
Dominance Cues in Nonverbal Behavior

BARRY SCHWARTZ

ABRAHAM TESSER

EVAN POWELL
University of Georgia

Building on some concepts and methods recently introduced by Spiegel and Machotka, this investigation deals with four common nonverbal signifiers of social dominance: lateral opposition, precedence, posture (sitting and standing), and elevation. Our concern is to know how interdependent these signifiers may be and whether they are equally meaningful as indicators of dominance. An analysis of variance of 64 male and female figure drawings shows that elevation accounts for about two-thirds of the explained variation in dominance attribution. Lateral opposition effects are the weakest, while effects of intermediate strength are found for precedence and posture. Interaction among these elements contributes very little to the attribution of dominance. In no instance are these results affected by sex of rater or sex of drawn figures. The hierarchy of dominance cues that emerges from these findings is discussed in connection with recent developments in the social psychology of power symbolism.

Through studies of demeanor, posture, spatial distancing, timing, touching, eye contact, and facial expression, students of nonverbal behavior have shown how the established power relations in society realize themselves in the ritualized gestures of everyday life (for a summary, see Henley, 1977). However, little is known about the way these signifiers operate as a system. In *Messages of the Body* (1974), John Spiegel and Pavel Machotka approach this problem through the concept of "areal radiation."¹ Arranging under itself a larger set of "somatactical" categories, this concept directs our attention to three polarities in the

space that surrounds the human body: right-left, anterior-posterior, and superior-inferior. Through a series of inquiries involving experimental human figure drawings, Spiegel and Machotka demonstrate how diverse meanings correspond to nonverbal gestures that take place in the spatial areas radiating from the body. Variations in haughtiness, importance, intimacy, hostility, direction of action, superordination, and other meanings are shown to be differentially correlated with position of arms, body, and head, eye contact, sitting-standing, and elevation.

The present study modifies Spiegel and Machotka's approach by using human figure drawings to show how spatial contrasts—as opposed to specific gestures located in space—form a system to express social dominance. Our study seeks to ascertain the properties of this system, i.e., whether spatial contrasts encode social dominance directly or whether the meaning of one contrast is affected by the meanings expressed by others, and whether these contrasts are equally meaningful as indicators of dominance or whether they form a hierarchy of dominance cues. In short, our concern is to learn something about the interdependence of the codes of the body and to determine whether or not one of these codes may be a privileged carrier of messages about social inequality.

Areal Radiation as a Power Code

Answers to these questions will be based on an analysis of those aspects of the body's areal radiation that are universally (or nearly universally) exploited for the dramatization of superior and subordination. These aspects or signifiers

We wish to acknowledge useful comments made on earlier versions of this report by James Balkwell, Rand Conger, and the three anonymous referees selected by this journal. The project was supported by the Institute for Behavioral Research, University of Georgia. Address all communications to: Barry Schwartz, Department of Sociology, University of Georgia, Athens, GA 30602.

¹ This conceptualization is introduced by Spiegel and Machotka as an alternative to the linguistic model, whose application to the needs of nonverbal behavior research is widespread. (For a general discussion, see Leach, 1972; Melbin, 1974.) The linguistic model turns on the assumption that behavioral gestures, like phonemes, are meaningless in themselves but convey information by entering into combination with one another. Because most investigators study dominance gestures at the molar level (on which gestural cues admit of intrinsic meaning), a model that looks for behavioral analogs of phonemes cannot be applied to them. (More detailed criticism is offered by Spiegel and Machotka, 1974:86-88, and Dittmann, 1971.) However, such a model remains important to us because it makes questions about the systemic properties of nonverbal behavior more central than they would otherwise be.

are drawn from the ethnography of "dual classification," a branch of anthropology concerned with structures formed by common modes of symbolic opposition. (See, for example, Hocart, 1936:262-290; Lévi-Strauss, 1963, 1966; Needham, 1962:87-100; Beidelman, 1969. See especially Needham's 1973 compendium.) From this literature, an inventory of binary signifiers of social rank was assembled. We selected for systematic study four signifiers that encompass what is common to both Spiegel and Machotka's dimensions of areal radiation and Edmund Leach's (1972:327, 335-337) "markers of interpersonal domination": lateral opposition, postural contrast, precedence, and elevation. These binary signifiers obviously do not exhaust the vast symbolism of social inequality; however, the enormous scope of their employment has been well documented by ethnographic research. This same research suggests that one of these contrasts is the most "authentic" signifier of social dominance.

The first systematic study of the universal employment of lateral opposition ("right" vs. "left") as a power code was undertaken by one of Emile Durkheim's students, Robert Hertz. According to Hertz,

The slight physiological advantages possessed by the right hand are merely the occasion of a qualitative differentiation the cause of which lies beyond the individual, in the constitution of the collective consciousness. . . . For centuries the systematic paralyzation of the left arm has, like other mutilations, expressed the will animating man to make the sacred dominate over the profane, to sacrifice the desires and the interest of the individual to the demands felt by the collective consciousness, and to spiritualize the body itself by marking upon it the opposition of values and the violent contrasts of the world of morality. (1909:21)

This dualism, says Hertz, is manifested almost everywhere in language, body symbolism, architecture, religion, deference, and ritual. In all such expressions, the right side is associated with strength, justice, moral integrity, and beauty; the left indicates their opposites.

In his classic essay on orientational symbolism, Marcel Mauss (1933) makes mention of a second spatial archetype (or, as he calls it, "universal mode of spatial orientation"), namely, the opposition of front and behind. In its temporal aspect, the socially superior are titularly or informally "first" while their inferiors are "last"; in its spatial aspect, the former are "ahead of" or "before" the latter, who are "behind" and "after." The temporal expression of the opposition of front and be-

hind is anchored in political reality, where the resourceful and prestigious enjoy factual priority over the less worthy in the satisfaction of their needs (Schwartz, 1975). The spatial expression of this symbolism seems to be rooted in the tendency to allocate attention to foregrounded as opposed to backgrounded objects (see, for example, Taylor and Fiske, 1978). The socially prominent are thus guaranteed physical "presence" and "visibility" (Ichheiser, 1970).

The oppositions of right-left and front-behind represent "horizontal placements" (Spiegel and Machotka, 1974:120). Of "vertical placements" there are two main types: sitting-standing and superior-inferior elevation. Social dominance seems to be aligned to these vertical placements in opposite ways, i.e., to both the vertically inferior seated person and the vertically superior elevated person.

The opposition of standing and sitting has been of enduring interest to students of political symbolism (e.g., Firth, 1970; Morris, 1969). Central to all discussions is the ritual use of the chair, which is expressed most conspicuously in the western world by the feudal throne, and in primitive society by the royal stool. Common figures of speech tap the same symbolic reservoir, e.g., the "chairman" of bureaucratic society, "seats of power and government," the right to "be seated" through membership in legislative and other bodies. One principle that governs the use of these verbal and nonverbal metaphors is articulated by Raymond Firth. Since rest or physical inaction is a prerogative of power, displacement of the body mass is commonly used to exhibit deference. "In a very rough way, the amount of bodily displacement engaged in by each party is in inverse proportion to his status—the lower the status, the more the body movement" (Firth, 1970:2310-2311). This is why a seated subordinate must stand (expend ritual energy) when met by a superior, whereas a seated superior often maintains the seated position when approached by a subordinate. In a ritual context, then, the chair embodies the political privilege of energy conservation.

Although widely used as *signifiers* of social dominance, the spatial contrasts just discussed are not present in the *categories* we use when we think about social dominance. Lateral opposition, postural opposition, and precedence express social inequality in particular situations; however, only vertical opposition will do for the representation of inequality itself. Vertical preeminence symbolizes the general *concept* of social power. For this reason, superiors in any situation are figuratively "higher than" or "above" their inferiors (for detail, see Ball, 1973; Coser, 1973; Fallers, 1973; Granet, 1934;

Laponce, 1975, 1978, unpubl.; Miller, 1955; Ossowski, 1963; Spencer, 1896; Znaniecki, 1965). The verbal usages that almost universally define power relations as a vertical order are part of a broader and equally universal structure of nonverbal signifiers, which includes deference gestures, body symbolism, perceptual distortion of stature, architectural convention, religious symbols, and other media (Schwartz, 1981). Like the polarities of right-left, sitting-standing, and foreground-background, vertical opposition makes tangible the moral dichotomy of sacred-profane and the social dichotomy of superordination-subordination. Several scholars (Allen, 1972; Argyle, 1967; Moraitis, unpubl.) are convinced that the vertical classification system carries this symbolic burden because it is rooted in a general feature of human development, namely, the experiential analog between social inequality and the statural inequality of child and parent. A "basic physical reality of the early years of life"² becomes the prototypical fund that is drawn upon everywhere for the collective representation of moral and social dominance (for evidence, see Schwartz, 1981). Given its invariant linkage with socialization, spatial elevation distinguishes itself from lateral placement, posture, and precedence as the main signifier of social power.

Hypotheses

On the basis of the literature just summarized, we assumed that the semiotic authenticity of spatial elevation is pronounced enough to distinguish it from other signifiers. Accordingly, we predicted that most of the variation in the attribution of social dominance is associated with elevation. The ordering of the remaining signifiers (lateral placement, posture, and precedence) was left unspecified. However, since these other three signifiers are assumed to be significant in and of themselves, we predicted that they operate directly and that the contribution of their interaction to the attribution of dominance is negligible. To ensure that signifiers of dominance are not confounded with the social rank of those who use them, the analysis was replicated for males and females, two groups that have traditionally differed in terms of social dominance. Our third hypothesis is that the dominance cue structure is invariant across sex status.

Method

In order to make uniform some of the factors that would otherwise confound the clarity of

² Moraitis, G.: personal communication.

nonverbal codes (like differences in number, mode of dress, activity, and anonymity of human figures), we engaged an artist to supply drawings of an adult male and female in two positions: standing, and sitting. In standing position, the figures appear with legs about 12 inches apart and one hand placed in a pocket; in sitting position, the figures appear on a plain chair with legs crossed and hands placed together on the lap. Both figures face forward and are conventionally clothed: the male, in shirt and slacks; the female, in a plain dress. In addition, separate rectangular pedestals were drawn so that an elevation effect could be obtained for either figure in either posture. A front-back contrast was effected simply by overlapping the figures. The drawings themselves were made on plastic transparencies so that the two stimulus figures could be placed in different relationships to one another and photocopied. Sixty-four illustrations were thus obtained, displaying all possible combinations of the following: (1) posture of person on the left [sitting vs. standing]; (2) posture of person on the right [sitting vs. standing]; (3) sex of person on the left [male vs. female]; (4) sex of person on the right [male vs. female]; (5) elevation of person on the left [higher or lower than person on the right]; (6) precedence of person on the left [in front of or behind person on the right]. The two conditions associated with each of these six factors account for 2⁶ or 64 illustrations.

Illustrations of the factors defined above were placed in sets of 32 and stapled together in random order. Precedence is a between-subject factor; therefore, one set of booklets displayed the person on the left in front of the person on the right; the other set displayed the person on the right in front of the person on the left. Booklets were administered to groups of between 12 and 30 undergraduate psychology majors at a large eastern university. Each subject was administered one of the two sets of 32 illustrations and instructed to mark the letter "D" upon the body of that one figure in the illustrated pair whom he or she judged to be socially dominant. Subjects were also instructed to work fast but carefully, and not to go back and check their earlier responses. At the conclusion of the survey, the subjects were told its nature and purpose.

Results

Recall that for each picture, subjects indicated whether the figure on the left or the figure on the right was dominant. These responses were coded "0" and "1," respectively. Lunney (1970) has shown that analysis of variance can be employed on binary data without

producing bias. Thus, the 4,608 observations (144 subjects with 32 responses each) were analyzed using a 2^7 fully-crossed analysis of variance. The "between-subject" factors were sex of respondent and whether the figure on the right was in front of or behind the figure on the left. The "within-subject" factors were sex of figure on the left, posture of figure on the left (seated vs. standing), sex of figure on the right, posture of figure on the right, and elevation of figure on the right (higher vs. lower than left). Since all factors are counterbalanced over illustrations with respect to left side/right side, the grand mean estimates the effects of lateral opposition (left-right). To the extent that this mean is above 50%, subjects tend to attribute dominance to the person on the right; to the extent that the mean is below 50%, subjects tend to attribute dominance to the person on the left.

Every outcome but one turned out to be consistent with our hypotheses. By far, the most pronounced tendency is for social dominance to be inferred from elevation (Hypothesis 1). Dominance is also associated with front as opposed to behind, right as opposed to left (of the respondent, thus placing the subordinate figure at the superior's "right hand," as is ritually proper), and males as opposed to females (although neither was depicted as engaged in activities associated with a traditional sex role). For the most part, these effects are direct; only a small portion of the variance in

dominance judgments is associated with interactions among the four signifiers (Hypothesis 2). Furthermore, this pattern is independent of the sex of both the rater and the figure to whom dominance is attributed (Hypothesis 3). The one exception to our original assumptions was that the sitting position was identified with subordination, not dominance.

In describing these results, we will focus on the magnitude of effect rather than significance level per se. With such a large number of observations, even trivial effects are significant at traditional levels. Figure 1 shows each of the aforementioned main effects. The most striking aspect of this figure is the magnitude of the elevation effect compared to each of the other effects. If elevation had no effect on judgments of dominance, then higher figures would be judged dominant 50% of the time, the lower figures would be judged dominant 50% of the time, and there would be no difference in the judgments between higher and lower figures. This is clearly not the case. As can be seen in Figure 1, the elevated (higher) figure is judged dominant 73% of the time; the lower figure is judged dominant 27% of the time. The difference between them is fully 46 percentage points. This is more than $2\frac{1}{2}$ times the magnitude of the next largest effect, posture. The difference between sitting and standing is 18 percentage points, which is similar in magnitude to the effect of precedence (14 percentage points). Although the effects of lateral po-

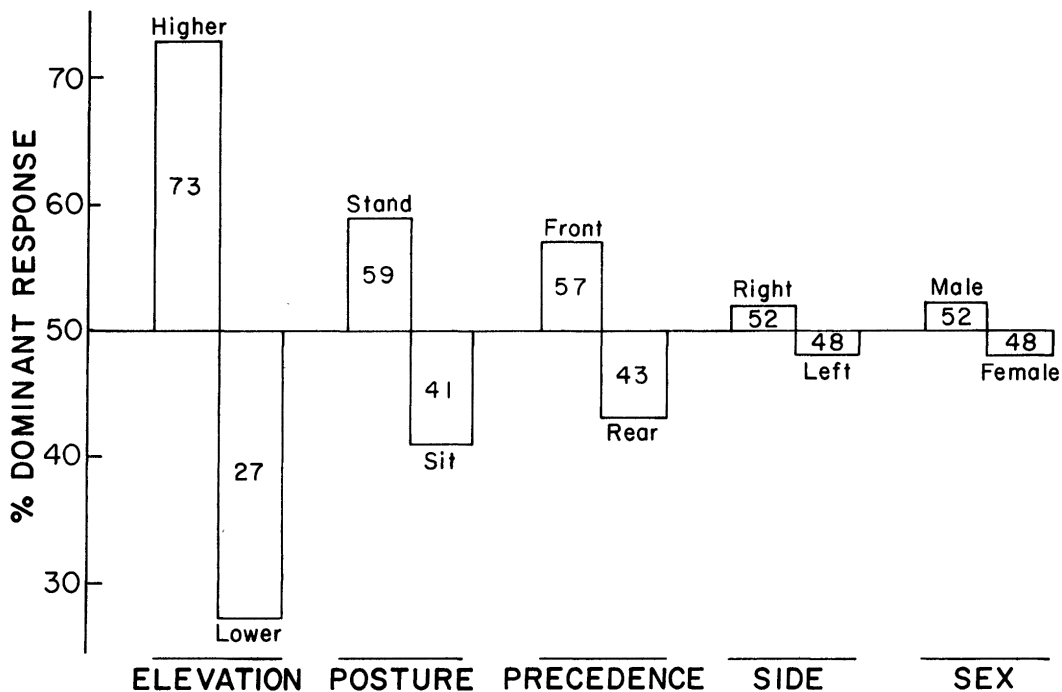


Figure 1. Social dominance and five of its nonverbal signifiers

sition (right vs. left) and sex of figure are statistically significant, they are trivial in magnitude (4 percentage points).

The relative magnitude of the elevation effect can be looked at in another way in Table 1. Since there are 128 cells in the design (2^7), there are 127 degrees of freedom for between-cell contrasts. There is only one degree of freedom associated with the elevation contrast. The one degree of freedom associated with the elevation contrast directly accounts for 63% of the total between-condition variance (127 degrees of freedom) in dominance judgments. The next largest effect, posture, with *two* degrees of freedom (posture of person on right plus posture of person on left) accounts for less than 20% of this same variance. In short, elevation is clearly the most important code for dominance. This finding is consistent with our first hypothesis. (In their research on "acro-tropic superiority," Spiegel and Machotka [1974:268, 385] obtain a similar effect: elevation is more closely associated with social dominance than is position of head or eye contact.)

Table 1. Summary of Analysis of Variance of Dominance Ratings

Source	df	SS	F
Between subjects			
Sex of rater (A)	1	1.50	3.46
Precedence (B)	1	20.72	47.79*
A × B	1	.14	<1
Error	140	60.70	
Within subject			
Elevation	1	245.22	1504.85*
Posture (pooled) ^a	2	75.84	232.71*
Sex of figure (pooled) ^b	2	2.53	7.75*
Pooled interaction			
Two-factor interactions	20	10.98	3.37*
Three-factor interactions	35	21.35	3.74*
Four-factor interactions	35	6.47	1.14
Five-factor interactions	21	2.48	<1
Six-factor interactions ^c	7	.73	<1
Seven-factor interactions ^c	1	.07	<1
Residual ^d	4340	707.21	

* $p < .01$.

^a The posture effect is pooled over the effect of posture of the figure on the right and the effect of posture of the figure on the left.

^b The sex effect is pooled over the effect of sex of figure on the right and the effect of sex of figure on the left.

^c Although there are only five main sources of variations shown in the tables, there were actually seven factors in the design. (As noted above, the main effects of posture and sex were pooled over left and right figures for this table.) Since there are seven factors in the design, six- and seven-factor interactions are possible.

^d All the within-subject effects were tested over the pooled within-subject error term.

Our second hypothesis predicts that the meaning of one code is independent of the level of other code(s). For example, the effect of relative height should not depend on whether the higher figure was in front of or behind the lower figure. A disconfirmation of this hypothesis would manifest itself in statistical interactions. Since we predicted no interactions, we searched the printout carefully for them. With one exception, the sought-after interactions simply were not there. For example (again, with one exception), there is no single interaction component that accounts for even 1% of the total between-condition variance. All the interaction components put together account for 120 of the 127 between-condition degrees of freedom; however, if all the interaction variance is pooled, those 120 degrees of freedom account for only 10.8% of the total between-condition variance. Finally, using statistical significance as a criterion, only 15 out of the 120 interaction components are significant at the .05 level or better. And again, with only the one exception, those that are significant do not appear to show any systematic pattern.

The one important interaction, accounting for 3% of the between-condition variance ($F(1,4340) = 76.07$; $p < .001$), reinforces the theme that emerged when we examined the main effects, namely, elevation is the primary visual code for dominance. The interaction is between elevation, posture of the person on the left, and posture of the person on the right. When the elevated figure is standing the posture of the lower figure has relatively little impact. More than 75% of the votes go to the elevated figure regardless of whether the lower figure is sitting or standing. When both figures are sitting, the elevated figure again gets most of the votes (81%). It is only when the elevated figure is sitting and the lower figure is standing that there is any ambiguity. In this case the elevated figure receives but 50% of the votes.

An Anomaly

Since it is contrary to the large body of ethnographic evidence on which our initial assumption is based, the tendency of our respondents to assign dominance to figures in the standing and not the seated position is a puzzle that remains to be solved. As it turns out, one additional assumption readily explains that "contradiction." This assumption is informed by Spiegel and Machotka's (1974:76) observation that the meaning of some types of expressive behavior is affected by "whether it takes place in a 'real life' situation, or a laboratory situation." With this distinction in mind, we can more easily recognize that seating "encodes" power only in ritual contexts, which

not only presume prior knowledge of status inequalities but are actually designed to celebrate them. The seat signifies these inequalities when it is occupied by a social superior or when it is occupied in the presence of a superior by guests, infirm, aged, or otherwise vulnerable and dependent persons. In the latter case, the presence of the standing superior dramatizes the principle of noblesse oblige. In nonritual contexts where status is unknown—as is true of the present stimulus materials—the individual is presented with a “decoding” problem. In this kind of situation, dominance is attributed to the person with the posture that is vertically preeminent. As we move out of the ritual context, then, the significance of standing seems to be assimilated to the significance of elevation.

Although this post factum account cannot be tested by the present data, it makes tentative sense of what would otherwise be contradictory observations. The account has the further merit of conforming to the findings of others (Spiegel and Machotka, 1974:235–247, and Ball, unpubl.) who used stimulus materials similar to our own and report that standing is rated as more dominant than sitting.³ In addition, the one important interaction term in the data, the posture by elevation interaction, shows that when one member of the dyad is elevated and standing, all other differences wash out. Activation of the vertical signifier, manifested in elevation, and, as we now see, standing, deactivates all others.

Conclusion

Concerns related to nonverbal behavior and dual symbolic classification are brought together in this study. Taking Spiegel and Machotka's concept of areal radiation as a point of reference for the systemic analysis of dominance cues, the study shows that four common signifiers of dominance—elevation, precedence, postural opposition, and lateral opposition—comprise a structure that is hierarchical, additive, and independent of at least one power-differentiated status. The relative significance of vertical imagery in the everyday realization of social inequality is defined by its place in this system.

Many students of human development have noted the universal association of statural superiority and parental dominance, and they have interpreted the invariant use of elevation symbolism in the representation of social

dominance as a generalization of this elementary facet of experience. This interpretation is shared by a number of social scientists, including Spiegel and Machotka (1974:275). When related to a large body of ethnographic evidence on dual symbolism, these clinical observations (both literatures are summarized in Schwartz, 1981) explain not only why dominance and subordination are symbolized by vertical opposition in every hierarchically-ordered society, but also why this imagery is invoked in these societies more often and more dramatically than any other kind. The present findings lend much weight to these observations, and, in turn, derive from these observations much of their own significance.

REFERENCES

- Allen, N.
1972 “The vertical dimension in Thulung classification.” *Anthropological Society of Oxford* 3:81–94.
- Argyle, M.
1967 *The Psychology of Interpersonal Behavior*. Baltimore: Penguin.
- Ball, D. W.
unpubl. “Biography, attitude or situation: Approaches to standing, sitting, and definitions of self.” Ph.D. Dissertation, University of California, Los Angeles, 1969.
1973 *Microecology: Social Situations and Intimate Space*. Indianapolis: Bobbs-Merrill.
- Beidelman, T. O.
1969 “Pig (Guluwe): An essay on Ngulu sexual symbolism.” *Southwestern Journal of Anthropology* 20:359–392.
- Coser, L.
1973 “Class.” Pp. 441–449 in P. Weiner (ed.), *Dictionary of the History of Ideas*. Vol. 1. New York: Charles Scribner's Sons.
- Dittmann, A. T.
1971 “Review of Kinesics and Context.” *Psychiatry* 34:334–342.
- Fallers, L. A.
1973 *Inequality*. Chicago: University of Chicago Press.
- Firth, R.
[1970] “Postures and gestures of respect.” Pp. 88–108 in T. Polhemus (ed.), *The Body Reader: Social Aspects of the Human Body*. New York: Pantheon.
- Granet, M.
1934 *La Pensée Chinoise*. Paris: La Renaissance du Livre.
- Henley, N. M.
1977 *Body Politics*. Englewood Cliffs, NJ: Prentice-Hall, Inc.
- Hertz, R.
[1909] “The preeminence of the right hand.” Pp. 3–31 in R. Needham (ed.), *Right and Left*. Chicago: University of Chicago Press.
- Hocart, A. M.
[1936] *Kings and Councillors*. Chicago: The University of Chicago Press.

³ In the Spiegel-Machotka study, however, sit-stand contrasts are embedded in the context of body and gaze direction, and the stimulus field consists of five, not two, figures.

- Ichheiser, G.
1970 *Appearances and Realities*. San Francisco: Jossey-Bass.
- Laponce, J. A.
1975 "Spatial archetypes and political perceptions." *American Political Science Review* 69:11-20.
1978 "Relating biological, physical and political phenomena: The case of up and down." *Social Science Information* 17:385-397.
unpubl. "The dominance of up over down: Its effect on left and right." Unpublished manuscript, 1979.
- Leach, E.
1972 "The influence of cultural context on non-verbal communication." Pp. 315-348 in R. A. Hinde (ed.), *Non-Verbal Communication*. London: Cambridge University Press.
- Lévi-Strauss, C.
1963 *Totemism*. Boston: Beacon Press.
1966 *The Savage Mind*. Chicago: University of Chicago Press.
- Lunney, G. H.
1970 "Using analysis of variance with a dichotomous dependent variable: An empirical study." *Journal of Educational Measurement* 7:263-269.
- Mauss, M.
[1933] "La polarité religieuse et la division du macrocosme." Pp. 143-148 in *Oeuvres-2*. Paris: Les Editions de Minuit.
- Melbin, M.
1974 "Some issues in nonverbal communication." *Semiotica* 10:293-304.
- Miller, W. B.
1955 "Two concepts of authority." *American Anthropologist* 37:271-289.
- Moraitis, G.
unpubl. "Vertical polarity in human knowledge." Manuscript, 1979.
- Morris, D.
1969 *The Naked Ape*. Toronto: Bantam Books.
- Needham, R.
1962 *Structure and Sentiment*. Chicago: University of Chicago Press.
1973 *Right and Left: Essays on Dual Symbolic Classification*. Chicago: University of Chicago Press.
- Ossowski, S.
1963 *Class Structure in the Social Consciousness*. New York: The Free Press.
- Schwartz, B.
1975 *Queuing and Waiting: Studies in the Social Organization of Access and Delay*. Chicago: University of Chicago Press.
1981 *Vertical Classification: A Study in Structuralism and the Sociology of Knowledge*. Chicago: University of Chicago Press.
- Spencer, H.
1896 *The Principles of Sociology*. Vol. 2. New York: D. Appleton.
- Spiegel, J., and P. Machotka
1974 *Messages of the Body*. New York: The Free Press.
- Taylor, S. E., and S. T. Fiske
1978 "Salience, attention, and attribution: Top of the head phenomena." Pp. 249-288 in L. Berkowitz (ed.), *Advances in Experimental Psychology*. Vol. 2. New York: Academic Press.
- Znaniecki, F.
1965 *Social Relations and Social Roles*. San Francisco: Chandler.