Collective Intentionality

There is no thinking apart from common standards of correctness and relevance, which relate what I do think to what anyone ought to think. The contrast between "I" and "anyone" is essential to rational thought.

—WILFRED SELLARS, PHILOSOPHY AND THE SCIENTIFIC IMAGE OF MAN

A modern human society may be characterized in two dimensions. The first is its synchronic social organization: the coordinated social interactions that make it a society in the first place. Early human individuals, as we have seen, coordinated in acts of collaborative foraging with specific others from a loosely structured pool of collaborators. But now with modern humans we need to scale up to much larger social groups with much more complex social organization, that is to say, to fully cultural organization. Modern humans became cultural beings by identifying with their specific cultural group and creating with groupmates various kinds of cultural conventions, norms, and institutions built not on personal but on cultural common ground. They thus became thoroughly group-minded individuals.

The second dimension of a modern human society is its diachronic transmission of skills and knowledge across generations. Social transmission of one sort or another was almost certainly important in the lives of early humans (as it is in some apes’ lives), as difficult-to-invent, tool-based, subsistence activities became ever more complex and important for survival. But now with modern humans we need to scale up to full-fledged cultural transmission supporting cumulative cultural evolution. This required that modern humans not just acquire instrumental actions by observing others, as did early humans, but actively conform to the behavior and norms of the group, and even enforce conformity on others through teaching and social norm enforcement.
The combination of these changes in the two dimensions of human sociality created some totally new cultural realities. The transformative process was conventionalization, which has both a coordinative component, as individuals implicitly “agree” to do something in a consistent way (everyone wants to do it this way as long as everyone else does, too), and a transmissive component, as this way of doing things sets a precedent to be copied by others who want to coordinate as well. The result is what we may call cultural practices, in which individuals, in effect, coordinate with the entire cultural group via collectively known cultural conventions, norms, and institutions. In communication this means, of course, linguistic conventions, which serve their coordinative function because, and only because, they exist as “agreements” in the group’s cultural common ground.

In terms of thinking, early humans imagined the world in order to manipulate it in thought via perspectival cognitive representations, socially recursive inferences, and social self-monitoring—which prepared them to coordinate with other specific individuals. But group-minded and linguistically competent modern humans had to be prepared to coordinate with anyone from the group, with some kind of generic other. This meant that modern human individuals came to imagine the world in order to manipulate it in thought via “objective” representations (anyone’s perspective), reflective inferences connected by reasons (compelling to anyone), and normative self-governance so as to coordinate with the group’s (anyone’s) normative expectations. And these group-minded ways of operating and thinking were not present just in specific ad hoc collaborative interactions of the moment; rather, because of the way that modern humans became competent members of a cultural group during ontogeny, they created a permanent imprint in the human mind-set.

So once more let us look, first, at the new forms of collaboration evident in human cultural organization, then at the new forms of conventional linguistic communication for coordinating cultural life, and then at the resulting new forms of agent-neutral, normatively governed thinking that cultural life demanded.

The Emergence of Culture

A number of animal species, from whales to capuchin monkeys, engage in one or another form of social transmission, requiring some form of social learning.
The most cultural of nonhuman animals are undoubtedly the great apes, especially chimpanzees and orangutans. Observations in the wild have documented for these two species a relatively large number of population-specific behaviors that persist in the group over time and that very likely involve social learning (Whiten et al., 1999; van Schaik et al., 2003). Experimental studies have also demonstrated some skills of social learning in these two species, for example, in learning to use novel tools, that very likely are at work in generating their cultural patterns in the wild (see Whiten, 2010, for a review).

But great ape culture is not human culture. Tomasello (2001) characterizes great ape culture as mainly “exploitive,” as individuals socially learn from others who may not even know they are being watched. Modern human culture, in contrast, is fundamentally cooperative, as adults actively teach children, altruistically, and children actively conform to adults, as a way of fitting in cooperatively with the cultural group. The hypothesis is that this cooperative form of culture was made possible by the intermediate step of early humans’ highly cooperative lifeways and how this transformed great ape social learning into truly cultural learning. Teaching borrows its basic structure from cooperative communication in which we inform others of things helpfully, and conformity is imitation fortified by the desire to coordinate with the normative expectations of the group. Modern humans did not start from scratch but started from early human cooperation. Human culture is early human cooperation writ large.

**Group Identification**

The small-scale, ad hoc collaborative foraging characteristic of early humans was a stable adaptive strategy—for a while. In the hypothesis of Tomasello et al. (2012), it was destabilized by two, essentially demographic, factors.

The first factor was competition with other humans. This meant that a loose pool of collaborators had to turn into a proper social group in order to protect their way of life from invaders. A loose social grouping of early humans was under pressure to transform into a coherent collaborative group with joint goals aimed at group survival [each group member needing the others as collaborative partners for both foraging and fighting] and division-of-labor roles toward this end. As with early humans’ smaller-scale collaborations, this meant that group members were motivated to help one another, as they were all now clearly interdependent with one another at all times: “we” must together compete with and protect ourselves from “them.” Individuals thus
began to understand themselves as members of a particular social group with a particular group identity—a culture—based on a we-intentionality encompassing the entire group.

The second factor was increasing population size. As human populations grew, they tended to split into smaller groupings, leading to so-called tribal organization in which a number of different social groupings were still a single supergroup or “culture.” This meant that recognizing others from our own cultural group became far from trivial—and of course we needed to ensure that they could recognize us as well. Such recognition in both directions was important because only members of our cultural group can be counted on to share our skills and values and so be good and trustworthy collaborative partners. Contemporary humans have many diverse ways of marking group identity, but one can imagine that the original ways were mainly behavioral: people who talk like us, prepare food like us, and net fish in the conventional way—that is, those who share our cultural practices—are very likely members of our cultural group.

And so early humans’ skills of imitation became modern humans’ active conformity, both to coordinate activities more effectively with in-group strangers and to display group identity so that others will choose me as a knowledgeable and trustworthy partner. Teaching others to do things, perhaps especially one’s children, became a good way to assist their functioning in the group and to ensure even more conformity in the process. Teaching and conformity then led to cumulative cultural evolution characterized by the “ratchet effect” (Tomasetto et al., 1995; Tennie et al., 2009; Dean et al., 2012) in which modifications of a cultural practice stayed in the population rather faithfully until some individual invented some new and improved technique, which was then taught and conformed to until some still newer innovation ratcheted things up again. Tomasetto (2011) argues that great ape societies do not display the ratchet effect or cumulative cultural evolution because their social learning is fundamentally exploitative and not cooperatively structured in the human way via teaching and conformity, which constitute the ratchet that prevents individuals from slipping backward.

The new sense of group identity characteristic of modern humans was thus extended not just in space to in-group strangers but also in time to ancestors and descendants in the group: this is the way “we” have always done things; it is part of who “we” are. As cultural practices were handed down across generations cooperatively—adults altruistically teaching and youngsters
trusting and even conforming—the resulting cumulative effect was that the "we" became an enduring culture to which we (past, present, and future) are all committed (just as early humans were committed to their ongoing, small-scale collaborations). Human populations thus became more than a loosely structured pool of collaborators; they become self-identified cultures with their own "histories." Once again, precisely when this all happened is not crucial to our story, but the first clear signs of distinct human cultures appear with Homo sapiens sapiens; that is, modern humans, beginning at the earliest some 200,000 years ago.

That humans do indeed think of their group as a "we" of interdependent individuals—that humans identify with their group—is a well-established psychological fact. Most fundamentally, humans have a marked in-group/out-group psychology that is, in all likelihood, unique to the species. Much research shows that humans favor their in-group in all kinds of ways, and they care about their reputation more in their in-group than in any out-groups as well (Engelmann et al., in press). Moreover, they think of others from other groups not just as strangers, as do apes and as did early humans, but as members of specific out-groups with alien, often despised ways. Perhaps the most striking phenomenon of group identity is collective guilt, shame, and pride. Individuals feel guilty, ashamed, and/or proud when an individual of their group does something noteworthy in basically the same way that they would if they themselves had done the deed (Bennett and Sani, 2008). In the contemporary world, one sees such group identity and collective guilt, shame, and pride quite clearly in struggles over ethnic identity, linguistic identity, collective responsibility, and so forth—and even in such frivolous phenomena as fan support of sports teams. As far as we know, great apes do not have, and early humans did not have, this sense of group identity at all.

The proposal is thus that with increasing population sizes and competition among humans, the members of human groups began to think of themselves and their groupmates (known and unknown, present and past) as participants in one big, interdependent, collaborative activity aimed at surviving and thriving in competition with other human groups. Group members were identified most readily by specific cultural practices, and so teaching and conformity to the group's lifeways became a critical part of the process. These new forms of group-mindedness led to what we may call the collectivization of human social life, as embodied in group-wide cultural conventions, norms, and institutions—which transformed, one more time, the way that humans think.
Conventional Cultural Practices

Group identification means that human groups each have their own set of conventional cultural practices. Conventional cultural practices are things that "we" do, that we all know in cultural common ground that we do, and that we all expect one another in cultural common ground to do in appropriate circumstances. Thus, in an open barter food market in which a conventionalized set of measurements for coordination is in place, if I show up with my honey in unconventional containers, no other traders will know what to do with me and my undetermined quantities of honey. With conventional cultural practices, deviations are not punished per se; they are simply left on the outside looking in. And there are some conventions that one cannot opt out of: one can wear this clothing, or that clothing, or nothing at all, but whatever one wears, it is a cultural choice that will either conform to or violate the expectations of others in the group.

Unlike the second-personal common ground that early human individuals created with one another as they engaged in collaborative activities, the common ground at this point is what Clark (1996) calls cultural common ground: things that we all in the group know that we all know even if we did not experience them together as individuals. Indeed, Chwe (2005) argues that the main function of the public events of a culture is to make sure that such things as the chief's coronation or his daughter's marriage ceremony become public knowledge: a part of the cultural common ground that everyone can count on everyone else knowing, which no one can plausibly deny knowing, and knowledge of which serves as a shibboleth for group membership. Interestingly, children as young as two years of age are already tuned into cultural common ground. Thus, Liebal et al. (2013) had two and three-year-old children meet a novel adult (clearly from their group). This in-group stranger then asked them sincerely, "Who is that?" while they looked together at a Santa Claus toy and a toy the child had just made before the adult entered. Children answered by naming the newly created toy, as even children this young know that no one in the culture, not even someone they have never before met, needs to ask who is Santa Claus. (In a second condition they named Santa Claus if the stranger asked for the name of a toy she seemed to recognize.) Children in this same age range also expect that in-group strangers will know the conventional name of an object but not a novel, arbitrary fact about that same object (Diesendruck et al., 2010).
Some conventional cultural practices are the product of explicit agreement. But this is not how things got started; a social contract theory of the origins of social conventions would presuppose many of the things it needed to explain, such as advanced communication skills in which to make the agreement. Lewis (1969) thus proposed another way to get started. We begin with a coordination problem, say, what time to show up to go group fishing every day at our new camp. Let us say that by chance we depart on the first day at midday (just because that is when enough people for the task have congregated). Assuming no advanced communication skills, what do we do the next day? Following Schelling (1960), Lewis (1969) proposes that we search for anything to single out one time from all the others on this second day, and a natural way of doing that for humans seems to be “precedent”—we do what we did before (what worked for us before) and show up at midday again. And so we habituate, and new participants just imitate and conform to us. Anyone who does not conform simply does not participate.

But with the possibility of communication, we may also teach the convention to others and encourage them to conform and so to participate in the cultural practice. Importantly for our understanding of collective intentionality, when adults teach children how to perform cultural practices, the children take it not as communication about the current episodic event but, rather, as something general about the world, applying to things and/or events like these in general (i.e., “Fishing takes place at midday”). Thus, an adult might communicate to a child, without teaching, that there is a fish right there in the water. But when he goes into teaching mode the message is something more like, “These kind of fish are found in places like this,” to facilitate the child’s fishing skills in general (Csibra and Gergely, 2009). The implication of this pedagogical mode of cooperative communication is that there is a kind of objective reality that works on general principles (these kinds of fish in general, and these kinds of places in general), and the current situation is merely one instance of this objective reality. Teaching is implicitly backed by the collective and objective perspective on things developed by our cultural group.

Modern human children are thus learning from adults that there are certain ways that things should work. This “should” implicitly undergirding adult teaching prompts children, in ways that we do not fully understand, to objectify and reify the generic facts they are being taught into an objective reality—a generic perspective that is the ultimate adjudicator among differing
perspectives on the world. This process has many implications for human thinking, but a prominent one is the understanding of false beliefs (which great apes clearly do not do; see Tomasello and Moll, in press, for a review). Thus, we previously invoked something like Davidson's notion of social triangulation to explain how it is that early humans came to understand that others have perspectives that differ from their own. But to get an understanding of beliefs, including false beliefs, we must have some notion of a generalized perspective on an objective reality that is independent of any particular perspective. Something like this is needed to make the judgment not just that a belief is different from mine, but that it is wrong—since objective reality is the final arbiter. It is likely that young children begin to think in terms of multiple different perspectives on things from as soon as they participate in joint attention with its two perspectives during late infancy (Onish and Baillargeon, 2003; Buttelmann et al., 2009), and we may hypothesize that this was the case for early humans as well. But it is not for several more years that children come to a full-blown understanding of beliefs, including false beliefs, because they (and so presumably all humans before modern humans) do not yet understand "objective reality."

Social Norms and Normative Self-Monitoring

In the small-scale collaborative interactions of early humans, individuals actively chose some collaborative partners and shunned others, and in some cases even rewarded and punished partners. But this was all done in second-personal mode, that is, as one individual evaluating another individual. What happened with modern group-minded humans was that these evaluations became conventionalized and so applied in agent-neutral, transpersonal mode, that is, applied by all to all (even by and to those not directly involved in an interaction) and with respect to objective, transpersonal standards. Although great apes retaliate for harm done to them, they do not punish other individuals for acts toward third parties (Riedl et al., 2012). In contrast, three-year-old children enforce social norms on others even when they are not personally involved or affected in any way, often using normative language about what one should or should not do in general (Rakoczy et al., 2008; see Schmidt and Tomasello, 2012, for a review).

Social norms are thus mutual expectations in the cultural common ground of the group that people behave in certain ways, where the mutual expectations
are not just statistical but, rather, socially normative, as in you are expected to
do your part (or else). The force of the expectations derives from the fact that
individuals who do not conform to our group’s way of doing things often create
disruptions, which should not be tolerated, and indeed, if individuals behave
too differently it signals that they are not one of us (or do not want to be one of
us) and so cannot be trusted. Group-minded individuals thus view nonconformity
in general as potentially harmful to group life in general. The result is that
humans conform to social norms for instrumental reasons (to coordinate suc-
cessfully), for prudential reasons (to avoid the group’s opprobrium), and in order
to benefit of the group’s functioning since nonconformity potentially disrupts
this functioning (a group-minded reason).

Like conventions in general, social norms operate not in second-personal
mode but rather in agent-neutral, transpersonal, generic mode. First, and most
basic, social norms are generic in that they imply an objective standard against
which an individual’s behavior is evaluated and judged. In early humans’ social
evaluations, individuals only knew who did things ineffectively or nonco-
operatively, but now the roles have specific agent-neutral standards (that can
be taught as such). These objective standards come from the mutual under-
standing of how the different functions in particular conventionalized cultural
practices are effected if everyone is to reap the anticipated benefit. Thus, if it is
cultural common ground in the group that when collecting honey the person
smoking out the bees must do so in this particular way, and that if she does
not do it in this way we will all go home empty-handed, then her behavior
may be evaluated relative to this objective standard for job performance.

Social norms are also generic in terms of their source. Social norms emanate
not from an individual’s personal preferences and evaluations but, rather, from
the group’s agreed-upon evaluations for these kinds of things. Thus, when an
individual enforces a social norm, she is doing so, in effect, as an emissary
of the group as a whole—knowing that the group will back her up. Group-
minded individuals thus enforce social norms because their collective com-
mitment to a social norm means that they commit not only to following
it themselves but also to seeing that others do, too—for the benefit both of
ourselves and of other group members with whom we are interdependent
(Gilbert, 1983). The typical formulation of individuals enforcing social norms
would be something like, “One cannot do it that way; one must do it like
this,” which is of course very similar to the generic mode used in teaching.
(Indeed, norm enforcement and teaching may be two versions of the same
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phenomenon: en culturating individuals to our group’s ways of doing and thinking about things.) The presupposition of norm enforcement is that this is the group’s collective perspective and evaluation, or possibly even something generalized beyond that to some deity or some external normative facts of the universe; it is just the case in our world that this is the right way and that is the wrong way to do it.

And finally, social norms are also generic in their target; group disapproval is aimed in an agent-neutral way at in principle anyone, that is, anyone who identifies with our group’s lifeways and so knows and accepts in cultural common ground our social norms. (The common ground assumption exempts from the force of our social norms individuals from another social group, young children, and mentally incompetent persons [Schmidt et al., 2012].) This agent neutrality in application is nowhere more evident than in the fact that people apply social norms to themselves in acts of guilt and shame. Thus, if I take some honey that is needed by others, I will feel guilty under the force of the norm against stealing (perhaps undergirded by sympathy for the victim). More telling, if some illicit avocation of mine is made public, I will feel ashamed under the eyes of the group norm, even though I may not feel that it is wrong at all. Guilt and shame thus demonstrate with special clarity that the judgment being made is not my personal feeling about things (I wanted the honey and that avocation), but rather, it is the group’s—which is especially clear in the case of shame, in which I may not even agree with the group. Nevertheless, I, as an emissary of the group, am sanctioning myself. Guilt and shame may thus have some second-personal bases in me feeling bad that I harmed another individual or that I did not conform to the expectations of valued others, but the full versions require in addition that I know I violated a collective norm. It is not just that my victim feels bad, or that I offended others’ sense of decency but, more important, that the group—which includes me—disapproves.

Because I know that things work in this way, I self-monitor and self-regulate my actions via group norms so as to coordinate with the expectations of the group. In this normative self-monitoring, as we may call it, what one is often trying to protect is a public reputation, one’s status as a cooperative member of the group (Bohn, 2012). That is to say, with modern human collaboration taking place on the level of the entire cultural collectivity, my behavior in various contexts might be known to some degree in the cultural common ground of the group as a whole (e.g., because of the pervasiveness of gossip,
done best in a conventional language; see below). This means that early humans' concern with being judged is transformed by modern humans into a concern for one's public reputation and social status. And, critically, reputational status is more than just a sum of many social evaluations; it is nothing less than a Searlean status function (see next section) in which my public persona is a reified cultural product created by the collectivity, who can take it away in a second, as any scandalized modern politician can attest.

Institutional Reality

In the limit, some conventional cultural practices turn into full-blown institutions. Obviously, the dividing line is fuzzy, but a basic prerequisite is that the cultural practice is not a solo activity but is in some sense collaborative, with well-defined, complementary roles. But the key feature distinguishing cultural institutions is that they comprise social norms that do not just regulate existing activities but, rather, create new cultural entities (the norms are not regulative but constitutive). For example, a human group might tend to make decisions about such things as where to travel next, how to set up defenses against potential predators, and so forth, by simply arguing among themselves. But if there are difficulties in making decisions, or infighting among several coalitions, then the group could institutionalize the process into some kind of governing council. Creating this council would give otherwise normal individuals abnormal status and powers. The council might then designate a chief, whom they would empower to do still other abnormal things, like banish people from the group. The council and chief are thus cultural creations, and their entitlements and obligations are bestowed upon them by the members of the group, who can, in theory, take them away and so turn the council members and chief back into everyday people again. The roles in institutions are explicitly agent neutral because, in theory if not in practice, anyone may play any role.

Searle (1995) has been most explicit about how this process works. First, obviously, is some kind of mutual agreement or joint acceptance among group members to designate, for example, an individual as chief. Second, there must be some kind of symbolizing capacity so as to enact Searle's well-known formula "X counts as Y in context C" (X counts as chief in the context of group decision making). Related to this, there should be some actual physical symbol—something like a leader's headdress or scepter or presidential seal—to
help in marking the new status in a public way. The fact that institutions are public means that everyone knows that everyone knows about them and cannot plead ignorance in the face of overt symbolic marking. This is one reason why new institutions and officials are anointed with their new obligations and entitlements not just implicitly but explicitly and publicly. One could not do something bad to a chief wearing his official headdress, right after his official inauguration, and then plead ignorance of his status. Similarly with formally written rules and laws: their public nature essentially means that one cannot break them and expect to be excused by pleading ignorance.

Rakoczy and Tomasello (2007) argue that a simple model for understanding cultural institutions is rule games. Of course one may move a piece of wood shaped like a horse all around a checkered board in any way one likes. But if one wants to play chess, then one acknowledges that this horse-shaped piece is a “knight,” and one moves a knight only in certain ways, and the other pieces in other ways, toward the goal of winning the game, where winning is defined by certain agreed-upon configurations of pieces. The pieces are given their statuses by the norms or rules, whose existence comes from, and only from, the explicit agreement of the players. Thus, we would argue that the ontogenetic cradle of such cultural status functions is young children’s joint pretense when they, for example, designate together a stick to be a snake. In doing this they are engaging in the fundamental act that creates new statuses since, we would claim, this designation is a social, public agreement with one’s play partner (see Wyman et al., 2009). Importantly, although the ability to pretend derives evolutionarily, as we have argued, from the way that early humans created pretend realities by pantomiming situations for others communicatively, the normative dimension comes only with the group-mindedness and collectivity characteristic of modern human cultures.

The most important point for current purposes is that there are in the modern human world social or institutional facts. These are objective facts about the world: Barack Obama is president of the United States, the piece of paper in my pocket is a $20 note, and one wins at chess by checkmating one’s opponent. At the same time that they are objective, however, these facts are observer relative; that is, they are created by individuals in social groups, and so they may be just as easily dissolved (Searle, 1995). Barack Obama is president but only as long as we say so; euros are legal tender but only as long as we act so, and, in theory, the rules of chess may be changed at any time. What is absolutely extraordinary about social facts, then, is that they are both objectively...
real and socially created, speaking once again to the power of the objectification/reification process. Indeed, if one gives five-year-old children some objects with almost no instruction, they very quickly create their own rules for how to play with them, and they then apply these rules both to themselves and to new players as objective facts: “One must do this first,” “It works like this,” and so forth (Goeckeritz et al., unpublished manuscript). As in adult teaching and norm enforcement, the “must” here implies the guiding hand of an objective reality, independent of the perspective or wishes of any particular individual.

**Summary: Group-Mindedness and Objectivity**

The social interactions of early humans were wholly second-personal. The social interactions of modern humans added on top of this a group-minded layer, starting with identification with one’s group. Individuals in a particular cultural group know that everyone knows certain things, knows that everyone else knows them, and so on, in the cultural common ground of the group. There are collectively accepted perspectives on things (e.g., how we classify the animals of the forest, how we constitute our governing council) and collectively known standards for how particular roles in particular cultural practices should be performed—indeed, must be performed—if one is to be a member of the group. The group has its perspective and evaluations and I accept them; indeed, I myself help to constitute the group’s perspective and evaluations, even if the target is myself.

Crucially, the generality involved in this new group-mindedness is not just schematicity. We are not talking here about an individual perspective somehow generalized or made large, or some kind of simple adding up of many perspectives. Rather, what we are talking about is a generalization from the existence of many perspectives into something like “any possible perspective,” which means, essentially, “objective.” This “any possible” or “objective” perspective combines with a normative stance to encourage the inference that such things as social norms and institutional arrangements are objective parts of an external reality. The generic nature of the communicative intention in both norm enforcement and pedagogy derives from the inherently generic group-mindedness and social normativity governing the way that “we” expect “us” to do things, which is then objectified into this is the way things are, or ought to be, in the world at large.
Early humans' dual-level cognitive model of jointness and individuality is thus scaled up by modern humans into a group-minded cognitive model of objectivity and individuality. Human group-mindedness thus reflects a profound shift in ways of both knowing and doing. Everything is genericized to fit anyone in the group in an agent-neutral manner, and this results in a kind of collective perspective on things, experienced as a sense of the "objectivity" of things, even those we have created. Thus is human joint intentionality "collectivized."

The Emergence of Conventional Communication

In addition to conventionalizing their social lives in general into collective cultural practices, norms, and institutions, modern humans also conventionalized their natural gestures into collective linguistic conventions. Early humans' spontaneous, natural gestures of the moment were important for coordinating their many collaborative activities, but conventionalized gestures and vocalizations—collectively known by all of those who have grown up in our cultural group, past and present, but not by others—enabled much more decontextualized and flexible forms of communication and social coordination with all members of the cultural group, even those with whom one had never before interacted.

Given a naive view of the nature of linguistic communication, one might assume that the use of language obviates the need for thinking in the communicative coordination of intentional states: I encode my "meaning" in language, and you decode it—the way telegraph operators used to work with Morse code. But, in fact, this is not how linguistic communication works (Sperber and Wilson, 1996). For example, a large proportion of words in everyday spoken discourse are pronouns (he, she, it), indexicals (here, now), or proper names (John, Mary), whose referents cannot be determined from a codebook but rather must be determined by accessing some kind of nonlinguistically constituted common conceptual ground. Moreover, our everyday discourse is liberally peppered with seemingly incoherent sequences, for example, Me: "Want to go to a movie tonight?" You: "I have a test in the morning." For me to interpret your answer as a "No," we must share in common ground an understanding that tests require studying beforehand, one cannot study and watch a movie at the same time, and so forth. This common ground then makes possible my abductive leap that you will not be coming with me to the movie.