

# Nomotics

## The Science of Human Rule Systems

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Several philosophers, psychologists, and sociologists have recently begun to reexamine the problem of explanation in social science.<sup>1</sup> Instead of describing man in terms of organized traits, needs, drive-cathexes, coping and defense mechanisms, or self-actualizing tendencies, the new movement is concerned with “man as rule follower.” This paper outlines the essentials of such an approach (*nomotics*—from the Greek *nomos*, “law, convention”—refers to the study of human rule systems), beginning with an examination of four behavior systems which can be conceptualized as networks of rule-governed activities. We describe some key properties of rule systems, point out certain important differences in the manners in which they are used, and suggest methods for studying rule systems in general. We also present an analysis of the topic of obedience, a central factor in the operation and preservation of any given system.

### SOME ILLUSTRATIVE RULE SYSTEMS

Even the most unreflective person appreciates the utility of rules for the conduct of human affairs. Somewhat more reflection is necessary, however, to recognize that the careful acting-out of rule-guided activities appeals to something very deep and powerful in the human psyche. The intrinsic reward of ritualized behavior accounts for a variety of seemingly pointless activities: the phenomenon of nonbelievers attending church years after the onset of their apostasy, the stylized and often ludicrous procession of the Christmas season, and indeed, all those activities which the anthropologists describe as “rites of

intensification” and “rites of passage.” Moreover, this rule dependence apparently begins quite early in life, as parents will attest who have disrupted their children’s bedtime rituals.

### **Games**

If one knew nothing about football and watched a game, it would be impossible to understand the players’ actions. A reading of the rule book for that sport would make much of the activity comprehensible. Furthermore, access to the coach’s game plan would make an even greater amount of behavior predictable. These remarks are obvious; that which makes them so, however, is the power of rules as explanatory concepts.

It is surprising to note how frequently rule systems are referred to as games. Wittgenstein (1953) described language learning as “the original word game,” and it has become conventional to refer to one’s occupation as a game. Piaget (1965) noted the similarity between morality and games, and began his study of moral judgment in children with an investigation of their attitudes toward the rules of marbles. One reason games are seen as prototypical rule systems may be that their apparent triviality affords us an opportunity for irony—war, social interaction, and one’s life work are normally matters of grave seriousness.

Games are important in the study of rule systems and social behavior for two reasons. First, winning frequently depends on the optimal use of game rules, which themselves are usually arbitrary. Thus players often use rules in a highly self-conscious fashion, which in turn tends to make the relevant behavior more visible. Second, certain fundamental themes seem common to all games and may reflect important regularities in our thought processes. Thus, for example, games always involve the concepts of cooperation and opposition, they have clear-cut beginnings and ends with provisions for time-outs, and they are never three-sided.

Games also seem important for human development. Playing with one’s peers involves behavior qualitatively different from that typically required for dealing with one’s parents (e.g., cooperation and reciprocity replace punishment-based compliance). Playing games also forces a child into a double-contingency relationship (i.e., taking into account the other person’s potential reactions to one’s own actions and vice versa) in which the cognitive demands are quite complex, and which undoubtedly stimulates intellectual growth. Because a fairly high order of cognitive development is necessary before a child can effectively play a game, there is also a natural interaction between game-playing and intellectual growth.

### **Social Interaction**

Many writers have noted the rule systems underlying interpersonal relations; many have also made use of an analogy to games as an analytical device.<sup>2</sup>

Goffman (1959) has presented a dramaturgical analysis of interpersonal relations from the viewpoint of the rules of good theatre.

Rules governing social interaction seem to fall into two broad categories which are nicely exemplified by the social theories of Freud (1960) and Lévi-Strauss (1968). Starting with approximately the same observations (e.g., the primal horde and the events surrounding the Oedipal crisis), Freud and Lévi-Strauss develop contrasting but complementary theories of society. In highly schematized form, their arguments may be summarized as follows:

According to Freud, rules are basic to society, the basic rule is the rule of obedience, and the basic act of obedience is the renunciation of incestuous desires and the internalization of parental commands. This obedience minimizes interpersonal conflict, thereby bringing stability to society.

According to Lévi-Strauss, rules are basic to society; the basic rule, however, is the rule of reciprocity, and the basic act of reciprocity is the exchange of women. This exchange produces the mutual dependency which causes society to cohere.

Freud emphasizes competitive striving; Lévi-Strauss emphasizes reciprocity. Implicit here is the distinction between the in-group and the out-group, with Freud and Lévi-Strauss representing two extreme points of view. That is, Freud sees all other persons in society as the out-group, whereas Lévi-Strauss regards total societies as in-groups with other cultures as out-groups. But most importantly, the rules for social interaction vary markedly depending on the group with which one is dealing. The in-group/out-group distinction profoundly influences interpersonal relations. The distinction is mirrored in all forms of address (e.g., *ne me tutoyez pas*) and in a large number of social-psychological concepts: solidarity and status; *communitas* and *societas*; altruism and ego-centrism. The distinction reflects a deep, perhaps archetypal cleavage in man's thinking; it is probably no accident that the infant develops attachment for its mother and fear of strangers more or less simultaneously.

## Language

Languages are generally recognized as governed by systems of rules known as grammars. The most influential movement in modern linguistics has been the attempt to develop a metatheory which will account for the grammars of all languages. Noam Chomsky (1965: 8) has proposed for this purpose the notion of a generative grammar, "a system of rules that in some explicit and well-defined way assigns structural descriptions to sentences." Chomsky (1965: 56) stresses the implications of linguistic metatheory for psychology:

The language acquisition device is only one component of the total system of intellectual structures that can be applied to problem solving and concept formation; in other words, the *faculté de langage* is only one of the faculties of the mind.

Linguistic rules are probably the most thoroughly delineated and abstractly stated of any rule system. Consequently, certain concepts from linguistics may possibly extend into other governed areas. Some linguistic concepts which might lend themselves to analogic application are: prescriptive versus descriptive linguistics; diachronic and synchronic investigation; the hierarchy extending from language family to language to dialect, and then to idiolect; isoglosses; and context.

### **Morality**

Hart (1961) has suggested that the basis of a society's morality is a system of rules of conduct which defines a network of reciprocal rights and obligations, and which prohibits at least gross acts of malevolence. Piaget (1965) observed that "all morality consists in a system of rules, and the essence of all morality is to be sought for in the respect which the individual acquires for these rules." Freud maintained that moral development was more or less complete when the child had internalized a set of parental rules and prohibitions. The rule-oriented foundations of morality have perhaps been most explicitly elaborated by the contemporary philosopher, Bernard Gert (1968: 5-6):

The moral rules are central to morality. And the moral philosopher ought to be concerned only with that code of conduct of which the moral rules form the core. . . . His principal tasks are the following: Discovering if there is a unique set of characteristics which all or most . . . moral rules have in common . . . . The moral philosopher must explain the nature of moral rules, showing their relationship to our conduct and to our judgments, as well as explaining and justifying, if possible, our attitudes toward them.

### **FORMAL PROPERTIES OF RULE SYSTEMS**

Certain formal properties of rule systems can be identified by pointing to common characteristics in different systems, and by noting some distinctions which may be made in their classification. The following list of formal properties is considered suggestive rather than exhaustive or definitive.

#### **Common Characteristics**

*Codification.* A human rule system will normally have a formal, usually a written, code. Examples are Hammurabi's Code, dictionaries and grammars, Hoyle, etiquette books, *The Watch Officer's Guide*, criminal and civil codes, and those books which various trades call their "bibles." There may also be a codifier (God, Emily Post, Congress), and the codification process is never complete in those systems which are responsive to change and evolutionary pressures.

*Custodian and exemplar.* A human rule system will have a custodian or high priest to make decisions about the rules (the Pope, the umpire, the courts, the French Academy). There may also be an exemplar (Budda, Christ, "Mr. Football," "Mr. Republican") and a custodian may sometimes serve as exemplar. Emily Post was at once codifier, custodian, and exemplar.

*Deviation from the code.* Typically, it is impossible to follow all the rules of a given system. Fortunately there is an esthetic of rule-following related to this; i.e., it is unseemly to observe the rules too scrupulously. One who does so is regarded as a martinet or a Draconian, as punctilious, pedantic, or a prig. This ethic, in combination with the nominal obedience to the rules normally required by one's fellows, suggests that a measure of hypocrisy may be an inevitable by-product of rule-governed behavior.

A distinction should be made between the coded rules and the rules which describe actual behavior. In grammar this is the difference between prescriptive and descriptive grammar; in social interaction, it is the difference between the formal and informal structure of groups; in morality, it is the difference between the Ten Commandments and the Kinsey Report.

*Deviation and in-group status.* The amount of acceptable deviation differs for the in-group and the out-group in both kind and degree. Members of an in-group are typically allowed more absolute deviation from a code, giving rise to the frequent observation that there is a "different set of rules" for the in-group. Actually the converse might be true; that is, the in-group might be best defined in terms of the rules they are permitted to violate (e.g., the well-known legal immunity of high government officials, businessmen, and movie stars; on the bridge of a ship, only the captain may whistle). Thus, as Roger Downs has observed, the pattern of rule deviation in one sense may define the in-group.

*Social consequences of skillful play.* As suggested above, expert play is not to be equated with relentless rule-following. Rather, virtuoso performance in the manner of Heifetz, Gandhi, or Shakespeare requires occasional neglect of at least some of the rules. Good play is almost always rewarded. One is tempted to speculate, however, that the magnitude of the reward is an inverse function of the complexity of the rule system (i.e., the simpler the system, the more people who are able to appreciate expert play). Thus football players are much better-paid than poets, painters, or philosophers, and in the case of morality, a virtuoso performance may lead only to martyrdom.

*Ethics.* In each human rule system there seems to be an overriding ethic, recognized by all mature players, which has its origins in empathy or role-taking ability, and which is variously called sportsmanship, courtesy, justice, reciprocity, or ethical communication. The effect of the ethic is to generate the distinction between the letter and the spirit of the law.

## Distinctions

Distinctions may be made among human rule systems in four important ways:

*Complexity.* Complexity is here defined in terms of the total number of rules of a system and their interrelationships. Primitive children's games represent instances of simple systems; interpersonal relations, moralities, and languages involve a considerable increase in complexity.

*Clarity of evaluative criteria.* A closely related distinction involves the clarity with which the criteria for evaluating performance have been articulated or are visible. For example, clear-cut competitive standards of excellence are available for all forms of athletic endeavor. However, there is considerable confusion concerning the evaluation of moral behavior, and with regard to language behavior, it seems almost impossible to derive generally accepted standards for determining excellence.

*Mode of presentation.* A third distinction concerns the process through which the rules are discerned—either deduction or induction. In the deductive mode, general principles are presented and the player must himself derive the rules for particular cases (e.g., "If your opponent comes to the net, keep your passing shot low"). In the inductive mode, instructions are given for each case as it arises, however, the player must discover the general principles himself (e.g., "Say 'I am,' not 'I are.'").

*Freedom to participate.* The final distinction to be drawn involves the difference between mandatory and optional participation. Clearly no one is required to play badminton; but we must all at some time converse with another person. One major function of systems of optional play might be to prepare us for systems of mandatory play.

Although these distinctions appear conceptually independent, most naturally occurring rule systems seem empirically to fall into two categories. The first type is relatively simple, with deductive instruction, clear-cut evaluative criteria, and optional play (war, athletic competition, parlor games, symbolic logic). The second type of rule system is relatively complex, with inductive instruction, ambiguous evaluative criteria, and mandatory play (language, social interaction, morality). For the newcomer to one of these latter systems (e.g., the office cocktail party), to be simultaneously aware that certain rules are inviolable and yet uncertain as to their content can be a devastating experience. We are presently unable to account for the preeminence of these two types of systems.

## FORMAL PROPERTIES OF RULES

### Common Characteristics

There is an inexorable quality about the rules of any given system which may be stated in terms of two general laws. First, rules typically persist long after they have served their original purpose; rules are, in a very real sense, "nonbiodegradable." As a consequence of this, the number of rules in any system typically increases over time. Second, within many systems there seems to be a nomotic equivalent of Gresham's Law, i.e., rules which promote competition tend to replace rules which support sociability and the sense of community. Status considerations almost inevitably take precedence over tendencies toward solidarity.

### Classification

Proper study of human rule systems requires a general method for characterizing rules. Symbolic logic has been used as such a system in the study of concept formation (compare with Hunt, 1962). Scandura (1968) has also suggested a research language for the description of rules. Another possible approach is that taken by theorists in linguistics and psychology who have proposed relational rules that define equivalence, superordination, and the like (see especially Deese, 1969a, 1969b).

The dimensions of codification and observation provide what is perhaps a more functional and less abstruse classification system. That is, rules may be classified into three sensible categories according to whether or not they are codified, and whether or not they are observed:

- (1) Codified and observed.
- (2) Codified, but not observed (as noted above, these are often in-group rules).
- (3) Not codified, but observed (such rules are typically learned by being broken).<sup>3</sup>

Finally, rules may be characterized in terms of arbitrariness, equity, and importance.

## INDIVIDUAL DIFFERENCES IN RULE-FOLLOWING

Rule systems have an interesting conceptual status—they are closer to traditional sociological than psychological concepts. In general, rules determine the parameters of social action and provide reliable guides to expected conduct. Thus careful specification of the features of rule systems will make predictable

much of what people do. However, human action cannot be understood solely in terms of information derived from the study of rules. Specifically, rule systems can't account for variations from the norm (e.g., creative innovation and delinquency), and the variations in human behavior are as interesting as the regularities. A complete explanation of social action (i.e., one that also explains variations) requires taking into account the individual actor's motives, plans, or intentions.

The proper operation of any social system depends on a modicum of compliance from the participants; the question "Why does John Doe pay his income tax?" is a prototypical case in point. The solution to this problem, from a nomotic point of view, requires giving an account of how he personally regards the relevant rules, how he typically reacts to them, how he uses them. In general, an adequate answer to any question concerning compliance requires a description of the actor's position with regard to five cognitive or attitudinal dimensions. These are discussed below. (It should be noted here that we assume that individuals will manifest considerable consistency in their attitudes across rule systems. Thus, for example, if John Doe fudges on his income tax return, he will probably be late for appointments, "doctor" his golf score, and not return library books on time.)

The first dimension has to do with knowledge of the rules; obviously one can only follow rules that he knows. However, social action always occurs within matrices of rules, and we are normally justified in assuming people know them. Generally speaking, ignorance of the law is rarely accepted as a legitimate excuse for its violation. Consequently this first dimension lacks powerful explanatory force.

A second and more important reason for John Doe paying his income tax is that he feels the rules covering taxation are personally obligatory and binding. In Hart's (1961) felicitous phrase, John Doe regards the rules concerning income tax from an "internal point of view," and not merely as an indication of what will befall him at the hands of authorities if he fails to comply. The psychological dimension involved here is conventionally labelled "socialization," where the more socialized person is assumed to consider social rules consistently from an internal point of view. Mounting psychological evidence indicates that parent-child relations characterized by warmth and nurturance, combined with the maintenance of firm limits, produce the most socialized children.

It is clear, however, that many John Does who pay their income tax had parents who were neither warm and nurturant nor consistent in setting behavioral limits. An auxiliary or compensatory function must emerge which somehow induces obedience in persons who have been denied the appropriate early socialization experiences. This compensatory function is the third dimension of individual differences in rule-oriented behavior.

The first author has presented evidence elsewhere (Hogan, 1969) to suggest that a person, under certain conditions, may comply with social rules in spite of



regarding them as essentially alien and external. In particular, if the otherwise unsocialized John Doe develops the capacity to adopt “the moral point of view” (i.e., to consider the consequences of his actions for the welfare of others), he may be generally conforming in his behavior. Adopting the moral point of view seems to depend on the capacity for empathy or what G. H. Mead termed “taking the role of the generalized other” (Strauss, 1964: 205-206, 224-226). It is a relatively straightforward process, the rudiments of which are taught when we ask a child, “How would you like to have that done to you?” Although training in the disposition to take the moral point of view may begin at home, its full elaboration probably depends on a moderately high level of cognitive development and on extensive peer group interaction—both of which occur some time after the child enters school (circa age 7-8).

There is a fourth explanation for obedience. Here John Doe’s social compliance results not from benevolent tendencies but from cowardice or lack of nerve. Such persons have insufficient force of character to oppose society and consequently conform out of weakness. Conforming behavior of this type, however, requires considerable environmental support in the form of socialized peers; in other surroundings such persons may be only highly conforming delinquents. The opposite end of this dimension is autonomy. High autonomy, in the absence of socialization and a role-taking disposition, leads to what Kierkegaard (1954: 103-111) called a “demonic man.” Demonic men (e.g., the Red Baron, Ivan the Terrible, Macbeth) compel our admiration despite their villainy. Conversely, high autonomy combined with high socialization and empathy probably characterized such praiseworthy persons as Socrates, Gandhi, and Martin Luther King.

Any discussion of rule compliance must also deal with the topic of principled disobedience, the subject of our final dimension. Earlier in the paper we noted that there seems to be an ethic, related to the notion of fairness, associated with every rule system. Such ethics are important for two reasons. First, they protect individuals from the tyranny of procrustean or monolithic rule systems. Second, they provide a means for keeping the purposes of the rule system in view and for insuring the continued existence of an avenue for change. Invocation of the ethic, however, almost always disrupts the operation of a system to some degree because a major method for such invocation is principled disobedience.

The first author has shown in earlier research (Hogan, forthcoming) that there are regular and stable differences among people in terms of their disposition to invoke the overriding ethic of a system. Such differences are closely related to personality structure and these differences predispose people to endorse contrasting social and legal philosophies. For example, the most important feature of the tradition of jurisprudence deriving from Thomas Aquinas is a willingness to call the manifest law into moral account. Conversely, in the tradition of legal positivism stemming from John Austin and Hans Kelsen, a firm distinction is maintained between the law as it is and the law as it ought to be.

Persons who are quick to criticize legal systems on moral grounds tend to be intuitive, individualistic, and uncomfortable with schedules and preestablished procedures. Persons who are reluctant to criticize the law in moral terms are typically counterintuitive, tough-minded, and "super-dependable." However, the most important point is that differences in the disposition to call upon the overriding ethic of social systems are related to principled disobedience (Hogan, forthcoming), and a complete explanation of rule compliance requires taking into account this final dimension.

### EVALUATION OF RULE SYSTEMS

Some rule systems are regarded as worse than others. A major problem for nomotics is to determine the grounds on which these evaluative judgments are made. Presently we can only offer five relatively speculative observations. First, we may look at the types of rules that exist in a given system. Obviously a preponderance of type 2 and type 3 rules (see section on classification above) would make a rule system cumbersome and even vicious. Second, rule systems tend to be bad when the rules are imposed from the outside, that is, by agents other than the governed. Third, sheer numerosity of rules is undesirable. However, there is no way presently to determine the number of rules that is optimum for a given system. A fourth desideratum of rule systems might be that they permit virtuoso performance, but again, determining how such a quality might be measured is difficult. Finally, the arbitrariness, equity, and importance of the rules within a system obviously must be considered when the system is being evaluated.

### CONCLUSION

We hope that the interdisciplinary study of rules will produce a general science of human rule systems. This science would consider such problems as what sort of rules characterize human rule systems, which of these are most easily learned, what instructional methods are best for different rule systems, what typical links exist among rules within a system, and so on. Paradigms for the study of rule systems already exist in experiments on concept formation (compare with Bourne, 1966) and miniature linguistic systems (e.g., Braine, 1963; Esper, 1925), as well as the cross-cultural study of various social systems (e.g., comparative linguistics and comparative law).

Probably the central question in the study of rules concerns the problem of rule acquisition. Opinion tends to divide between empiricist and rationalist answers to the problem. The authors are inclined to doubt that traditional psychological concepts derived from learning theory can account for all the facts about human systems of rules. Chomsky's (1959: 57) statement concerning the acquisition of grammar may well be applied to rule acquisition in general:

The fact that all normal children acquire essentially comparable grammars of great complexity with remarkable rapidity suggests that human beings are somehow specially designed to do this, with data-handling or "hypothesis-formulating" abilities of unknown character and complexity.

In this paper we have tried to suggest that rule systems (games, languages, morality, law) may be regarded as the warp of society, while individual differences in dealing with the rules constitute society's woof. A complete account of any social act will employ concepts from both domains. A careful elaboration of the important properties of human rule systems combined with precise specification of the manner in which people formulate, use, and modify rules, may ultimately result in a general theory to account for most forms of social behavior.

## NOTES

1. See Mace, 1966; Mischel, 1964; Peters, 1958.
2. See Berne, 1964; Coleman, 1968; Potter, 1948.
3. Occasionally these covert rules are "trap rules," i.e., they seem to exist solely to catch people. In many high schools and colleges, for example, there is a rule that the school seal, set in the floor, must not be stepped on. Violation of this rule is punished by upperclassmen or appointed monitors. It is clear, however, that if the seal is not to be stepped on, it should be mounted on the wall.

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