Collins, The Sociology of Philosophies

CHAPTER 1

Coalitions in the Mind

Intellectuals are people who produce decontextualized ideas. These ideas are meant to be true or significant apart from any locality, and apart from anyone concretely putting them into practice. A mathematical formula claims to be true in and of itself, whether or not it is useful, and apart from whoever believes it. A work of literature, or of history, claims the same sort of status, insofar as it is conceived as art or scholarship: part of a realm that is higher, more valid, less constrained by particular occasions of human action than ordinary kinds of thoughts and things. Philosophy has the peculiarity of periodically shifting its own grounds, but always in the direction of claiming or at least seeking the standpoint of greatest generality and importance. This continues to be the case when the content of philosophy is to assert that everything is transient, historically situated, of local value only; for the relativistic statement itself is asserted as if it were valid. This is an old conundrum of the skeptical tradition, discussed at great length in Hellenistic philosophy. Skeptics in attempting to avoid making assertions implicitly stand on a meta-distinction among levels of assertion of varying force. This illustrates the sociological point admirably, for only the intellectual community has the kind of detachment from ordinary concerns in which statements of this sort are meaningful.

Intellectual products are felt, at least by their creators and consumers, to belong to a realm which is peculiarly elevated. They are part of Durkheim's "la vie sérieuse." We can recognize them as sacred objects in the strongest sense; they inhabit the same realm, make the same claims to ultimate reality, as religion. "Truth" is the reigning sacred object of the scholarly community, as "art" is for literary/artistic communities; these are simultaneously their highest cognitive and moral categories, the locus of highest value, by which all else is judged. As Bloor (1976) has pointed out about mathematics, intellectual truth has all the characteristics Durkheim stated for the sacred objects of religion: transcending individuals, objective, constraining, demanding respect.

What gives particular ideas and texts this sacred status? It is possible to

state a sociological theory of very wide scope, which tells us the conditions under which symbols are generated and are felt to be morally and cognitively binding. This is the theory of interaction rituals. It connects symbols to social membership, and hence both to emotions of solidarity and to the structure of social groups. Such a theory, I will attempt to show, accounts for variations in solidarity and belief found across different social structures, and for the dynamics of individual lives. A specific form of this emotional energy is what we call creativity.

Our first theoretical problem is to show why intellectual products have their own kind of sacred status, different from the more ordinary sacred objects with which everyday life is also permeated and which hold together personal friendships, property relations, and authority structures. I must also show why the sacred objects of intellectuals under the guiding category of "truth" are different from the sacredness of religion proper in its moral community of faith. After this, I consider how intellectuals produce and circulate symbols in their own highly stratified communities.

General Theory of Interaction Rituals

Let us begin at the site of all action: the local situation. All events take place in a here-and-now as concrete and particular. The perspective of micro-sociology, which analyzes the structures and dynamics of situations, is all too easily interpreted as a focus on the individual actor or agent. But a situation is just the interaction of conscious human bodies, for a few hours, minutes, or even micro-seconds; the actor is both less than the whole situation and larger, as a unit in time which stretches across situations. The detached agent who makes events happen is as artificial a construction as the detached non-social observer, who represents the idealized vantage point of classical epistemology. The self, the person, is more macro than the situation (strictly speaking, the person is meso); and it is analytically derivative because the self or agent is constructed by the dynamics of social situations.

The local situation is the starting point of analysis, not the ending point. The micro-situation is not the individual, but it penetrates the individual, and its consequences extend outward through social networks to as macro a scale as one might wish. The whole of human history is made up of situations. No one has ever been outside of a local situation; and all our views of the world, all our gathering of data, come from here. Philosophical problems of the reality of the world, of universals, of other minds, of meaning, implicitly start with this situatedness. I will not pursue these epistemological problems here, except to note that if one refuses to admit anything beyond the local, one arrives at some version of skepticism or relativism; if one idealizes what happens in

situations as the following of rules and uses these inferred rules as a tool for constructing the rest of the world, one arrives at a type of idealism.

In sociology, emphasis on the primacy of the local was introduced by symbolic interactionism and radicalized by ethnomethodology; as a research technique and as an explicit epistemology, the stance has been picked up by the branch of sociologists of science who study the local production of scientific knowledge in laboratory sites. To deny that anything exists other than the local is true in one sense, misleading in another. It is true that nothing exists which is not thoroughly local; if it did not exist locally, where could it possibly be found? But no local situation stands alone; situations surround one another in time and space. The macro-level of society should be conceived not as a vertical layer above the micro, as if it were in a different place, but as the unfurling of the scroll of micro-situations. Micro-situations are embedded in macro-patterns, which are just the ways that situations are linked to one another; causality—agency, if you like—flows inward as well as outward. What happens here and now depends on what has happened there and then. We can understand macro-patterns, without reifying them as if they were self-subsisting objects, by seeing the macro as the dynamics of networks, the meshing of chains of local encounters that I call *interaction ritual chains*.

The sociology of ideas (which as a research field has become concerned mainly with the sociology of scientific knowledge) encounters serious limits in understanding knowledge as a purely local construction. The significant ideas which are the topics of intellectual history are those which are carried translocally. Examining the local site of knowledge production misses what another branch of the sociology of science has been good at investigating: the groups of thinkers, the chains of network contacts, the rivalries between one segment of an argumentative community and another. Groups and chains face both inward and outward: inward because what we mean by an intellectual group is just that its members assemble face-to-face often enough to build up intense exchanges of ritual interaction, forging idea-emblems, identities, emotional energies that persist and sometimes dominate others; outward because chains are a way of referring to long-distance links across situations. How is this linking done? The impacts of situations both inward and outward are parts of the same process. Intensely focused situations penetrate the individual, forming symbols and emotions which are both the medium and the energy of individual thought and the capital which makes it possible to construct yet further situations in an ongoing chain.

"Interaction ritual" is Goffman's (1967) term, by which he calls attention to the fact that the formal religious rituals which Durkheim ([1912] 1961) analyzed are the same type of event which happens ubiquitously in everyday life. Religious rituals are archetypes of interactions which bind members into

a moral community, and which create symbols that act as lenses through which members view their world, and as codes by which they communicate. There is a wealth of anthropological research which demonstrates the importance of rituals in tribal societies, and the power of their attendant category schemes to control what people take for granted and what they cannot even think about. In complex societies like our own, these category schemes take on a greater variety corresponding to the relations among groups in a stratified social order (Douglas, 1973); Bernstein (1971–1975) shows them embedded in the language of social classes. Goffman's (1959, 1971) ethnography of everyday life investigated more explicitly the Durkheimian mechanism of how social solidarity is produced. For Goffman, every fleeting encounter is a little social order, a shared reality constructed by solidarity rituals which mark its entering and its closing through formal gestures of greeting and departure, and by the little marks of respect which idealize selves and occasions.

Let us broaden this perspective still further. The ritualism of social encounters is variable; everything that happens can be arrayed on a continuum from the most intense production of social solidarity and sacred symbolism, down through the mundane and fleeting rituals of ordinary life, and down still further to encounters which produce no solidarity and no meaning at all. Understanding the source of this variability provides us with a key to the structuring of local encounters; interactions at different degrees along this continuum determine just how strongly are generated social symbols and emotions, which carry over into subsequent situations. A general theory of interaction ritual (which I abbreviate IR) is simultaneously a key to the sociology of individual thinking and emotion, and to the varied linkage from one local situation to another.

The following are the ingredients of any interaction ritual:

1. a group of at least two people is physically assembled;
2. they focus attention on the same object or action, and each becomes aware that the other is maintaining this focus;
3. they share a common mood or emotion.

At first glance, this seems to miss the core of the usual definition of "ritual"—stereotyped actions such as reciting verbal formulas, singing, making prescribed gestures, and wearing traditional costumes. These are the superficial aspects of a formal ritual, which have their social effect only because they ensure a mutual focus of attention. The same focus can occur implicitly in what we may call *natural rituals*. To the extent that these ingredients are sustained, they build up social effects:

4. The mutual focus of attention and the shared mood cumulatively intensify. Bodily motions, speech acts, and vocal micro-frequencies become attuned into a shared rhythm. As micro-coordination becomes intense, participants are temporarily united in a shared reality, and experience a boundary or membrane between that situation and whoever is outside it.

5. As a result, the participants feel they are members of a group, with moral obligations to one another. Their relationship becomes symbolized by whatever they focused on during their ritual interaction. Subsequently, when persons use these symbols in discourse or thought, they are tacitly reminded of their group membership. Symbols are charged with social meaning by the experience of interaction rituals; and symbols run down and lose their compelling significance if such encounters are not reenacted within a period of time. Hence there is a fluctuation in the daily relevance of symbols. Symbols remind members to reassemble the group, whether by having another church service, another tribal ceremony, another birthday party, another conversation with a friend, another scholarly conference. The survival of symbols, and the creation of new ones, depends on the extent to which groups reassemble periodically.[1] Symbols which are sufficiently charged with feelings of membership carry the individual along certain courses of action even when the group is not present. Well-charged symbols become emblems to be defended against desecrators and outsiders; they are boundary markers of what is proper, and battle flags for the precedence of groups.

6. Individuals who participate in IRs are filled with emotional energy, in proportion to the intensity of the interaction. Durkheim called this energy "moral force," the flow of enthusiasm that allows individuals in the throes of ritual participation to carry out heroic acts of fervor or self-sacrifice. I would emphasize another result of group-generated emotional energy: it charges up individuals like an electric battery, giving them a corresponding degree of enthusiasm toward ritually created symbolic goals when they are out of the presence of the group. Much of what we consider individual personality consists of the extent to which persons carry the energy of intense IRs; at the high end, such persons are charismatic; a little less intensely, they are forceful leaders and the stars of sociability; modest charges of emotional energy make passive individuals; and those whose IR participation is meager and unsuccessful are withdrawn and depressed. Emotional energy (abbreviated EE) flows from situations when individuals participate in IRs to situations when they are alone. Encounters have an emotional aftermath; it is by this route that persons can pursue their interior lives and their individual trajectories, and yet be shaped by the nodes of social interaction. EE ebbs away after a period of time; to renew it, individuals are drawn back into ritual participation to recharge themselves.

All social life is an ecology of human bodies, coming together and moving apart across the landscape. Where individuals meet, their encounters have in

varying degrees the qualities which generate interaction rituals. In principle, we can predict what will happen: how much solidarity will be generated in various situations, what kinds of symbols are created and how attached particular people are to them. These encounters produce an ongoing flow of social motivations, as people come away from each situation with a store of charged symbols (which can be called *cultural capital,* or CC), and with emotional energies. Persons are attracted to those situations in which they can make the best use of their previously acquired cultural capital and symbolic resources to focus discursive action and thereby generate further solidarity.[2] Individual lives are chains of interaction rituals; the meshing of these chains constitutes everything that is social structure in all its myriad shapes.

Consider now the peculiar kinds of interaction ritual chains that constitute the world of intellectuals.

The Interaction Rituals of Intellectuals

Intellectual groups have something in common with all social memberships. Every local group is attached to its symbols; but the nature of these symbols varies, and so does members' self-consciousness in relation to them. Isolated communities, where the same lineup of persons is recurrently thrown together, tend to reify their symbols as if they were concrete objects; at the extremes of self-subsistent tribes or deliberately separated cult communities, the emotional attachment to symbols is personified as magical or religious forces. At the other extreme of the continuum, encounters take place at the shifting nodes of far-flung networks, where a changing cast of characters negotiates fleeting relations with a mixture of cultural capitals. These patterns result in abstract symbols, which participants treat with detachment and reflexive awareness of their social relativity. Intellectuals are a peculiar combination of the intensely localistic and the detached and cosmopolitan, of Durkheimian mechanical and organic solidarity.

Intellectual sacred objects are created in communities which spread widely yet are turned inward, oriented toward exchange with their own members rather than outsiders, and which claim the sole right to decide reflectively on the validity of their ideas. Purely local groups such as the tribe or the circle of friends are primarily concerned with their own solidarity and identity; they do not make the kind of universalistic and transcendental claim for their symbols that intellectuals do for their "truth." Intellectuals are much more reflexively and self-analytically aware of their group identity than are lay groups. Intellectuals look on themselves from the abstract standpoint of historical, philosophical, or even sociological or psychological reflection. Artists have historically acquired a similarly haughty attitude about their art.

What is it about the social interactions of intellectuals that creates those abstractly decontextualized symbols which go under the guiding banner of "truth"? The distinctive IRs of intellectuals are those occasions on which intellectuals come together for the sake of their serious talk: not to socialize, nor to be practical. Intellectuals set themselves apart from other networks of social life in the act of turning toward one another. The discussion, the lecture, the argument, sometimes the demonstration or the examination of evidence: these are the concrete activities from which the sacred object "truth" arises.

There is a rival possibility. The distinctive activities of intellectuals are reading and writing; an "egghead" is someone whose nose is always in a book, someone always writing things that no one, perhaps, ever reads. Intellectuals' writings are not personal letters to an individual who will read them and respond. The lay viewpoint, if it is unabashed, sees this clearly enough, like the duke of Gloucester, upon being presented with a new volume of *Decline and Fall of the Roman Empire:* "Another damned, thick, square book! Always scribble, scribble, scribble! Eh, Mr. Gibbon?"

And indeed this is true. Intellectuals are especially oriented toward the written word. Especially in the modern world, they experience their creativity alone and on paper, though they may at some point report it orally. And if the earliest moments of creation may sometimes be vocal or mental, intellectuals nevertheless feel the compulsion to get their ideas on paper, and not only that but "in print." Whether anyone reads them or not,[3] there is a powerful symbolic payoff in getting one's works published; it moves them out of the realm of privacy and into the realm of the public (the intellectual public, that is, which alone counts). Intellectuals tend to feel that an idea has not fully entered into their reality until it is in the system of cross-referenced books and journals which constitutes the products of the intellectual community.

Nevertheless, although lectures, discussions, conferences, and other real-time gatherings would seem to be superfluous in a world of texts, it is exactly these face-to-face structures which are most constant across the entire history of intellectual life. Writing, of course, would have been less important in early intellectual history, since implements were expensive and the process of publication laborious. But after the printing revolution (around 1000 C.E. in Sung dynasty China; by 1450 in Europe), it should have been increasingly the case that intellectuals carry out their activities without ever meeting one another. There is no such trend. As we shall see in considerable detail throughout the following chapters, the basic form of intellectual communities has remained much the same for over two thousand years. Key intellectuals cluster in groups in the 1900s C.E. much as in the 400s B.C.E. The personal contacts between eminent teachers and later-to-be-eminent students make up the same kinds of chains across the generations. And this is so even though communications

technology has become increasingly available, and the numbers of intellectuals have increased enormously from on the order of hundreds in Confucius' China, to the million scientists and scholars publishing today.

Intellectual life hinges on face-to-face situations because interaction rituals can take place only on this level. Intellectual sacred objects can be created and sustained only if there are ceremonial gatherings to worship them. This is what lectures, conferences, discussions, and debates do: they gather the intellectual community, focus members' attention on a common object uniquely their own, and build up distinctive emotions around those objects. But what is it that distinguishes such gatherings of intellectuals from any other kind of IR? One difference is in the structure of attention. The key intellectual event is a lecture or a formal debate, a period of time when one individual holds the floor to deliver a sustained argument on a particular topic. This is different from the give-and-take of sociable conversations, which typically cannot reach any complex or abstract level because the focus shifts too often. Intellectuals giving their attention for half an hour or more to one viewpoint, developed as a unified stream of discourse, are thereby elevating the topic into a larger, more encompassing sacred object than the little fragmentary tokens of ordinary sociable ties.

This gives us part of the answer. It is not enough, since there are other lay occasions on which one individual monopolizes the discourse. Controlling who gets to speak is the principal mode of enacting authority on the micro-level; any boss, chief, high-ranking officer, or authoritarian parent also can control such a one-way structure of discourse. Other IRs are closer to intellectual lectures: political speeches, sermons, entertainments, and commemorative addresses. A speaker holds the floor for fairly long periods—and, he or she hopes, the rapt attention of a large audience. These occasions have the ritual structure of public events or festive breaks in community routine, and thus are some way along the continuum toward the "transcendental" qualities that intellectual rituals have. Despite these similarities, intellectual IRs differ in the nature of their focus and in the relationship between speaker and audience. The intellectual IR consists not in giving orders or practical information but in expounding a worldview, a claim for understanding taken as an end in itself. The audience is in the stance of pure listeners, not subordinates nor participants in the moral community of faith which is invoked by religious ritual. Intellectual discourse focuses implicitly on its autonomy from external concerns and its reflexive awareness of itself.

What makes it possible for intellectuals to take this distinctive stance? Is it because intellectuals are especially immersed in reading and writing? The key intellectual ritual, the lecture, is one that has been prepared for by reading a relevant background of texts; and its contents are typically on the way to

becoming published (if not there already). An intellectual IR is generally a situational embodiment of the texts which are the long-term life of the discipline. Lectures and texts are chained together: this is what makes the distinctiveness of the intellectual community, what sets it off from any other kind of social activity.

It is not surprising, then, that intellectual communities arose historically at the same time as public systems of writing. This can be said more precisely. It is not merely that an alphabet or ideograph system should be invented and put into use for keeping administrative or commercial tallies or making religious inscriptions. Such writing existed in Egypt and Mesopotamia, many centuries before the existence of an intellectual community. What is needed is a social arrangement for writing texts of some length and distributing them to readers at a distance, an autonomous network for intellectual communication. As Goody and Watt (1968), Havelock (1982), and others have pointed out, writing enables one to transcend the immediate present; it is a gateway to abstraction and generality. Intellectuals, as the community uniquely oriented toward writing—those who live for the production and passing on of texts—could only come into existence with the text-distribution structure. Their ideals of truth and wisdom are the central sacred objects of this structure. But a system of written communication is not enough. We see this in the early texts themselves. The breakthrough into intellectual abstraction in India is shown in the Upanishads, which depict dialogues among sages and lecture-like guidance by masters of disciples. In China the corresponding period is depicted in the *Analects* of Confucius, again in one-sided dialogues dominated by the master. In Greece the intellectual dialogue was made famous by Plato and imitated by succeeding generations. Structurally these are not ordinary conversations; rather they give a leading role to one speaker, who guides the sustained thread of argument throughout.

Without face-to-face rituals, writings and ideas would never be charged up with emotional energy; they would be Durkheimian emblems of a dead religion, whose worshippers never came to the ceremonies. Texts do not merely transcend the immediate particulars of the here-and-now and push toward abstraction and generality. To be oriented toward the writings of intellectuals is to be conscious of the community itself, stretching both backwards and forwards in time. Intellectual events in the present—lectures, debates, discussions—take place against an explicit backdrop of past texts, whether building upon them or critiquing them. Intellectuals are peculiarly conscious of their predecessors. And their own productions are directed toward unseen audiences. Even when they lecture to an immediate group, perhaps of personal students, disciples, or colleagues, the message is implicitly part of an ongoing chain, which will be further repeated, discussed, or augmented in the future.

Members of the audience in intellectual rituals are in a distinctively non-passive situation. It is a deep-seated part of intellectual structures that questions are asked, debates take place; polemics and denunciations also often occur, in a circulating structure that resembles equally the *kula* ring, the potlatch, and the vendetta. Even when intellectuals sit silently in the audience, they are conscious of their own part as members of this ongoing community. Their own ideas have been formed by the chain from the past; the situation before them is merely one more link in that formation. They will go on to incorporate these ideas in their own future creations and discourses—at least, they are sifting them through to see whether these are materials worthy to take in for this purpose.

The crucial focus of an intellectual group is the consciousness of the group's continuity itself as an activity of discourse, rather than the particular contents of its discussions. Lectures do not always convince; conferences rarely result in unanimity. The intellectual groups that I chart in this book each contained a range of opinion. Socrates' circle was taken up with debates; the network of the Neo-Confucians in Sung China had its internal divergences; leading members of intellectual circles, whether Jena-Weimar Idealists, the Vienna Circle, or the Paris existentialists, went in different directions. The ritual focus of group solidarity is not so much on the level of particular statements and beliefs, but on the activity itself. The focus is on a peculiar kind of speech act: the carrying out of a situation-transcending dialogue, linking past and future texts. A deep-seated consciousness of this common activity is what links intellectuals together as a ritual community.

This, then, is the intellectual ritual. Intellectuals gather, focus their attention for a time on one of their members, who delivers a sustained discourse. That discourse itself builds on elements from the past, affirming and continuing or negating. Old sacred objects, previously charged up, are recharged with attention, or degraded from their sacredness and expelled from the life of the community; new candidate sacred objects are offered for sanctification. By reference to texts past and texts future, the intellectual community keeps up the consciousness of its projects, transcending all particular occasions on which they were enacted. Hence the peculiar guiding sacred object—truth, wisdom, sometimes also the activity of seeking or research—as both eternal and embodied in the flow of time.

Life-Trajectories as Interaction Ritual Chains

The entire macro–social structure, of non-intellectuals as well, is anchored on ritual interactions. What we call structure is a shorthand way of describing repetitive patterns, encounters that people keep coming back to, a recycling of

rituals. This larger structure has the feel of externality; it seems thing-like, compulsory, resistant to change. This sense of constraint arises in part because the major institutions as repetitive networks are based on their distinctive IRs, which have generated emotional commitments to their identifying symbols. It is characteristic of these intensely produced membership symbols that people reify them, treat them as things, as "sacred objects" in Durkheim's sense. Organizations, states, as well as positions and roles within them, are sacred objects in just this sense: reified patterns of real-life interaction, cognitively raised above the level of the merely enacted, and treated as if they were self-subsistent entities to which individuals must conform. This symbolic social structuring of the world extends even to physical objects by making them into property appropriated under the sanction of social groups.

As individuals move through this grid of encounters, they generate their own histories of ritual participation. We may call this an *interaction ritual chain.* Each person acquires a personal repertoire of symbols loaded with membership significance. Depending on the degree of cosmopolitanism and social density of the group situations to which they have been exposed, they will have a symbolic repertoire of varying degrees of abstraction and reification, of different generalized and particularized contents. This constitutes their *cultural capital* (CC).[4]

And they will have, at any point in time, a level of *emotional energy* (EE), by which I mean the kind of strength that comes from participating successfully in an interaction ritual. It is a continuum, ranging from a high end of confidence, enthusiasm, good self-feelings; through a middle range of lesser emotional intensity; on down to a low end of depression, lack of initiative, and negative self-feelings. Emotional energy is long-term, to be distinguished from the transient, dramatically disruptive outbursts (fear, joy, anger, etc.) which are more conventionally what we mean by "emotions."[5] Emotional energy is the most important kind of emotion for its effects on IR chains. It fluctuates depending on recent social experience: intense ritual participation elevates emotional energy, rejection from ritual membership lowers it; dominating a group situation raises emotional energy, being dominated lowers it; membership rituals within a high-ranking group give high amounts of emotional energy, membership rituals within a low-ranking group give modest emotional energy.

An individual's trajectory of action at any given moment depends on where that person is situated in relation to the local social structure, the networks in which one participates. From the individual's point of view, this is his or her opportunity structure. From the point of view of understanding the whole set of individuals, we need to know what the whole network looks like: How many other persons does each one have contact with, and how is each matched

up with the others in cultural and emotional resources for carrying out IRs? How far is the network connected via intermediaries, and where is it broken into separate networks? Individuals are motivated to participate in rituals of highest solidarity, gravitating toward those encounters in which their repertoire of symbols and their level of emotions mesh with those of other persons so as to generate high degrees of solidarity, and away from those encounters in which they are subordinated or excluded. If the network is stratified, one attempts if possible to dominate one's ritual interactions; lacking the resources to do this, one attempts if possible to evade rituals in which one is subordinated.

In all this there are structural constraints. Where there exists competition for membership in egalitarian rituals, some individuals dominate attention because of their relatively higher CC and EE, while others are less attended to because they lack these resources. In groups stratified by property or coercive power, the constraints are even sharper; there is a limited amount of structural space in the ruling coalition, and there may be severe limits on the ability of the powerless to withdraw from being coerced. For intellectuals, there is a special kind of limitation on how much space there is at the top of the hierarchy of ritual attention, which I shall discuss presently as the "law of small numbers." In all these respects, the local macro-structure determines which ritual encounters will be relatively most attractive or unattractive to a given individual, and hence how that person will channel his or her cultural capital and emotional energy. It is possible that the whole structure might reach equilibrium, a point at which every individual has found the best solidarity payoff possible under the circumstances. More common is a constantly shifting round of negotiations from one encounter to another, like eddies propagated across a pond fed by many streams.

The model of IR chains may be extended inward, toward the intimate landscape of how individuals talk and think, moment by moment. We will return to this promise of a sociology of thinking. Since it is the thoughts of intellectuals that we are most concerned about, let us first take the various components of the IR chain—cultural capital, emotional energy, stratified network structures—and see how they apply to intellectual communities.

Intellectuals' Cultural Capital

Consider now the trajectory of an individual's career across the intellectual milieu as an IR chain. The intellectual world is a massive conversation, circulating cultural capital in intermittent face-to-face rituals as well as in writing. What makes one an intellectual is one's attraction to this conversation: to participate in the talk of its "hot center," where the ideas have the greatest sacredness, and if possible to attach one's own identity to such ideas so that

one's ideas are circulated widely through the conversation, and one's personal reputation with it. The conversation of intellectuals is competitive, an implicit shouldering aside and grasping of one another to get as much into the focus of attention as possible. How does one succeed in this struggle for ritual centrality? One can make two kinds of claims: "My ideas are new" and "My ideas are important."

Creativity implies new ideas. These circumvent the possibility that others will ignore one's conversational overtures because they have already heard them before. But ideas cannot be too new, whatever their creativeness. Einsteinian general relativity theory, if plopped down in the midst of the Hellenistic intellectual community, would not make one successful, because the topic would be too far removed from what is recognizable. Successful ideas must be important, and importance is always in relation to the ongoing conversations of the intellectual community. Ideas are important because of their position in the scale of intellectual sacred objects. Symbols too have their careers, built up as they circulate in IR chains. New sacred objects may displace old ones, but the interaction rituals in which new symbols are consecrated use as ingredients the older sacred objects to assemble the group and focus its attention. Cultural capital includes paradigms in the Kuhnian sense, but also it includes the means of breaking down paradigms and substituting others in their place.

What makes some cultural capital worth more than others? At a minimal level, knowledge of the basic vocabulary of the field, of its concepts, its past successes, its best-known sacred objects. But this only brings one entry into the field. To reach a more eminent position, one must be aware of the center of current discussion, and of the symbolic ingredients that can get one the floor. In the modern sociology of science this is called the research front, but this term is a little too specific to a particular kind of innovation-oriented intellectual field. In many historical periods, the intellectual community is in a scholasticizing mode, worshipping exalted texts from the past which are regarded as containing the completion of all wisdom. Eminence here goes to those persons who make themselves the most impressive guardians of the classics.

Intellectual creativity comes from combining elements from previous products of the field. The references found in a paper are a rough indication of the cultural capital it draws upon. Derek Price (1975: 125) has calculated from citation patterns that in contemporary natural science, it takes on the average 12 "parent papers" to give birth to one "offspring paper." Turning the structure the other way, we can say that the most eminent intellectuals are those whose papers end up being cited the most; their ideas are "parents" to the greatest number of "offspring." Their ideas make it possible for other people to make their own statements. Here we encounter a complexity. Our commonsense image of a major intellectual, a great scientist, mathematician, or scholar,

is someone who has produced an important discovery: the conception of Platonic Ideas, the theory of evolution, the fundamental theorem of the calculus. These are the great accomplishments of the field; without them, there would be nothing to teach novices or to broadcast for outsiders to admire. Within the intellectual community, however, great truths are most important if the community is in a scholasticizing mode, turned backwards toward its own past. When the community is oriented toward innovation, great truths are not so much an advantage as an obstacle. For if the truth is already discovered, there is little or nothing for the intellectuals who come afterwards to do; they can be teachers to the outside world, preservers and interpreters of the truth, but not discoverers in their own right.

The paradox is that for an intellectual community to be in a great creative age, it must be both making great discoveries and also overturning them, and not just once but over and again. The most successful intellectuals tend to be chained together across the generations. This implies that the cultural capital of each one is built on the accomplishment of his or her predecessors, but also goes beyond it in truly major ways. We are not dealing here simply with a Kuhnian paradigm, in the sense of an exemplar of successful research. Such exemplars include cognitive worldviews, which have already answered the major questions. The work they leave to do, in a host of "offspring papers," is minor, routine, a matter of adding details to what is already known in the large. Such work occupies the middle or lower-middle rungs of the ranking of intellectual eminence. The cultural capital which consists of having learned a powerful paradigm, then, cannot be the most valuable CC for one's own future success.

The most important CC is that which facilitates one's own discoveries. Above all, it locates the intellectual territory on which work can be done. It does not merely solve puzzles but creates them. Fermat's last theorem, tantalizingly holding out the claim for a proof, is perhaps a greater source of fame than his more definitive work; and it doubtless will have paid off greater eminence for Fermat than for anyone who eventually solved it. (This seemed to be the case when the problem was finally solved in 1994.) Great intellectual work is that which creates a large space on which followers can work. This implies that the imperfections of major doctrines are the source of their appeal. But there must be greatness on both sides: great doctrines, great imperfections. One reason why Plato was such a dominant figure in late antiquity is that the ambiguities in his doctrine of Ideas led to many elaborations, and even to the formation of divergent schools. His shifting theories of the soul, of immortality and reincarnation, were one source of his popularity and fruitfulness. Similarly, the Vienna Circle had already run into a major problem as soon as it was formed in the 1920s; its aggressive emphasis on the verifiability and empirical

grounding of meaningful statements soon led to difficulties in expounding and verifying its own principles. But although the contradictions were to become the object of attack by its opponents, they provided a hidden social strength of the group, insofar as they gave materials for creative work to many members of the circle. If Schlick's original doctrine had proven simple to put into operation, the problems of philosophy would have immediately dissolved, and the group would have put itself out of business.

Intellectuals do not go looking for contradictions to propagate. They try to solve problems, not create them. The surface of the intellectual world, the sacred objects it focuses upon, and the structural underpinnings of the intellectual community do not line up symmetrically. Consciously and intentionally, intellectuals are oriented toward what they believe is the truth. They do not want to undermine their own truths, even though it is socially useful to have flawed truths which will keep their names alive in subsequent generations of creative workers. The crucial cultural capital, then, must be something into which intellectuals feel their way. What they learn that makes them eminent is an awareness of not only the great solutions of the past, the ingredients that they can put into their own creations, but also where the action next will be. They need to appropriate the puzzles which have the greatest significance for the future activities of their colleagues. This sense of how to relate to the intellectual field is the most important item of cultural capital individuals take from their teachers. This is one reason why there is a link from eminence to eminence in the chains across the generations.

Emotional Energy and Creativity

Emotional energy is the feature of creativity that most lends itself to psychological study. Its distribution, however, is socially patterned. We know from Derek Price's studies that the most eminent intellectuals—in this case, scientists of the mid-1900s whose work receives the most citations—are the most prolific publishers; and they are the individuals who stay in the field the longest, while others drop out. This evidence suggests that eminence is largely a matter of having access to a large amount of CC, and turning it over with the greatest rapidity, recombining it into new ideas and discoveries. This would make creativity a matter of sheer activity, of emotional energy in using cultural capital. The psychologist Dean Keith Simonton (1984, 1988) has shown that creative persons in a variety of fields produce large amounts of work, only portions of which receive recognition. Their formula for success seems to be to range widely and try out new combinations of ideas, some of which become selected for recognition by the intellectual community.

This picture is bolstered by many studies (summary in Collins, 1975:

273–274) which find that creative persons have a strong desire to make their own judgments; this in turn is typically related to childhood opportunities for independence and novel experience. Often too there is a period of physical or social isolation in which these young persons become introduced to a vicarious community of the mind. Their IR chains become detached from the local circulation of mundane culture and from its pressures for local conformity. The lowering of ritual density is a prerequisite for innovation; but it must also be linked to the intermittent support of the rituals of intellectual communities to give it content and energy. Such a career pattern from childhood onward shows the successive development of energies directed at independence and innovation; for some people this energy channels into the networks of an intellectual field, whereupon it is transformed upward or downward depending on the structural opportunities available.

"Emotional energy" describes well the surge of creative impulse that comes upon intellectuals or artists when they are doing their best work. It enables them to achieve intense periods of concentration, and charges them with the physical strength to work long periods of time. It is this feeling of creative ideas seeming to flow spontaneously that the Greeks attributed mythologically to visitations of the Muses or *daimones*.

Emotional energy alone is not enough: in the absence of sufficient cultural capital and related network position in an intellectual community, creative enthusiasm is more likely a prelude to frustrated ambitions and failure of recognition. Conversely, one might have the CC but lack the EE in that situation to be able to use it. This is apparent in more mundane situations, in conversations when one is unable to think of what one wanted to say, only to have it come rushing to mind after one has left the scene. This is what Rousseau called "l'esprit d'escalier," the clever remark that comes too late, when one is already descending the stairs. This happens because the power situation in the immediate interaction is unfavorable, reducing one's emotional energy and leaving one unable to have the confidence and initiative to use one's cultural capital to good social effect. This shortage of focused energy afflicts intellectuals in the form of writer's block. Here too the flow of energy comes from one's sense of where the opportunities are for forming favorable social alliances (in this case vicarious ones), and where these opportunities are blocked.[6]

The emotional energy specific to creative intellectual fields is not the same as the confidence and aggressiveness of persons in other arenas of social life. It is not the same as the emotional energy of the successful politician or the financial entrepreneur, of the sociability star or the sexual hotshot. Each of these is specific to a particular kind of social market, where the opportunities are especially good for certain people's particular kinds of cultural capital and emotional energy. There are distinctive kinds of cultural capital and hence of

related emotional energy for intellectual networks; and there are further specificities among fields, so that conditions that make persons creative in geology will usually serve them little in literature or mathematics or music.

In the general model of IR chains, EE goes up or down depending on one's immediate and recent experiences in interactions. This applies to intellectuals as well. If intellectual life is constructed by rituals in which speakers become centers of attention, and in which ideas and texts symbolize the continuity of an intellectual community across time, we can expect that individuals' intellectual EE will be driven upward or downward by their type of contact with these situations and sacred objects. The crucial variable is how closely one is drawn into participation in these symbolic activities. The speaker at the seminar increases his or her emotional energy if the audience is responsive; so do the listeners, if they have the personal cultural capital, and the trajectory of their own intellectual projects, that makes their ideas mesh well with the line being expounded. In the opposite direction, the inability to carry off the lecture for that audience, or the inability to follow it, perhaps even the sense of having one's ideas excluded, depresses one's EE. One's personal level of EE is like a reservoir filled up or drained by the amount of experience one has with such favorable or unfavorable situations, and by the balance between the two.

Flows of EE are cumulative over long as well as short periods of time. Since possessing high emotional energy is one of the things that enables a person to attract attention in a ritual interaction, and which affects creativity in general, there is a tendency for persons who are already well started in EE to become even more "energy-rich" over time. A high level of energy reaches a plateau or goes into a reversal if one's career trajectory takes one into levels of competition for attention in which one becomes overmatched. This occurs when someone who has become famous within a particular research specialty is propelled into a larger arena, perhaps interdisciplinary or in the eye of the wider public, where one may not have the resources to match up with the existing competition. The effect of starting with low levels of EE is likely to be even more emphatically cumulative. Just as success breeds the ingredients of success, failure breeds intellectual failure. Depression, writer's block, the shifting of one's attention away from intellectual projects and back onto the everyday world: these are typical pathways by which would-be intellectuals fail to make a mark and drop out of the field. The majority of the intellectual field at any time consists of persons who are in this transient position.

The core experiences of intellectuals are their immediate interactions with other intellectuals. EE is also affected by vicarious experience of the intellectual community. Since words, ideas, and texts are loaded with connotations of membership in different segments of intellectual communities, the experience of reading, even of thinking about intellectual topics, also affects one's emo-

tional energies. Reading and thinking are vicarious interaction rituals to the extent that an individual can take part in them, and thus can affect his or her level of emotional energy. This is true also for the experience of writing. Writing is a vicarious participation in the world of symbolic memberships: insofar as one is able to work out a satisfactory relationship among ideas, one is creating social coalitions including oneself. Successful writing builds up emotional energy. Even over a very short-run period of minutes or hours at one's desk, the process of writing can be a self-enhancing emotional flow.

High levels of creativity become crystallized in symbols, and in that form can circulate through the intellectual field, energizing whoever can most closely attach oneself to them. When a group has a high degree of agreement on the ideas put forward by some intellectual leader, that person becomes a sacred object for the group. Thus arise the cult figures of intellectual life: Confucius, Aristotle, Hegel, Marx, Wittgenstein. Such personalities, or even their names, become a shorthand for a whole system of ideas. Since intellectuals are highly aware of the cult heroes of the past, and must take some stance toward the incipient or established heroes of the present, the question arises within each intellectual's mind: Can I myself become one of these heroes, perhaps achieve eponymous fame after death? The motivation to make oneself a sacred object is an energizing force of intellectual careers. One of the reasons why there tends to be a chain from one highly creative intellectual to another is that the younger person draws energy from the older as just such a symbolic hero. It is not merely a matter of transmitting cultural capital from one generation to the next, since we are dealing here with creative departures rather than loyal discipleship. The protégé's consciousness is filled by the image of what it is to be an intellectual hero, by an ideal to emulate, even while one challenges the content of the master's ideas.

The flow of emotional energy helps explain a curious point which often comes up in creative lives. Persons who later become eminent are frequently linked together much earlier in their lives. Hegel and Schelling were schoolmates at Tübingen, along with the future poet Hölderlin, well before any of them had done anything to merit intellectual eminence. But the group already was beginning to generate a certain charisma. They engaged in intense intellectual discussions, the archetypal intellectual ritual. Some of their activities were explicitly ritualistic, such as an enthusiastic celebration of the French Revolution (Kaufmann, 1966: 8). These ritual interactions were accumulating emotional energy in advance of a specific creative direction. The cultural capital which gave shape to their EE came as the group encountered Fichte, who was already in contact with Kant and had begun to carry out the Idealist revolution in philosophy. It seems likely that it was precisely their emotional quality, their enthusiasm, that attracted Fichte, just then entering his first success, to travel

across Germany in 1795 to meet with them. As the members of the group opened niches in the intellectual attention space, the success of one helped pull the others along. Among the former schoolmates, Schelling achieved creative fame first, with his *Philosophy of Nature* in 1797. He then used his influence to get Hegel a position at Jena, the hot center of the Idealist movement, and access to publishers. It was in trying to keep up with his old comrade that Hegel struggled to find his own niche in the intellectual world, finally breaking through in 1806 with *The Phenomenology of Spirit*, and in the process splitting with his old friend to take up different spaces in the intellectual world.

There are numerous other instances of this early, formative group structure in intellectual careers.[7] One gets the impression of a group, starting with the ingredients of talented young individuals and their available cultural resources, building up emotional energy through their intense intellectual interactions. The emotional energy at this time is free-floating; it can go in different directions, depending on how opportunities arise. As these individuals later work their way into specific intellectual networks, their energy turns to creativity. Looking back on them retrospectively, we identify them by their later products: we see them as incipient philosophers, novelists, poets, whatever the opportunity structure turns them out to be.

The Opportunity Structure

Moment by moment and situation by situation, each person is moving through a continuum of interaction rituals, real or vicarious, ranging from minimal to high intensity, which bring in a flow of cultural capital and calibrate their emotional energy up or down. These local situations are embedded in a larger structure: in this case the whole intellectual community, spreading as far as the networks happen to extend in that historical period. What cultural capital flows to any one individual depends on where that individual is located and what is nearby. Emotional energy fluctuates by local success or failure in interaction rituals, and that too depends on something beyond the individual, namely, the way one's own cultural capital and emotional energy matches up with that of the other persons with whom one comes into contact. Opportunities for solidarity or rivalry, and for being near the hot center or off on the dim periphery, are apportioned within the network as a whole. Cultural capital flows around these networks, benefiting most those persons who have access to it while it is still new. Emotional energy also flows around the networks, collecting in intense pools here and there, but ebbing away at times because of shifts in the attention space which may be far beyond the province of the individuals affected by it.

What any individual will do at any moment in time depends on local

processes; but what flows into these local situations comes from farther away. Micro-action is affected by the macro-structure. The sheer numbers of persons in the field and the shape of their network connections is the macro-context within which any micro-situation is negotiated. A sociological theory can move in three directions from this point. (1) We can ask a still more macro-question: What larger social conditions determine whether intellectual networks will exist at all? This directs us to the macro-foundations of networks in political, religious, and educational organization. (2) We can concentrate on the shape of the network structure itself and its dynamics over time; this leads us to considerations of the internal stratification of intellectual networks, and to the principle of change through structural rivalry that I call the law of small numbers. (3) We can dig more deeply into the micro-level and ask how the individual reacts to being in various positions within a network.

The first question will occupy us in later chapters. Let us consider the second and third here.

Whatever the mode of eminence, some individuals always have more access than others to the cultural capital out of which it is produced. This does not depend on the characteristics of individuals. The opportunity structure focuses attention on some portions of the field and leaves others in the shadows. Cultural capital is apportioned around an attention space; the more valuable CC is that which can be used most successfully in the next round of competition for attention.

Imagine a large number of people spread out across an open plain—something like a landscape by Salvador Dalí or Giorgio de Chirico. Each one is shouting, "Listen to me!" This is the intellectual attention space. Why would anyone listen to anyone else? What strategy will get the most listeners? Two ways will work.

A person can pick a quarrel with someone else, contradicting what the other is saying. That will gain an audience of at least one; and if the argument is loud enough, it might attract a crowd. Now, suppose everyone is tempted to try it. Some arguments start first, or have a larger appeal because they contradict the positions held by several people; and if other persons happen to be on the same side of the argument, they gather around and provide support. There are first-mover advantages and bandwagon effects. The tribe of attention seekers, once scattered across the plain, is changed into a few knots of argument. The law of small numbers says that the number of these successful knots is always about three to six. The attention space is limited; once a few arguments have partitioned the crowds, attention is withdrawn from those who would start yet another knot of argument. Much of the pathos of intellectual life is in the timing of when one advances one's own argument.

The other way these intellectual attention seekers can get someone to listen

is to find a topic someone else is talking about and agree with it, adding something which extends the argument. Not "No, you're wrong because . . ." but "Yes, and furthermore . . ." This transforms the relationship into teacher and favorite student. The plain full of dispersed egotists becomes clumped another way, into lineages of master-pupil chains.

It makes no difference whether persons pursue these strategies consciously or unconsciously. The outcome is the same either way. Of course one might reject the whole image as offensive to intellectual values, the pursuit of truth for its own sake. Very well; let us adopt this pursuit of truth as our starting point. Dispersed across an open plain are a number of persons pursuing truth. Why should anyone listen to what any particular individual among them says is the truth? The problem of forming a truth-recognizing community is exactly the same as the problem for attention seekers, and the rest follows as before.[8]

The two strategies and their associated social processes, forming arguments and forming lineages, go on simultaneously. It is because persons are in lineages, learning something from one another, that they have something to argue about; and what cultural capital they thereby possess influences who is attracted to joining the crowd on one side of an argument or another.

Consider now that everything that happens on the plain of intellectual attention seekers is experienced as interaction rituals varying from low to high intensity. All persons move toward those IRs in which they get the largest payoff in emotional energy, and away from those which are an energy drain. Whether they get energy boosts or losses depends on the lineup of CC and EE among whomever they come into contact with; and those other persons' CC and EE are affected in turn by their further contacts, and so on throughout the network. The structure should be regarded as a constrained market. To the extent that persons have access to one another, they can match up their CCs and EEs to their best advantage as an open bargaining process.[9] But the degree of access is itself variable. Individuals may have only limited contacts and must bargain for IR participation in an unfavorable matchup of CCs and EEs because particular persons are all who happen to be accessible. Here again the shape of the network, and where individuals happen to be within it, determines what they can do: what they think, and with what creative energy.

The most important network feature which affects the fate of its members is the stratification of the attention space. Each person is trying to get the best intellectual status membership he or she can, not only directly but vicariously. Everyone is attracted to thinking high-status ideas as well as associating with high-status persons. The problem is that negotiating alliances is a mutual process. One side, looking up the status ladder, might wish to make an alliance, while the other side, looking down, is less eager; the successful intellectual may welcome followers but is unlikely to give them much recognition in return.

The crunch is all the worse because the intellectual field is structured by rivalries. Opposing positions contend over domination, and even within a single position there is only a limited amount of attention to be split up among its proponents.

Each intellectual faces a strategic choice. One can go all out, try to be king of the mountain, which means trying to be alone or nearly alone at the center of one of the major intellectual positions. Or one might cut one's losses and aim for a more modest position: as loyal follower of some successful position; perhaps as an ancillary or collaborator to an active research front; perhaps as a specialist in some less recognized but also less competitive topic. Some individuals may be explicitly aware of these choices. But this process goes on whether they are aware of it or not. Individuals do not need to be calculating machines; they are unlikely to have sufficient information about the whole network in order to make a thorough calculation, and intrinsic limitations on cognitive capabilities narrow the possibilities in any case.[10] The flow of cultural capital and emotional energy in a network structure moves people around whether they like it or not. Initially most intellectuals aim unrealistically high, and are driven down emotionally by the structure. Whether or not someone starts out to be a follower or a narrow specialist, sometimes those are the opportunities that open up, while grander positions are denied. The flow of cultural capital is a long-term constraint; one's emotional energy adjusts to available circumstances more rapidly. By the same token, some people happen to be swept up into the structures that turn them from nameless ciphers into the great creative figures of their field.

The Totality of Intellectual Rituals and Sacred Objects

The intellectual world consists of all the interaction rituals which take place periodically across the landscape and of the flow of sacred objects—ideas and texts—which result from them. To envision the intellectual world this way is deliberately to challenge our prevailing conceptions of intellectual life, whether contemporary or historical. When we ourselves formulate "what is happening" in the intellectual world, we invariable impose an image of one or a few currents, typically distorted by partisanship. Intellectual historians may be less partisan because of greater distance, but their view remains partial, fitted around a few patterns and necessarily limited to a manageable number of names and themes. But the intellectual world is much bigger than that, and not so tightly focused. The most detailed evidence we have covers natural scientists, who make up only part of the intellectual world. In the 1970s there were approximately 1 million natural scientists publishing in any year and 110,000 social scientists (Price, 1986: 234).[11] If we go backwards in history,

or laterally into less active fields, the numbers are smaller, but in every case the total active intellectual community is much bigger, and more diverse, than the simplified pictures that even the most assiduously detailed history presents. And even this is not far enough. Intellectual activity is intermittent. Today there are more than a million scientists who come in and out of activity every few years; the mass of the scientific community is in this intermittent class. Still larger is the surrounding fringe of students, would-be intellectuals, vicarious participants, intellectuals in transition in or out. This is the reality on which we impose our simplifications.

Imagine what it would be like to see through walls and even into people's minds. The social landscape would appear to us flickering with thoughts. If one walked everywhere throughout the corridors of a large university, hearing lectures and conversations and the inner conversations that constitute thinking, one's sensation would be of tremendous variety, even cacophony. There would be plenty of mundane, non-intellectual thoughts: people thinking about tasks they have to do, ruminating about their friends and enemies, plotting erotic or organizational politics; bitter obsessive thoughts, perhaps some rehearsing of lines and replaying of jokes, as well as scattered bits of words, phrases, images, the flotsam and jetsam of recent past exchanges of cultural capital. But some of these ideas would be glowing brightly with emotional significance, charged up by interaction rituals into sacred objects. These are the ideas that act as magnetic poles in intellectual thinking, that are the focus of the long and serious attention that is the activity of the intellectual world at its most intense.

There will be fewer of these highly charged ideas, but they are disproportionately influential, magnetically shaping lesser thoughts like iron filings within an individual mind, and exerting a pull across many people that makes them an intellectual group. But even these ideas are of many different sorts: not just in different corridors of the university but on the same hallway, in the same conversation, and sometimes in the same mind. If we extend the scope outward in time and space, the totality of sacred objects, both intense and mild, that makes up the intellectual world is massive: a diversity of thoughts that constitutes all the intellectual ploys, factions, specialties, and disciplines at a given time in history, and a diversity of such diversities when we move our focus of attention across the years—20, 50, 1,000 years ago and more. If we could come back 50 years in the future, or 250 years, it is a safe bet that a similar structure would be observed, but filled with other contents.

My point is not to be ironic, or pessimistic, or relativistic. I can well assume that many of these thoughts were and are valuable, as experiences worth having, even as truths. Many of them deserve to be sacred objects. The totality of knowledge today resembles Jorge Luis Borges's circular library, with endless volumes on endless shelves, and inhabitants searching for the master catalogue

buried among them written in a code no one can understand. But we can also think of it as a magic palace of adventurously winding corridors with treasures in every room. It suffers only from surfeit, since new and greater treasures are always to be found.

Borges's image has the alienated tone characteristic of modern intellectuals; but the underlying problem is the inchoate democracy of it all, the lack of a master key. Much of the intellectual malaise of the early 1900s has this conservative undertone, a desire for stratification. But in fact democracy and stratification are both present in any active intellectual community. Even in my optimistic image of the magic castle of ideas, the people who live inside feel that there are outer and inner chambers—although they do not always know which is which, and they tend to inflate the status of their own chamber, hoping it is one of the inner ones. The whole has a structure which is independent of the numbers of people and ideas within it. There is only enough structural space for a limited number of inner chambers, no matter how much one expands the crowds in the antechambers.

What I refer to as the law of small numbers proposes that there is always a small number of rival positions at the forefront of intellectual creativity; there is no single inner chamber, but there are rarely more than half a dozen. This is particularly so in the realm of theory, and hence above all in philosophy. But segmental restructurings are also possible, especially as fields acquire empirical materials (which might include the texts of their own history). Then the magic palace can be split into different wings, even detached ones. Each discipline or specialty can have its own inner and outer rings, subject again to the law of small numbers, a limited democracy at the top, enhanced under some conditions by a high rate of change and by uncertainty in the fringes over where the center really lies.

This overall structure is the field of forces within which individuals act and think. Its structure is responsible for the stable patterns of ideas and of energies that make up intellectual routine; and it is when large-scale forces rearrange the inner chambers, vacating some and consolidating others, that recombination of ideas and intense flows of emotional energies occur which make up the episodes of heightened creativity.

Stratification within Intellectual Communities

The most thorough data we have on intellectual stratification concern scientific fields. There is good reason to believe that the basic structures are similar in philosophy and indeed in most of the humanistic (perhaps also the artistic) disciplines.[12]

Productivity is very unequally distributed among scientists. The chances of producing a large number of papers is inversely related to the square of the number of producers (Price, 1986: 38, 223); hence the number of scientists who produce a very large number of papers in vanishingly small. Derek Price (1986: 140) estimates that the degree of stratification is the same in all scientific fields, and has been of the same order since the takeoff of science at the time of the inception of the British Royal Society in the 1660s.

The shape of the community is a sharply narrowing pyramid: if we look at the population of scientists, the pyramid sits on a wide base of modest producers; if we look at the population of papers produced by those individuals, it is a pyramid with its nose pushed into the ground and its base to the sky. Of those who publish anything at all, the biggest group (75 percent) produce just one or two papers, adding up to 25 percent of all papers published. About one twentieth of the group publish half of all papers; they produce 10 or more papers per lifetime. The top two scientists out of 165 (1.2 percent) produce 50 or more papers, and thus produce one quarter of all the papers.

Authors in a particular field are divided into those who are continuously active (continuants) and those who are active only a short time (transients) (Price, 1986: 206–226). The transients are represented by only a quarter of the papers at any given time, but since they are coming and going every year, the floating population of transients makes up 75–80 percent of the total population of scientists. The "normal continuants" who publish fairly often for a while are 60 percent of the active population in any given year, but about 20 percent of the total floating population. And the core group of high producers who publish every year are 1–2 percent of the total floating population.

The levels of stratification among scientists are thus as follows:

scientific stars (small absolute numbers)
inner core—top producers (1–2 percent of total floating population)
outer core (20 percent of floating population)
transients—a few publications or one-shot producers (75–80 percent of floating population)
audience and would-be recruits (10 to 100 × size of floating population)

Career levels in the scientific world depend on passing a series of barriers: (1) one's first publication, which admits one into the scientific community as distinguished from laypersons (frequently this is the Ph.D. research); (2) one's next few publications, which put one in the intermediate group of transients or potential continuants; (3) five years of continuing publication, which puts one in the high-producing elite or core. Total productivity depends mainly on how long one stays active in research. Members of this core group (which makes up 20 percent of those who are active at any one time, but only 1–2

percent of the total floating population) produce 25 percent of all publications over their lifetimes.

The sheer amount of productivity across the whole community correlates well with the quality of the papers and the eminence of the individual scientist. We see this in the similar picture of stratification on the citation side. Half of the archive is cited in any year. About 75 percent of papers, if cited at all, are cited only once. Transients' papers are rarely cited, and if so, not very repeatedly (transients produce about 25 percent of the papers and get less than 5–10 percent of the citations). At the other end of the spectrum, about 1 out of 400 papers (less than 0.25 percent of the total) is cited 20 or more times per year. About 1 percent of papers receive about one third of the citations (Price, 1986: 73, 107–108, 230, 234, 261).

Notice that the papers are even more stratified than the authors. The high producers at the core of the field are indeed the most heavily cited; but since they produce (as we have seen) 25 percent of all papers, some few of their papers must be much more frequently cited than their other papers. Among the highest-producing publishers on record are the mathematicians Cayley (with 995 papers), Euler, and Cauchy, and the physicist Kelvin (with 660) (Price, 1986: 44; 1975: 176, 195). Their fame, however, rests on a small percentage of their work. This is inevitable if a small number of high producers are going to swamp the field.

Thus we arrive at yet a fourth level of stratification: leaders within the core, and indeed core activities among the activities of those leaders. If the total population is something like 1 million scientists producing 1 million papers per year, even the top 1–2 percent gives 10,000 to 20,000 scientists. They are the *crème* but not the *crème de la crème*. There must be further differentiation among these, to arrive at the Einsteins and the other heroes one reads about in histories of science. Data do not abound for other kinds of intellectuals; but the situation among scientists surely applies to all.

Stratification of Cultural Capital and Emotional Energy

Access by intellectuals to the core productive cultural capital is limited. Again, we know the most about the limiting structures among natural scientists; this gives us insight into the kinds of features that stratify any intellectual field.

Modern science is competitive and fast-moving; only the first person to publish a discovery gets credit. Hence the tendency for scientists to congregate around the popular research areas. There is a premium on speed, on getting out the crucial results before someone else does. Those who are tightly connected in social networks will have an advantage here. Evidence on informal communications, the circulation of pre-publications before formal publication, shows where this informal group is located. Membership in the social core

network is correlated with being highly productive, in part because it facilitates rapid transmission of cultural capital.

Because of the proliferation of papers, if one relies entirely on reading the literature as an outsider, one is less likely to know where to look. A random overview through the literature by journal browsing, or worse yet by indexing and abstracting services (whether in print media or electronically on-line), which overload the channels rather than focusing them, will not lead one to the key cultural capital to follow up. Again, one needs the advantage of being intellectually and socially connected to the core.

In the research sciences, innovation depends on familiarity with the latest research technology (Price, 1986: 237–253). Such knowledge is usually tacit and informal, passed around by personal contact, rather than the subject of published papers. This is another resource monopolized by those close to the active core of the research community.

Do these structures make the modern research sciences more sharply stratified in comparison to non-science fields? Large numbers of scientists and a reliance on expensive, rapidly changing research technologies force the pace of intellectual competition. A smaller field, such as philosophy, or indeed any of the humanities, does not put such a premium on rapid access to a moving front of soon-to-be-outdated information or research equipment. Still, the degree of stratification of cultural capital may be roughly the same, in that the more slowly moving fields are also less differentiated into specialties; what competition does exist is all focused on the same central claims for intellectual importance. And here there is a crunch, a limited amount of attention space, which allows only a small number of intellectual positions to be recognized at any one time.

These processes affect the cumulation of EE both positively and negatively. At the top, individuals who have good access to cultural capital through their previous experience, their mentors, and their participation in core social networks have high EE. They are enthusiastically attached to their field, work very hard at exploiting their opportunities, and receive very high rewards in the form of recognition. They are best able to monitor the level of competition; although they may often have the experience of being forestalled in publication by a rival (as Hagstrom, 1965, shows), they also are able to beat others much of the time. They move on an accelerating (or high constant) level of EE. This is what gives them the reputation of being "creative" individuals.

At the low end there is a population which is transient. I would attribute their transience to their low EE, and that in turn to the weak structural position for access to crucial cultural capital. They appear as "the kind of person" who always has troubles—obstacles, distractions, family and financial difficulties—which just seem to keep them from ever getting their work done. This is where we find the familiar writer's block of failing intellectuals, the "dissertationitis"

of advanced graduate students. I interpret their problem as a low level of EE specific to success in the intellectual field. Emotional energies reflect the distribution of cultural capital and network opportunities in the structure around them. These persons seem to be "Calamity Janes," because their level of EE for intellectual production is constantly being drained, leaving them unable to rise above non-intellectual obstacles.

The intellectual barriers in themselves are considerable. There are several hurdles to get over; passing the lowest may seem like a big deal when viewed from "downstream," from the outsider's viewpoint, but individuals with relatively modest cultural capital and emotional energy are likely to become demoralized when they discover there is yet another barrier beyond that, and another and another. Publishing one article makes one a recognized scientist or scholar, but only by putting one into the large transient community, most of whom are about to fall back out into inactivity; publishing two or a few articles gets one into the outer ring of the intellectually active world. And people publishing at these low levels of productivity tend to be those who are rarely cited (and in many cases not cited at all); hence the hoped-for payoff does not materialize. Even after publishing a few papers, the chance of much recognition, and much increment to one's EE, is not great, unless one is already linked into the core networks. Then come the further barriers: publishing several papers a year for five years, and finally getting into the top group of famous producers. The last is the killer: for the structure of the intellectual community seems to guarantee that such stars will always exist; but for the vast majority of practicing and would-be scientists and scholars, becoming such a star is an inaccessible goal. Experiencing these barriers is what causes the high level of transience, of dropping out from active research.[13] Even for individuals who make it through to the higher levels of intellectual success, there is a continuing struggle over a narrow competitive space. This motivates many even of the best equipped to drop their highest creative aspirations and settle for a follower role in some intellectual camp. The stratification of EE is more restrictive than the stratification of CC; it is the former which makes the apex of the intellectual world a narrow pyramid peak.

The Sociology of Thinking

Social structure is everywhere, down to the most micro level. In principle, who will say what to whom is determined by social processes. And this means that there is not only a sociology of conversation but a sociology of thinking. Verbal thinking is internalized conversation. The thinking of intellectuals, whether creative or routine, is especially accessible to this kind of analysis. That is because, unlike most ordinary thoughts, it leaves traces: both immediately, in writing, and more globally, in the structure of intellectual networks.

Language itself is the product of a pervasive natural ritual. The rudimentary act of speaking involves the ingredients listed at the outset of this chapter: group assembly, mutual focus, common sentiment; as a result, words are collective representations, loaded with moral significance. Durkheim stressed that we recognize sacred objects by the feeling of constraint and externality in dealing with them, and the outrage which automatically wells up when they are violated. This is the way we behave when someone misuses a word, commits a mispronunciation, or violates the grammar conventional in the group.

Words, like any other feature of cultural capital, have a history across IR chains. They are generated (or introduced to new individuals) in some interactional situation, and are loaded with the emotional significance corresponding to the degree of solidarity in that particular encounter. Once acquired as part of one's repertoire, they become means for negotiating further situations. A word smoothly accepted or awkwardly taken is a way of testing whether someone else will participate in further solidarity ritual with oneself; and words are attractors or repulsers which move one toward or away from particular encounters.

The same applies to other aspects of language besides vocabulary and pronunciation. The coordination of language acts between conversationalists, their deepening rhythmic entrainment in a particular occasion of talk, shapes the ongoing meaning of verbal gestures from one encounter to the next. Micro-situational coordination occurs on several levels: in the mutual anticipation and enactment of a grammatical structure, in the speech acts in which this grammar is socially embedded, in the emotional flows of personal relations, in the cognitive dimension of what is being talked about, in Goffmanian reframings. All these constitute the social action which gives meaning to talk. Language is not a closed social universe; it can be used to refer to things and to coordinate practical actions. Whether it does this or not, language works only because it conveys Durkheimian solidarity. This gives a sociological interpretation to the philosophical distinction between sense and reference (Dummett, 1978: 441–454). The reference of words is their pointing to something outside that segment of conversation; the sense of words (and of sentences, of talk in general) is their symbolic connection to social solidarity, that is, to their past histories and present usage in interaction ritual chains. Particular acts of discourse may not always have reference; but discourse cannot occur at all if it does not have an interaction ritual sense.

The Predictability of Conversations

It is because language has social sense (as well as sometimes an external reference) that conversations are in principle predictable. I say this even though Chomsky stressed the infinite varieties of sentences that can be spoken and

recognized; and of course there are numerous practical difficulties of being in a position to predict just what people are going to say. Nevertheless, if we knew some general characteristics of any two individuals' cultural capital, emotional energies, and position within a market of possible interactions, we could predict many things about what they might say to each other. In situations where we are aware of many of these elements (e.g., cocktail parties with professional associates, and especially those among new acquaintances who share nothing but a common occupation), we often find that conversations are predictably stereotyped. And this is so even though we are usually limited to knowing only our own ritual ingredients, whereas full predictability would require us to know those on both sides.

In general, conversation is determined as follows. Individuals' positions in social markets (their previous success and current opportunities for negotiating membership in encounters of different degrees of social ranking) determine how much they are attracted to, repulsed by, or indifferent to any particular encounter that arises before them. Some combinations of people result in mutual motivation to continue the interaction they had last time; some persons are starved for interaction with others, especially of higher rank; other persons are satiated by interactions and indifferent to persons of lower rank. (I am not trying to be comprehensive about the structural possibilities here.)

The degree of network attraction that individuals feel will determine their choice of linguistic acts. They choose the words, phrasing, style of speech that will fit with the type of group membership they are attempting to negotiate. Their interlocutor does the same. Out of this negotiation, each person discovers from the symbols the other puts forth more about the implied web of group memberships that are being enacted. Over the course of the conversation, the membership stakes go up or down, and this changes the momentary motivation of the participants to go on with the conversation, to change its level of emotional commitment, or to terminate.

Conversation is determined as individuals choose their language acts to fit their market motivations. Each utterance is a ploy, suggesting a group membership context that is being invoked and a level of intimacy on which to have a personal relationship. The hearer sizes up what is being offered, feels some degree of attraction or repulsion because of prior resources and current market situation, and chooses a reply that is the counter-offer in this social negotiation. Utterances are chain-linked via their membership and intimacy implications; knowing an individual's position in social networks and hence his or her motivations, we could predict what that person will say next in response to each prior utterance.

I do not mean to imply that people usually engage in conscious deliberation, thinking through membership implications and choosing something from their repertoire to fit whatever membership and intimacy they would like to achieve.

When people talk, they are conscious mainly of *what* they are talking about (i.e., its reference) and only subliminally of the social motivations that determine what they say (i.e., its sense). It is only when people get caught in a situation where they have trouble either going ahead or extricating themselves that they become self-conscious, when they deliberately calculate what to say and what social effect it will have. Some people, of course, may do this quite a lot (uneasy adolescents in sexual negotiations, social climbers, politicians); their special network positions make them more self-conscious than normal.

The Predictability of Thinking

Thinking is, most centrally, internalized conversation. What we think about is a reflection of what we talk about with other people, and what we communicate with them about on paper. Combining this premise with the theory of emotional energy generated by interaction, we may say that what someone thinks about is determined by the intensity of recent experience in IRs, and by the interactions which one anticipates most immediately for the future.

Thinking is driven by the emotional loadings of symbols charged up by the dynamics of the markets for social membership. One's emotional energy at any given moment selects the symbols which give one an optimal sense of group membership. Thinking is a fantasy play of membership inside one's own mind. It is a maneuvering for the best symbolic payoff one can get, using energies derived from recent social interactions and anticipations of future encounters. Symbols are charged up with an intensity dependent on the degree of emotional solidarity actually occurring in a ritual situation. For this reason, immediately after a very intense ritual participation, one's mind remains full of impelling thoughts, symbols left over from that situation which hang with great force in one's consciousness. An exciting game leaves the crowd buzzing with a compulsion to talk about it for hours thereafter, and in the absence of real conversations, to think it over inside their heads. The same is true of a powerful political speech, an emotional religious service, or, on a more intimate level, a conversation which significantly shifts one's emotional energies.

A similar constraint comes from anticipated interactions. When one knows that certain kinds of encounters are coming up, the thoughts appropriate to the social relationships one wishes to negotiate—that is, the contents that would be called up by one's market motivation in that situation—come flooding into one's thoughts. A hypothesis: the more intense the motivational significance of an anticipated encounter, the more one's thoughts are filled by an imaginative rehearsal of the anticipated conversation. One is not usually conscious of this rehearsal as such; these contents are simply what one thinks about.

To catch the force of this social causality, let us imagine constructing an

artificial intelligence (AI) that will think like a human. Instead of filling it with programs for information processing, we start from the outside in. Its key ability would to be carry out interaction rituals. Our sociological AI (let us call it an IR-AI) must be equipped with rudimentary ability to focus attention and share common emotional moods, then to store the results of each highly focused interaction as markers of social membership. Such an AI would have to be more than a computer with a monitor and keyboard; it must have a kind of body, capable of recognizing and producing emotions. The most natural way to do this is to give it an electronic ear and a voice box, capable of tuning in the rhythmic patterns of human speech and imitating them. Initially, then, our IR-AI would carry out IRs on the most rudimentary level, by synchronizing voice rhythms with its conversational partner. The focus of attention in the IR would simply be the vocal coordination itself; the content of those patterns where rhythmic resonance was best achieved would be stored as symbols of that moment of social solidarity. Such an IR-AI might well be conceived of as a baby, cooing rhythmically in interaction with its human parents.[14]

The aim is for the baby IR-AI to build up a conversational repertoire, following the ritualistic coordination of conversational turn taking. Its capacity to speak, its verbal repertoire, would be not programmed in but built up through its history of IRs. Our IR-AI would store speech patterns in memory, each ranked in order of its EE loading, a quantity varying with the intensity of rhythmic coordination in interaction. This would be its cultural capital. Just as in real humans and their IRs, the EE loading of symbols is greatest at the moment when the IR is taking place, then gradually fades away over succeeding days and weeks if it is not reused in another successful IR. Memories not tagged by ongoing social emotions fade out.

Follow our thought experiment to the point at which our IR-AI is capable of full-fledged conversation. The leap to thinking is simply to put the IR-AI in privacy, away from human contacts, and have it carry out conversations with itself. It is programmed to search its memory for partners it has recently conversed with, pulling out those with the highest EE rating by virtue of successful rhythmic coordination in those conversations. It searches through its repertoire of cultural capital for those topics that brought the best EE payoff, and uses them to construct the utterances of an internal conversation.

Such an IR-AI would be completely open. What conversations it makes with other people, and what inner conversation it has as its thinking, can fill any of the huge variety which is human discourse. What it talks about and hence what it thinks about will depend on whom it interacts with. For it to become a philosopher, it must converse with philosophers; to become a sociologist, it must converse with sociologists. How would it become a creative intellectual of the first rank? In the same way as a human: it would have to

make network contact in the core circles of the previous generation of creative intellectuals, becoming introduced to the central lines of argument among rival groups. It must catch a sense of the crystallization points in the network playing out the law of small numbers as the focus of the attention space shifts. It would do this not by some form of super-sophisticated calculation of network positions, but by being part of the network, attuned through the shifting levels of EE in the items of CC that make up its flow of conversations. Our sociological artificial intelligence creates by constructing a new conversation that combines the cultural capital of several groups so as to maximize the EE level of each, uniting the separate conversational rituals into one intensely focused ritual commanding the attention of the network. It creates by making a new coalition in the mind.

The Inner Lives of Intellectuals

Intellectual life, like everything else, takes place in a series of embedded levels. Start at the center with a human body charged with emotions and consciousness. Around him or her is the intellectual network and its dynamics, the market opportunities for ideas which open up at particular times. Creativity comes to those individuals optimally positioned to take advantage of these opportunities. Since the situation is competitive, those who have the first chances acquire an entrenched advantage in creative eminence; others are constrained to become followers, or rivals taking the opposite tack from those already taken by the leaders. Some who come too late remain challengers who are squeezed out by the structure.

Surrounding the micro-core is the organizational base which makes it possible for intellectual networks to exist. The universities, publishers, churches, regal patrons, and other suppliers of material resources set the numbers of competitors in intellectual careers. Their organizational dynamics affect the underlying shape of the intellectual field; especially fateful are times of crisis, which rearrange career channels and provoke the reorganization of the attention space that underlies the epochs of greatest creativity.

Finally, there is the largest structure, the political and economic forces which feed these organizations. This outermost level of macro-causality does not so much directly determine the kinds of ideas created as give an impetus for stability or change in the organizations which support intellectual careers, and this molds in turn the networks within them.

At the center of these circles lies the creative experience: Hegel at his desk on the night of October 12, 1806, struggling to finish his *Phenomenology of Spirit* while the battle of Jena booms in the background. The intellectual alone, reading or writing: but he or she is not mentally alone. His or her ideas are

loaded with social significance because they symbolize membership in existing and prospective coalitions in the intellectual network. New ideas are created as combinations or reframings of old ones; the intellectual's creative intuitions are feelings about what groups these ideas are appealing to and which intellectual antagonists are being opposed. The network structure of the intellectual world is transposed into the creative individual's mind. Creative flashes are the emotional energy that comes from imaginary interaction rituals.

Thinking is a conversation with imaginary audiences.[15] In the case of the creative intellectual, this is not just any imagined audience (like the Meadian "generalized other" in its most abstract sense). High degrees of intellectual creativity come from realistically invoking existing or prospective intellectual audiences, offering what the marketplace for ideas will find most in demand. This requires that the individual creator must know his or her audience well, through reading and above all through face-to-face contacts which ramify into the crucial junctures of the network. Successful interaction rituals bring increases in emotional energy, deriving from a favorable balance of resources vis-à-vis one's interlocutors: possessing the cultural capital that makes one accepted as a member of the group, and above all cultural capital which enables one to capture the center of attention within it. Creative intellectuals experience such interaction rituals inside their head. The emotional energy of success in these imaginary rituals is what constitutes creative energy: the capacity for sustained concentration, the sensation of being pulled along by the attraction of a flow of ideas. If the process is often accompanied by a feeling of exultation, it is because these are not merely any ideas but *ideas that feel successful.*

This does not mean that intellectuals must be self-conscious about whom their ideals will appeal to. They need not think about thought collectives at all; they can concentrate entirely on the reference of their thoughts—in philosophy, mathematics, sociology, whatever—and try to work out the ideas that seem to them best. The social sense of their ideas is present nevertheless, and it is this that guides them in constructing new idea combinations. Creative enthusiasm is nothing but the emotional energy specific to intellectuals who are in those crucial network positions where they have the cultural capital that will appeal to key audiences. It is the emotional side of anticipating how the intellectual community will restructure itself into new coalitions, using one's idea creations as new emblems of membership. To speak in Mead's idiom, intellectual creators have their generalized others lodged most firmly in the core of the intellectual community; their own thinking is an implicit conversation which reaffirms the existence of the concerns of other intellectuals. The creative intellectual, in playing with different ideas, is playing with different restructurings of the intellectual community, producing a new generalized other within his or her mind, in confidence that the intellectual network will reorganize itself around these ideas.

The external reference of ideas may also exist; I do not wish to deny whatever reality contents intellectual ideas may have, in addition to their social membership sense. (How could I, without undercutting the truth of my own ideas?) Human thought is double-sided. A thinker simultaneously finds the best path available through all these constraints and attractions. Ideas leap to one's mind and arrange themselves into arguments which represent the most emotionally energizing membership coalition available in one's network; in this very process one works out the best statement of empirical truth, of logical argument, of conceptual adequacy one can. The social construction of ideas is much deeper than a simple dichotomy between logic and evidence on one side and social constraints on the other. We shall see that logic is deeply social, an implicit reflection on the history of the intellectual operations themselves.

In the bulk of this book, as we examine the history of intellectual networks, we generally find that intimate materials on the micro-level of the sociology of thinking are not available; our telescope simply does not resolve to a fine enough focus. What we glimpse, at best, are the long-term contours of interactional chains and their products, the ideas which are famous because they have been carried along in the ongoing terms of argument. The weak resolution of the telescope makes it easy to slip back into reifying personalities, the personal names treated as noun substances who are the normal topics of intellectual historiography. But even where we necessarily peer at the past through a darkened lens, let us keep reminding ourselves to think analytically about the reality that once was these human lives: the flow of micro-situations that is the topic of our story.

There is a social causation of creativity, even at its intimate core—the contents of the new ideas that flash into the minds of intellectuals in their creative moments. The flux of interaction ritual chains determines not merely who will be creative and when, but what their creations will be.