

same burdens are placed on both teams, there are no inequities created. In his presentation, Weisenborn reminds us of this fact: "In a paradigm such as is being presented, it is imperative to remember that we are talking of two separate sets of advocates. Thus, the paradigm would be operative for both the negative and the affirmative as they approach the proposition. As the debater works with his particular position - be it affirmative or negative - he attempts to make the judge place confidence in his particular position. He does this through the exhibition of communication and persuasive skills." 28

The criteria becomes a little bit tricky to evaluate. The Communication and Persuasion Skills Paradigm does not delineate specific debate issues such as inferency and topicality, but it does delineate persuasive skills on some specific issues. Also, we must remember that the entire purpose of this paradigm is not to isolate specific debate issues but to promote the development of persuasive and communicative abilities. Because of this purpose and the possible interpretation of skills as issues, this paradigm meets this criteria.

When evaluating the ability of paradigms to fit into an academic debate style, this paradigm does not work. There are several reasons for this conclusion. First is the time factor. If the purpose of debating is persuasion, then the last thing we would want to do is to place time constraints on speaking. After all, communication theory tells us that persuasion is more effective when there is more exposure to the persuasive appeals. Second, in debate, we tend to limit persuasion and communication to speaking only. We do not encourage other persuasive devices, such as visual aids, to be used. Again, the mode in which we debate inhibits total development of persuasive and communication skills. Third, because of the need to develop arguments before communicative skill is applied, most of the evaluation of the debate must come at the end of the argumentation process. In other words: "The debater as an individual

communicator cannot center his ultimate arguments on himself, nor on the particular proposition at hand. After his analysis is complete, after he has developed his line of argument, after he has attempted to see all the inherent flaws and assets of his position, then he must communicate them as an individual to his hearers. He cannot do this by being a debate machine; he cannot do this by being a debate "bum"; he cannot do this by using the tricks of the trade. He must be an individual employing communicative skills in the interpersonal arena of communication." 29 What this seems to imply is the judge should not even start judging until the end of the debate or in rebuttals as the debate format dictates. Even worse is the fact that the format provides less time for persuasion or rebuttals than it does for constructives or the formulation of arguments. Obviously, the form of academic debate which students participate in is not conclusive to a focus on persuasive ability nor to practical applications.

Promotion of clash and argumentation, our last criteria, is one which seems to be very unimportant in this paradigm. First, the persuasion versus argument dilemma makes this criteria difficult to assess. Are persuasion and argumentation one in the same? If not, where do we draw the line so we know where to start judging and where to stop? The answer to the philosophical argument could fill volumes; however, the dilemma exists with judging inconsistencies based on the persuasion versus argumentation issue itself.

There are additional problems relating to clash and argumentation with this paradigm. First, clash seems to be irrelevant in this paradigm, at least as far as the judge is concerned. It seems to be that what the debater says really is unimportant; rather how you say it matters. Therefore, you could have two very persuasive and communicative teams who never clash, and still have what would be considered a good debate under this paradigm. Another problem on these same lines is the use of persuasive techniques such as humor versus pure fact

and promotions of argumentative skills when someone wins a debate round by making the judge laugh and ignoring the issues presented in the debate? This type of debating only serves to further the timing of comedians, not the skills of debaters.

In summary, I would say what Weisenborn's model is is a plea for help. The criteria he has advocated are skills which are vital to a debate round, and we should attempt to instill them in debaters. However, we can not go to the extreme and advocate these skills as the only issue in he says: "My position is not the delineation of these skills, but rather the fact that we should stress them in instruction, rather than some other elements of debate."³⁰ His attempt to place these skills in a paradigm which is clearly a delineation of them, as well as to stress their importance above other basic argumentation tenets such as clash seems questionable. Weisenborn's ideas are positive and should be involved in debate, but they should be an ethical standard or a skill level to try to promote through the use of other paradigms. They do not deserve a paradigm of their own.

Conclusionary Remarks

After examining the positive and negative points in each of the paradigms presented, I thought it might be of interest to compare the way typical judges use these to reach decisions. Robert Norton of the University of Southern California conducted a survey on the judges of CEDA debate, and the following are some of the relevant results.

When asked about their judging criteria, the responses seemed to fall within the paradigms I have outlined. Out of 28 respondents, ten said they voted on "delivery skills", (the persuasion and communication skills paradigm); three said they used NDT judging criteria, (the policy making or hypothesis testing paradigm); six said they used the criteria argued in the round, (stock issues paradigm); and 15 said they used a comparison between values and value objections, (the policy or advocacy para-

digm).³¹ When the survey was completed, this particular question was an open ended one; therefore, some people listed a combination of responses which they used for judging. This overlapping can be seen by comparison of the number of respondents.

When the survey examined the question of argumentation compared to communication skills, the results revealed clash and argumentation to be the most important issue in judging a debate round. Take for example, question number eight which asked, "When one team in CEDA debate does the better job of speaking but the other team wins critical arguments, I am likely to vote for the team winning arguments." The responses were weighted strongly to the argumentative end of the continuum. The results: "Strongly agree, 14; Agree, 12; Uncertain/Neutral, 1; Disagree, 1; Strongly Disagree, 0."³² Here the communication and persuasive skill paradigm seems to have suffered badly.

After examining these results and the analysis on each of the paradigms, several conclusions regarding the paradigms have been established. First the stock issues paradigm, when applied to value debate, seems to be the paradigm which satisfies best criteria presented. Because it allows for the development of individual standards for each round, the stock issues paradigm allows for the promotion of clash and argumentation; is fair to both teams and is clear in its delineation of stock issues.

The policy making paradigm, when applied to value debating, also appears to be a fair paradigm. The comparison of two values or values and value objections definitely promotes clash, if, and only if, the stipulation of the advocacy paradigm is presented. The clash between only *two* value systems is necessary for the policy paradigm to function at its best. This paradigm does exhibit problems such as distortion of harms which decrease its desirability as a standard for evaluation. However, since a majority of judges are using this paradigm, value debaters should know how it applies to value debate, and

how to make the paradigm function at its best. Therefore, they should be taught to argue realistic harms, values objects, counter values, etc. They should also be taught to limit their argumentation only to two systems to keep the debate from becoming superficial in its argumentation.

Hypothesis testing seems to promote superficial analysis and irresponsible debating. The scientific community seldom subjects itself to that rigorous a truth-seeking process, so why should the debate world do so. By examining the criteria, I feel hypothesis testing does not have a place in policy making debate *or* in value debate; therefore it should be rejected as a valid paradigm.

The persuasive and communication skills paradigm simply is a plea for help or a debate ideal we hold as important. It does not, however, have any place in a decision and communication skills in debate through this paradigm, we defeat the purpose of debate, as good argumentation does not result.

In conclusion, a debate paradigm should be clear and concise, fair to both teams, fit the form of debate, and most importantly, it should produce good argumentation or clash. Of the paradigms presented, I feel the stock issues paradigm, as applied to value debate, is the only one which sufficiently meets the criteria for the paradigm.

ENDNOTES

- 1 Robert Rowland, "Debate Paradigms: A Critical Evaluation", University of Kansas Summer Conference on Argumentation, "Proceedings" Alta, Utah, 1981.
- 2 Ibid, p. 449.
- 3 Ibid, p. 449.
- 4 David A. Thomas and Maridell Fryar, "Value Resolution, Presumption and Stock Issues", Summer Conference on Argumentation, "Proceedings", Alta, Utah, 1981, 525.

- 5 Ibid, p. 525.
- 6 Ibid, pgs. 526-527.
- 7 Ibid, p. 527.
- 8 Ronald J. Malton, "Propositions of Value: An Inquiry into Issue Analysis and the Locus of Presumption", University of Arizona, Summer Conference on Argumentation, "Proceedings", Alta, Utah, 1981, pgs. 496-497.
- 9 Rowland, p. 450.
- 10 Ibid, p. 451.
- 11 Ibid, p. 462.
- 12 Ibid, p. 463.
- 13 Ibid, p. 464.
- 14 Ibid, p. 469.
- 15 Ibid, pgs. 488-489.
- 16 Ibid, p. 451.
- 17 Ibid, p. 452.
- 18 Ibid, p. 455.
- 19 Kenneth M. Strange, "An Advocacy Paradigm of Debate", as presented at the Speech Communication Association Convention, Anaheim, California, November 13, 1981, p. 1-2.
- 20 Ibid, p. 2.
- 21 Rowland, p. 457.
- 22 Ibid, pgs. 460-461.
- 23 Ibid, p. 461.
- 24 Ray E. Weisenborn, "Debate as a Paradigm Focusing on Communication and Persuasion Skills", *Advanced Debate*, (National Textbook Company: Skokie, Illinois) 1979, p. 350.
- 25 Ibid, p. 353.
- 26 Ibid, p. 356.
- 27 Ibid, p. 356.
- 28 Ibid, p. 354.
- 29 Ibid, p. 354.
- 30 Ibid, p. 353.
- 31 Robert K. Norton, "Emperical evidence on the judging criteria in use in the Cross-Examination Debate Association." *The Forensic*, Spring 1981, p. 11.
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Logic and the Construction of Messages

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Debate is in part if not completely based on argumentation. Since all participants are assumed to be rational, arguments are often

composed of a mixture of evidence and inference. But what directions should these arguments take? Should arguments be adjusted or fine-tuned to maximize the effect of certain mixtures? What place does logic, either deductive or inductive, have in particular contexts? Clearly, most debaters would maintain that, of course, arguments must be constructed with each particular situation and use in mind. The purpose of this essay is to suggest possible uses for logic in the construction of message.

The essay is arbitrarily divided, for the sake of convenience, into three sections. The first deals with four assumptions each message source might consider before message construction. The second examines five characteristics of structural form in messages. The last section is a consideration of three impediments to the successful use of logic. Obviously these notions are not exhaustive; hopefully, further research will suggest others. Yet, these considerations do indicate possible uses in message construction of certain types of logic.

Logic and the Source

What do we mean by logic? Do we mean symbolic logic, deduction, induction, inference, reasoning, cognition or some other specific definition? Unfortunately, each study in this paper uses the term differently, often with a loose and fluid jump between definitions. It would be impossible to sift through these differences and settle on one which contains elements of each. Therefore, a warning must be made to the readers. Do not expect all studies to fall under a certain narrow topic area. This may make the reader intellectually uncomfortable. Yet the broad conception of logic by psychologists, philosophers, and communication scholars does not allow the research to fit into well-defined categories.

The lack of research in this area also certainly inhibits the validity of a researcher's findings. Two questions in need of research have been completely overlooked. Do various arguments which are constructed

and manipulated differently on the basis of their propositional characteristics produce different results? Does the Toulmin system of analysing arguments represent the way people actually think (Burgoon and Bettinghaus 1980)? Mention of these concerns is not to say that other areas of research are complete. Miller (1969) observes, "Detailed accounts of what is known about the variable influencing an individual's ability to judge the logical validity of an argument are lacking." (p. 276)

Yet the work which does exist provides enough stepping stones to reach some tentative conclusions and to suggest areas for further consideration. For example, some assumptions can be made about the source of a message. These assumptions are by no means conclusive but are suggested as probable through previous research.

The first aspect to be considered involves the question of syllogistic thinking. Syllogistic reasoning does not closely reflect the thinking process of man. Quine (1972) defines a syllogism as "arguments wherein a categorical statement is derived as conclusive from two categorical statements as premises, the three statements being so related that there are altogether just three terms, each of which appears in two of the statements." (p. 86) Each syllogism contains a major premise, a minor premise, and a conclusion. The rules of deduction operate as a closed mind set which allows only certain conclusions based on the truth or falsehood of the two premises. A valid syllogism, according to Quine, is "a syllogism of such form as to be incapable of leading from true premises to a false conclusion." The most common example of this form is:

Socrates is a man	(A B)
All men are mortal	(B C)
<hr/>	
(Therefore)	
Socrates is mortal	(A C)

Psychologists often describe man as logical or rational. This is often construed to mean man thinks syllogistically. Morgan and Morgan (1953) write: "Psychologists

seem to be under the delusion that logical reasoning is confined to the syllogism, a view which has long been abandoned by the logicians themselves." (p. 399) Russell (1960), a logician, agrees that man does not often think syllogistically: "It must be admitted that, for a method which dominated logic for two thousand years, this contribution to the world's stock of information cannot be considered very weighty." (p. 82) Henle (1962) finds the reason syllogisms do not represent the way we think is due to a ideal, with 'how we ought to think.'" (p.365)

This statement leads us to the second assumption a source may draw: psychological inferences more closely reflect the thinking process of man. Lefford (1946) argues that the principles of logical inference are "techniques which are not the common property of the unsophisticated subject." After reviewing this statement and others, Henle (1962) concludes: "Common to all these statements . . . is the assumption that logical principles are irrelevant, if not antithetical to much actual reasoning." (p.367) Russell (1960) sees everyday decision-making as "important and precarious, instead of being trivial and safe." He concludes: "The syllogism may be regarded as a monument to academic timidity: if an inference might be wrong, it was dangerous to draw it." (p. 82)

Russell's statement invites the third assumption: the source must not assume reasoning non-syllogistically is a human error. We have all heard the statement "you didn't reason this out." However, since syllogistic thinking is a mind set dealing only with form, questions of actual fact do not apply. Russell compares mathematics, a closed mind set, and billiards, which is an open mind set. He writes: "In practice, the mathematician has a set of rules according to which his symbols can be manipulated, and he acquires technical skill in working according to the rules in the same sort of way as a billiard-player does. But there is a difference between mathematics and billiards: the rules of billiards are arbitrary, whereas in mathematics some at least are in

some sense 'true'." (p. 87) Quine adds, "All that counts, when a state is logically true, is its structure in terms of logical words," (p.42) Any statements may be placed in the "p" and "q" positions in the forms which are logically acceptable to be logically true. Therefore, to think non-syllogistically is not an error of the mind, which responds very much like a billiard ball.

The reason for the fascination with the syllogism lies in its historical longevity and intellectual seduction. Since Aristotle's time the syllogism has been imbedded in the Western tradition. This forces us to take it more seriously than perhaps we should. Ignoring the importance of the syllogism rubs against the grain. Quine (1972) argues that logic is central to our conceptual scheme. Therefore, to degrade the syllogism is to question some of our intellectual foundations. (p. 56)

Thus, error is not disastrous. Henle (1962) found that test subjects make several logical errors: failure to accept the logical task; restatements of a premise or conclusion so that the intended meaning is changed; omission of a premise and slipping in additional premises. Her study only tested deductive reasoning. Of course, error is not always forgivable. This study only seems to beg understanding of error. Those who make these errors were "found to be accounted for not in terms of a breakdown of the deductive process itself but rather in terms of changes in the material from which the reasoning proceeds." (p. 377) Her conclusion, suprisingly, was that "the rules of the syllogism describe processes that the mind follows in deductive reasoning, even when the syllogistic form is not explicitly employed." (p. 377) In short, those who erred viewed the material differently, but syllogistically. While this conclusion is optimistic, and will be discussed again below, it invites the next assumption.

The fourth assumption is that education enhances syllogistic thinking. Clearly, to this point the analysis and research might be construed to indicate a deficiency of syllogistic reasoning. More evidence will be

presented below which also suggests man reasons non-sylogistically. However, this is not to say it never takes place. Education and intelligence, Morgan and Morgan (1953) found, increases the ability to think logically. Therefore, formal logical training does not significantly enhance syllogistic reasoning. They note: "We believe that the potentiality for learning to reason logically is dependent upon the native intelligence of the individual, and the rules by which logical reasoning is governed are learned in the daily experiences of life, sometimes in the classroom, with or without the benefit of the instruction in formal logic." (p. 401)

But Henle and Michael (1956) found performance improved when subjects were given instructions that included explanations of syllogistic form. The conclusion to be drawn from these two studies is that the educational process teaches syllogistic reasoning in a crude form. But specific instruction in logic is beneficial. Miller (1969) draws the conclusion that "trained individuals make fewer errors than untrained persons." (p. 280)

Logic and the Message

While the source can make certain assumptions about the nature of logic and persuasion, the message may be manipulated in such a way as to increase persuasive effectiveness. Certain characteristics associated with the structural form of the message have been found to determine greater or lesser acceptance of logical presentations. These characteristics, atmosphere, caution, ambiguity, abstractions, and evidence, are interesting and deserve review.

Atmosphere is defined by Woodworth and Sells (1935) as the creation of a "sense of validity" through use of affirmative premises or a sense of invalidity from negative premises. They found any premise creates some atmosphere and that atmosphere can increase acceptance of invalid conclusions. For example, an affirmative sounding premise (eg. "All men are Communists") is

more likely to be accepted than the negative sounding statement "No men are Communists". Order of the premise was not found to be significant, and the use of one particular premise coupled with the universal premise does not eliminate the atmospheric effect. Morgan and Morgan (1944) found logic played a small role in determining which conclusions subjects judged valid in comparison to atmosphere.

Caution was also studied by Woodworth and Sells. They found subjects would select significantly more particular conclusions than universals due to wariness. Thus, more particular invalid conclusions were accepted than invalid universal premises. The same results were found for affirmative versus negative propositions. The researchers found more invalid negative than affirmative propositions were accepted.

Ambiguity was also studied by Woodworth and Sells. Difficulty arises from the ambiguity of the language of logic, especially concerning the use of the term "some." In logic, some means "some and perhaps all" whereas in everyday conversation some means "some but not all". (p. 452) The authors found acceptance of invalid conclusions was due, in part, to this difficulty. Perhaps a second level exists as well. Confusion was mentioned before. Chapman and Chapman (1959) found some judgement errors resulted from a conversation of "p" and "q." Thus, all men are mortals could be changed to all mortals are men, which is both illogical and untrue. Whether this level exists or not, however, was irrelevant to Woodworth and Sells. They concluded that the data on atmosphere, caution and ambiguity "indicates that nearly all the acceptance of invalid conclusions can possibly be explained by these three hypothetical factors." (p. 460)

Perhaps this assessment was optimistic. For example, Long and Welch (1942) found that as the level of abstraction increases the number of reasoning errors increases. Thus, one could also reason that as the complexity of a premise or conclusion increases, more errors would occur. As well, the switch to

sylllogism from psychological inferences might increase the amount of error. Yet, in this study the researchers also found that if the subject discovers the principle on the initial test, scoring on a more abstract test was generally higher. While this may simply be a case of the subject being more intelligent, it might prove again that education increases the ability to think logically.

Finally, evidence must be considered. Since the use of evidence is perhaps a whole new subject area of discussion the overview given here will obviously be incomplete. In fact, only one study will be considered. Cathcart (1955) found that the use of sound evidence was more effective in winning belief than the use of assertions or generalizations. Cathcart was trying to indirectly discover if evidence, presented logically, was more persuasive than emotion. Therefore, unlike the rest of the work on evidence, this study directly confronted the problem of logic versus emotion. This was his purpose if the following statement is correct: "There can be little doubt that evidence occupies a pivotal position in the generation of proof through logical arguments, and most rhetoricians will agree that it is vital to persuasive speaking." (p. 227) Cathcart, also, was the only study which Burgoon and Bettinghaus (1980) do not directly indict in their recent review of the literature. Yet, as they point out, more research is needed. They write "none of the prior research provides very clear data about the effectiveness of the use or nonuse of various types of evidence." (p. 147) Therefore, Cathcart's conclusions are very tentative at best.

Logic and the Receiver

This last section deals with impediments which may inhibit the receiver's ability to reason logically. Three impediments which have been found to hurt the receiver's reasoning ability are: receiver bias, emotion, and intensity.

Bias has been discovered to distort

reasoning. The preponderance of evidence indicates the truth of this statement. Janis and Frick (1943) found subjects who believe a conclusion are more likely to find syllogisms sound which, in actuality, are invalid. The opposite was also true. Thistlewaite (1950) found attitude and beliefs appear to be more important than structural difficulty. Thouless (1959) found a high degree of logical error on judgements which were biased.

Lefford, (1946) while also finding bias affects judgement, discovered subjects often ignore syllogistic reasoning entirely if they agree or disagree with the conclusions. He notes: "Previous knowledge of the truth of falsity of the conclusions of a syllogism tends to lead the subject to come to the same conclusion again without a consideration of the logical requirements of the syllogism at hand." (pp. 138-139)

Therefore, there is considerable evidence indicating the effect of bias on reasoning. However, three possible alternative interpretations may exist. Miller (1969) argues that the bias distorts the reasoning process. He claims that subjects might "accept the logical task but are incapable of reasoning soundly if their initial attitudes toward the message content interfere." (p. 283) A second interpretation is provided by Henle (1962), who notes: "An attitude can select from among the possibilities that the material presents, singling out, for example, one among several possible meanings." (p. 375) In short, the meaning could be changed from the researcher's intent.

Emotion is the second constraint. Perhaps a legitimate argument can be made that emotion and bias are the same thing. However, emotion in this paper will be used to describe the reaction of the reader to key words in the syllogism. Bias may indicate preconceived notions, whereas emotion may be generated *by* the syllogism. Atmosphere might also be confused with emotion. Atmosphere, as noted above, is the generation of acceptance through the affirmative or negative, universal or particular structure of a premise. Emotions, in this context, are

responses generated by the wording of the premise. While overlap may exist, atmosphere through form determines a set direction when emotion does not allow for control of direction. The word or symbols, Lefford explains, are "emotional stereotypes of institutionalized complexes, and act as stimuli which excite positive or negative affective feelings." (p. 147)

Lefford himself falls into a trap of confusion, mixing up bias and emotion at times. However, his conclusions isolate two important points: subjects solve neutrally toned syllogisms more correctly than emotionally toned syllogisms, and there is little relationship between the ability to reason accurately in nonemotional and emotional situations. The former conclusion agrees with the bias research. The latter conclusion merely seems to say that even emotional situations follow some form of inference. Lefford argues: "The fact that a psychological inference may correctly correspond to a valid logical inference is purely a matter of coincidence; it may, and it may not." (p.145)

The final constraint is intensity. Feather (1964) notes: "The tendency to evaluate arguments in a manner consistent with attitude will be positively related to the strength of the attitude. When an individual's attitude is intense, his evaluation of relevant arguments is more likely to be modified by his attitude in the direction of consistency with the attitude." (p. 128) Feather found as intensity increases, more error is likely. This indicates that as bias increases, more illogical reasoning takes place. This is not to be confused with language intensity, which is defined by Bowers (1963) as "the quality of language which indicates the degree to which the speaker's attitude toward a concept deviates from neutrality." (p. 345) The one is the degree of cognitive commitment or belief in a bias and the other is the linguistic manifestation.

Thus, after reviewing the assumptions the source may make, the characteristics of logic in message structure and the receiver's impediments to logical reasoning, what

conclusions can be drawn? We know some syllogistic reasoning takes place. We know certain logical characteristics influence belief. We know the receiver brings in background beliefs which distort reasoning. Yet, knowledge in this area is still in a primal state. What we know is limited, temporary, and inexact. The studies completed to this point are mere stepping stones which will hopefully guide us to a more complete understanding of logic as a vehicle of persuasion. More research is certainly necessary, and hopefully will be forthcoming. Perhaps direct comparisons between modes of thought, logical and otherwise, would be helpful. Burgoon and Bettinghaus (1980) conclude: "There has been no research in which various arguments are constructed and manipulated on the basis of their propositional characteristics. Such research might go a long way toward answering arguments about humanity's rationality." (p. 145) Whether man is rational, and under what conditions, will hopefully be known in the future. Miller (1969) state the obvious: "Only time and further research will tell." (p. 286)

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Homology and Catachresis in the Sociobiology Debate: Metaphor in the Service of Argumentative Claims

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Metaphor, distinct from the functions of aesthetics, semantics, and psychological force, effectively creates knowledge through reasoning by analogy. ¹ Kenneth Burke, in his consideration of metaphor as a master trope, expresses a concern not for the purely figurative usage of metaphor, but rather for

its "role in the discovery and description of 'the truth.'" ² Robert Nisbet, in *Social Change and History*, defines metaphor as: "a way of knowing - one of the oldest, most deeply embedded, even indispensable ways of knowing in the history of human consciousness. It is, at its simplest, a way of proceeding from the known to the unknown. It is a way of cognition in which the identifying qualities of one thing are transferred in an instantaneous, almost

unconscious flash of insight to some other thing that is, by remoteness or complexity, unknown to us." ³ For Nisbet, metaphor is indispensable in language, poetry, philosophy, and even science: "But, clearly, metaphor is also dangerous. It is dangerous when from the initial encapsulating and iconic vision of something distant, or unknowable in standard terms of analysis, there begins to be drawn corollaries of even more literal and empirical signification. To look at the whole universe and say it is like a machine or organism is one thing: forgivable in proper time and place. But to seek to build rigorous propositions of scientific analysis upon either metaphor, mistaking attributes of analogy for attributes of reality, can be, as the history of science teaches us, profoundly limiting and distorting. And this, all too often in the social sciences, is the fate of some of the more powerful metaphors in human consciousness. Nowhere is this more evident than in the study of social change." ⁴

Over the centuries there have been repeated attempts to explain political behavior by using biological theory, or the biological metaphor. ⁵ Social Darwinism, perhaps the best known manifestation of a "biological analysis" of political life, served as a justification for laissez-faire economics, class stratification, social and racial superiority theories, and public policy as reflected in the Supreme Court's decision in *Lochner V. New York* and the exclusive immigration law of 1924. ⁶ Because the scientific knowledge of that era was not yet able to explain adequately biological, let alone social, phenomena, Social Darwinism was doomed to intellectual repudiation as a metaphorical distortion of Darwinian theory to bear the burden of an argument for which it was never intended. ⁷

In 1975, Edward O. Wilson, set out the principles for a new scientific discipline of Sociobiology, which Wilson defined as the systematic study of the biological basis of all forms of social behavior - including sexual and parental behavior - in all kinds of organisms, including man. ⁸ Wilson claimed, "to have laid the foundations for a

new science, one that would for the first time provide a firm biological basis for the understanding of the refractory human social behavior with which social scientists have ineffectually attempted to grapple for too long a time." ⁹ With the emergence of sociobiology, political scientists have again become sensitive to the relevance of work being done in biology for understanding political man, and the term "biopolitics" has been coined to study the relationship between politics and biological theory distinct from biological metaphor. ¹⁰

Ashley Montagu, however, has argued that inherent in the idea of sociobiology as presented by Wilson, Richard Dawkins, and others, are the notions "or the genetic determinism of behavior of individual differences, social differences, the stratification of classes, sexual status, and racism. Invoking the dictum "ideas have consequences," Montague argues that the idea of "race" led directly to the holocaust, just as it had been predicted it would in 1907. ¹² Mary Midgely warns that: "Sociobiology as a movement is a real menace, because it provides simple-minded people who like the jargon of science with an exceptionally slick set of catchwords and formulae for universal explanation. Like any flag-waving movement, as it gathers strength, it is bound to collect a mass of supporters who will catch their leader's confidence without his scruples and without understanding his limitations . . . the academic world is full of people who ask nothing better than to settle into such an army. ¹³

Recently the neo-facist New Rightists in France have declared that individuals and races are insurmountably separated from one another by hereditary inequality; buttressing their view by citing the writings of Wilson, William Shockly, and Arthur Jensen. ¹⁴ In England, the organ of the fascistic National Front, *Spearhead*, has featured several articles on sociobiology stating it has shown that "there exist instincts which are genetic in origin and which determine our behaviors and social customs"; that "sociobiology is thus transforming our view of man