

## A CRITIQUE AND INTEGRATION OF THE MAJOR SOCIAL PSYCHOLOGICAL APPROACHES TO THE STUDY OF COALITION FORMATION

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This paper integrates more closely the personality trait approaches and the structural approach to coalition formation. It is intended to stimulate inquiry and provide some major methodological critiques. The paper begins with a historical description of the area, addressed mainly to the sociologist of science. It contains a section on learning and cumulative score. There is a critique of the sex and machiavellianism studies, which concludes with theoretical speculation merging these two approaches. The merits of the competing utilitarian theories are examined and bases of the superiority of Gamson's exchange theory are posited. A brief summary of coalition theory is presented. Finally, the major previously stated restrictions on the application of coalition theory are criticized, and a broader range of application is set forth.

The main purposes for which the present paper is intended are: 1) to integrate the psychological approaches and the sociological approach more closely; 2) stimulate investigation of personality variables in coalition formation (present research all too facily accepts and does not go beyond certain commonsense notions); and 3) to stimulate investigation in the interface zones between three major areas in coalition formation. The three major substantive areas in coalition formation are: utilitarian strategies, nonutilitarian strategies, and personality type. The present paper does not deal with the political science contribution to coalition studies, although that discipline has played a role in the rise of nonutilitarian coalition theory.

Much of the present paper assumes a rather substantial familiarity with coalition literature on the part of the reader. However, the minimal reading necessary for one to grasp these indexical aspects of most of the present paper can be found in the first three chapters of Caplow's (1968) *Two Against One* (I use the word "indexical" as Garfinkel [1967] uses it).

### Development of the Field

This section is addressed principally to the sociologist of science. Coalition formation is the area of coalition phenomena that has received the most attention. Thus, coalition theory is basically aimed at setting forth the conditions under which coalitions are likely to form and predicting the nature of the coalitions that will appear.

The history of the field has its origins with a many-faceted philosopher's social theorizing (Simmel, 1908:135-136; 138-169). The thread was picked up later by a social scientist experimenter-explorer (Mills, 1954). The big break occurred when Caplow (1956 and 1959) constructed a systematic theory from which a set of testable hypotheses were deduced. Caplow's work stimulated and largely shaped the systematic investigations that followed, as it led to a series of empirical studies testing his specific hypotheses and inspired the creation of alternative theories. Many of the published studies of coalition formation are partial replications of others or report an experiment and replication(s). Crucial tests have been common, and several of the experiments have had no true null hypothesis (bastard game theory--which we will discuss later--usually predicts the null hypothesis). Complementary general approaches to coalition formation have developed, one sociological and one psychological. Enough evidence has accumulated that some more or less definite judgments can be made about the relative merits of some of the competing theories.

The point here is that the development of this field apparently has been more or less unique in sociology and social psychology. In a relatively short period of time, over relatively few studies, this area has developed into what one might consider the "classic way for a science to develop." That is, theories based on informal observation have led to specific hypotheses, and crucial tests have become common--within the context of a relatively well-defined area of study oriented toward a relatively clearly conceptualized dependent variable. For contrast, one might consider the study of complex organizations or of role theory. This area of social science is probably worth studying in its own right, as a sort of small, "living" paradigm.

### Learning and Cumulative Score

Stanfield (1972:23, 35-36) found that the learning effect in his data was that the "excess simplicity effect" declined (for a discussion of "express simplicity" see Stanfield, *et al.*, 1972). The present author has taken this to mean that the subjects in Stanfield's experiment found out that the experimental conditions were either not as monotonous or not as tricky as the subjects feared.

Vinacke and his associates have found that cumulating the subjects' scores across rounds can increase the propensity for the "stronger" members of the triad to coalesce as those who are behind in total score coalesce against the triad member who is in the lead (Vinacke, 1959a; Vinacke, 1959b; Vinacke, *et al.*, 1966; Bond and Vinacke, 1961:69). Obviously, this cumulation of scores also tends to merge the games in a series so that they are more like innings and more or less resemble Caplow's latest version of the continuous type of conflict (1968:5). It is unfortunate and odd that neither of these "cumulative score effects" has been given adequate recognition by many coalition researchers.

The effects of learning and cumulative score have probably clouded some coalition experiments' results and diluted some of the associations discussed below. While this fact does not necessarily invalidate any of the conclusions drawn in the present paper, future research should control for the effects of experience, cumulative score, and perhaps sequence. The present author recommends the more frequent use of first-round-choices-only and first-trial-only experiments to eliminate cumulative score effects and decrease simplicity reduction and learning effects. A more reliable method might be the simulated experiment

(e.g., Phillips and Nitz, 1968; and Nitz and Phillips, 1969). Alternatively, the researcher could include a systematic treatment of cumulative score and learning as independent or dependent variables.

### Personality Trait and Coalition Formation

In this section, we will focus on two major trends in personality trait, or personality type, investigations of coalition phenomena. I call the first trend the Vinacke series because Adgar W. Vinacke has been so dominant in it. However, any study using Vinacke's accommodative-competitive theory could be said to fit into this series. The second basic sort of personality type study involves Machiavellianism. All of the personality trait/type studies basically focus on willingness and skill in regard to person-manipulation which the subject brings to the coalition situation.

The Vinacke series. Vinacke and his associates were the first to posit a systematic personality type approach to coalition theory. This theory is posited elsewhere (Chaney and Vinacke, 1960:175-176; and Saunders, 1960:11-13). Basically, this approach compares the strategies of accommodative-nurturant-nice types with the strategies of the achievement-oriented-competitive-exploitative types. Vinacke and his associates have used three operational indicators of this personality type variable. In the Chaney and Vinacke study (1960), the subjects were categorized according to their scores on a "manifest needs scale." In Saunders' experiment (1960), the subjects were categorized by ethnicity (Micronesians being the accommodatives and Hawaiian-born Americans the competitiveness). In most of the papers in this series, the accommodatives were identified by their gynecoid bodies and the competitiveness by their nongynecoid bodies (Vinacke, 1959b; Bond and Vinacke, 1961; Uesugi and Vinacke, 1963; and Vinacke *et al.*, 1966). The last two operationalizations are crude but probably more valid in terms of indicating certain basic personality types.

In general, this series purportedly shows that the more competitive-achievement oriented persons are more likely to enter a coalition, propose a coalition and try to outscore their opponents. In ethnically or sexually homogenous triads, the accommodatives are more likely to share the utilitarian payoff with the excluded member, more likely to give altruistic offers and advice. However, the accommodatives get more points and are in more coalitions than their competitive opponents in mixed-personality type triads (i.e., the women "outplay" the men in mixed sex triads).

Vinacke and his associates conclude that the more exploitative types pursue an inferior strategy against the accommodatives. Clearly, somebody has been mislabeled. A man's life (anywhere) is more likely geared to acceptance, and occupational attainment, by means of adequate performance; a women's life-style (especially when she is nubile) is much more likely to be predicated upon competition, invidious distinction, and direct social manipulation. Women can exploit men by the "helpless female" tactic, by pseudo-submission,<sup>1</sup> and in other more or less subtle ways. A similar (but distinct) theoretical critique has been made by Caplow (1968:32).

Caplow also has pointed out certain statistical-methodological problems with this series (1968:31-34), but there are other such problems as well. The effect of order of trials and the learning effect (discussed above) were deliber-

ately magnified in the Vinacke series and the clouding of the results may be very substantial (the same can be said for Trost, 1965, and some of the mach studies discussed below). The Uesugi and Vinacke (1963) "female" game is a quiz and is less utilitarian than the pachisi "male" game, and it is possible for a "smart" player to beat a coalition in the "female" game. In Uesugi and Vinacke (1963), the overall incidence of altruistic offers was insignificant. In Vinacke's first experiment on sex and personality type in coalition formation, the overwhelming tendency in each sex subsample was for no coalition to form at all (Vinacke, 1959b).

In general, though there may be the above-described sorts of personality type differences in coalition game strategy, they appear to be slight. "We have yet to discover a condition that overrides the outcome predictable on the basis of relative strength" (Chaney and Vinacke, 1960:179). However, we shall see below that this finding is likely a function of the clarity of the differences between the coalition game participants and of the reward(s) offered.

Machiavellianism. The other major "tradition" in this area is machiavellianism (mach) theory. Briefly, this theory states that people vary in their degree of aptitude, inclination, and skill in self-conscious manipulation of others; and that these three attributes varying together mark off the high mach from the low. The high Machiavellian, or the high mach, is the successful manipulator; the low mach, the more easily manipulated. The theory is set forth very aptly in Christie (1970a and 1970b) and Geis and Christie (1970). The high and low mach are identified by paper-and-pencil questionnaire scores. In coalition games, higher machs get more points, money, association with high prestige others, etc., they are in more coalitions, show more initiative, get more and better offers, and their deceptions and double-crosses work better (Geis, 1964; Christie and Geis, 1970; and Geis, 1970). There are basically two conditions that enhance the high mach's advantage: ambiguous differences between game participants and high payoff incentive (Geis and Christie, 1970:285; Christie and Geis, 1970). Women generally rank lower on the mach scale than men (Geis, Christie, and Nelson, 1970:94; Christie, 1970b:32; and Exline, et al., 1970:54).

The mach approach has been characterized by a tendency to confuse statistical with substantive significance (for a general discussion of this problem, see Gold, 1969:43-45; and Morrison and Henkel, 1969:136-137, 139). In fact, the differences between male and female mach scores are apparently not substantively significant; for one sample, the differences found were about 5 points on the Mach IV scale and about 3 1/3 points on Mach V. Both Mach scales have a possible range of 120 points.

However, most experimental utilitarian coalition games have taken place under low ambiguity of player strength. The Machiavellianism study evidence is important in that it implies that as the ambiguity of the differences between participants increases, the importance of personality type increases because high machs are more able to exploit the relative propensity of the low machs to become affectively distracted (Geis and Christie, 1970).

A further word on sex and personality type. In the discussion that follows, we will assume for heuristic purposes that the findings verbally reported in Bond and Vinacke (1961) are basically valid. Actually, there are certain difficulties

with that report which the reader can see for himself. For example, the definition of their main statistical measure, "percent of opportunity," is double talk.

Bond and Vinacke (1961) claim that women get more high-mach results than their male competitors. It seems likely that the mach scales tap the male approach to interpersonal manipulation much more adequately than the female approach (at least within Occidental culture); these are reasonably distinct approaches and this distinction in technique may be important.

It may or may not be true that women have a distinct advantage over men in terms of arousing irrelevant affect, and it may or may not be true that this is the case because one group is warmer in general, more self-presentationally (pseudo) heterosexual, or more fully heterosexual. Nevertheless, it is the case that a given manipulative tactic may have quite different (even opposite) types of effects depending on the sex of the person attempting the tactic and the sex of the target person. Also, the types of tactics Person could reasonably expect to affect Other in given ways and the chance of success of any manipulation should depend on the extent to which the Person-Other relationship is predicated upon internecine competition. In other words, if women seem less able to manipulate each other (as Bond and Vinacke claim), it may be that they are not familiar with the appropriate techniques, or that they are just not as vulnerable to one another, and not that women are generally less inclined to manipulate other people than men are.

To the extent that there is a relatively distinct, substantially typical female approach to "conning the mark," it may be more subtle than the male version of machism, and it is likely to be less well thought out and self-conscious--perhaps "second nature," perhaps some tropism that is more or less genetically determined, etc. If female machism is more subtle and less self-conscious, this would be congruent with the implication that students of coalition formation (and people in general?) have much less empathy with women than with men (see the above discussion of the Vinacke series--and note that a relatively high proportion of the researchers in this series were women).

At any rate, this area should benefit from further research and theorizing which combines the mach and Vinacke series approaches. A promising step in this direction has been taken by Rosenthal and Crittenden (1973).

### The Competing Utilitarian Theories

A utilitarian coalition game is one that deals with a certain kind of basis of coalition partner choice--that is, the experimentally relevant differences between the coalition game participants are easily observable at the ratio or counting level of measurement (see Stanfield, *et al.*, 1972). Many utilitarian coalition studies have been crucial tests, often pitting three or more theories against one another (Vinacke and Arkoff, 1957; Vinacke, 1959a; Vinacke, 1959b; Chaney and Vinacke, 1960; Kelly and Arrowood, 1960; Bond and Vinacke, 1961; Gamson, 1961b; Willis, 1962; Uesugi and Vinacke, 1963; Psathas and Stryker, 1965; Trost, 1965; Certkoff, 1966; Vinacke, *et al.*, 1966; Certkoff, 1967; Phillips and Nitz, 1968; Nitz and Phillips, 1969; Ofshe and Ofshe, 1969; Jenks, 1970; Caldwell, 1971; Chertkoff, 1971; and Stanfield, 1972). The most commonly investigated theories include Gamson's (1961a), Caplow's early (1956) version,

Chertkoff's (1967) modification of Caplow's early theory, and a bastard form of game theory. Gamson's theory usually out-predicts its rivals, and often by a very wide margin. In this section, we will look at the reasons for the greater explanatory power of Gamson's exchange theory.

There are two basic flaws in Caplow's (1956) approach, which he has since abandoned (1964:331-332; and 1968:36-40), and the later Chertkoff (1967) theory. The first flaw is that these and other simple "domination" theories overlook the fact that "winning" or "dominating" per se is never the significant end of the game, neither in the chronological sense nor in the sense of being the participants' goal. In all the experimental studies and nearly always in "real life," the participants in a coalition "game" are aiming at a payoff which is to be distributed among them differentially, and which is not sheer "power." (Thus, there is not commonly a reward "internal to the situation," as Caplow has claimed (1956).)

The second major flaw in the simpler "domination" theories is shared by bastard game theories and Gamson's theory, although for Gamson this flaw occurs only in the case of Caplow's (1956) type I weight distribution. Game theory does not actually attempt to explain what coalition will form. By predicting that certain kinds of coalitions will occur with equal frequency, or by simply predicting coalitions and first-round of choices of partners in terms of probabilities or proportions, the coalition theorist masks what is really going on in the group. Bastard game theories are especially characterized by this fallacy, which consists of ignoring the fact that the group members are required to make some discreet decisions as to whom to choose for a coalition partner. (Triad) coalition theory is a decision-making theory which attempts to predict group actions and group structure on the basis of discreet, definite actions on the part of the group's subunits. The participants in our laboratory games (and usually people in "real life") cannot reasonably be expected to waver around and behave at random, nor can they cast half a choice one way and half the other. Actually it is not the case that these theories ever predict random or equiprobable results, but rather that in some or all cases they fail to predict what coalition will form at all. These blind spots should be recognized for what they are.

In addition, bastard game theories (Rapoport, 1971; Chertkoff, 1971; and Phillips and Nitz, 1968, for example) operate under the implicit assumption that the experimental subjects will perform complicated mathematical operations (in their heads) under somewhat abstruse theories which they have very likely never heard of.

We can discard game theory, bastard game theory, and the more simple-minded conflict theories as predictive/explanatory tools. These are logically unsound and inconsistent with the available audience.

### An Overall Summary of Coalition Theory

We may now briefly present an expanded coalition theory based on the literature cited above. For lack of space, I will not repeat elaborations of propositions which can be found elsewhere in the literature.

Any participant in a coalition game will attempt to attain his maximum payoff class profit (this is Gamson's 1961a concept of "payoff class"). Thus, he will

choose the potential partner(s) who will "deserve" the smallest proportion of the coalition game's payoff(s) (this point was first made in Gamson, 1961a). Also, the focal social unit will choose along lines that will allow him a reasonable chance to obtain at least some of each of the types of payoff which are available and for which he is reasonably motivated; therefore, he will usually follow a nonutilitarian strategy (see Stanfield, Jenks, and McCartney, 1972 for a fuller discussion of nonutilitarian versus utilitarian strategies). This means that in any coalition game, the most similar or otherwise most mutually attractive social units (in a nonutilitarian sense) are the most likely set(s) to coalesce, and the "weakest" are the next most likely set(s).

Regardless of which basic type of strategy the participating social units follow, they tend to attempt to form coalitions which facilitate winning the reward. This point has two major aspects. (1) Where there is a secondary contest for the payoff, as in Chertkoff's (1966) and (to some extent) Jenk's (1970) games, the participants tend to form coalitions that have acceptable levels of efficacy in those secondary contests. (2) In groups with more than three social units, the participants tend to form the coalitions that can be most easily and quickly formed, because the first majority wins (see Gamson, 1961b; and Chertkoff, 1971: 378-380).

In coalition games which are played in innings as the Vinacke Series parhisi games usually are, there may be a secondary contest with a reward of its own. That is, the secondary reward would be winning in the cumulative score contest (which is a nonutilitarian reward). This type of game produces a series of coalitions which deviate from the "straight" exchange single-game prediction due to the defensive moves of the players (this point is more fully discussed and supported with experimental evidence in Vinacke, 1959a; see also Kelly and Arrowood, 1960; and Vinacke, *et al.*, 1966). Where the secondary reward is not predicated on the primary reward, the participants presumably choose so as to get some of both, in a balance predicated on relative needs. Therefore, we need to know the participants' perceptions of the social time-boundaries of the game in order to predict the coalition that will form in any given instance.

There are two basic sources of deviation from the "structurally determined" pattern. First, some persons apparently find bargaining itself rather costly and tend to choose so as to minimize negotiation over proportional payoff deservation (this point is made in Nitz and Phillips, 1969). Second, under relatively ambiguous coalition game situations, those with greater predilictions for successful face-to-face interpersonal manipulations are more likely to get into coalitions and tend to obtain larger amounts of the payoff (see the personality trait studies cited above).

### Breadth of Application of the Present Theory

The present situation will show that certain of the major restrictions previously placed on coalition theories are basically fallacious. I will posit a broad range of applicability for the overall theory summarized in the previous section. The present section will address the following matters: 1) the "essential" game restriction; 2) the perceptual clarity of differences between participants in a coalition game; and 3) Caplow's basic typology of conflict.

The "essential" game. Gamson (1961a:374) has stated that his theory applied only to "essential" games, games in which the social units outside the (winning) coalition get zero payoff. However, few of the coalition experimental games have been structured such that it was necessarily the case that the "excluded" were any more deprived than the "in." (In fact, Leiserson's 1970 experiments used completely inessential games.)

On the one hand, the most broadly aimed coalition theory would attempt to predict the pattern of coalition formation even where a payoff would be the same to all group members. On the other hand, it is not really necessary that a game be completely "essential" for Gamson's exchange theory to apply. Logic and the experimental evidence suggest that coalition theory applies to the extent that there is a reasonable tendency for the excluded social unit(s) to be significantly relatively deprived.

Clarity of differences between social units and the limitations of Present Coalition Theory. Caplow (1964:336-337) has pointed out that the strengths of coalition game participants may vary in terms of perceptual clarity. Of course, that has nothing to do with the permanence of the results of the conflict, but there may be an effect on strategies. In short, the strategies of the players would be more nonutilitarian to the extent that differences between participants have to be considered in terms of a level of measurement below the counting or ratio level (Stanfield, Jenks, and McCartney, 1972). Personality traits would also become more important determinants of the coalition pattern, depending on the nature of the ambiguity (that is, whether it could be used to distract). The extreme would be the situation wherein there was no observable basis for choosing a coalition partner. In that case, we could predict that no coalition would form.

Typology of conflict. Caplow (1959; 1964:331-332) and Gamson (1961a) have restricted the application of their coalition theories to Caplow's (1959) continuous type of social conflict. Later, Caplow (1968:5-9) apparently stated that triad coalition theory applies mainly to episodic conflict, perhaps in somewhat belated recognition of the fact that all of the tests of his and Gamson's theories were in a context of highly episodic games. All of these theoretical statements were excessively restrictive.

In the first place, Caplow's continuous, terminal, and episodic types of conflict are not entirely discreet categories. Continuous conflicts, where parties seek permanent or long-lasting domination, are different only in degree from terminal conflicts and episodic conflicts. In fact, we may state that what we have here is continuum of the overall duration of the results of a conflict, ranging from Vinacke-and-Arkoff-type parchisi games, which can be repeated every few minutes with no lasting consequences to the participants, to the gunfight at the O.K. Corral, which ended in the complete, final, physical annihilation of one of the participating coalitions. The central variable here is the extent to which the participants' lives hang in the balance. The result of a situation where the participating social units' own lives are at stake is not that no coalitions form, but rather that the conflict less frequently comes to a head.

There are two reasons for the relative infrequency of the conflict with higher stakes of a certain sort: (1) the decreased ability of the defeated party to "rise again;" and (2) the reluctance of the parties to take the risks involved in the first place. (1) and (2) vary more or less together.



There is another reason that the present triad theory has a broader application than previously supposed. This is the fact that coalition formation is "external" reward-oriented in all three "pure" types of conflict. The present theory has been mostly tested on laboratory episodic conflicts, but Caplow (1968) has also vaguely discussed (but not systematically investigated) the efficacy of utilitarian theory in regard to conflicts he might classify as continuous and terminal, which occurred among baboons, gibbons, nation-states, major political components of the modern-day states, etc. Actually, in the case of a triad with a type V weight distribution<sup>2</sup> which faces the possibility of terminal conflict, we might expect that B and C would coalesce. The reason is that, if the loser and/or his possessions are gobbled up, B and C each stands to gobble up more together than in any other coalition. We can make this prediction whether or not C has any chance of subsequently defending himself against his partner(s). Similar predictions can also be made where there are nonutilitarian bases of coalition partner choice. It is naive and contrary to the evidence to assume that there will be no coalitions formed in the face of the most terminal conflict (e.g., WWI), that the group members will never have enough courage to chance losing, or even that non-coalitions will be the most frequent outcomes in such situations.

Caplow's typology of conflict takes much more into account, for example, the clarity of the differences in strength between the possible parties to a conflict (Caplow, 1964:336-338). However, the permanence of the result of the potential "moment of truth" would appear to be the most important variable in his classification scheme as far as coalition is concerned.

The examples Caplow gives of his three types of conflict tend to overlap (Caplow, 1964:335-365) and the "other" characteristics of each type appear to often have no necessary association with the defining characteristics. He may have intended for his much simpler 1968 (Caplow, 1968:5-9) discussion to supersede his earlier theorizing. Nevertheless, the latter tripartite typology also contains self-contradictions and overemphasizes the differences between its conflict situation types.

The point here is that the present coalition theory can be applied to any situation in which the group's task and the group's structure have a basic resemblance to the experimental games on which the theory is mostly based, regardless of the degree of permanence of the results of the conflict in question. All that is required is that the participants see coalition as "called for" and that the game include opportunities for payoff exchanges between the participants

#### Footnotes

<sup>1</sup> Pseudo-submission: Person gets Other to carry out Person's policies and think they are based on Other's initiatives. This term applies whether the tactic is pursued self-consciously or not and whether Other is sincerely convinced or not.

<sup>2</sup> The "type V weight distribution" refers to one of the eight "triad types" described in Caplow's classical early works (1956 and 1959). In the type V weight distribution, some sort of resources (in experiments these are usually assigned numerical weights) are distributed such that:  $A < B < C$  and  $A < (B+C)$ .

References

- Bond, J. R. and W. E. Vinacke  
1961 "Coalitions in mixed-sex triads." *Sociometry* 24 (March):61-75.
- Caplow, T.  
1956 "A theory of coalitions in the triad." *American Sociological Review* 21 (August):489-493.  
1959 "Further development of a theory of coalitions in the triad." *American Journal of Sociology* 64 (March):488-493.  
1964 *Principles of Organization*. New York: Harcourt, Brace and World.  
1968 *Two Against One*. Englewood Cliffs, New Jersey: Prentice-Hall.
- Caldwell, Michael  
1971 "Coalitions in the triad." *Journal of Personality and Social Psychology* 20 (December):271-280.
- Chaney, Marilyn V. and W. E. Vinacke  
1960 "Achievement and nurturance in triads varying in power distribution." *Journal of Abnormal and Social Psychology* 60 (March):176-181.
- Chertkoff, Jerome M.  
1966 "The effect of probability of future success on coalition formation." *Journal of Experimental Social Psychology* 2 (July):265-277.  
1967 "A revision of Caplow's coalition theory." *Journal of Experimental Social Psychology* 3(April):172-177.  
1971 "Coalition formation as a function of differences in resources." *The Journal of Conflict Resolution* 15(September):371-383.
- Christie, Richard  
1970a "Why Machiavelli?" Pp. 1-9 in Richard Christie and Florence L. Geis (eds.), *Studies in Machiavellianism*. New York: Academic Press.  
1970b "Scale Construction." Pp. 10-34 in Richard Christie and Florence L. Geis (eds.), *Studies in Machiavellianism*. New York: Academic Press.
- Exline, Ralph V., John Thibaut, Carole B. Hickey, and Peter Grumpet  
1970 "Visual interaction in relation to Machiavellianism and an unethical act." Pp. 53-75 in Richard Christie and Florence L. Geis (eds.), *Studies in Machiavellianism*. New York: Academic Press.
- Gamson, W. A.  
1961a "A theory of coalition formation." *American Sociological Review* 26 (June):373-382.  
1961b "An experimental test of a theory of coalition formation." *American Sociological Review* 26(August):565-573.

Garfinkel, Harold

- 1967 *Studies in Ethnomethodology*. Englewood Cliffs, New Jersey: Prentice-Hall.

Geis, Florence

- 1964 "The con game." Pp. 106-129 in Richard Christie and Florence L. Geis (eds.), *Studies in Machiavellianism*. New York: Academic Press.

- 1970 "Bargaining tactics in the con game." Pp. 130-160 in Richard Christie and Florence L. Geis (eds.), *Studies in Machiavellianism*. New York: Academic Press.

Geis, Florence and Richard Christie

- 1970 "Overview of experimental research." Pp. 285-312 in Richard Christie and Florence L. Geis (eds.), *Studies in Machiavellianism*. New York: Academic Press.

Geis, Florence, Richard Christie, and Carnot Nelson

- 1970 "In search of the Machiavel." Pp. 76-95 in Richard Christie and Florence L. Geis (eds.), *Studies in Machiavellianism*. New York: Academic Press.

Gold, David

- 1969 "Statistical tests and substantive significance." *American Sociologist* 4(February):42-46.

Jenks, Richard J.

- 1970 "The effect of political ideology on coalition formation." Unpublished M.A. thesis, University of Missouri at Columbia.

Kelley, Harold H. and John A. Arrowood

- 1960 "Coalitions in the triad: Critique and experiment." *Sociometry* 23 (September):231-244.

Leiserson, Michael

- 1970 "Power and ideology in coalition behavior: an experimental study." Pp. 323-335 in Sven Groennings, E. W. Kelley, and Michael Lieserson (eds.), *The Study of Coalition Behavior: Theoretical Perspectives and Cases from Four Continents*. New York: Holt, Rinehart and Winston.

Mills, Theodore M.

- 1954 "The coalition pattern in three person groups." *American Sociological Review* 19(December):657-667.

Morrison, Denton E. and Ramon E. Henkel

- 1969 "Significance tests reconsidered." *American Sociologist* 4(May):131-140.

Nitz, Lawrence H. and James L. Phillips

- 1969 "The effects of divisibility of payoff on confederative behavior." *Journal of Conflict Resolution* 13(September):381-387.

- Ofshe, Richard and Lynn Ofshe  
1969 "Social choice and utility in coalition formation." *Sociometry* 32(September):330-347.
- Phillips, James L. and Lawrence Nitz  
1968 "Social contacts in a three-person 'political convention' situation." *Journal of Conflict Resolution* 12(June):206-214.
- Psathas, George and Sheldon Stryker  
1965 "Bargaining behavior and orientation in coalition formation." *Sociometry* 28(June):124-144.
- Rapaport, Anatol  
1971 "Gaming-editorial comments." *The Journal of Conflict Resolution* 15(September):369-370.
- Rosenthal, Saul and Kathleen Crittenden  
1973 "Machiavellianism, sex, and bargaining success in same--and mixed sex groups." Presented at the Midwest Sociological Society Meeting in Milwaukee.
- Saunders, Marion Grace  
1960 "A cross-cultural study of coalitions in the triad." Unpublished M.A. thesis, University of Hawaii, Greg M. Sinclair Library.
- Simmel, Georg  
1908 *The Sociology of Georg Simmel*. Trans. by Kurt H. Wolff (ed.). Glencoe, Illinois: The Free Press. (1950)
- Stanfield, Gary G.  
1972 "Ideology versus power distribution as bases for coalition formation." Unpublished M.A. thesis, University of Missouri at Columbia.
- Stanfield, Gary G., Richard J. Jenks, and James L. McCartney  
1972 "Non-utilitarian considerations of coalition theory." Unpublished manuscript. University of Missouri at Columbia.
- Trost, Jan  
1965 "Coalitions in triads." *Acta Sociologica* 8:226-243.
- Uesugi, Thomas K. and W. E. Vinacke  
1963 "Strategy in a female game." *Sociometry* 26 (March):75-88.
- Vinacke, W. E.  
1959a "The effect of cumulative score on coalition formation in triads with various patterns of internal power." Paper presented at the annual meeting of the American Psychological Association, Cincinnati, Ohio.  
1959b "Sex roles in a three-person game." *Sociometry* 22(December): 343-360.
- Vinacke, W. E. and Abe Arkoff  
1957 "An experimental study of coalitions in the triad." *American Sociological Review* 22(August):406-414.

Vinacke, W. E., Doris C. Crowell, Dora Dien, and Vera Young

1966 "The effect of information about strategy on a three-person game."  
Behavioral Science 11(May):180-189.

Willis, R. H.

1962 "Coalitions in the tetrad." Sociometry 25(December):358-376.