On a Folk Theory of Society: Children, Evolution, and Mental Representations of Social Groups

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Representing and reasoning about the social universe is a major task for the young child, one that almost certainly involves specialized knowledge structures. Individuals in interaction are fundamental elements of sociality, and, unsurprisingly, evolution has prepared children with special-purpose mechanisms for drawing attention to and processing information about persons. Social aggregates are also fundamental elements of human sociality, yet we know much less about the child’s grasp of them and the institutions that mediate among them. One reason for this lacuna is that researchers have typically framed children’s social knowledge according to adultlike (or not) that understanding is. This article proposes that it may be more productive to approach children’s social knowledge from the perspective of the child herself or himself. Arguably, even quite young children deploy lay theories of society that emerge from a special-purpose endogenous module for identifying and reasoning about human aggregates.

A critical and early encountered task for the young child is to adduce who and what is out there in the world. Few continue to imagine, as William James (1918) did, that mastery involves overcoming a blooming, buzzing, confusion of virtually unstructured information. Most researchers agree that the infant and young child must be prepared to learn in predictable and channeled ways and that this knowledge acquisition involves the deployment of perceptual mechanisms that order information (e.g., edge detectors and dedicated auditory channels for speech) and conceptual devices that interpret it (e.g., a disposition to organize chromatic information around focal colors or to use others’ gaze as a key to disambiguating word reference). Such preparation—whatever its nature—mediates the infant and young child’s interactions with individual phenomena.

Individual objects and individual persons are also tokens of kinds and members of populations (Sperber & Hirschfeld, 1999). The infant and young child also need a leg up in their recognition of and interactions with aggregate phenomena. Indeed, help in this regard may be considerably more important because aggregate phenomena are often more difficult to identify and frequently less readily evident than individuals. A whole object bias in word learning may make it easy to map goose with the creature rather than its specific parts and the state of its activity. Yet what is the correlate disposition that makes it easy to map gaggle with a group of geese—which, unlike a whole object, do not invariably move as an ensemble? Given this kind of obstacle, it could be the case that children acquire knowledge of individual phenomena more precociously than they acquire knowledge of aggregate things. Arguably, children’s vocabularies include goose before gaggle, or, less self-evidently, tree before forest. Still, there is now considerable evidence that children do reason as if they recognize the crucial importance of aggregate phenomena to understanding the world. The finding that 2-year-olds project unfamiliar properties from one member of a species to all other members (Gelman & Coley, 1990) suggests a robust understanding of at least some nonobvious aggregates, namely species.

The capacity to recognize and reason about aggregates seems no less, and probably more, important in the child’s dealings with the social world. To participate in society the young child must be able to represent the entities that make it up (e.g., persons, groups, institutions), to conceptualize the relations between them (e.g., those of biology, friendship, or material exchange), and to recognize the identities that govern these relations (e.g., parent to child, friend to friend or...
enemy, teacher to baker). As I review later, we now know a good deal about how young children recognize persons (i.e., individual social entities), and we know a good deal about how young children recognize and reason about nonhuman aggregates (i.e., species). However, we know relatively little about how young children come to recognize and reason about human aggregates and the institutions that govern their activities. In this article, I examine what can be said from the available evidence and speculate on what makes social cognition—in the sense of cognitions about human aggregates—possible.

It is now widely accepted that person is a conceptual primitive (Miller & Johnson-Laird, 1976) and that children represent persons as ontologically distinct from other living kinds (Keil, 1979). Moreover, the ability to individuate persons emerges very early. Infants display remarkable capacities for distinguishing among individuals on the basis of their faces (Barrera & Maurer, 1981; Johnson & Morton, 1991) and among groups of individuals on the basis of age and sex (Fagan, 1972). Slightly older children are adept at picking out the identities that individuals assume and can use these to infer qualities of both their behavior and their speech (Andersen, 1990). From infancy through the preschool years, children rapidly and dramatically develop the ability to interpret human behavior as a function of nonobvious mental states like beliefs and desires (Gopnik & Meltzoff, 1997).

Infants and young children also appear sensitive to ways of aggregating persons by sex (Katz, 1983), language (Hirschfeld, 1989a; Mehler et al., 1988), age (Fagan, 1972), and occupation (Cordova, McGraw, & Drabman, 1979), and can coherently integrate knowledge across and among these aggregates (Hirschfeld & Gelman, 1997). They also appear sensitive to relations of kinship (Hirschfeld, 1989b), probably the most fundamental way that humans use aggregates to organize social activity (Lévi-Strauss, 1969).

Several studies have explored the meanings that young children give to specific terms for kinfolk (brother, sister, grandmother, etc.; see Hirschfeld, 1989b, for a review). In this literature, it is widely assumed that children do not grasp the relevant aggregate, family, as an abstract entity. Rather, through a process of empirical generalization they come to construe family concretely as those individuals who happen to be kinfolk and who happen to live together.

There is, however, reason to believe that children have a more nuanced, if covert, understanding of the concept of family. For example, young children have little difficulty nominating nonresident, seldom-encountered kinfolk in their list of family members (e.g., cousins or grandparents), indicating that they rely on an abstract notion of family for their representations of specific kinship terms (Hirschfeld, 1989b). Not only are children adept at using kinship categories to order and partition the social world, they appear to have a well-developed capacity for reasoning about the nature of the relationships among members of various aggregates. Whereas, for example, earlier research suggested that children do not understand the relational (genealogical) logic of kinship terms (i.e., that a grandparent is a parent of a parent; Piaget, 1928), subsequent reanalyses of several large studies demonstrate a considerably richer relational understanding (Hirschfeld, 1989b).

Kinship is not the only domain in which young children are able to reason deeply about human aggregates. They understand that membership in some aggregates is determined by a degree of biological (or at least “natural”) connection among their members, and, despite the fact that children conceive of persons as ontologically distinct from other living things, they grasp that the same biological principles that apply to nonhuman living things also apply to humans. They understand, the previous research to the contrary, that race and sex are governed by biological principles of causality (Hirschfeld, 1996; M. G. Taylor & Gelman, 1993). Preschoolers also expect physical traits but not mental states to be fixed at birth and to develop in a regular, predictable fashion (Hirschfeld, 1995; Rosengren, Gelman, Kalish, & McCormick, 1991; Springer, 1996).

One of the most striking qualities of both person perception and folk biology is that they are theorylike. Knowledge of persons, nonhuman living kinds, and the “natural” relations among them coalesces into complex knowledge structures that encompass specific ontological commitments (theory of biological kinds vs. artifacts), a degree of conceptual integration (lay theories must be comprehensive so that they capture more than simply incidental knowledge), and domain specific causal explanatory frameworks (growth is a biological, not a physical cause). Although there is considerably less relevant research, I argue that young children’s thinking about social aggregates is similarly theorylike. Further, I argue that the emergence of this theorylike knowledge structure is governed by an innately preorganized acquisition device.

To some, these may seem implausible claims. Indeed, they are precisely the inverse of what we would expect from previous theorizing on the development of social representations. On a widely accepted view, two things govern the development of early representations of society, and they mitigate against the position I propose. According to this argument, young children’s initial social knowledge is not theorylike inasmuch as
it is inextricably tied to immediate, concrete experience. The particular groups children recognize are driven by visual salience so that they tend to learn about perceptually patent groupings like sex and race before less perceptually marked groupings like political party affiliation or sexual orientation. Although the commitment to the child as visually biased concrete thinker predominates in much work in social cognition, it remains more an assumption than an empirical finding. In one of the few tests of the hypothesis, I found that young preschoolers’ initial representations of race—a prenatally visual concept on virtually all accounts—contain very little perceptual information, and what little there is tends to be incorrect or incoherent (Hirschfeld, 1993; see also Ramsey, 1987). Initial representations of race contain mostly verbal information, suggesting that children learn about it by listening, not by looking.

Current thinking would also lend little support to the claim that the development of representations about social entities is governed by an endogenous acquisition device. To the contrary, most research in cultural learning—the sort of learning by which children would acquire knowledge of culturally specific systems of aggregation and social partitioning—assumes that the relevant motor of knowledge acquisition is socialization, a causal process in which knowledge is acquired from communal living in a particular social environment. In this view, structure and organization in cultural learning flow from society to child, and consequently from adult to child. This is, as just noted, less a demonstrated finding than an a priori assumption, the logic of which is essentially that it could hardly be otherwise.

I do not suggest that the assumption is implausible. It is based on three uncontroversial premises that seemingly yield an uncontroversial conclusion. The relevant observations are as follows:

1. Social and cultural forms vary considerably over time and space. There are, for example, substantial differences across cultures and historical epochs in what constitutes a kinship relationship, what constitutes the parent–child relationship, and what constitutes a race, to cite only forms that are conceived as “natural.”

2. Children everywhere have profoundly the same physical and mental endowments (or at least variations within cultural and social populations are at least as great as those between populations).

3. Children everywhere readily develop the psychological and behavioral dispositions needed to participate in the societies and cultures in which they live. There is a near-perfect correlation between being raised in France and speaking French, being raised in Indonesia and using only your right hand to handle food, and being raised in the United States and believing that you are above average.

These observations have been interpreted as justification for treating cultural learning as a process framed largely by the social environment and governed largely by adult behavior.

It is critical here to distinguish between theories of cultural knowledge and other sorts of knowledge acquisition. The notion that children themselves make a substantial contribution to the process of learning about the social and physical worlds can be traced to Piaget and Vygotsky and is now widely accepted among developmentists. However, this approach dominates research on acquisition of those aspects of the social and physical worlds that are invariant, that do not vary culturally. Indeed, until relatively recently, mainstream developmental psychology hardly considered this sort of knowledge at all. When it did it was with an eye toward establishing the universality of claims otherwise derived from observations of North American and northern European children (Stigler, Shweder, & Herdt, 1990). The bulk of research that explores how children acquire culturally specific knowledge, in contrast, makes little appeal to the child’s contribution to enculturation. This work focuses principally on children in the throes of becoming adults and on parents in the process of reproducing faithful cultural versions of themselves. Children are treated largely as if they were passive receptacles into whom culture is poured or on whom it is impressed (see Caputo, 1995; Corsaro, 1997; James & Prout, 1997, for comprehensive reviews).

As appealing as many find this (causal) account, it simply is not the case that children are passive cultural agents who contribute little to cultural learning, nor is it the case that their cultural development is solely or even primarily situated in adult-controlled contexts. This has not gone unnoted. In a long-underappreciated paper, Mead (1932) demonstrated that despite a pervasive willingness of adult Manus Islanders to explain most material relations in animistic terms—producing a cultural environment in which animistic reasoning was clearly endorsed—Manus children preferred more prosaic, naturalistic explanations for the same phenomena. Even communal living in an information environment highly saturated with a distinct cultural perspective, therefore, does not necessarily lead to its immediate adoption by children. It is not that children are incapable of adopting the perspective, nor is it that their beliefs are incomplete versions of adult belief toward which they eventually and inevitably converge. To the contrary, in Manus the two belief systems are incommensurate causal frameworks. If Manus children accept animism, it is not because they were simply presented with it by the cultural environment dominated by adult belief and practice.
Maltz and Borcher (1986) found a similar disjunction in the cultural regimes of American children and adults. Gender behaviors and other patterns of friendly social interaction are learned not so much from adults as from members of one’s peer group. ... Because they learn these gender-specific cultures from their age-mates, children tend to develop stereotypes and extreme versions of adult behavior patterns. (p. 215)

It is not simply that the causal relation of society and adult to child is less inevitable than the socialization model suggests. Indeed, there is much evidence that in significant measure it is inevitable (elders generally produce versions of themselves in subsequent generations). It may well be that the causal arrow sometimes actually runs in the inverse direction. Children’s cognitions and routine practices may in fact shape the development of adult cultural cognitions and practices (Corsaro, 1985).

Harris (1998) developed this hypothesis at length. To cite one brief example, she asked how British regional and class accents are reproduced. The seemingly obvious answer is that children learn them from their parents or their parents’ surrogates. Harris rejected this, arguing that upper class British boys didn’t get their aristocratic accents from their nannies, who tended to be of lower-middle-class origins, or from their governesses, who might have been Scottish or French. They didn’t get their accents from their brief and impersonal interactions with their parents. ... They got them from each other. The accents were passed down from the older boys to the younger ones, generation after generation, at places like Eton, Harrow, and Rugby. ... At the prep schools and “public” schools to which British aristocrats send their sons, there is a children’s culture that is passed down from the older kids to the younger ones. ... Each new cohort of kids was much like the last one; the culture continued almost unchanged while generations of kids passed through it. The reason the sons were so much like the fathers was that they had both been socialized in the same way and in the same place. The sons took their culture along with them as they grew up, just as their fathers had before them. It happened to be more or less the same culture. (p. 204)

Children, then, may not learn about social entities, institutions, and relations through a simple process of socialization into adult culture. This, however, does not mean that their early social representations are, as I claim, theorylike and endogenously shaped. In fact, some of the evidence just reviewed does not truly challenge socialization explanations so much as shift the socializing force from adult culture to children’s culture.

Two lines of evidence, however, do lend support to my contention. The first is indirect and derives from the lessons learned in a broad range of studies in cognitive development. The second is more direct and derives from studies I conducted that examine children’s early representations of the notion of race (Hirschfeld, 1993, 1995, 1996).

Considerable research now points to the likelihood that modular or domain-specific competencies guide much knowledge development and that many of these competencies appear to derive from preorganized structures. The most widely discussed special-purpose competencies, after language, are naive physics, naive mathematics, folk biology, and naive psychology. Each of these involves conceptual skills that afford obvious benefits. An organism with an elaborated naive physics not only can move about the world with ease (as organisms without a naive physics obviously can do), but also can closely manipulate the physical world and make reliable and complex predictions about the movement and nature of objects in it. Learning to play baseball would be much harder without naive physics. Naive mathematics permits an organism graced with it to distinguish collections of objects according to the (small) number of elements in the collection, affording, among other things, the ability for fine-grained comparisons needed in complex systems of exchange, a fundamental domain of all human societies. Learning to trade well with baseball cards is much harder without naive mathematics. Folk biology underlies a rich inferential system that permits the properties of animate things to be systematically understood. Learning that it is prudent to play roughly with Fido the dog but not with Leo the lion is less costly with folk biology than without. Organisms with a naive psychology can interpret behavior by inferring nonobvious mental causes. Simply learning to play with each other as we do, as studies with autistic children whose naive psychology is impaired have shown, would be much harder, if not impossible, without this special-purpose competence.

How these special-purpose competencies come about is a controversial question. Some points of agreement, however, have emerged. First, at least some special-purpose competencies have a biological basis; as Gleitman (1988) wryly observed some years ago, virtually all French children learn to speak French, but no French dogs do. Second, at least some of these competencies have an evolutionary basis. That is to say, the biological basis can be traced through and explained as a function of the competence’s “natural” history. Recent studies, for instance, have demonstrated that certain principles of naive mathematics are found in other primates (Hauser & Carey, 1998). Several researchers have argued that some competencies
are best understood by discovering what environmental conditions underlie their evolution (Cosmides & Tooby, 1994). Some competencies coevolved with the increasing elaboration and complexity of human social and cultural organization (e.g., naive psychology; Baron-Cohen, 1996; and language; Dunbar, 1996; Pinker & Bloom, 1990).

In recent years, several researchers, including me, have proposed that there is a special-purpose and theory-like competence for what I have called naive sociology (Furth, 1996; Hirschfeld, 1995; Jackendoff, 1992). A species can be social without a central nervous system equipped with a naive sociology. Many animals do just fine at recognizing groups of conspecifics and regulating their behavior with respect to aggregates of conspecifics. There seems little need to credit them with theories. The case for naive sociology rests not on the fact that humans are social but on the peculiar nature of human societies. Human societies are radically different from those of other animals in their complexity and fluidity. Each individual occupies multiple subject positions in multiple networks of social relations. Understanding human behavior, whether one’s own or another’s, requires an almost constant parsing of the social fabric to identify who each actor is (i.e., what subject position each occupies) at a given moment.

In the context of multiple possibilities, rapid and accurate appraisal of the social environment is a demanding achievement, one in which significant cognitive resources are deployed. A critical task, accordingly, is the need to represent and to compute information about a large number of groups, varied group affiliation, and shifting coalitions among groups. In light of this, it would be adaptive to reduce cognitive demand, and one way of doing so would be to reduce the apparent complexity of the situation.

There are several ways that this might be accomplished. One would be to simplify by ignoring the range of aggregates with which an individual could affiliate. Another would be to give differential weights to various affiliations, rendering some more relevant than others, all things being equal. Privileging some identities over others could significantly reduce demand and significantly increase coherence in interaction. If a person’s relationship with an another can be interpreted as based on kinship or common occupation, all things being equal, kinship is probably the most relevant. Naive sociology provides algorithms that underlie the reasoning that affords this recognition by organizing cognitions about which affiliations are privileged, providing an explanation for that privileging as reflecting the natures of the aggregates, and ensuring that other individuals converge on the same system of partitioning and ordering the social universe.

Social psychologists have identified a number of ways in which the relative salience of potential affiliations is apportioned and used to regulate behavior. People attend to group membership and use it to interpret the role that members of particular groups play in social interactions (S. Taylor & Fiske, 1978). People also use group membership to apportion resources, even when it is clear that the group membership is not linked to a real-world aggregate (Tajfel, 1981). Both these effects have been found among young children as well (Milner, 1984).

Still, there are other ways to explain why some affiliations are privileged over others without invoking a domain-specific folk sociology. Before reviewing findings that support the claim, I present two lines of evidence that have been offered against it and show why they are not ultimately convincing. On one account, some affiliations are privileged because they satisfy the input conditions of a domain-specific device; this device, however, is not dedicated to reasoning about the social world, but to reasoning about living kinds. On another account, some affiliations become privileged because of the role they play in avoiding certain environmental risks. However, it is the nature of the risk, not the nature of conceptual processing that is crucial.

There are obvious similarities in the way people classify and reason about human aggregates and the way they classify and reason about nonhuman living kinds. It is plausible that these parallels reflect reasoning by analogy. It has been argued that race and gender are privileged in social classification as a function of the fact that a competence that evolved to represent nonhuman patterns of physical diversity is deployed by analogy to processing information about human physical diversity (Atran, 1990; Boyer, 1990; Rothbart & Taylor, 1990). The hypothesis rests on two assumptions. First, the analogy works because human physical diversity satisfies the input conditions of a competence evolved to treat nonhuman physical diversity, specifically diversity between species. However, this seems ill-supported by the relevant developmental findings. Neither race nor kinship, for example, are precocious social categories because of their physical properties. Indeed, the categorization of human aggregates develops without initially drawing on the perceptually relevant input that the analogical-mapping view entails. Second, the reasoning by analogy from species difference to human racial and ethnic difference also assumes primordial attributions to racial and ethnic groups. As I show, this assumption is not consistent with available anthropological data.

A second line of evidence against the folk sociology hypothesis I have put forward could be interpreted to suggest that some ways of grouping humans are privileged as a function of their adaptive value in providing...
protection against predation. Humans may be the only species in which conspecifics acting in groups are the species’ principal predator (Alexander, 1989; cf. Wrangham & Peterson, 1996). Protection against this kind of predation would be enhanced by skills that on the surface are similar to those I am attributing to folk sociology, because the ready recognition of certain social aggregates would have been crucial in our ancestral environments to survival. In particular, it has been suggested that recognition and categorization of aggregations evolved not for the purpose of recognition per se, but as a function of a need to develop specific attitudes toward members of aggregates that may be dangerous. In this view, the conceptual partitioning of humans into “natural” groupings evolved as a by-product of the emergence of xenophobia, which served to regulate competition and risk. In this view, xenophobia and other correlate cognitive effects, like stereotyping, prejudice, and group biases, are interpreted as adaptations against predation by other humans. Essentially these adaptations facilitate categorization and recognition of members of other groups (Shaw & Wong, 1989), provoke fear and distaste for them, and promote biases that favor members of one’s own group over members of other groups (Fishbein, 1996).

This argument is often linked to a further claim about human sociality, the idea that humans live in complex groups largely to avoid dangers posed by other groups of humans. It does not preclude other reasons for group living, principally enhanced exploitation of resources, but it does imply that human (and other primate) group living provides crucial protection against aggression (Wrangham & Peterson, 1996). Implicit is a specific construal of what group living involves: highly integrated structures that encompass a broad range of activities and domains of experience. The assumption is that humans tend to sort themselves into primordial groups with whom they invariably and principally associate. A particular individual may well belong to several groups, but his or her fundamental identity is riveted to a single group with fixed relations of inclusion and exclusion. The image that invariably comes to mind is a tribe or band. As tempting as these arguments may seem, neither, I suggest, survives scrutiny.

First, they rest on a portrayal of the ancestral environment (in which such adaptations would have evolved) that overestimates the dangers and nature of human group predation. It also overestimates the degree to which ancestral populations coalesced into tribes—discrete, bounded, and homogeneous cultural, political, and linguistic aggregates whose interactions were mediated primarily by conflict and competition. This Hobbesian view of aboriginal existence, although widely held, should be viewed with skepticism. Most reports by Europeans of first contact with indigenous peoples stressed not the rigidity of tribal boundaries, but their permeability and the relative ease with which people moved across them (Fried, 1975). Indeed, the notion of discrete tribal entities—the notion that ancestral populations lived in primitive isolates—fundamentally distorts the nature of human aggregates (Denbow, 1984; Lesser, 1961; Terrell, Hunt, & Gosden, 1997). Even Neanderthal populations engaged in sustained long-distance trade (Gibson, 1996). Individuals in virtually all human groups, no matter how simple the level of socioeconomic integration, have cross-cutting internal affiliations and extensive external associations with multiple aggregates. Systems of elaborate extralocal exchange, such as the Trobriand ring described by Malinowski (1922), are probably a common part of many cultural landscapes. As Lévi-Strauss (1969) elegantly demonstrated, a more likely image of precontact societies than the primitive isolate is that of microcultural foci that meld from one to the other over time and space.

I do not want to suggest that we abandon Hobbes for Rousseau. Still, making neighbors into enemies is probably more of an accomplishment than an intrinsic aspect of group living. The scope and nature of the diversity of social links, and particularly their cross-cutting quality, are almost certainly underestimated. Consider the following peculiarity of human cognitive architecture. Although the hypothesis is still controversial, there are powerful reasons to believe that humans are equipped with an endogenous language acquisition device that organizes learning “natural” languages. The phrase language acquisition device may obscure one interesting feature. Humans are equipped with a device that permits the ready acquisition not of a language, but of multiple languages. Human children acquire multiple languages virtually as readily as they acquire one language. This accomplishment entails the investment of considerable additional resources: for example, building multiple lexicons, grammatical structures, and so on. Why would evolution have prepared humans to do this, particularly if it engendered some cost? One plausible answer is that readily acquiring multiple languages provides an increment of advantage. The context in which this would be true is polyglot. If there are not multiple languages to learn then there is no reason that the ability to acquire them provides some benefit. In fact, social environments exist in which speakers of multiple languages are common rather than the exception. Almost certainly this was as true in the ancestral environment as in many historical ones in which multilingualism is common. The notion that “a language ought to have a distinct territory and nation” is more a European scholarly and political assumption than an empirical regularity (Gal & Irvine, 1995, p. 978).

In short, the capacity to recognize and reason about the composition of human aggregates may well have little to do with avoiding danger. Knowledge of
groups may in fact serve to facilitate exchange and alliance formation. Coalition and alliance formation are as important within a cultural entity as between two entities. Even in the smallest and most simply organized local groups—whose social organizations are typically organized around relationships based on gender, age, kinship, trade, and marriage—multiple aggregates cross-cut and compete for each member’s allegiance. Moreover these aggregates are invoked constantly in everyday life. Given this complexity, fluidity, and possibility for multiple allegiance, a child capable of focusing attention on the range of groups that exist, their nature, and their scope, would be advantaged over a child with less well-developed social reading abilities. By the same token, an adult who as a child developed the capacity to disentangle the dense web of affiliation and alliance found in everyday circumstances and make accurate predictions about the subject positions of others at any given moment would be advantaged over an adult less able to perform this sort of social analysis. In short, an endogenous competence for rapidly and accurately parsing the social environment and assessing the context-specific significance of a particular affiliation would confer an adaptive advantage on anyone possessing it.

To summarize, much commonsense learning—indeed, the most important aspects of commonsense learning—appears to be governed by special-purpose endogenous cognitive competencies. All human populations have diverse possibilities for social links and cross-cutting and extensive potential for allegiance. The significance of the various alliances varies from situation to situation. The ability to rapidly and accurately identify, represent, and reason about this multitude affords a significant advantage for both adults and children. Uneven distribution of this ability within a population, in the ancestral environment, would plausibly allow the emergence of an adaptation of the sort I describe here. In addition, seamless coalition building and maintenance would be enhanced if everyone were on the same social page, in the sense that individuals in a particular environment attend to and privilege more or less the same affiliations in similar contexts. The existence of a specialized knowledge structure dedicated to social group understanding is accordingly a plausible speculation.

The argument that cognitive architecture ought to be a particular way hardly ensures that it is. In this section, I review briefly some studies that lend empirical support to my speculation. Two lines of research are directly relevant. The first provides evidence that children and adults actually do recognize aggregates as kinds. The second demonstrates that children and adults reason differently about aggregates that otherwise are quite similar.

Evidence that people represent aggregates as entities would be significant because it would suggest a strong commitment to the notion of group, particularly in the sense that it could invest the fact of group living with great inferential potential. An apt analogy is living kind species. Both adults and children, by constructing species as things—typically constituted through attribution of a common species essence shared by each individual token of the species type—afford precisely this sort of inferential potential (for adults see Atran, 1990; for children see Gelman, 1988). A similar essence-based inferential potential for some human aggregates would be consistent with the existence of a humankind-making module (particularly given, as mentioned earlier, that such a parallel between human kinds and nonhuman living kinds could not, on the basis of developmental evidence, be attributed to analogical transfer).

A second line of relevant evidence concerns whether there are distinct patterns of reasoning for different human aggregates, and particularly distinct patterns of reasoning about the natures of different human kinds. In the model I propose, an individual can affiliate with any number of groups at any given moment. The more accurate individuals are at identifying each other’s group affiliation, the more coherent interactions will be and the more likely one’s goals will be achieved. How good are people at actually doing this? As I observed earlier, there is consistency in how adults parse social environments. Similarly, children show considerable consistency in the identities that they believe are most relevant (Milner, 1984). The parallel between children and adults suggests either that they have acquired, through communal living, more or less the same strategies for interpreting the social world or that they deploy these strategies on their own.

The notion that human aggregates are entities is a widespread cultural belief among the world’s cultures. Indeed, it has great appeal to both lay folk and scientists. Much theory in kinship, for instance, is based on cultural discourse that treats clans and other kin groups as corporate individuals and on the analyst’s conviction that this is a faithful reflection of native thought (Lévi-Strauss, 1969). The discourse is curious in one respect. Kin groups are by nature egocentric; hence, no two individuals have exactly the same range of kinfolk. Even siblings, unless they marry siblings, do not have the same network of kin because they have distinct sets of affines. Nonetheless, indigenous folk describe and reason about kin groups as entities (e.g., having intentions, functioning as corporate individuals, being morally culpable as corporate individuals) and they have profitably been analyzed as entities. This suggests that
the commitment to kin groups as entities is strong enough to overcome an inherent tension in its logic as kin groups are not in fact bounded entities.

More generally, social psychologists have provided compelling evidence that Western adults treat human aggregates as entities. There is now a cottage industry exploring *entitativity*, the idea that groups are conceptualized as corporate individuals or entities (Campbell, 1958; Hamilton, Sherman, & Lickel, 1998; Yzerbyt, Castano, Leyens, & Paladino, 2000). Other work attests to how robust this cognitive commitment is. As Heider and Simmel (1944) demonstrated in a classic study, individuals attribute intentionality to clearly inanimate stimuli if they move in ways consistent with intentional behavior. Bloom and Veres (1999), adapting Heider and Simmel’s procedure, showed that adults will do the same with extremely schematic moving collections of objects. Moreover, they treat the collections (as opposed to the individual objects comprising the collections) as being purposeful and goal-directed entities.1

Several findings provide indirect evidence that children also treat human aggregates as entities. In particular, there is now considerable research indicating that even quite young children invest some groups but not others with great inductive potential. Critically for my proposal, this inductive potential apparently does not develop as a function of communal experience with adults or as a function of domain-general processes like judgments of similarity. Rather, it seems to be a function of lay theories about the social universe that develop on their own, the developmental course of which suggests that the theories are the output of an endogenous humankind module. For brevity’s sake, I limit the discussion of these lay theories to lay theories of race among North American and northern European children. Bear in mind, however, that beliefs about other (but not all) human aggregates are also shaped by endogenously organized lay theories.

Much like adults, young children readily infer nonobvious properties about a person simply on the basis of that person’s race and gender (Aboud, 1988). Indeed, adult beliefs about race and gender so saturate the cultural environment that it hardly seems possible that children would not use race and gender in this way. There is, however, good reason to believe that they do not invest race with inductive potential simply because adults do. First, children’s racial attitudes (i.e., their willingness to project properties across individuals in virtue of common racial status) cannot be predicted from those of their parents, even in families in which parents actively seek to shape their children’s beliefs (Spencer, 1983). Second, adults provide surprisingly little direct guidance about race, at least in the form of direct speech about race. Children appear to infer ambient cultural beliefs rather than being directly taught them (Kofkin, Katz, & Downey, 1995). In this regard, children’s beliefs about the nature of racial groups are similar to their beliefs about the nature of living kinds. Neither develops through close parental tuition (Gelman, Coley, Rosengren, Hartman, & Pappas, 1998, for nonhuman living kinds; Kofkin et al., 1995, for social kinds).

Strikingly, the development of children’s racial cognitions is not well predicted from what we know of adult racial cognitions. Age-related changes in these cognitions—in particular the degree to which membership in different kinds of human groupings affords inductive potential—do not display a shift from simple similarity-based reasoning to more complex theorylike (and adultlike) reasoning. Rather, the changes reflect a calibration of a general folk theory to a specific cultural environment. For example, young North American and northern European preschoolers initially invest occupation with the same degree of inferential potential as race, whereas slightly older preschoolers do not (Hirschfeld, 1995). Thus, there is a moment of development during which North American and northern European children believe that a person’s occupation is as revealing of hidden properties as the person’s race, a belief that may be insensible from the perspective of the adults around them but not obviously less complex. However, in the absence of cultural support, children abandon this hypothesis. Clearly this shift in reasoning is not a universal property of cognitive development: Children who inhabit a cultural environment that supports the idea that occupation is a “deep” property, such as south Asian children, maintain the attribution (Mahalingam, 1999).

Another line of evidence supporting an endogenous competence for folk sociology involves the way children parse social environments and the natures they attribute to the aggregates that constitute these environments. Previous researchers, as I observed earlier, assume that children’s understanding of social entities emerges as a function of how conspicuous they are. In this view, race and gender are early emerging social categories because they are perceptually inescapable. If this were the case, we could anticipate that children would attend to all social categories that are visually conspicuous in much the same way. As I also observed, this expectation has not been borne out.

It has been argued that young children not only classify on the basis of superficial properties but reason superficially about race (Aboud, 1988; Katz, 1983). The principal finding is that young children do not grasp racial constancy, believing that a person’s race is deter-

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1 In an on-going study, Michael Baran, Paul Bloom, Susan Gelman, and I used an adapted version of Bloom and Veres’ task with kindergartners. The results parallel those obtained with adults: Kindergartners attribute intentionality to groups of objects engaged in apparently purposeful movement as readily as they attribute intentionality to single objects engaged in the same pattern of movement.
mined by outward appearance alone and that superficial changes in appearance signal changes in race (Aboud, 1988; Semaj, 1980). Subsequent research I conducted (Hirschfeld, 1996) did not support this claim. Even quite young children understand that a person’s race is a function of his or her family background, immutable over the life span, and fixed at birth. Moreover, they do not believe the same is true of other, similarly embodied, perceptually prominent properties and socially relevant aspects of appearance. In short, they reason as if race (but not other similar properties) is a function of nonobvious essences that govern the growth and inheritance of both apparent and invisible properties. In this regard, children display ideation that is unexpectedly both theorylike and adultlike. This pattern of reasoning appears to develop in significant measure on its own.

**Conclusion**

Although indirect, taken together these strands of evidence suggest that children treat some but not all human aggregates as being “of a kind.” One standard of “kindhood” is the degree to which an aggregate is conceived as a distinct entity (Hirschfeld, 1998). When we sort humans on the basis of their height, we do not end up with a grouping of humans of a kind, because very little can be inferred about members of that group beyond qualities of height. On the other hand, when we sort humans on the basis of their (supposed) race, we do end up with a group of humans of a kind precisely because we do go far beyond the information given (even though the facts of biology do not support this inference).

Let me close with a caveat to an implication of my argument. I am not arguing that children have an endogenous lay theory of race. To the contrary, I contend that children have an endogenous lay theory of human kinds that activates closely channeled curiosity about the social universe, leading young children to seek out information (typically verbal) about the aggregates relevant to the particular cultural environment in which they live, and that they interpret these aggregates in a specific fashion. Systems of racial thinking vary considerably across cultures and historic time. My proposal neither denies this variability nor implies that it is trivial.

By extension, I do not suggest that racial thinking is impervious to cultural and political influence. Communal living does shape the social beliefs that children come to hold. Racial thinking is literally unthinkable in the absence of culture and polity. Nonetheless, I do claim that a contingent relation links racial thinking and lay theories of folk sociology. Cognitive architecture makes some cultural repre-

sentations possible and precludes others (or at least inhibits them from being both stable and widely distributed in a population). The fact that racial thinking is so common, so widely and rapidly spread once it is culturally available, is a function not simply of the politics of inequality but of conceptual politics as well. Race regulates power and authority so readily because it is so resonant with a conceptual disposition to order and interpret human aggregates (Hirschfeld, 1997). Lay theories not only underlie common sense; they may well underlie common ills.

**References**


