

THE SOCIAL CONSTRUCTION OF THE MATERIAL SUBJECT

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Conflating Material and Social Individuals

Critical discourse, in semiotics, literary studies, and social theory has been struggling for some years now with what we have come to call the "problem of the subject." We have fashioned this problem out of our perplexity over the contradictions between traditional notions of the human individual and newer, essentially social ways of talking about human meaning. Through it we remind ourselves that the postmodern intellectual revolution remains painfully incomplete.

On the surface, the "problem of the subject" is how to have an active, creative human subject which constructs social meanings, at the same time that this subject must itself be a social construction.

In a deeper sense, however, the problem lies as much with our desires as with our theories; as much with our politics as with our reasonings. We desire the moral comfort that the traditional liberal discourse of human individuality provides: its defense of personal and intellectual freedom against the pressures of social interests. But we know that the discourse of radical individualism is fundamentally incompatible with critical politics, constructivist epistemology, and social science. We know that it is a discourse rooted in middle-class ideology and supportive of interests, privilege, and modes of domination most of us reject. Nevertheless, we have tried, from early in this century, to re-create this object of our desire within the new intellectual arena of critical social theory, and we call our inevitable difficulties in doing so "the problem of the subject."

In this chapter I am going to try to dissect the notion of the individual human subject, to expose its internal contradictions, and to define the sorts of discourse constructs that can usefully replace it in a social semiotic theory. This is the subject that thinks, that imagines, that writes, that reads and interprets. It is the central notion around which most of modern psychology, politics, ethics, education, and literary and literacy theory is built. Without a critical analysis of how it is constructed, we cannot build a useful textual politics.

The cultural, ideological, commonsense notion of a human individual conflates, i.e. identifies as indistinguishably the same unitary object or phenomenon, what a variety of scientific discourses in principle enable us to distinguish. Most fundamentally, I believe, the classical modernist concept of the human individual conflates a physical, biological notion of the individual human organism with a social, cultural notion of the individual human person, the social actor, agent, or persona.

The biological organism and the social persona are profoundly different social constructions. The different systems of social practices, including discourse practices, through which these two notions are constituted, have their meanings, and are made use of, are radically incommensurable. The biological notion of a human organism as an identifiable individual unit of analysis depends on the specific scientific practices we use to construct the identity, the boundedness, the integrity, and the continuity across interactions of this unit. The criteria we use to do so: DNA signatures, neural micro-anatomy, organism-environment boundaries, internal physiological interdependence of subsystems, external physical probes of identification at distinct moments of physical time -- all depend on social practices and discourses profoundly different from those in terms of which we define the social person.

The social-biographical person is also an individual insofar as we construct its identity, boundedness, integrity, and continuity. But the social practices and discourses we deploy in these constructions are quite different. We define the social person in terms of social interactions, social roles, socially and culturally meaningful behavior patterns. We construct from these notions of the personal identity of an individual the separateness and independence of that individual from the social environment with which it transacts, the internal unity or integrity of the individual as a consistent persona, and the continuity of that persona across social interactions.

We obtain the commonsense notion of a human individual only by a complex process of conflation: mapping the social-biographical person onto the physical-biological organism. This, too, is accomplished by our cultural patterns of discourse, and the associated actional practices. Because the classical notion of a human individual is constructed in this way, if we no longer make the traditional metaphysical presumption of a single "real object" to which each of these discursive systems "refers" or "on which" it acts, there is no longer any reason to suppose that "the individual" constructed by each of these systems of practices coincides with those constructed through the others.

In traditional modernist discourse there was a unitary individual: biological organism, psychological personality, social persona, subjective identity, psychosocial agent, all-in-one. The biological organism, defined as a material object amenable to the discourse of physics, chemistry, or biology, was the ultimate warrant for the "reality" of the individual and the ultimate guarantor that all other discourses (psychological, social, legal, ethical, etc.) about "it" referred to the same, well-defined entity. The total discourse of the human individual uncritically conflated a biological organism as a physical object with a separately defined social persona, identity, and personality.

From the postmodern viewpoint this was a massive sleight-of-hand. Even within the natural sciences there is no guarantee that physical, chemical, and biological definitions of an "organism" coincide for all purposes. Each uses essentially different criteria and practices to specify its defining attributes, continuity over time, and spatial boundaries. When we consider the criteria and practices which define the temporal continuity of a personality, or the biography of a social agent we can find scarcely any overlap between what is meant by the material vs. the biographical continuity of what we are supposed to assume is the same entity.

Physics defines an individual material object, biology a structurally individualized organism, psychology an individual mind or personality, sociology an individual social agent. There are biographical individuals, historical individuals, and subjective individual identities -- and there is no longer any reason to suppose that all of these coincide in defining the same unitary entity for all discursive purposes.

What reason was there ever to suppose that they did? It will take a better archeology of the discourses of the individual than any we yet have to properly answer that question, but we can make some reasonable guesses. A long European cultural tradition distinguished "body" and "soul" along an axis separating mortal from immortal, earth from heaven, secular from sacred, the rights and privileges of crown and nobility from those of church and clergy. The soul was partly secularized into the notion of "mind" and the body scientifically reformulated as the "organism," but it was the social notion of an economic individual, free to act as an agent of its own interests, that was of paramount importance for a new middle class. That individual needed "rights," primarily the right of private property and the liberty to use it to maximize the advantages of the property-owning classes. Thus was born the political individual and ultimately the social individual.

It was from this essentially ideological notion of the bourgeois individual that the later psychological and sociological notions developed. The unity, the incontestable reality of the individual was essential to maintaining a claim for "its" inalienable rights. Its reality had to take precedence over the reality of corporate social entities such as clans, fiefs, villages, guilds, parishes, etc. The individual had to be made more "real" than other economic and political claimants, so that its "rights" could be asserted above theirs. There were, of course, many contradictions right from the start. Political rights were frequently granted, not to individuals as such, but to economic categories of individuals (property-holders, not surprisingly). Not to personalities ("all men of good-temper"), or to organisms ("all able-bodied men"). "Free men" were defined in relation to slaves by the laws of property. Women, children, and people of non-European cultures were neither truly individuals in the dominant political and economic sense, nor even canonically human. Property-less adult males suffered the same fate.

The historical course of bourgeois ideology since its beginnings has led it to valorize the individual as a creative and feeling subject, a rational and problem-solving mind, and a responsible social actor. The evident tension, not to say contradiction, among these ideals has not led many to question the intellectual usefulness, much less the ideological uses of the core notion of "the individual" itself. The growth of social institutions and their increasing power to collectively prescribe every aspect of social activity has led us to rely on the notions of individuality and individual rights in the face of real and imagined institutional tyrannies. The prescriptive institutions of the bourgeois past: the family, the guild, the local church and court were ones the powerful individual had a chance to influence or control. The modern institutions of the state and its apparatuses, and the statist multinational corporations, have achieved a scale so far beyond the individual that these late bourgeois institutions are destroying individual bourgeois power en masse, even while they serve to magnify the power of a few individuals (themselves regulated as never before in the

exercise of that power). Power itself is shifting from the property-holders, the owner-class, to the new technocrats, the manager-class.

The dangers are not just to power derived from property, but to all freedom of action, all nonconformism, all intellectual and social change. In such a world intellectuals particularly are loathe to deconstruct the basis of our traditional defense against the power of social institutions. To expose the individual as a social construction is to deny its claim to absolute rights, to pave the way to its total subordination to institutional interests. But not to analyze the social practices by which we constitute human individuality prevents us from seeing how those very practices contribute to human exploitation, and from being able to formulate liberating alternatives.

I want to examine the notion of the material individual first, along with the social meanings that attach to the material body. Then we will analyze the social and biographical subject and some of the anomalies that point up contradictions in the traditional unitary notion of the individual. Finally, we will consider the social construction of subjectivity itself and possible directions for a developmental social semiotics of the subject.

The Material Individual and the Semiotic Body

All objects and systems, including the material individual, must be constructed across time and across the changes that inevitably take place in their constituents. The biological organism replaces its cells, replaces even the atoms of which those cells are made, but so long as certain looked-for patterns of continuity, certain theoretically motivated invariances over time can be constructed, we consider it "the same" individual organism biologically. "Sameness" is always likeness in some special respect that is defined by our theories, by our culture, by our interests. An organism, or any physical object, is definable as an individual only by the social practices by which we (1) distinguish it from other objects, (2) define its boundaries in space, and (3) establish its continuity in time. Which features we single out as distinctive, which criteria we choose to use to define the boundary, and which invariant patterns over time are significant depend on whether we wish to analyze the object as physicists, as chemists, or as molecular, cellular, developmental, or evolutionary biologists.

An individual is definable as a material system by the construction for some analytical purpose of one of the many different possible boundaries that might enclose the system. It is not that there is a system already there to be enclosed. There may be matter there, or energy, but we create the system as a system by defining its boundary. Of course we do not draw the boundary arbitrarily. We choose the parameters relevant to our interests, and then we construct the boundary through the points where those parameters change significantly. But these boundaries can never be absolute: there is always continuity across the boundary in real physical and biological systems. And there are always, certainly for biological systems, critical biochemical and biophysical processes that transfer matter, energy, and information across the boundary. The system maintains its persistence in time as a system (i.e. maintains the gradients in the boundary-defining parameters) only through the operation of such processes. This is the thermodynamic definition of a persistent open-system (for further discussion see the Postscript to this volume, Lemke 1984, Prigogine and Stengers 1984, and references therein). It is the basis of life, of the possibility of building up an internally ordered system.

The paradox is plain: such systems persist as systems (in terms of the boundaries that define them) only by engaging in exchange processes which must disregard those boundaries, i.e. by interacting with their environments. More precisely, the system is only definable as an individual because it is a part of a larger "supersystem" consisting of itself and its environment.

Biologically and thermodynamically there are no absolute individuals. Not only are all boundaries permeable, but boundary-violating processes are essential and fundamental to the existence of the system defined as an individual. What we call an "individual" system is always and necessarily only a theory-defined subsystem of something greater.

There is another way in which we define a material individual. Rather than defining an organism "from-above" by its thermodynamic and ecological relations to other organisms and the rest of its ecosystem environment, we might define it "from below" as the relevant system for modeling the mutual regulation of organs, tissues, and cells. There is however no guarantee that the same system definition will be arrived at by these two methods, and every likelihood that in general it will not. The relevant notion of the individual will not in general be the same for the ecologist and the surgeon.

The scientific definitions of the material individual as physical system or biological organism may have prestige in our community, but they are rarely used by most of us. Body notions, of course, preceded scientific discourse formations. The traditionally named parts of the body, for example, divide an apparently continuous spatial distribution of substance in ways which may be rationalized, or in some cases contradicted by biology. But they can help us understand the "cultural body," not only its "ethno-anatomy," but all the symbolic meanings and value conventions attached to the body, to its parts, to different "kinds" of bodies, etc. by a particular community. This is the body as carrier of social meaning, the semiotic body.

When we look at an individual, the distinguishing features we have been taught to identify are as much those of this socially and culturally defined semiotic body (seeing it in terms of its social meaning -- "handsome," "fat," "clumsy," "athletic" -- and its ethnoanatomy: "face," "torso", etc.) as of the biological body. Even apart from dress and hairstyle, facial expressions are culture-specific, at least in their social meanings, if not also in their anatomical features. And it is the meanings we attend to, and use, along with an individual's style of movement, tones of voice and voice-qualities, and predictable patterns of speech, opinion, and action, to define that individual. All these things could change, leaving the same biological organism, but an unrecognizably different "individual" (as in extreme cases of multiple personality, see below).

Our community teaches us specific, if often inexplicit procedures for identifying, classifying, segmenting, and evaluating the semiotic body. We read bodies, and with them, patterns of movement, facial expressions and gestures, body hexis, stance, attitude, somatotype, vocal style, etc. We construct, by these social practices characteristic of our community and the subcommunities we belong to, socially meaningful, semiotic bodies and their texts. The criteria, the categories, the procedures all have little in common with those of the physicist or biologist. They construct a different sort of embodied individual.

The Social Subject

All the features of the semiotic body may change over time, as do the atoms and cells of the material organism, and yet our social practices can construct not only a physical and biological continuity, but also a separate social continuity of what we may call the biographical individual. Over the course of a human lifespan many of these features do change. The infant, the adolescent, and the elder may be alike in none of the socially significant features that define the semiotic body, but through the social practices of "biography" we construct a social continuity of the individual. We relate, again in ways specific to our culture, the persons of today and yesterday, and we do so not fundamentally on biological grounds, but on social ones. The person who has the same family relationships, who enacts the same social roles, who behaves toward us in the same fashion in particular situations, is an individual-with-a-history, a transtemporal social construction, an entity that can change and yet be regarded as "the same individual" at eighty years as at eight months.

To analyze the social semiotic construction of the subject, we must begin from the systems of social practices of a community, i.e. from a notion of its characteristic doings. One of the principle patterns of organization of these practices, i.e. of social acts, is that in which they are related to one another as constituent elements of a larger activity sequence or structure. The meaning relations of the constituent acts are functional relations: each act serves a function in relation to the others in the context of the whole structure. Meaningful social activities which are recognized as such and are both potentially and in most cases actually repeated (with variations) on many occasions define participant roles.

For example, the activity of Getting-the-check when dining out, is such an activity structure. It has functional elements including Locating-a-waiter, Getting-his-attention, Signalling-desire-for-check, Waiter-compliance-sign, etc. These may be realized by various actual behaviors. The minimal set of participant roles are those for Diner and for Waiter. The structure as a whole is normally embedded within a larger activity structure such as Dining Out, whose actional elements and interrelations enable us to define other roles for more Diners and Waiters, and for Busboy, Maitre d', Chef, Coatchecker, etc. These definitions of the roles are specific to one activity-structure.

To define the more general social role of, say, a Chef, we would need to assemble all the activity structures in which typically we expect a Chef to participate, and define the general role as the union of all of these. This is a very high order abstraction that we construct. Similarly, we can define a Teacher participant-role for a particular activity-structure such as that of Classroom-Question-And-Answer-Dialogue (cf. discussion in Lemke 1990a), and then consider the constellation of such participant-roles that is taken to define the total social role of Teacher in a given community.

In an actual enactment of an activity structure we conflate the realization of a participant role with a semiotic body, i.e. we construct an embodied participant. We construct this-waiter-now, or this-teacher-now, in terms of what they are doing in the immediate activity structure and what makes them distinguishable, notable, individual, significant, and evaluable as bodies (but not yet fully as people) as well as role-actors. We can say "the fat one is the waiter, the thin one the busboy" or "the waiter is awfully fat, isn't he?" as well as "this waiter forgot my soup" (role performance). We might note in passing that the soup, or the check, is also a participant, at least in the semantics of our language, but of a special class ("inanimate" or more generally, unable to fill certain "agentive" roles in both the linguistic and the activity structure grammars). We construct "objects" in much the same way as "subjects": both as activity participants first (cf. Greimas & Courtes 1983 on actants and use of this notion by Latour 1987, 1988).

But the waiter may also be a father, a husband, a student, an actor, a son, and sometimes a football player, a dishwasher, a checkwriter, a typist, etc. If we interpret these roles as participant roles in particular activity structures they cannot conflict, though certain combinations are more or less likely to occur in different communities. If we take them to be full social roles, the possibilities of combination become even more restricted by conventions. We find two further sorts of abstraction on the way to our cultural notion of an individual person.

One is that of the biographical individual, a construction which preserves features of the semiotic body invariant over short time-spans to trace out the common embodiment of consecutive (or in rarer cases simultaneous) participant roles in distinct activity structures. Thus the waiter role in Getting-the-check may or may not be embodied by the same semiotic body as the Waiter in Taking-the-order in the same enactment of Dining Out. If it is, we have a partial biographical individual defined as an abstraction from the two situations. In fact, I think people are often in doubt about such continuity, saying, "Is this guy the same waiter who took our order?" Preliminary construction of a semiotic body may take notice of only a few features, often not enough to initially distinguish "individuals" who will later be distinguished. We might follow the semiotic body of this biographical individual after closing time to find it embodying participant roles in non-Waiter activities, and so going further toward constructing a biographical individual. Over long periods of time, we would begin to rely on the repetition of particular patterns of behavior, enactment of roles, to construct the continuity of the biographical individual even across changes in his semiotic body.

The second abstraction is that of the social type. The members of a particular community expect to find certain participant roles rather than others intersecting in a biographical individual. The community in fact produces certain social types of individual. In New York young, good-looking male waiters are often also aspiring actors. They will be found at auditions and casting calls, reading Variety, drinking in fashionable late-night bars, etc. as well as waiting tables. They are a social type. The degree of variability in their semiotic bodies (apparent age, handsomeness, height, weight, muscle tone, gracefulness, voice-quality, etc.) is rather narrow as compared to the population as a whole. So will be their styles of dress, hair, and movement, and these will be correlated with a similarly narrow range of likely activity structures in which they will participate and the corresponding range of social roles we will construct for them.

Most members of a community embody some such social type, and the system of types is a defining characteristic of the community, as much as the repertory of activity structures from which it derives. What links these together is the probability distribution of social activities over biographical individuals. In a given community, not all possible combinations of participant roles are equally likely to be embodied by the same biographical individual. Equivalently, the same individual who enacts any particular participant role is thereby either more or less likely to enact many others. Activities and roles tend to intersect in biographical individuals in the combinations I have called social types. Of course these are combinations whose enactments are relatively close together in time; we can and do construct biographical continuity over longer periods of time, during which the individual may change social type. Phases of constant social type can define "periods" or "stages" in the life-history of a biographical individual.

But long-term biographical continuity is not usually central to the construction of the "person" in the sense of a social individual. The social individual is the socially meaningful entity, the biographical individual as embodiment, or we may now tentatively say as "enactor" of a specific set of participant roles in particular activity structures, the "one who does" this and that, the "practice-defined" person. It is customary to regard the social individual as the intersection of the social category groups of which he or she is taken to be a member. For example, "a white, middle-class Irish Catholic teenage girl." This may in effect name a social type, but social semiotics insists that these categories must themselves be "practice-defined," i.e. what does one have to do to be counted middle-class, or Catholic, or a girl? When such specifications are made at the level of participant roles in activity structures, both the person's own and those of the actions of others in respect to her, they define some very small class: all those biographical individuals who meet

the specifications. A social individual is rarely unique in this sense. For significant social purposes, there is nothing about the individual that is not shared by some others.

It is of course possible to sufficiently specify the detailed behavior of a social-biographical individual so as to define a class with a unique member. This is close to the commonsense practice: if it looks like (same semiotic body, with movement pattern, voice-quality, etc.) the person, and behaves in context like the person (participant roles), it is taken to be the person. The classic problem of how to detect an imposter or "double" demonstrates the relevant considerations in the construction of the social-biographical individual. The "perfect imposter" is in principle the person s/he impersonates, except for a different long-term biographical history that may in fact be entirely irrelevant to the person-of-the-moment in all their social interactions. (Institutional status, however, does conventionally depend on the longterm biography, e.g. in matters of legal and political rights.)

The movement from the social individual as representative of a social type or of a very small social class to the social-biographical individual of commonsense is one that looks at interconnections between the semiotic body and the social individual. The key step is the one which recognizes that while a type is defined by what it does, a unique token of that type may be defined by how it does it. That is, features of a performance of a role in an activity structure that are non-criterial for the role may be made criterial for identifying the semiotic embodiment of the role. Several individuals may all do the same thing, but there are said to be differences in how they did it which are irrelevant to what they did, but which are idiosyncratic to who they are. These differences are the ones we come to construct first for the semiotic body, the "little things" which become signs of the person as unique individual, their "identifiers" for us. Naturally, these need not be the same for all who identify the individual. In our culture, special significance is given to the identifiers each of us uses to identify ourselves, the features of our "subjective identity" or "sense of self." These are in principle borrowings and specializations from those used in identifications of/by others.

One of the culturally valued activity structures which we are taught as members of our community is "introspection" or "self-dialogue," talking or "thinking" to ourselves and its close variants for nonverbal semiotics: sensing, feeling, visualizing, etc. A great task for social semiotics is the analysis of the social construction of the emotions and "inner sensations" of this self-constructed subjectivity. Certainly there is need for a biophysiological component in such accounts, but much more essential is an analysis of the social meanings we are taught to attach to states of our organism: their identities and names ("anger" "love" "anxiety" etc.), their social significance and evaluation, and the systematic probabilities that these meaning-constructing practices will co-occur with other, "outer" social actions, including their visible signs on the semiotic body as read by other members of our community.

Our personal identity is constructed by foregrounding certain patterns we make in our inner dialogue and feelings as we set them against the background of what we are taught to take as "outer" events. Needless to say, what is "inner" and what is "outer," what the repertory of human emotions is taken to be, how each is identified from physiological states and signs on the semiotic body, and the nature of "inner dialogues" as activity structures, all differ from culture to culture and from one subcommunity and social group (age-group, gender category, social class, etc.), even from one biographical individual to another.

We can take this analysis one final, critical step further. We can ask how our very sense of selfhood, the notion that we are perceiving, experiencing, willing, acting egos, that we are/have "minds", feelings, perceptions, desires, memories, etc. is itself a construction woven from the warp and woof of cultural semiotic resources (language, categories, values, practices) in accordance with the learned patterns of our community. What we are taught in our culture to call our own minds, our own subjective sense of experiencing and being, is a projection onto the complex, interactive, self-organizing system of an organism-in-its-environment of a cultural model of what it is to think of ourselves according to one community's view of being human.

Social semiotics in this way excludes a separate domain for psychology. Not only for cognitive psychology, but even for the psychology of affect (depth psychology, clinical psychology). It excludes them, not certainly as practices, but as autonomous domains of theory. Cognitive processes need to be analyzed as semiotic practices embodied in a socially constructed subjectivity. We "think" in the same words and in a register of the same language in which we talk. There is no autonomous semantics of thought, no separate *lingua mentis*, apart from that of social meaning generally. We "think" nonverbally with the same semiotic resources for meaningful action, be they those of our grammar of visual representation, the forms of body hexis meaningfully available in our community, or the semiotic resources of any other activity structure, which are the same ones also observable in outward action. The "inner" forms may sometimes be specialized, but they are part of the same total social system of meaningful practices. The same sort of analysis is

appropriate for sensation and feeling, whether of light or heat, pain or anger. Until the unity of "inner" and "outer" semiotic practices is recognized, it is not likely that much progress will be made in understanding the "inner," which are so much harder to reconstruct from indirect evidence than are the "outer."

Critical Anomalies for the Notion of a Unitary Individual

The prevailing ideology of the individual posits a unitary subject, an unconstructed (because "natural") individual. We should expect, however, that the social construction of this unitary individual will produce anomalies that contradict the ideology. Let's consider some instructive cases in which the social-biographical continuity and unity of the individual may not entirely agree with the biological ones. These cases are usually marginalized as "anomalies" or "exceptions", but the fact that they do occur, and that we can and do recognize and make sense of them, helps to reveal the hidden joins and seams in the construction and points toward the processes by which this notion of the individual has indeed been constructed. They also point us toward new, more powerful discourses about gender, class, sexual orientation and other defining categories of the social individual.

Consider first extreme cases of multiple personalities. In these we find several fully developed social persons co-habiting in one biological organism. These social persons are themselves complex constructions, based on their patterns of participation in social interactions. They may even be constructed to be of different genders. They may show different typical patterns of tension in facial musculature, so that they "look" different. They may have different body hexis and styles of speech and movement. They usually speak in very distinct "voices". They can have separate social lives, functioning as separate social individuals.

It is not inconceivable, or it should not be inconceivable that such a set of persons in one body form a stable configuration, and that such a complex may not be ipso facto pathological. But this reality is profoundly contrary to the prototypical notion of the individual in our culture, and to the various ideological, social, and political reflexes of that notion. To take but a single classic example, suppose that one of these social persons commits a serious crime. Is it ethical, should it be legal, to incarcerate the other social persons in that body, who are innocent people, because we incarcerate bodies in our penal system (actually organisms) rather than persons?

If there can be multiple persons in one body, can there also be a single social-biographical person distributed over many bodies? Identical twins, especially in their early years, may present such a case, where even for parents, they may sometimes be indistinguishable in personality and behavior, may "switch" with each other, may be named jointly by others and treated by others as if a single social persona. A more extreme case, largely rejected by our culture, but well accepted in many others, is that of the reincarnated social person (e.g. the Dalai Lama), who serially inhabits different bodies, but remains the same "soul" and for many purposes also the same social persona (plays the same social role, is treated as the same person in many ways, etc.). Phenomena of possession and transmigration present similar cultural constructions in this respect, and even the familiar question of whether a pregnant woman is to be constructed as one or as two social persons, depend on these confluences.

Less dramatic, but important for developmental theories of personality and subjectivity, which I will discuss further below, are a number of other closely related issues:

How artificial are the constructed unities and continuities of personality across the life-span, or across traumatic events?

In extreme cases, does it not often make as much sense to say that in a single organism's lifetime there are entirely different social persons inhabiting it? Consider cases of sex-change operations, radical psychotherapeutic transformations, or fundamental discontinuities of personality. The bias of our culture is toward continuity, and toward denial of the fundamental mutability of personality. But this seems very clearly to be just a bias. On the other side of this coin, we do not construct continuity of personality, or social personas, for embryos (though some are trying to), nor for corpses (which are thermodynamically alive well after we consider them biologically, or socially, dead), even though we do construct biological and physical continuities in these cases. There is a perfectly good scientific logic for defining continuity from conception to disintegration, or even across reproductive generations. Neither in such alternative schemes nor in the one our own culture prefers do the corresponding socially, biologically, and physically defined "individuals" begin and end at the same moments in time. And even within the domain of the biographical

person in our culture, how well could we really match infant, early adult, and late senile personalities of the same organism in a double-blind, randomized trial?

How useful is it to define the developing, interacting, social persona as a system whose boundary is co-terminous with that of the biological organism?

Many proposals about the nature of the social person, from those of Gregory Bateson (e.g. 1972) to those of Leontiev (e.g. 1978) and the activity theorists, show the value of defining the unit of analysis not as the body-bound individual, but as a larger system including informational pathways and social interactions linking "us" with the artifacts and tools we use and with the whole of our nonhuman and inanimate environment as well as the social dyads and groups in which we participate.

To what extent, for example, is it artificial, to assert that the same organism functions as the same social person in all dyads, in all groups, in all social contexts? Many characteristics of behavior which are assumed to be properties of the body-bound "individual" are in fact context-dependent and so are more usefully conceived of as properties of a larger system which includes the immediate context. If these are taken away, how much is left as properties of the individual, valid in all possible contexts? And if we take into account variations across all possible physical, chemical, and ecological contexts, and across all possible such contexts over the developmental history of the individual, what indeed is conceivably left as specific to the individual as such? We need alternative models of human development which can draw the boundary between the individual and its material and social environments differently for different purposes of analysis.

How effectively does the traditional "two sexes, two genders" model account for the full range of human diversity that we allot to these categories?

The prevailing dogma of "one organism, one social individual" maintains that an individual's sex or gender is natural, given, and biological, and that there are two genders/sexes: male and female. Moreover, culturally one particular gender, masculine or feminine, is mapped onto one particular biological sex, male or female. But biological sex is itself not a unitary construct. There is chromosomal sex, for which we have not only XX and XY but XXY and XYY and other rarer genotypes; and there is anatomical sex, the human phenotypes, which include hermaphrodites and other sorts of intersexuals (see Fausto-Sterling 1993). Cultural ideology prescribes two and only two genders, and projects this onto biological discourse, where its inadequacies have become apparent, not just for other species but even for humans.

Anomalies produced by conflating cultural views about social persona with scientifically defined biological organisms are even more evident in the case of transsexuals: those social persons who construct for themselves, and may have socially constructed for them by others as well, a gender identity which does not map canonically onto the biological sex identification which is made for them by quite unrelated criteria and practices (everyday or medical).

As an example of the social and political dilemmas produced by these anomalies, consider that transsexuals are not usually homosexual in the ordinary sense. That is, the preference is for sex partners of the opposite gender-identity. But there is no unambiguous two-way classification possible here. If a man-in-a-woman's-body desires women, is "he" heterosexual or is "she" a lesbian? If s/he desired men, would he be gay or would she be straight? If a woman-in-a-man's-body desires women, is s/he a heterosexual? Certainly not in exactly the same sense as a woman in a woman's body who does. The inadequacy of the prevailing ideology should be apparent here.

Analyses of such cases requires us to construct a much more complex gender system for our culture, one which recognizes far more than two possible gender identities, and multiple possible combinations with more than two possible biological sex identifications. Even if we try to define gender independently of biology, we would have to consider that gender systems are more likely triadic than dyadic (with masculine, feminine, and neuter poles in a continuum of variation), and that the characteristics for each triad are different between middle and working class; among lesbians, gay males, and heterosexuals; for different racial/ethnic subcultures; and for infants, young children, adolescents, elders, etc. There are dozens of gender types in our community as well as several distinct possible biological sexes, and a very large number of possible combinations of these in practice as well as in theory. The unity of person and organism again breaks down.

The Specification Hierarchy for Human Systems

I believe that the issues raised so far are sufficient to rule out the notion of "the human individual" as a primary or privileged unit of analysis for any theory of human systems. If we wish to understand how human communities come to be organized as they are, or the role which discursive systems of meaning play in our communities, if we want to build theories of social dynamics or of textual politics, we need a perspective in which the notion of the human individual can be accounted for as a complex construction, not taken as a starting point for analysis. The notions of human subject, human agent, human mind, human cognition all presuppose and privilege a notion which must be thoroughly deconstructed and analyzed if we are to make any progress at all.

We have already taken one step toward doing this. We have defined human communities as systems of doings, of social and cultural activities or practices, rather than as systems of doers, of human individuals per se. In the next chapter we will construct a fairly elaborate and detailed picture of human social systems based on seeing every such activity as having both a material, ecological aspect and a cultural, semiotic one. In this picture activities in human communities are interrelated both in terms of exchanges of matter and energy and in terms of relationships of meaning. The fundamental unit of analysis will turn out to be a "patch", a mini-ecosystem containing human organisms in interaction with their social and material environments according to both cultural and ecological-physical principles. The patch is part of a mosaic of other patches, each with its own unique history, all interacting and forming a larger-scale patch in a larger-scale ecosocial system. The patches are units of convenience; underlying them are the interconnected doings, the ecological and social processes that link organism to organism, and organisms to environments, and which, at smaller scales operate to constitute organisms, artifacts, landscapes, dialects, communities, cultures, and social individuals as self-organizing systems.

In this picture what we customarily think of as human individuals are shifted from center stage in two ways. First, as a unit of the hierarchy of processes at various scales, they become merely one level of organization among many, from the molecular and cellular to the social and ecological. Second, as participants in processes on their own scale, they are defined, both as organisms and as social individuals, by these processes, which in turn constitute the levels of organization above and below "us". The autonomy of the individual as separate from the systems in which we participate is denied, and so is the special importance of the level of organization we happen to view the universe from. We cannot be understood apart from our connections to our social and material environments (communication, tool use, foraging, waste disposal, exchanges of goods, pleasures, and pains, etc.) nor outside a view of the multiple levels of self-organization of systems larger and smaller than "us".

Every picture, however, is drawn from some point of view, and it is important to understand just how our notions about the systems we are part of are constructed. For this purpose, a very useful way of looking at how we construct our view of the natural and social world is the specification hierarchy perspective articulated by Salthe (1985: 49-50, 166ff; 1989; 1993). As a theoretical biologist interested in how biological systems are defined in ways that are both similar to and yet different from non-biological physical systems, Salthe noticed that many kinds of biological systems can be regarded as "special cases" of more general sorts of physical systems. As such they are defined by the discourses and scientific practices of biologists in such a way that they have all the same properties that physical systems do, plus additional properties specific to them alone.

This approach can be helpful in examining how the notion of a human individual is constructed. Our culture also defines other sorts of (nonhuman) individuals: individual electrons, molecules, hurricanes, colonial organisms, ecosystems, etc. Some of the features we associate with human individuality, such as the possibility of identifying individuals and constructing a continuity of identification for them from before to after some interaction with another individual, do not exist for, say, individual electrons. Electrons are not defined with the properties necessary for such a construction of continuity to be carried out. Electrons also do not age; it is not possible to tell the difference between a newly created one and one created in the primordial Big Bang. These two facts are closely related (see discussion in Chapter 6). They remind us that for a system to have the properties we associate with human individuals it must be a system of a particular kind. Historically, our culture assumed that individuals of all kinds had the properties it constructs for human individuals. We are now in a position to see that many of these properties do not apply to more general sorts of systems.

In Salthe's specification hierarchy, which I have slightly extended for our present purposes, and which is discussed in more detail in the next chapter, the outermost, or most general types of systems and objects are those least specified, those with the most general or abstract properties, thus encompassing the greatest range of types of more specified

systems, which are subsets of the more general ones. Imagine a nesting of subsets of subsets of subsets, etc. in which each inner set inherits the properties of all the sets outside of it, and each step toward the center increases the specification of members in that set by adding further defining characteristics or properties.

The most specified type of system in the hierarchy, the sort to be found in its innermost circle, is the human system. That the specification hierarchy converges on "us" is not so surprising when we realize that it is a cultural construction, our construction, and is constructed from our point of view on the universe. We have defined all other systems in relation to the properties our culture ascribes to ourselves, as having them or lacking them. In this way the specification hierarchy actually tells us a great deal about ourselves, including some things we might rather not know.

It tells us, for instance, that while the outermost, most general, least specified kinds of systems we know of, are, like electrons, elementary dynamical systems that can be described in terms of relatively autonomous individuals ("particles") in interaction, that as we proceed progressively to systems that exhibit more of the characteristics we ascribe to ourselves (memory, individuality, aging, biographical continuity, development, evolution, etc.), that these more specified types must be complex self-organizing systems of dynamical processes, in which individuals are only defined by the processes of self-organization themselves. It also tells us that it is such systems (for humans, these are our ecosocial systems), not constituent autonomous individuals, (which are at best only one level of organization in the system) that ought to be at the center of the hierarchy.

But it potentially tells us even more. What kind of ecosocial system is at the center? i.e. from what specific cultural viewpoint about the nature of the universe has the specification hierarchy been constructed? A European cultural viewpoint? A modernist cultural viewpoint? A masculinized cultural viewpoint? A middle-aged, middle-class viewpoint? One can only suppose so, given the history of those who have most influenced its construction.

This is perhaps rather shocking to anyone who may still have been hoping that modern European science might somehow turn out to be universal after all, shaped without class-, gender-, or age-bias. I hope at least some readers will long since have realized that this is certainly impossible in general. It is conceivable that some of what our culture has to say about those systems which are farthest out from our central viewing-point, those which are least like us and about which we care least how they behave, might be relatively less sensitive to our particular cultural biases than what we say about those which are closer to home. Perhaps our views on electrons will turn out to be less specific to the viewpoint of our historically dominant social caste than our views of, say, primate behavioral biology (cf. Harding 1986; Haraway 1989, 1991). But I wouldn't bet too much on it.

When we come closest in to the center of the specification hierarchy, when we consider the sciences of human ecosocial systems, we can be most sure that anything which is said in any culture, by members of any caste (i.e. group defined by similar life-practices and life-experiences; in our community principally one that is homogeneous in age, social class, gender type, and cultural background), will be highly viewpoint-dependent. Our best hedge against the blinders of this inevitable parochialism is to seek out views from vantage points as different as possible from our own and from each others'. This is not, of course, what is currently done in our society, where a single caste works with all its resources to insure that only those who speak with its own voice will be heard on such matters.

The Social Construction of Subjectivity

The heart of our modern notion of the social subject is a particular aspect of our experiencing: the sense we have all learned to create that there is an inner "I" or experiencing center which perceives and wills.

Experiencing is itself both mediated by semiotic resources such as language and visual imagery and formatively shaped in large part by social interaction. If we set aside as unproductive in this context various realist and positivist certitudes about the form of external realities, we can ask how our perceptions are shaped by both our own and others' habitual culture-specific uses of language, visual imagery, and other semiotic resources. Those resources do not include just language, with its semantic categories and grammatical role-systems, or visual conventions about how objects are defined and spatial relationships construed, they also include the motor activity habits of our culture, learned in primary social interactions: possible doings, from graspings and object-movings, to shape-feelings, person-touchings, face-shapings, limb-articulations and movement patterns, to later and more complex doings like washing our hands, focusing our microscopes, and carrying on our dialogues. All of these have semiotic and cultural values; all belong to

systems of paradigmatic and syntagmatic relations of meaning. All shift their meanings and forms as we contextualize them in different ways.

An ecosocial systems perspective shows us that we are primitively enmeshed and depend for our origins and continuing existence on a hierarchy of levels of interaction and transaction with multiple environments. In this perspective it is only the privileging of particular interactional linkages, particular material and semiotic processes on particular scales, that makes it sensible to distinguish an inner and an outer, a Self and an Other. Our cultural traditions do not do this in the same ways when they speak of organisms in ecosystems and of persons in social-semiotic interaction. But they do teach us to do both. From the locutions of our discourse to the patterns of social interaction that define and teach simple and complex cultural behaviors, all work to create a sense of self, of subject-actor-agent. These implicit roles begin in social and material interaction, and are internalized in that mimicry of external interaction with which the brain internally and adaptively deceives itself (cf. Edelman 1992 on the role of re-entrant neural connectivity in consciousness and cognition).

What is this "self", this core "ego" or "I" that we claim to have direct subjective experience of? Since it is itself the experiencer of last resort, how can it know itself as an object of experience? It cannot, irrespective of what our cultural traditions teach us (cf. the paradox of the "homunculus", e.g. in Edelman 1992). What we do experience is the meaning-shape of our doings: of our speakings, our actings, our hearings and feelings; of our doing and being-done-to, our participation in interactivity. That meaning-shape follows the patterns of language-use and other semiotic formations in our community: culture-specific patterns. Nevertheless, our modernist European tradition has sought to universalize even these subjective experiences, asserting that all other humans experience as we do, sense ego and self as we do, construct intentions and goals as we do, even when cultural anthropology casts great doubt on the likelihood of this, given the absence of shared notions about such matters in the explicit folk-theories of different cultures. We know as well that our own European history has elevated the primacy of individuality and the individual subject in recent centuries far above the place it held in the past or holds in other cultural traditions. We ought to be highly suspicious of the assumption that our notions of individual subjectivity are human universals.

I believe the most useful assumption we can make is that subjectivity is a learned cultural mode of construing the meaningfulness of primary experiencing, that our notions of the mind, the self, the ego are historical descendants in our own cultural tradition of earlier notions like the soul and the homunculus. We are taught to experience perceptions as if there were an experiencing "I" and an experienced "other"; to imagine actions as if there were an imagining "I" with intentions and goals, and to objectify actions as if they were procedures or nouns that could be embedded in linguistic and other semiotic structures used in planning and imagining. Subjectivity is itself a specific learned cultural construction. It has a developmental history, a foundation in social interactions, a prototype in the semantics of natural language and other cultural semiotic systems, and a specific event-by-event trajectory of the means by which it is demonstrated, participated in, scaffolded, inculcated, internalized, used, and finally taken for granted as a directly experienced reality.

We need some latter-day Jean Piaget to write *The Child's Construction of the Sense of Self*. It should tell us how the child (and later the adult), enmeshed in semiotically and materially mediated interactions with other members of a community and with the material environment, progressively recapitulates (always to some degree individuating) a trajectory of development which leads to our constructing the sense of a Self. A Self that looks out through the windows of the eyes, that initiates motor actions by "will" and "intention", that "feels" the sensations which impinge on a body in which it sits, but of which it is not truly a physical part. It will tell the story of how we are taught to think of ourselves as Selves.

Such research will build on present and future work on the semiotic construction of activity, perception, behavior, intention, and affect in the semantics of natural language (e.g. Halliday 1990, 1992, 1993; Hasan 1986b; Hasan & Cloran 1990; Martin 1992; Lemke 1988b, 1992a); on the role of narrative in the production of subjectivity and the role of dialogues, first external and then internal, in the construction of the sense of self and the distinction of self and other (e.g. Vygotsky 1963; Leontiev 1978; Bruner 1983, 1991; Bruner & Weisser 1992). It will relate these discursive practices to the more general semiotics of visual images and depictions, and of cultural activities of a still wider variety of types.

We need such a body of research in order to reflect critically on the limitations of our cultural folk-models about minds and selves. It may help us to better understand the alienation from the body of a middle-class culture which has traditionally identified bodies with the lower social orders and minds with the higher ones. It may help us reflect on the

many scientific dead-ends born of the radical Cartesian split between the mind and matter. It may help us formulate cultural alternatives to the dismal paradigm of ultimately isolated subjects, and re-evaluate the implications of known alternative states of consciousness for the reunification of self and other, or the evidence for unconscious dimensions of the self. Perhaps, in an age of research on artificial intelligence, it will help us see that notions such as intentionality and goal-directedness may be useful components in modeling how some people learn to think about behavior, but that they are hardly candidates for modelling intelligent behavior as such.

In the next chapter we will systematically examine the arguments for an ecosocial model of human communities as self-organizing systems. We will see what it means to make ecosocial processes, the cultural practices and ecological processes of a community, more fundamental constituents of human communities than individual human actors as such. We will lay out the specification hierarchy in more detail, enabling us to see human ecosocial systems as highly specific special cases of more general sorts of dynamical self-organizing systems. And we will understand why it is that human organisms, and human communities, must be defined by their developmental trajectories, as temporally extended constructions, rather than as present-moment structures. Most fundamentally we will argue for the reunification of the semiotic and the material, the cultural and the ecological, in dynamical models of human systems. The resulting framework for an ecosocial dynamics will then enable us, in Chapter 7, to return to the problem of the postmodern subject and its post-democratic politics, and to consider some of the most difficult and painful questions of our time.

[For references, and to cite, see corresponding chapter in Textual Politics, 1995.]