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John Levi Martin: Social Structures

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Introduction: Social Action and Structures

> The large systems and the super-individual organizations that custom-
> arily come to mind when we think of society, are nothing but imme-
> diate interactions that occur among men constantly, every minute,
> but that have become crystallized as permanent fields, as autono-
> mous phenomena. As they crystallize, they attain their own existence
> and their own laws, and may even confront or oppose spontaneous
> interaction itself.
> —GEORG SIMMEL, *Fundamental Problems of Sociology*

The Dialectic of Institutionalization

We set out, then, to determine where structures such as those impressing the
early social theorists (for example, the army) "come from." In any strict histori-
cal sense, our answer will of course be "other structures." And so on, all the
way down. This seems a dead end, and so there is pressure to replace the
historical interpretation of this question with an analytic one. The functionalist
approach, which so enthralled the early social theorists, did just this. Although
the results of this effort were less than satisfying, the idea of an analytic re-
sponse is not intrinsically a poor one.

   The functionalist approach basically turns the "where" question into a
"why" question: *why* does society *have* an army? But one can pose an analytic
"where" question if one were to make two assumptions: first, that we can
conduct some sort of analysis whereby we identify *components* of structures,
and second, that it is *noncontradictory* to propose that the structure can be
produced via the aggregation of these components. Neither of these assump-
tions is always reasonable. Regarding the first, not all things are susceptible to
analysis because not all things have separable parts. Regarding the second, in
some cases parts cannot be imagined to exist separate from the whole (for
example, we cannot say a body "comes from" organs because we cannot imag-
ine the organs existing independently). But structures like the army are com-
posed of things that do exist separately, and hence we may pose an analytic
frame to our question.

   Indeed, there is in sociology one extremely general, and extremely satis-
fying, answer along these lines, and this is that structures "come from" the
crystallization of relationships. The most elegant formulation of this idea was

made by the theorist Georg Simmel. In contrast both to the methodological individualists such as Weber who did not speak of "society" as a thing, and to the collectivists such as Comte who considered society akin to an organism, Simmel saw society as a web of crystallized interactions. While there is no "society" as a thing in itself but only persons and their action (and so Weber was technically correct), these interactions themselves have a tendency to reify, to become thinglike, and even to guide spontaneous action (and so Comte was on to something). What we mean by society, then, is simply the set of permanent interactions, "crystallized as definable, consistent structures," that is, institutions. An institution may remain even after the sentiment or purpose that gave rise to it is gone; indeed, it can even (in the words of Marx) appear as an "alien power" that hangs over the heads of the persons whose interactions comprise it (Simmel 1950 [1908]: 9f, 41, 96, 380f).[1]

Interestingly, Simmel's archenemy Emile Durkheim, would-be dogmatic founder of a functionalist school largely in the Comtian tradition, frequently agreed. Durkheim occasionally proposed that social institutions, rather than being explicable in terms of what Comte called social statics (the functional organization of the social body), must be understood as the emergent effects of the dynamics of social action. "Certain of these social manners of acting and thinking acquire, by reason of their repetition, a certain rigidity which on its own account crystallizes them, so to speak, and isolates them from the particular events which reflect them" (Durkheim 1938 [1895]: 45).[2]

Both Simmel and Durkheim, then, help us understand what often seems paradoxical: how society can seem like a thing outside us and frequently opposed to us, when it is nothing but the aggregate of our own actions. This understanding is left largely as intuition or vision—a general answer to the

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[1] For Simmel, the story does not end here, for "sociation continuously emerges and ceases and emerges again." The basic relationship between the impulse toward sociation (social interaction) and these petrified forms is understood by Simmel to be dialectical in the Hegelian/vitalist sense of a dynamic interplay between the *content* of sociation—our desire to enter into relationships—and the particular structural *form* that may emerge. This version of the dialectic was formulated by Hegel (1949 [1803]) and the implications for the estrangement, whereby our actions become things oriented against us, basically introduced via Feuerbach (1983 [1843]), Marx and Engels (1976 [1845–46]: especially 47f), and Marx (1906 [1867]: 81ff). On Simmel's balancing of form and content, see Simmel (1955 [1922]: 172).

[2] The only difference between this formulation of Durkheim's and Simmel's version is that while Simmel somewhat romantically stressed the potential for estrangement of the living essence in this petrification, Durkheim welcomed the process of crystallization as it eased the task of the analyst who would find herself totally at sea were she surrounded by a host of uncrystallized relations. "Social life consists, then, of free currents perpetually in the process of transformation and incapable of being mentally fixed by the observer, and the scholars cannot approach the study of social reality from this angle. But we know that it possesses the power of crystallization without ceasing to be itself" (Durkheim 1938 [1895]: 45).

question of "what is society" but not generative of empirical understanding.[3] It expresses how we can *conceive* of the generation of patterns of social interaction without necessarily making any focused claims as to the nature of empirical processes of institution formation. While a number of recent approaches to the nature of social order build on this general insight (specifically those of Giddens 1984; Bourdieu 1984 [1979]; and White 1992),[4] they tend to supplement their account with specific substantive claims that are not inherent to the basic understanding of the relation between action and institution suggested by Durkheim and Simmel. The fundamental vision put forward by all these authors may be formulaically put as follows: social interactions, when repeated, display formal characteristics; and this form can then take on a life of its own, ultimately leading to institutions that we (as actors) can treat as given and exogenous to social action for our own purposes, though at any moment (or at least at some moments) these institutions may crumble to the ground if not rejuvenated with compatible action.

We have perhaps as a discipline spent too much time in taking turns at giving a somewhat more elegant phrasing to this insight as opposed to determining whether it is amenable to empirical elaboration. Because this understanding is, as noted above, a form of dialectic, it is somewhat resistant to being put in the form of directed graphs of arrows between variables that have so enamored social scientists. But there is a possible foothold for analysis, as we see two moments in this process. In the first, certain patterns of interaction recur with sufficient regularity among different sets of persons that we (as analysts) can recognize formal characteristics that are independent of the individuals involved. Most important, there are conditions under which interpersonal interactions tend to align and structure themselves. Structure emerges, perhaps, out of unstructured interactions quite like the emergence of crystalline structure in a seeming fluid. From a single seed, it is possible for structure to spread, at least if there is no external force jarring the components.[5]

In the second—just as Simmel argued—there comes a point when such structure seems to take on a life of its own, something that can be referred to by persons as if it existed apart from the myriad interactions that compose it. Instead of simply noticing that there are recurrent patterns, we can make reference to these patterns as independent entities that make predictable demands on us. It is at this point that we speak of an institution.

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[3] I have previously (Martin 2001) argued that this form of social theory is necessarily "weak" and not generative of sociological research, a claim that I now partially repent.

[4] White (1992: 127, cf. 136) puts it more graphically: "Social organization is like some impacted, mineralized goo. . . ."

[5] It is worth emphasizing that the word *structure* will here be used only in the sense of patternings of relationships, without prejudice to other possible forms of regularity that some might wish to term "structural."

An institution exists when interactants subjectively understand the formal pattern in terms of the *content* of relationships. Marriage as an institution has particular structural characteristics: it (in the simplest conventional monogamous version) divides both men and women into two classes each, the unmarried and the married. The married are paired with one and only one member of the married class of the opposite sex. When navigating the world structured by such relations, however, people tend to focus on the content of the institution of marriage as opposed to these structural features. Here they are focusing not on the content of any *particular* marriage (happy or unhappy in its own way), but on the content of the *institution* of marriage. This content may be seen as the translation of the formal characteristics of marriage as a set of dyads into a subjective sense of what marriage "is all about": trust, commitment, exclusivity, and so on (Swidler 2001). For actors to focus on the content seems a wise choice, as this is easier to translate into action imperatives in any situation than are purely structural principles.[6]

This is not to say that relationships lacked all content before such a development of structure. But it is reasonable to suggest that their content is changed and perhaps elaborated by structural formations and, even more important, persons can get a different *conception* of the content of the relationship when they abstract general principle from concrete structures. Second, we may propose as a thought experiment arranging persons into structures and finding that the experience of traversing such formations induces subjective understandings of the "content" of these relationships. (Such an experiment was done to surprising success by Breer and Locke [1965]). Finally, it is worth emphasizing that in no way does this approach deny that the structure of relationships is in part a function of their content. But this is hardly surprising. What is more interesting is that the reverse may also be the case and in fact that attention to this process gives us analytic purchase in understanding the development of large-scale structures from small.[7] Demonstrating this point, however, awaits substantive examinations.

Such examination is the goal of the following pages. This book traces the emergence of structure up to but not quite including the point at which cultural understandings become detached from concrete patterns. Starting from the simplest elements of interpersonal interaction, we examine the forma-

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[6] We may also propose that the contents of relationships, when sufficiently strong and generalized, become detachable from any particular structural form and can be connected in *fields* in which the alignment of content, and not of form, is of paramount importance. Casual inspection suggests that the bulk of social action is best explained by reference to these overarching cultural fields and not to isolated institutions nor to concrete and necessarily local structures. Yet to understand these fields, we may need to trace them back to the simplest structures.

[7] As Jad Fair has pointed out, it is no news if a dog bites a man. But man bites dog—front page!

tion of obdurate patterns of organization, and their potential alignment into larger structures.

If we refuse to entertain any explanation of the regularities in social life that does not end up with an arrow pointing one way and not the other we are unlikely to get very far in the current project. We cannot begin here with the sort of "theory" from which testable hypotheses may be derived. But it may well be for the very reason that it lacks a formally elegant and logically integral structure that this understanding escapes what the Buddhists call "the stage of playwords"—a stage of unproductive obsession with terminology that for sociological theory is frequently terminal. Since we cannot get very far simply juxtaposing theoretical terms, we must begin looking very carefully at how social structures actually form. In this chapter, I lay out the understanding of structure that will be used, its relation to persons, and to their subjective conceptions.

What Might We Mean by Social Structure?

Social Structure as Position and Expectation

The arguments given above imply that we begin our attempt to understand social life by examining the forms that repeated interactions tend to take. We might reasonably call this the formation of social structure, or perhaps better, of social structures in the plural. Unfortunately, the term *social structure* is used by social scientists in a number of different ways. Many of these are unpardonably vague, basically meaning "anything that makes people do something they don't want to do." Others are implausibly specific, especially those that attempted to synthesize the classic structuralism of the Levi-Strauss variety with more intuitive understandings of the sets into which people seemed to be clumped, especially social classes. In practice, however, this vision was difficult to distinguish from the functionalist one mentioned in the preface.

This functionalist idea of social structure, coming from Spencer, was based on an organismic analogy. Just as organs and bones are structures of a body, so there are structures in society. This vision, while generative and profound, offers little for the current investigation, because structure is necessarily defined in relation to the properties of the transcendent whole, society. We, on the other hand, are attempting to trace the generation of transindividual consistencies in action and cannot assume the existence of what we set out to derive.

But there is another coherent approach to social structure coming from anthropology, especially the work of Linton (1936). Here social structures are understood as agglomerations of statuses and their action-counterparts, roles. The family is therefore a social structure, since it has a set of predefined roles that shape interaction. This account has the seeming virtue of emphasizing the importance of subjective expectations, which the theorists agree, play a crucial

role in the development of structure. Yet, as we shall see, for the very reason that the Lintonian approach makes this link central ab initio, despite its real insights, it may make a poor starting place for theoretical investigation.

To Linton, the anthropologist's job of mapping out societies would lead to a conception of the structure of the society in question as the anthropologist learned the various "slots" into which persons could be fitted: for an example of kinship structure these could include mother, brother, mother's brother, wife, husband, mother's husband. Linton called such a slot a "status," a "collection of rights and duties." That is as much as to say that it is a set of expectations: rights are what we may expect from others, duties are what others may expect from us. The point is that every slot in the social structure that has a name— that is socially understood as a meaningful category—has attached to it these expectations. And that is why society functions so smoothly. When we interact with one another, chances are good that we are not simply interacting as two unique individuals, but as two statuses, so that what we can expect from one another is remarkably clear. Since every status has its "dynamic aspect"—a role—one knows what the status calls on one to do.

The confusing thing is that social structure—regularities in interaction— then turns out to be at base a matter of shared expectations. This, in turn, implies that the fundamental ordering principles of societies are *cultural*. Talcott Parsons (1968; Parsons and Shils 1956) followed this line of theorizing to its logical conclusions. Consequently, despite the common division of "variables" into the trinity of cultural, structural, and personality in the Parsonian world, culture always trumps structure and personality, for the ultimate cultural values are the "topmost controlling component of the social system." Structure is the embodiment of culture as expectations, and personality is the introjection of culture via socialization.

Consequently, it was difficult to propose that there was any analytically useful distinction between culture and social structure—between the subjective conceptions of actors and the action patterns that an analyst might uncover. To call status and role structural, when there was a one-to-one mapping between structure and normative considerations that were ultimately tied to cultural values, was as much as to call the front end of a dog culture and his tail end social structure. To steal a phrase from the great Jim Stockinger, we might say that in the American functionalist tradition culture—more specifically, *values*—gobbled up social structure.[8]

This same paradox haunted Parsons's approach to institutions: it was never clear whether institutions were about *knowing* what to do, or in doing it, since

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[8] Even when Parsons (1960: 19f, 22) turned to the analysis of organizations, which might seem to be the perfect site for a purely structural analysis, the two possible points of view he proposed were the cultural-institutional, based on values, and the "group" or "role" point of view, which also assumed normative expectations.

Parsons defined away in advance the possibility that regularities in action could arise without shared expectations. Consequently, despite its evident plausibility—indeed, it is because of it—this line of theorizing collapsed structures, culture, and institutions, when there are good theoretical reasons for keeping these distinct. There is no reason to forbid, at least for analytic purposes, a difference between regularities in interaction (structure) and those institutions that appear as givens for individuals engaging in interaction. Many of the formations considered to be "structures" in the Lintonian understanding (such as the family) are better thought of as "institutions." In other words, any useful definition of social structure has to allow for regularities in interaction that are *not* institutions, and that do *not* arise because interactants understand their normative responsibility to act in a certain way.

To preserve such a distinct sense of "structure," I propose that we begin by considering social structure simply as regular patterns of interaction, and leave to the side the question of why these patterns exist. In particular, we should leave open, at least for a while, the relation between such patterns and large-scale cultural expectations. The nearest attempt to formulate a theory of social structure along vaguely Lintonian lines minus the emphasis on subjectivity was made by Nadel (1957), an approach now being resuscitated by theorists such as White (1992).[9]

It is indeed hard to imagine how structure could arise and "guide behavior" (as Nadel says) in the absence of such rules. But as Turner (1994) has demonstrated, with closer attention, it is hard to say how rules can guide behavior at all—that is, how "structure" can be something outside us forcing us to do things. Frederik Barth (1981: 22, 32, 34–37, 48), building on Nadel, made a radical simplification by divorcing structure (or form) from culture and making the degree of connection an empirical question rather than definitionally true. He argued that there could be a study of forms of regular interaction without assuming that these are "causes" of action. In place of such a causal frame, he argued that we must examine the "constraints and incentives" that "canalize choices," some perhaps cutting a channel deep enough to be considered an institution. Seen in this light, it becomes apparent that investigations of social structure have been derailed by the fantastic belief that social structure is something that *causes* regularities in action, when social structure is simply what

[9] White and his colleagues (White, Boorman, and Breiger 1976; Boorman and White 1976) used—and to some degree fused—Nadel's (1957) idea of treating networks as interlocks of mutually dependent relationships, and his idea of role systems as restricted sets of possible combinations of roles. This produced a conception of structure as sets of regularities in the ways in which relationships can aggregate. But Nadel himself actually never relinquished the idea of a role as primarily a *normative*, and hence subjective, construct (1957:16, 24). Indeed, while White was able to find the presence of roles simply on the basis of observed regularities, Nadel (1957: 140f, 147f) refused to accept that there could be a form of orderliness that guided behavior that was not formulated as rules with sanctions.

we *call* regularities in action. As Barth (1981: 63) was to conclude, what we want then is not to examine the "effects" of such structures, but rather how they "grow."

To do this we need not develop an elaborated theoretical terminology; we only need a minimal vocabulary for understanding the nature of such interactional patterns. And this brings us back to Georg Simmel, the widely acknowledged founder of the formal analysis of social life.[10]

Pitfalls of Formal Analysis

Simmel's idea of a wholly formal sociology has been one of the most intriguing ones in social theory, although until recently, there were few attempts to carry it out. There are three extremely good reasons for this reticence. The first has to do with the paucity of generative propositions introduced by Simmel that could be foundational for a serious study. Dated generalizations were supported by appeal to either the classical education that would form the cultural capital of any scholar of his time, or to obviously personal experience (e.g., the nature of love). For every claim of Simmel's that is of serious importance in beginning an understanding of the formal properties of social action, there is another that seems to be pulled out of thin air.

The second reason for the abandonment of formal sociology was that, as this book will try to make clear, we are unlikely to find everyday social life to be obviously marked by the presence of such structures—instead, simple formal structures are rare. Our investigation will help demonstrate why this is the case, and why it is more common for action to be coordinated by the cultural logic of institutions than by structural imperatives. Third—and perhaps most important—there is something deeply flawed in the idea of a "formal" sociology that seeks to come up with wholly general propositions about the effect of form regardless of content in the first place.

In recent years, network analysts have gone rather far in carrying out a Simmelian program, to great success (though, as Davis [1979] admits, Simmelian justifications, tacked on to increase the prestige of the endeavor, were not originally the motivations). However, there have been serious weaknesses due to a lack of attention to the content of relationships and to a recurring idea that social network structure could be an alternative to institutional or other structural theories of society (e.g., Lawler, Ridgeway, and Markovsky 1993; cf. Somers 1993: 95). In contrast, I shall argue that forms of repeated interaction amenable to network representation—social structure as it shall be called here—have an analytically central position in our understanding of social organization, but that attention to structures of interpersonal relationships

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[10] As Levine (1985; 1991a: 109; 1991b: 1103) in particular has stressed, the view of Simmel as wholly a formalist is to some degree a caricature, but one that Simmel brought on himself.

is only a starting point of such analysis and not an independent "theory." To facilitate making this start, I go on to lay out the bases of an understanding of social structure.

An Approach to Formal Analysis

Social structure is here considered to refer to recurring patterns of social interaction, where the patterning is in regards to concrete individuals (and not roles or classes). It is a type of social organization that does not make reference to roles (though one may speak of certain structural positions *as* roles), and hence is analytically prior to institutions.

For purposes of clarity, it will be helpful to give definitions of the few terms used—in all cases these are conventional definitions and carry no theoretical baggage.[11] We will be interested in social action, and by action we mean consciously intended behavior by one person, the actor in question. If this action has a different individual as consciously intended direct or indirect object, we consider this action to be "social" action (cf. Nadel 1957: 86). For an example with a person as the direct object, if I attack a person, that would be considered social action for analytic purposes, though the psychologically inclined might consider such action quite antisocial. For an example involving a person as indirect object, if I dig a ditch for my employer, we must also consider this social action.

For purposes of brevity, I will frequently refer to "social action" simply as interaction but want to emphasize that action copresence is not always necessary. That is, if we are examining patronage relationships, we can decompose these into a set of social actions, but many of the acts of patronage are not interactions between a patron P and a client C. Instead, many are social actions between the patron P and others O outside the structure, but these actions hold the client as the indirect object of the action, and not an actual interactant (such as when P solicits O on C's behalf). For analytic purposes, as a first approximation it is permissible to fold such P-O interactions that have C as the indirect object into the P-C relationship.

As a consequence of this definition, many formal patterns that do not involve social interaction between the individuals who compose them are not treated here. For example, a set of officeholders in a corporation may be connected by a vacancy chain (White 1970), but they do not necessarily know about one another's existence, and while this structure does affect their action, it is not itself a pattern of repeated interaction. Furthermore, the patterns that are treated here tend to be rather simple; many network analysts will be disappointed that

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[11] This approach is very close to that laid out by the ethologist R. A. Hinde (1979: 296, 299, 310), who nests interactions in relationships and relationships in social structure, and who also emphasizes the need for attention to the content of relationships.

aesthetically pleasing structures are given no attention because they are too delicate to appear in a sufficient variety of circumstances to warrant attention in this context. Relatedly, I have tended to forebear from repeating discussions that may be found elsewhere, and have thus given short shrift to certain social structures that are perhaps the most widely studied, namely kinship exchange structures. Aficionados of such structures will again find the treatment here far simpler and less elegant than that given by others; in particular, no use is made of the advanced mathematics that have recently been used to unify a large number of complex kinship structures as special cases. But the theoretical implications of the complex structures are perhaps more obscure for the questions of interest here than are those of simpler structures where we can posit (with moderate chance of success) those subjective principles that might actually guide action.

In sum, the focus on structure here will be structures of interaction. It would of course be possible to speak of "relations" or "ties," as is commonly done in network analysis. But relations can be established without any social action whatsoever. Many people are deeply in love with performers whom they have never met and never will, and while these are meaningful relations for a network analysis (for example, determining the attractiveness of various popular idols), they are not necessarily structurally meaningful.

Further, it is helpful to distinguish between structural analysis as intended here and social network analysis. Whether it is a good thing or a bad thing, network analysis (one hardly notices when the "social" is dropped) has emphasized examining structural features of networks considered quite generally—that is, sets of relations that can be formalized as a graph or as a matrix. In some cases these are relationships between persons, but in other cases they are between organizations, or between persons and organizations (as in the relationship of "member") or internal to an organization, a text or even a self. In contrast, I am proposing to study only those forms in which the relations established are mutually acknowledged relationships that guide social action on the part of *persons*. While it may be that some of the analyses will also prove relevant to the relationships between autochthonous corporate bodies,[12] I do not assume that this is the case. The structural similarity between interpersonal and interorganizational or intergroup relationships is an empirical question, and one that should not be decided on the basis of methodological preferences. Many formal network analysts are not interested in the properties of nodes and edges, and consider all data, once it has been turned into a graph, to be basically comparable. There is a beauty and vision to this, and it is still

[12] To the extent that a group has unified decision-making power, relationships between groups may follow the structures found here. But in such cases, we are so likely to find a single individual at the helm that there is little reason not to consider the relationships established relationships between individuals.

important to pursue this logic as far as it can go, to determine to what extent there can be a pure science of the organization of actors.[13] But for studying social structure, the nature of nodes and edges can make quite a difference. When nodes are persons, and edges are interactions, we can quite quickly map out a great deal of the range of possible structural forms that are likely to arise.

Relations, then, are not as important for the analysis of simple structures as is interaction (cf. Nadel 1957: 90). Interactions themselves are too particular and disparate for structural analysis; consequently, the focus here will be on "relationships," by which is indicated the possibility of a specific type of inter-action. In other words, even though interactions are fleeting and tend to be distributed spottily in time with great areas of blank canvas in between, we can collapse over some section of time and declare a relationship to exist when action of a certain type is plausible (see Nadel 1957: 128). If between January 1, 1985, and December 31, 1985, Ronald could drop by George's house and spend the afternoon playing, and George could drop by Ronald's house, we might say that in 1985 the two "were" friends, though there were many times during 1985 when the two were not together. For purposes of simplicity, then, we will define a relationship in terms of the particular actions appropriate to it—which I shall call an "action profile"—without being troubled by the fact that we allow the relationship to persist during periods in which none of these actions are taking place. Like persons watching a movie, we shall construct a continuous mental image from discrete actions and consider this repeated though not uninterrupted interaction to constitute a relationship between two persons. In contrast, a "relation" will indicate any property of a dyad, whether or not it involves action. Thus "mutual ignorance" is a conceivable relation, although it is not a relationship.

I have argued that purely formal analysis of structures is seriously limited: we cannot ignore the content of the relationship when thinking about the structural forms that connected sets of relationships may take. This does not, however, mean that generalizing is limited, or that the content of any relationship must be understood in all its richness (see Nadel 1957: 113, 122). Instead, it is possible to focus on certain aspects of the content of the relationship that are most pregnant with structural implications—tendencies for *sets* of relationships to possess certain formal properties.

That is, we will consider the content of some relationship to have an implicit "structural tendency" when certain patterns of aggregating relationships would be subjectively understood as dissonant with this content. First, let us now define "structure" to involve the "concatenation" of relationships (cf. White

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[13] Recently White (2002: 202, 205) has suggested ways in which different forms of ordering may be embedded in one another.

1992).[14] Two relationships are concatenated by sharing at least one person. Two friendships, for example, may be joined if they only involve three persons total—Amy is friends with Beth, and Beth is friends with Christine. Structures may similarly be concatenated to form larger structures.

But not all paths of concatenation are equally plausible given the content of some relationship. For an extremely simple example, the content of the relationship of "best friends" is (in principle) one that does not fit with a concatenation of relationships in which two relationships "share" a single person— more simply, that someone has two "best friends." Rather than go through all possible relationships and assess their structural tendencies, we may be able to group relationships on a priori grounds and focus on only some of the aspects of their content, those aspects that may be most relevant for structure. In particular, we may focus on the *directionality* of the relationship—a simple aspect of its content that is clearly of structural relevance.

A relationship may have three forms of directionality. First, it may be symmetric, or mutual, in that the action profiles for both parties are identical. This is true for the relationship of spending time together: if A spends time with B, B must spend the same amount of time with A. Second, the relationship may be antisymmetric, in that it requires that the two parties have *different* action-profiles. For example, kickback schemes aside, an employer cannot employ another employer who in turn also employs the first, but must employ an employee. Finally, the relationship may be directed, or asymmetric, such that one party has a particular action profile vis-à-vis the other, which may or may not be reciprocated.[15] While this is not an especially rich understanding of the content of relationships, it is, I hope to show, of inestimable importance in understanding how structure develops.[16] We will attempt to examine the devel-

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[14] Concatenation is thus one form of aggregation; there may be other accounts of the formation of large-scale structures out of small that rely on forms of aggregation *other* than concatenation, but they are not explored here. Concatenation is to be preferred to a term like *spread*, which tends to imply that we start with a single "seed."

[15] In what follows, I will denote a symmetric relationship with a line with no arrow tips, an asymmetric relationship as a line with an arrow pointing away from the person who is initiating the action in question, and an antisymmetric relationship as one with an arrow tip at one end and an arrow tail at the other.

[16] More generally, the prefixes a- and in- will mean "not necessarily, but neither necessarily not" while the prefix "anti-" will mean "necessarily not." Thus "intransitive" will mean not necessarily transitive, and " antitransitive" will mean definitely not transitive. This usage is somewhat idiosyncratic, since "asymmetric" is often used to mean antisymmetric (e.g., Hage and Harary [1983: 71]), with ungainly terms such as *nonsymmetric* coined for the case in which symmetry is empirically open. Unfortunately there is no clearer term, and clarity is of some importance here, as there have been a number of structural discussions that have foundered at this point. Thus Hage and Harary (1983: 72) criticize Levi-Strauss's claim—which will be supported in chapter 3—that there can be a close connection between the vertical orderings of pecking orders and the circular ones of generalized exchange, but do so by assimilating "intransitive" to "antitransitive."

opment of structure from analytically prior relationships considered in isolation. As a result, the first structure that is to be examined in all cases is a small one, or what I will follow other analysts in considering "local" structure.

Local Structure

I have distinguished the structural investigations proposed here from social network analysis as commonly understood. At the same time, social network analysis emerged as a faith in the possibility of rigorous empirical investigation along the lines of classic structuralism à la Levi-Strauss (1969 [1949]). In particular, much of the excitement came from the idea that observed structural regularities in social networks could empirically generate the statuses and roles of anthropological theory à la Nadel (1957) (especially Lorrain and White 1971; and White, Boorman, and Breiger 1976). The techniques initially proposed, however, fell short of such a goal because the type of equivalence first implemented ("structural equivalence") only equated persons with identical patterns of ties to the same others. Thus two line workers with different foremen would not be seen as equivalent, because they did not share the same foreman (Faust 1988: 336).

Because of this limitation, other forms of equivalence were introduced that were algorithmically more difficult to uncover, but corresponded better to this intuitive understanding of equivalence (e.g., Everett and Borgatti 1994). But there were a few (see Breiger and Pattison 1986; Breiger 2000; and especially Pattison 1994: 88) who held on to the idea of distinctly *local* structuring and proposed that there were theoretically different principles behind the two approaches, and that the principle lying behind structural equivalence was, to say the least, as important as that lying behind the more intuitively pleasing forms of equivalence ("regular" and "general" equivalence).[17] This neglect of the importance of the concrete *individuals* who anchor any relationship came perhaps from a general tendency for network researchers, who focus on ties, to downgrade the importance of persons. It was believed, and quite reasonably so, that individuals are to some nontrivial extent really the

[17] This theoretical emphasis on studying global structure in terms of local pieces has been shared by other of White's first- and second-order students in addition to Breiger and Pattison, notably Bearman, Chase, Mische, and Gibson; my debt to their approach will be made clear over the course of this book. Boyd and Jonas (2001: especially 122) recently demonstrated that the nonlocal assumption of regular equivalence may lead it to necessarily diverge from actual data in a way that structural equivalence does not (for example, due to the exceptional popularity of certain concrete persons). Faust (1988: 334) also found this method of structural equivalence that focused on concrete ties to do better at uncovering structure in data from a naturally occurring informal group than methods based on general equivalence. Recently, Boyd (2002: 323, 329) has gone so far as to conclude that the concept while mathematically elegant is sociologically flawed—"nature abhors regular equivalence."

intersections of relationships, and so one could attempt to focus on relationships in themselves and bracket the question of what these relationships were between. Whatever one may think about the theoretical niceties of such questions, for the development of local structure, it is necessary to treat persons as nonproblematic and fixed, although this assumption may be relaxed in succeeding stages of investigation.[18]

The vision of Simmel's dialectic of institutionalization that inspires this work implies that it is at such a local level that we may see social action being shaped by distinct principles we would rightly call structural.[19] When things have developed to the extent that regular equivalence guides action—that is, when one may interact with any of a set of for-all-purposes-equivalent actors— then we are looking at *institutions*, not structures as I here use the term. Thus a structure is a pattern of interaction that links a person to *particular* others, as opposed to classes of others.

The importance of such local or particular structures has been downgraded by a sociology that arose in the context of European political economy, which presupposed the division of persons into functionally equivalent classes. Sociology (exceptions such as Simmel aside), far from challenging the preexisting tendency of social thought to ignore the particular elements of social life, associated itself with the strong theoretical claim that such particularism was doomed to extinction anyway ("modernization" theory). Certainly, from a functional perspective, great parsimony is gained by treating sets of persons and indeed whole social structures (in both the Spencerian sense and the sense introduced here) as functionally equivalent. That is, it does not matter that one officer has a relationship over here with an enlisted man, and another officer has a relationship over there with a different enlisted man. All that matters is the overall relationship between officers and enlisted. But the parsimony of considering persons interchangeable representatives of categories comes at a cost: we are likely to be left with a misleading picture of the generation and stabilization of actually existing social structures and institutions by ignoring the importance of ties that connect specific persons.

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[18] Some network theorists in effect declare that the relations themselves, and not the persons, should be the units of analysis. Now this is the kind of change that must be justified on analytic grounds: there is no general philosophic reason for such a preference. This is because if relations become the units, then the relations are connected to one another by the (former) units, which then become the relations! A determination to stand "on the side of relations," however earnest, must only lead to wild catapulting back and forth. For the case of social structures, I do not believe that there are sufficient analytic grounds to treat relations—in this case, interactions—as the things, as opposed to the persons. But only successful explication can prove this point, so it must be considered deferred for now. More generally, it strikes me that there is nothing so analytically distasteful about people that we must bend over backward to remove them from our theories, when our theories are, when the day is done, only by, of, and for people—whatever they may be.

[19] Incidentally, it is only at this level where we would be likely to require empirical analysis of sociograms to uncover such structure—no one should need to blockmodel an organization to discover that line workers are line workers and foremen are foremen.

It is not simply that for analytic purposes it is best to consider structural patterns as involving concrete persons of particular types; it is more generally that the approach that looks for functional equivalence tends to assume as preexisting the categories and imperatives of social action that we perhaps should first try to explain. Certainly, *given* the division between officers and enlisted men, it is "functional" that the enlisted generally do what they are told and do not turn their weapons on each other nor on their commanders. But why *are* we given these categories? As a first approximation—it is certainly simplistic, but not too misleading on the general level at which the statement is made—we may say that the relationship between what now appear as classes of functional equivalents was originally a derivation from personalistic relationships between landowners and their dependents, and this *before* there was any organization of the landowners into a single army. In other words, before there was any whole for the categorical divisions to be functional *for*, there were particular relationships between particular persons. We are able to generalize—landowners were similar in their relationships to their dependents—but the relationships were still particular in that no dependent would have a relationship with someone *else's* landowner.

The general indifference of sociological theory to the particularities of small structures leads it to prematurely account for local structural patterns by reference to the larger ones. We have somehow managed to almost entirely avoid the fact that large structures, including institutional structures such as organizations, are generally concretes of smaller structures, and even more important, the larger structures tend to be the result of historical processes in which small structures were progressively aggregated. Such smaller units may be bought, rescued, coordinated, or coerced, but fewer large structures are constructed from scratch than are adapted from existing (even if damaged) elements.

The implications of this are stark: social life may be "seen" in terms of functions or systems, but the fundamental assumption of such theoretical schemes, namely the preexistence of a higher-level unit with regard to which we are to analyze the development of subunits, is indefensible as a statement of fact. Only a series of happy accidents (or an extraordinarily long evolutionary time) would lead the set of structures that have developed through the concatenation of smaller structures to take on a form that would be explicated by the complicated systemics of, say, Luhmann (1995 [1984]).[20] I will empha-

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[20] This is not to deny the possibility, indeed probability, of systemic characteristics developing through autopoietic processes in social life. There is, however, no reason to imagine that large-scale social structures like the army have any role in such processes, as there is no reason to connect the systemic processes that reestablish equilibrium with the human needs of a set of individuals. For example, one can see a system in a set of processes whereby people stop working and instead wastefully rob their neighbor of accumulated surplus whenever their neighbor's stock rises above a certain amount. The total surplus will stay within certain bounds just as the temperature does in a thermostatic system. But the system processes producing this equilibrium serve no functions for the set of *persons*.

size below that the priority I give to social structure—that is, beginning with the aggregation of relationships into structure, then structure into institutions—is justified if only on the basis of analytic convenience. At the same time, it is true that in certain situations, this analytic priority translates to a temporal priority. In particular, when existing institutional structures or fields are radically disrupted, new ones grow from the more obdurate local structures that have survived. The importance of such particularistic structures has been recently noted in economic sociology, in part because of the radical changes in European economic structures (mentioned in the preface) and in part due to a more fundamental awakening of concern with the importance of interpersonal trust (Williamson 1985; Granovetter 1985; Silver 1985). But we shall see that the phenomenon is more general—large structures can only be quickly assembled using strong preexisting components with certain structural properties.

Our task, then, is to begin to understand how patterns of relationships between particular others form and what their structural tendencies are. To simplify this task, here I will consider only "single stranded" structures—that is, regular patterns of interactions where the interactions are guided by a single qualitative relationship. Thus while the interaction profiles that constitute friendship may involve spending time together, talking on the phone, and loaning money, we can analyze friendship while considering all these subsumed in a single sort of relationship. A business, on the other hand, involves some persons working together in a room, some persons giving orders to others, some persons cutting paychecks for others, and in this case we would not subsume all of these interactions into a single relationship, but instead analyze a multistranded structure involving relations of co-working, authority, and so on. While many such multistranded structures may turn out to be homologous to some of the structures examined here, a full treatment is too complex.

The single-stranded, local structures I will examine are clearly of the greatest simplicity. Yet even so, it is unlikely that such structures would continuously reappear as forms of regular interaction were the people in question unable to *understand* the formal principles of these structures in some subjective terms. It is not necessary that people be able to visualize or define the structure as we shall do here, but it is necessary that they understand how structurally consistent ties are formed and the relationships they should have with those who are indirectly tied to them. I will call such subjective understandings "heuristics."

Heuristics

Structures are not actual—we cannot touch them or push them around as such. They are an analytic construct, and they are an analytic construct that actors may not necessarily recognize. But structures should not be an arbitrary

analytic construct, for we may posit a fundamental duality between the bird's-eye view of structure that will occupy us here, and the lived experience of actors. This brings us back to Simmel's understanding of the duality between the form and content of relationships, and the sense that one should be able to transform an account in terms of form into one in terms of content and vice versa. I suggest that an account in terms of content must be one that makes reference to the subjectively understood action imperatives associated with a relationship: what it calls on us to do, especially in regard to the formation or cessation of other relationships. When there is consensus or at least organized disagreement about what some relationship entails, we are seeing those sorts of expectations that were pivotal for the Lintonian/Parsonian understanding of structure. For example, instead of conceiving of marriage in structural terms (a set of dyads), it may be understood as what one relationship implies about forming—or in this case, not forming—other relationships, as in "to forsake all others."[21]

If indeed there is a duality between culture and structure then at least in the abstract it is only a matter of analytic convenience whether we treat the pure form of some regularized set of interactions as structure or as "culture" in the sense of shared subjective orientations. (At least, this may be true in a case of stability; we explore change in the succeeding chapters.) To take the example of patronage structures studied later, we may understand these relationships in cultural terms by examining the intersubjective rules of proceeding of which all parties are aware: that a patronage relationship links an inferior and a superior by demanding loyalty and support from the subaltern and patronage and/or protection from the superordinate. This implies that the client follows the rule "get a patron who has more X than you; do not have more than one patron" (or that the patron follows the rule "get a client who has less X than you; do not share clients"), where X is anything the separates people into those with more and those with less. But in structural terms, this may also be understood as action channeled within relationships that are antitransitive, antisymmetric, and irreflexive. These relationships, when tied together or concatenated, will form a tree.

It is important to emphasize that while there is a *duality* between structure and culture—between the objective pattern of relationships and the subjective understandings guiding relationship formation—this is not equivalent to the *fusion* proposed by the Lintonian/Parsonian perspective. While the Lintonian approach *defines* structures in fundamentally cultural terms, the approach laid out here sees the two forms of organization as *reaching out* to one another: certain cultural understandings will, if left undisturbed, generate certain structural forms; certain structures will, if sufficiently clear and extensive, induce

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[21] One may compare Levi-Strauss's (1969 [1949]: 410) understanding of the duality between relation and class.

certain subjectivities or relational strategies. But it is certainly possible for the two not to match up perfectly.

For example, Levi-Strauss (1969 [1949]: 98–101) demonstrates that the presence of dual exogamous moieties has a clear relation to cross-cousin marriage, since (a) if a male ego comes from same moiety as his father but the opposite from his mother, then his mother's brother's daughter (as well as his father's sister's daughter) will always be in the opposite one; (b) pursuing cross-cousin marriage exclusively produces two exogamous moieties. Yet it is possible for a preference of cross-cousin marriage to exist without dual organization, and it is possible for dual organization to exist without cross-cousin marriage.

Such dislocation between structural pattern and subjective understandings is likely to occur at the stage of institutionalization: once persons are able to come up with subjective representations of the logic of structure, and hence strategies for navigating these structures, there is nothing to prevent them from mixing and matching such strategies semi-independently of the structural context. Indeed, the frequent complaint of field workers that Levi-Strauss's elementary structures were never found in their pure form, and that the subjects of study might for good reasons do the opposite of what the structural model implied (e.g., Kasakoff 1974: 159), is as much as to say that the patterns of interaction had become institutionalized, such that participants could subjectively understand them as heuristics and for this reason violate the form to better express the content (e.g., alliance).

For the purposes of first analysis, then, we can examine the subjective representations that would most directly correspond to structural imperatives without claiming that it is impossible for the structures to exist without the subjective understandings, or vice versa. Since the structures that will be examined here are simple, the imperatives for action that constitute their subjective correlatives are also simple; I shall refer to such subjective understandings as "heuristics."[22]

A heuristic is a rule that could be induced by an observer as a guiding principle of action on the basis of observed regularities in this action. In general, heuristics are very simple instructions that, by interacting with the wider social order in a reasonable way, allow for the production of insightful or complex behavior. For example, "buy low, sell high" is an extremely simple heuristic that, given a market economy with imperishable goods, can lead to rational profiteering.[23] Heuristics work well because they are "ecologically ra-

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[22] I believe that this point—the duality of structural form and subjective representation—was made by Harrison White (1992) regarding "types of tie."

[23] The insight underlying this view is due to Simon (1962: 51–54), who pointed out that the behavior of an ant walking on a beach is objectively quite complex, although the ant's subjectivity is probably quite simple. The complexity enters because of the structuring of the ant's environ-

tional" in that they make use of predictable features of the natural or social environment to simplify otherwise daunting processing tasks (see Gigerenzer et al. 1999: 13, 24f). The phrase "ecologically rational" should not be understood as implying strong claims about the efficiency of thought, or any other properties. Instead, the point is that to understand the operation of the cognition, we must understand the structure of the environment.

As the example "buy low, sell high" makes clear, heuristics are frequently consciously held. But they need not be in order to have analytic value. It may be that in many cases people employ more complex cognitive processes, or hold more diffuse senses of what is "proper" to some given situation, but that these can be adequately summed up in a simple heuristic, even if the actors would protest that they do nothing so simplistic and base. For example, the heuristic, "drop a tie to a friend with few ties to other friends" may in fact objectively describe the formation of friendship patterns, when the children (let us say) in question would insist that they do nothing of the kind. Instead, the pattern of relationship formation may actually be due to the combination of three things: first, a process "see my friends' friend regularly"; second, the affective pattern "embrace as a friend anyone you see regularly"; and third, a limitation to the number of others that one can simultaneously hold as friends. While the children do not deliberately drop those who have few friendships with their other friends, they might as well.

Thus heuristics provide efficient rules of thumb for navigating social structure; while they may diverge from empirical subjectivities in that they are overly parsimonious, an actor who understood the heuristic would successfully anticipate the actions of others. Further, it may not matter *whom* we see as holding the heuristic. That is, what appears as a heuristic followed by one person can, in some cases, also be seen as due to actions on the part of this person's interactants. Thus the client's heuristic "only have one patron" may also (and equivalently) be seen as the patron's heuristic "drop any client with another patron." But since both clients and patrons need to understand the structural principles involved, we do not need to agonize over which one of these scenarios to put forward.

These simple heuristics are effective guides to navigating the social realm because they are ecologically rational—they fit the structural tendencies associated with the content of certain relationships. Consequently, there are pressures on actors to adopt these heuristics, because *given* the existence of a relationship with structural implications, failure to do so may mean failure to maintain relationships. Those who attempt to have two patrons may find themselves dropped by both; those who think they can be spiteful to their

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ment. So, too, our apparently complex behavior may be deceptive, and we may have simpler understandings than we would like to believe.

friends' friends may find themselves friendless. More often than not, we will find explicit confirmation that these heuristics are widely acknowledged as principles of action, and where they are challenged, we are likely to see structural degradation.

It is for this reason that we may speak of a "structural tendency" inherent in certain relationships. Such a tendency should be defined, not tautologically in regard to the probability of future development, but substantively in regard to the felt difficulty of living in certain types of worlds. In other words, the subjective correlative to a structural tendency is the tension, unhappiness, or confusion experienced by someone torn between two best friends. While the person need not hold the heuristic that the analyst can induce, she cannot (or so we postulate) hold the *contrary* heuristic without suffering.

When we can translate a structural principle into a plausible heuristic, we can understand how it comes to be that local structures are aggregated to form big structures. As units are formed, persons understand what the structure "implies" vis-à-vis a consistent arrangement of the parts. It is this aggregation that is of greatest interest to us here; I close by foreshadowing the argument to be made about the nature of structure.

Formation of Structure

In the following chapters, I will attempt an empirical examination of the processes outlined by Durkheim and Simmel whereby patterns of interaction take on a structure that then can confront actors as an objective fact. Although this basic process may be postulated to occur for complex relationships as for simple ones, and for large structures as for small, I propose to begin the investigation with local structures. Precisely because local structures are simple, and rarely appear in their purity, they are a fitting place for sociological study. Just as some biologists trek to Taylor Valley in the Antarctic precisely because it is, in the words of one scientist, "the simplest ecosystem on earth,"[24] and physicists go to great pains construct chambers that can produce a perfect vacuum because it is not the complicated environment we normally find, so too it may prove greatly advantageous for sociologists to carefully scrutinize those simple structures that do arise even in complex societies.

Thus I propose that we begin by close empirical attention to such cases, and from there work our way to institutions which in turn can be patterned. While this analytic order should not be understood as a rigidly temporal order, there are continual *tendencies* toward the emergence of structure in certain situa-

[24] The words are those of Andrew Parsons, quoted in the *New York Times*, February 3, 1998. Scott A. Boorman (personal communication) has pointed out that the opposite is also argued— that richer ecosystems may have simpler patterns (see MacArthur 1972: 199).

tions, *tendencies* toward the induction of structural form into intersubjective cultural understandings of action, *tendencies* toward the detachment and transportation of these cultural understandings once they have formed, and *tendencies* for these understandings to align themselves in cultural terms. Consequently, it is analytically preferable to trace things starting out from structure. Then we are in a position to understand the more prevalent cases in which local structure is shaped, deliberately or not, by institutions, with their categories, connections, and imperatives. Before beginning this analytic project, let me summarize the introduced terminology and argument.

A relationship indicates the possibility of repeated actions of a particular type between two persons; each person is said to have an "action profile" corresponding to the relationship. When the relationship is symmetric, both parties have the same action profile; when the relationship is asymmetric, one party has at least potentially an empty action profile; and when the relationship is antisymmetric, the two parties have different action profiles.[25] For example, Reinhardt and Reinhardt's (1981) classic investigation of social relationships between cattle found three types of relationships. One, dominance, is intrinsically antisymmetric—the relationship must involve an act of dominance and an act of submission, and these must be delegated to different cows. Licking, on the other hand, is asymmetric—one cow may return the licks received, or she may not. Finally, spending time together is inherently symmetric. Interestingly, Reinhardt and Reinhardt found these relationships to take on different structural forms; further, the form of each relationship seems to be an interpretable function of its content (also see Coleman 1960: 72; Skvoretz and Faust 2002 for similar thoughts).

In the chapters that follow, I will attempt to investigate how the content of relationships leads to certain structural forms by focusing on paradigmatic cases of the different types of relationships. For example, mutual or symmetric relationships by their very nature assert the interchangeability of persons. While many relationships may be symmetric (for example, "eating lunch with"), the relationships of *friendship* and *alliance* highlight this interchangeability, and hence are given special attention. Asymmetric relations distinguish the two interactants but allow for the possibility of reciprocation, and it seems that *donation*, or *alienation*, in the sense of transferring something previously held highlights this asymmetry. (*Choice,* or *nomination*, is also paradigmatically asymmetric, but as it may not require an actual relationship, but only a relation, it is treated separately.) Finally, antisymmetry distinguishes the two interactants and forbids reciprocation or interchangeability: egalitarianism is neither present by definition, nor allowed by choice of the participants. It seems that *lordship*, or *domination*, (in the sense of Weber's *Herrschaft*) best high-

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[25] See Lundberg (1939: 352) for a similar attempt to begin with "atoms" of relationships.

lights this inequality. Other relationships may also be worthy of attention, but these three will be pivotal for the ensuing discussion.

These contents give us some sense of what structures are likely to develop from the relationships in question. We may say that structures emerge when relationships concatenate in ways that are nonindependent and interpretable. For example, if one only makes a new relationship with someone else to whom one is not tied either directly or indirectly, a particular structure (a "spanning tree") results. In general, when the rules describing the nonindependence between relationships are strong and simple, the resulting structures also partake of structural clarity and simplicity.

When structures begin to form, they can begin to affect relationships: they may lead existing relationships to break, and new ones to form. In certain extremely interesting cases, they can lead to the production of new relationships that have structural principles that cut against their own structural principles. For example, patronage structures that consist of wholly vertical ties between nonequals unite several clients under a single patron, thereby establishing relations of structural equivalence between the clients, and possibly leading to new horizontal relationships of alliance between clients, relationships which challenge the logic of the patronage structure. Despite this frequent tendency for structures to undermine themselves, some are sufficiently stable to reoccur in a wide variety of situations when people need to spontaneously organize relationships of a certain type.

But of this relatively small set of stable, recurrent structural forms, fewer still are able to serve as the building blocks of larger structures. The problem lies in the principles that lead to structure in the first place. Every structural form must have some structural principles for it to be recognized *as* a form: the stronger these principles, the clearer the form. And yet this very strength, I shall argue, limits the ability of such structures to align while preserving their structural principles. In particular, one of the strongest principles we shall recurrently find is transitivity—the requirement that if person A has a relationship with B, and B with C, then A must have a relationship with C as well.[26]

Consider a case in which two smaller structures are concatenated perhaps by the addition of a new relationship. For example, imagine that person B, who previously had a relationship only with A, and was thus part of the same structure as A, adds a relationship with C, and thus joins C and the rest of the structure of which C is a part to A's structure. Transitivity means three things: first, new implied relationships must be formed—A must now have a relationship with C. Second, if B understands that the relationship in question is transitive, she can deduce relationships between the *other* two persons. Third, be-

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[26] In contrast to many mathematical techniques in which transitivity is measured by the *absence* of *antitransitivity*, what is crucial here are those cases in which the *premise* of relationships between (on the one hand) A and B and (on the other) B and C holds.

cause transitivity allows certain structural principles to flow across sets of relationships, the resulting aggregate must possess the same structural properties as its components.

But transitivity is often "too strong"; it is too difficult to work out all the demanded relationships consistently, or too many possible relationships are implied, or people resist the imposition of relationships that have not been independently generated (cf. Park 1974: 22). Only one recurring structural form readily aggregates to make large structures, and this is the type of differentiated hierarchy that we will examine in chapter 6. This structure consists of vertical relationships that are concatenated according to a rule of " antitransitivity," whereby transitively implied relationships are *suppressed*. Such structures are locally weak, in that not much is demanded of the participants in terms of a consistent structural tendency, and for this reason they can be cascaded to span large numbers of people. These structures remain globally weak because of their intransitivity; as a consequence, there are recurrent attempts to introduce transitivity once aggregate structures have formed. We will find that the crucial structures underlying the nation-state—the structures that impressed Spencer and others as being akin to organs—tend to arise from such introduction of transitivity into previously antitransitive structures. But making this argument must await substantive investigation.

Thus we will see to what extent we can trace the development of large-scale but simple and spontaneous social structures. These may turn out to be relatively scarce in social life. The bulk of action seems coordinated not by these informal structures but by the categorical distinctions associated with institutions and the corresponding formal organization they make possible. Such formal structures can break the fragile crystalline structure of an emerging regular pattern of interaction; more generally, they will establish the boundaries of emergent structures. To borrow a lovely set of phrases from Eric Wolf (1977: 168), sometimes these spontaneous structures help complete the function of a formal one (his example, small group cohesion in the military), while in other cases they contravene it (informal work rules that decrease efficiency). In still other cases they cling to the formal structure "like barnacles to a rusty ship"—think, for example, the cliques that form within a lunchroom (but not in a classroom) because the social organization of the formal institution creates spaces for them. Thus spontaneous structures develop in the relatively interstitial realms that are sometimes ignored, and other times created, by institutions (see White 1992).

But these institutions themselves may well have derived from concatenation of smaller structures, and it is difficult to understand the larger ones without understanding their smaller components. Further, our analyses can, because of their very simplicity and purity, point to inherent tensions, limitations, and avenues of developments of certain large structures, even when the analytic account that derives these structures as concatenations of smaller structures is

overly parsimonious from a rigorous historical perspective. In particular, chapters 7 and 8 present a schematic account of where armies and parties (respectively) come from, and while in few cases is such an account wholly satisfying as a historical argument, in most it still sheds light on the reasons for those regularities in regularity that we call social structure.

We can use words such as *army* or *party* because not only is there a regularity of interaction in a given army, such that we can speak of relationships, and a regularity of relationships so that we may speak of a structure, but there is also a regularity *across* structures so that the same sorts of regularities regularly recur. Although organizational mimesis is no doubt rampant, there is reason to imagine that this second-order regularity is related to the content of the most important relationships that compose the structure in question. If indeed there are a small set of structures that recur in social life, it should not be difficult to determine a priori the conditions under which they will arise. In fact, the most difficult thing is explaining why so few sociologists have tried to do so.[27]

The most important exception is the recent work of Charles Tilly (1998: especially 21, 47, 49, 51). Tilly also suggests that we examine "how transactions clump into social ties, [and] social ties concatenate into networks," and attempts to uncover fundamental units of structure, "a small set of network configurations that have reappeared millions of times at different scales, in different settings, throughout human history." (Tilly also comments that "no one has codified our knowledge of how they connect and operate.") Further, Tilly emphasizes the need to discover the developmental tendencies of each configuration, as well as the conditions for their successful concatenation, precisely the aim of the current work. The difference between Tilly's approach and that taken here is twofold. On the one hand, as the above quotation makes clear, Tilly is interested in scale-free configurations, while this book is only about local, interpersonal structures. Second, being interested in categorical inequality, Tilly incorporates organizations and categories, which here are considered institutional phenomena of a wholly different order. As a result, the local structures that Tilly uncovers (chain, hierarchy, and triad) are quite different from those that we will find fundamental, though he also finds the possibility of these small units combining to make larger ones.

It is also worth noting that the very different approach of Abbott (2001: 165, 167, note 8, 168), which stresses self-similarity in social structures, uncovers some closely related phenomena to those that prove to be central here, especially the resilience of patronage relationships and the importance of transitivity or the lack of same, especially when it comes to structural expansion via extension of hierarchy. But the emphasis on self-similarity leads to a focus on

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[27] I thank Jerker Denrell for reminding me how Simon's (1962) work relates to this project; his arguments are considered in chapter 6.

particular structures across levels, not a range of structures at the particularly local level, as is the case here.[28]

Final Note on Sources

In what follows, I attempt to derive principles of social organization at this particular level of analytic abstraction by surveying types of social structures. While this survey cannot be systematic in terms of looking at "all" social organization, neither is it circularly selective, in dismissing examples of organization that cut against the claims being made as "bad examples." Instead, for each type of structure investigated, I study a wide variety of examples, explore commonalities and differences, and look for patterns (cf. Zerubavel 2007; Gould 2003: 12). I pay little attention to formal derivations that, given such and such conditions, some form of social organization *should* arise. It is far more interesting to determine what forms *do* arise, and then to see if these can be retroactively derived via heuristics. Consequently, in some cases careful attention must be paid to details that affect the interpretation; while the argument is generally robust in the face of omitted cases, it is not indifferent to the correctness of interpretations.

[28] Two other recent works are somewhat related to this endeavor and deserve mention. First of all, Hage and Harary (1983) provide a wonderful treatment of structural models in anthropology that is of relevance to sociology as well. This work is clear, focused, and accessible to the general reader. Indeed, because this work is so useful, I have forborne from giving technical recapitulations of the various structural models used, since they will be found in axiomatic form in this work. Hage and Harary (1983: 75, 178f) also unify their explication of these forms by concentrating on the axioms of (ir)reflexivity, (a)symmetry, (in)transitivity, and completion. While this in principle leads to $3 \times 3 \times 3 \times 2 = 54$ structures, they examine twelve. Their hierarchical organization of these relations, however, does not necessarily correspond to similarities at the level of lived experience; thus their most basic distinction has to do with reflexivity, which is frequently a matter of algebraic convenience. The next distinction introduced is symmetry, and as a consequence, there are no cases in which transitivity is important where symmetry or antisymmetry is not presupposed. Accordingly, they do not treat some structures considered here. More important, their book aims to discuss structural models and their applicability across levels of analysis; it is not (like the current work) an attempt to understand the structural principles inherent in the simplest relationships. In a later work, Hage and Harary (1991: 7) take a more Tillyan approach of specifying elemental structures, but they are considering the particular case of exchange structures, and therefore do not distinguish between asymmetric and antisymmetric relationships.

In contrast, Kontopoulos (1993: 3, 246, 252) also attempts to examine a limited number of mechanisms leading to social structure, but takes structure to mean any form of transindividual organization. Consequently, some of the relevant discussions are drawn afield from explication of structural principles, and while he also sees a duality between structures and "logics," Kontopoulos thus finds a logic for every institutional form. As this goes to press I discovered the wonderful work of Holzer (2006), which makes a number of points that appear here in the preface, chapter 1, and chapter 9 (see his pgs., 10, 14, 25, and 31).