunately, interpretation of the Semantic Differential Test can be ambiguous at best for some patterns of responses. Since for the consonant group of words, grammatical gender and sexual connotation are equivalent, assignment of sex in the expected direction is confounded and cannot be attributed to either linguistic markers or sexual connotation and hence has limited value by itself. For the neutral and dissonant groups, responses in the expected direction (no sexual assignment and cross-sexed assignment respectively) present no difficulty in interpretation since the only presumed factor operating in the particular direction is original sexual connotation. The Guiora results were of this type, leading the researchers to state that linguistic markers have little or no effect in perception of the maleness or femaleness of objects or concepts.

Interpretation of the neutral or dissonant categories when responses are in the direction of the linguistic markers, however, is problematic. An assumption of the Semantic Differential Test is that in responding to the items the subject is assigning a sexual intension to the referent and not attending to the qualities of the reference, an assumption which seems highly suspect. For example, the word "beard" is grammatically marked feminine in Arabic. Clarke et al. assumed that because Arabic speakers responded on the Semantic Differential Test to "beard" as feminine, they were implying the object/concept beard (the referent of "beard") had female intension. This seems patently ridiculous. A more appropriate interpretation to the Semantic Test data would be that speakers know full well a beard (the referent) is something men may have, but in talking *about* beards they use "beards" (the reference) in feminine grammatical constructions. It is logically impossible to distinguish, and more sensibly precarious to maintain, that statements concerning references (the task of the Semantic Differential Test) necessarily concern singularly the referents of

those references. This argument can be most forcefully seen in considering that any sex assignment to neutral words in isolation in the direction of gender assignment would be, at best, only suggestive of an influence of linguistic markers. The interpretation would be enhanced if it were coupled by responses indicating semantic dominance in the expected direction in the dissonant set. However, when both the dissonant set and the neutral set are responded to with linguistic marker dominance, this should surely be an indication that the subject is answering by a response set bias to the Semantic Differential Test other than anticipated. Not to assume so would imply being backed into the untenable position of asserting that, for the subjects in Clarke et al.'s experiment, the speakers really assume that (using the referents of the words in the dissonant list) expected cultural roles dictate women with beards usually fly airplanes and drive tanks bombing the enemy in battle while pregnant men adorn themselves with necklaces, perfume, and silk dresses.

I have been arguing that the conjunction of responses to both the neutral and dissonant categories in the direction of linguistic dominance makes Clarke et al.'s conclusion unjustifiable by suggesting that their subjects must have been responding to attributes of the reference and not referent. In fact, their conclusion to the data implies that the Arabic speaker fails to make a distinction between referent and reference, an assumption that is logically disprovable by an examination of both literary and dialect Arabic. In using the Semantic Differential Test developed by Guiora for another population, Clarke et al. used a list composed singularly of inanimate nouns, where in Arabic, with the exception of a small group of words, the assignment of gender is based on morphological structures of the word, much as in Hebrew. Gender assignment, therefore, is strongly tied to linguistic markers. By principle of association, since sex assignment is tied to gender assignment it is ultimately connected to the morphological characteristic of the word. However, for the large category of animate nouns, gender assignment is determined by the referent of the reference and not the reference's morphology. With similar reasoning, it can be said that sex assignment for these nouns finally refers to the sexual connotation of the referent. If Clarke et al. had not used the Guiora Semantic Differential Test indiscriminantly without regard to the specific target population, they would have seen that an analysis of any result for animate nouns would have necessarily been ambiguous, similar to the consonant set of words, because the gender assignment follows the semantic sexual connotation of the referent. More importantly, this ambiguity would have underlined that

for animate Arabic nouns, the perception of the maleness or femaleness of the noun is intrinsically tied to the semantic intension of the referent. Given this mechanism, it seems highly improbable psychologically that sensitivity to semantic intension occurs only for animate nouns and not for inanimate nouns, leading again to the more reasonable reinterpretation of Clarke et al.'s data that the subjects are responding to properties of the reference and not the referent in answering the Semantic Differential Test. Clarke et al. offer an invalidation of their own conclusion in this regard when interpreting the results of the consonant set. They state that the similarity between English and Arabic subjects "... might be due to the fact that *all* subjects (both Arabic and English speakers) perceived the words as representing masculine and feminine objects, and that the linguistic cues (in Arabic) were not sufficiently strong to produce significant differences between the two groups" (p. 163). It is bewildering why they chose to assume Arabic speakers responded significantly to referent intension for the consonant group but responded to reference characteristics for the neutral and dissonant groups.

It is the inherent illogicality of this position that led the original research with the Semantic Differential Test to specify that the most pronounced effect of linguistic markers would be on the neutral words (see Guiora et al. 1980). There was no expectation of words normally having male sex connotation being perceived as female simply because it was linguistically marked with feminine morphology. Clarke et al. seem to subscribe to this limitation by stating in their conclusion that their results show gender influences "... perception of seemingly asexual objects and concepts." One would have thought that when subject responses to the Semantic Differential Test were indicating apparent influences on perception of such seemingly sexual objects and concepts as beard and pregnancy (as their results indicate), they would have reevaluated their interpretation in favor of seeing their subjects consistently responding to the reference word only.

What is being suggested here is that to try and fit the Clarke et al. data into a confirmation of the principle of linguistic determination of perception results in logical, psychological, and intuitive contradiction. The data would be more parsimoniously dealt with as an artifact of the subject's response bias to a particular aspect of the test such as responding to the word and not the word's referent. The data of the Guiora studies show a common response pattern in the expected direction of semantic dominance for both English and Hebrew speaking subjects, leading to an interpretation that at least by 5 years of age (the earliest age of the Guiora

subjects), linguistic markers show no dominant effect over assignment of meaning. It was through an independent series of experiments designed to elicit the age of onset of gender identity in children that a differential performance between English, Finnish, and Hebrew children was found at ages from 1 1/2 to 3 years in the expected direction. This differential eventually became nonexistent at later ages (Guiora et al. 1981). The combination of the two series of studies led to a redefinition of the possible role of linguistic markers and the Whorf-Sapir hypothesis in general in affecting the rate of certain cognitive processes but subsequently being secondary in influence to nonlinguistic cultural factors. (For a more detailed and recent discussion of the Whorf-Sapir hypothesis in the light of both series of experiments, see Guiora 1981 and Guiora and Herold 1981.)

This has implications for evaluating Clarke et al.'s assessment of Guiora's position regarding the Whorf-Sapir hypothesis and the viability of the American-Israeli data. Clarke et al. criticize Guiora saying that "given the strong cultural, political, and familial ties between the U.S. and Israel, and given the similarity of the two nations in terms of modernization . . . it is highly unlikely that the subjects represent two fundamentally distinct cultural groups. . . . [Therefore], it is not surprising that the results obtained by Guiora et al. [1980] indicated that 'shared human experience is stronger than that of particular constraints imposed by the structure of native language'" (p. 164). It would appear that Clarke et al. have misunderstood the intent of this passage since points of contact between the two cultures such as "strong cultural, political, and familial ties" seem precisely what Guiora meant by "shared human experience." It is difficult to see why Clarke et al. listed such points as if they were detractors from the validity of the data unless they mistakenly attributed to "shared human experience" metapsychological constructs of commonality uniting human beings, an idea never mentioned by Guiora. In fact, the degree to which two distinct languages are enveloped in vastly different cultures confounds the interpretation of differential perception as resulting from language, nonlinguistic culture, or both. The success, therefore, that Guiora had in finding two cultures that were not largely different (such as the American and Israeli, as opposed to American and Saudi cultures) lends increased importance to his studies in which differential performance was found, albeit only at very early ages in the gender identity study, but not found in the Semantic Differential Test studies. Far from the similarity of the Israeli and American cultures being a hindrance to finding a differential response, the criticism leveled by Clarke et al., it is precisely this similarity in culture

which led Guiora to suggest that nonlinguistic cultural effects outweigh linguistic ones in the assignment of meaning to asexual objects but not in the timing of gender identity attainment. To have found differences across words with both sexual and asexual connotations, as Clarke et al. did, speaks not so much to a difference in perception between cultures with distinct linguistic environments but to a difference in performing on the Semantic Differential Test, a crucial distinction that must be maintained if it is insisted upon that language convey, in addition to particular isolated peculiarities in the organization of meaning, basic sensibilities—as basic as men grow beards and women become pregnant irrespective of how we wish to speak about such events.

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