# COMMON SENSE NATURALIZED

## The Practical Stance

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If common sense psychology is the solution, what was the problem?

## I. Introduction

Almost everybody believes, but nobody has conclusively shown, that common sense psychology is a descriptive body of knowledge about the mind, the way physics is about elementary particles or medicine about bodily conditions. Of course, common sense psychology helps itself to many notions about the mind. This does not show that common sense psychology is about the mind. Physics also helps itself to plenty of mathematical notions, without being about mathematical entities and relations. Employment of notions about the mind does not by itself establish the nature and business of common sense psychology. To find out what the latter's notions are about requires finding out what they are for. To find out what they are for, we should start by asking who employs them in what contexts and for what reasons. If we consider seriously these questions, we should not be too surprised to find out that:

(1) A subject is an agent busily pursuing his worldly interests. In the process, he encodes, operates on, can be read for, and often deliberately conveys information about his current as well as past or future cognitive and behavioral states, and about the world around him, as it was, is, and could be.

(2) A sense maker is also a busy agent. To pursue her worldly

interests, she needs the subject as a source of information about himself and the world around him. The subject is an information tool that the sense maker uses for her own aims. To this end, the sense maker must select and conceptualize the information relations at a subject in a form in which, and to an extent that, they are practically relevant and useful.

If these propositions are plausible, so are the next two:

(3) Such practically motivated and information-sensitive notions provide the sense-maker with the cognitive means to get data about, and thus predict or retrodict, the subject's cognition and behavior (the primary function), and also to interpret, explain and rationalize him (secondary function).

(4) As a result, making sense of a subject (using common sense psychology) is not likely to be a theoretical pursuit aimed at producing a descriptively accurate map of mind in terms of explanatory kinds and laws. Motivated by biosocial and practical pressures, common sense making is primarily an enterprise of extracting information from conspecifics in a context, so it must be a psychopraxis, not a psychologos.

These are the basic theses of this essay. Its basic argument is mostly programmatic: I am more interested at this stage to sketch a principled position on what common sense psychology is, and is not, rather than attending to the details of its conceptual mechanics and operation in particular cases. But there will be enough examples and details, I hope, to lubricate and validate the argument.

I begin in part II with the critical claim that common sense psychology is not a logos of the psyche. 'Psychology' is therefore a misnomer, for there is no logos in common sense. This is why I will be talking mostly of common sense making. ('Making' is closer to the idea of practice which I associate with the use of common sense notions.) Not being a logos, common sense does not have the conceptual functions we attribute to a logos, namely to explain and predict from the nature and the laws of the entities and processes in its domain. I then suggest, in part III, a naturalization strategy in terms of which common sense making is shown to be a specialized cognitive competence whose original and essential function must have been to read the intelligent psyche of our conspecifics for the information useful in contexts of action, cooperation and conflict. Part IV puts this psychoinformational hypothesis to work. Examples are considered and implications are drawn to the effect that, with respect to content, common sense concepts are not about data structures (or representations) and other internal conditions of a subject but rather about the information that a subject's psyche conveys about the world and/or self in a context. This is why I call the concepts of common sense psychoinformational. In part V common sense explanations are shown to be parasitic on information-providing predictions and retrodictions; and even when intended as genuine explanations, they utilize notions which are psychoinformational, not descriptive of the mind.

The argument of this essay assumes a sharp distinction between intentionality and content. The former is an objective property of the functional design and operation of our cognition, a matter about which I have nothing to say here (but see Bogdan 1988a). Content, as understood by common sense, is quite another animal. To attribute content, common sense relies on the intentionality or aboutness of cognition, just as it relies on various properties of the world and of

behavior. But "reliance on" does not mean "theory of" or even "concept of". To do its job, common sense need not have a theory of the intentionality of cognition; and, not surprisingly, it doesn't have any. As a result, its notion of content need not be, and is not, explicative of that of intentionality. Nor, conversely, is the notion of intentionality (which may end up being elucidated by the sciences of cognition or by metascientific reflection on them) explicative of that of content. The naturalization of content, and of its paradigm, common sense psychology, is an enterprise quite distinct from the naturalization of intentionality and mental causation. This paper is concerned only with the former enterprise.

When used philosophically, our mentalist vocabulary is nevertheless torn between intentionality and content. Endemic confusion of the two is not the only culprit. Current philosophy of mind and language has the programmatic objective of analyzing intentionality in terms of content, and vice versa. This is a misguided effort. The result is tension (intuitions fighting each other) and frustration (no solution). The tension is absent in the normal use of mentalist words which is eminently geared to content, and is calculated to appeal to cognitive representations and their aboutness only to the extent to which they contribute to content fixation in a context. My use of mentalist words in this paper follows common sense (as diagnosed) and is normal. In this sense, I assume that, for example, the common sense notion of belief picks up a token representation, having its aboutness for a subject, and places it in a network of content-constituting (or information-fixing) relations, relative to a sense maker, in a context; and I deny that the network in question, specified for a sense maker, can possibly define a genuine and causally efficacious type of internal mental states of a subject.

Themes of this essay are present in some recent philosophical and psychological works. Although I learned from and relied on them, I do not want to imply that their authors would agree with either my account or

the way I put their insights to work for my theses. To locate my approach on this friendly map and pay respects, while also anticipating differences, let me mention a few key points of reference. The recent literature on animal psychology (Premack&Woodruff, 1979; Griffin, 1984; Dennett, 1987) has brought home the realization that animals may be attributing to each other cognitive and conative states as they read each other for information and try to predict the other's next moves. It does not make much sense to assume that animals engage in such attributions for explanatory reasons. What they need is the information their conspecifics and others may provide. If animals do it, humans do it too, for they are animals who depend informationally on their conspecifics. The animal connection suggests a competence for cognitive and conative attributions which has adaptive benefits (Fodor, 1987).

Frege may have been the first to note that our interest in the reference of words betrays an interest in how the world is. Field (1978), Loar (1981) and Schiffer (1981) have developed this insight by arguing that we generally exploit mind-world relations to gain information about the world, and that this exploitation has a lot to do with our content attributions and the semantic constructs we devise for this purpose. Their position is that the fact of someone believing something can be construed as reliable information about how the world is. My account looks at the same relation from the other direction: the fact that one needs another to supply one with information about the world is reason to construe the other as believing something about the world. Both the content and the attitude attributed are common sense constructs posited in order to secure and conceptualize the information of interest.

Putnam's and Burge's well known puzzles, and diagnoses thereof, have prompted and spread the realization that attributions of mental states have at least two and often incongruous objectives, one, to explain behavior, the other, to identify and evaluate the semantic relations

between mental states and the world. This is how the dual track, or two factors, theories of propositional attitudes construe our ordinary psychological notions (Field, 1978; Loar, 1981; McGinn, 1982). I agree with the standard diagnosis that what is semantically evaluable cannot also be explanatory. But I seriously disagree with the explanatory role foisted on the internal or cognitive track of our content attributions. This is the logos myth coming back through the window.

Although not dedicated specifically to the story of common sense making, Barwise's and Perry's book on situation semantics (1983) contains perhaps the most elaborate treatment of how sense makers utilize subjects, particularly as speakers, for getting the information they need. The notion that common sense making is a practice concerned with particular contexts, rather than a protoscientific theory in search of general patterns and laws in human psychology, has been defended by Morton (1980) and Wilkes (1981), among others. This line of analysis has been anticipated by some early ordinary language analyses of Wittgenstein, Austin and Urmson. From a logos stance, Stich (1983) has also provided insights into the pragmatic and contextual workings of common sense psychology.

Finally, should you be reading what follows as another exercise in eliminativism? You should, if your thought on the matter is characterized by the following two assumptions: (i) the common sense notions have the function to pick up types of internal states; and (ii) the types in question are posited for logos or theoretically explanatory reasons. If you do not buy these assumptions, and at the same time hold that common sense making has quite a different domain of application, and hence has integrity, conceptual autonomy and an important business to do, and moreover is not false of its genuine domain, and is not in competition with science, and cannot therefore be eliminated by (or for that matter, reduced to) any science, then you are with me, and we definitely are not

eliminativists. When I mention eliminativism in what follows I have in mind logos eliminativism (of the Churchland sort) which foists the wrong ontology of intrinsic cognitive types on common sense making. If I am eliminating anything, it is this wrong ontology, not a wise body of practical knowledge.

## II. The Logos Impasse

### A PUZZLE

Common sense psychology finds itself at the tender and elusive center of our understanding of the mind, which is why people are passionate about it. For its defenders, common sense psychology has a unique and privileged hold on how the mind works. For its proscientific defenders, this folkloric wisdom must be absorbed by the sciences of cognition if they are to be successful. For the antiscientific defenders of common sense, the principled failure of science to accommodate our folk wisdom about the mind is a reaffirmation of the mind (folklore) - body (science) dualism. For its detractors, however, common sense psychology has no hold on what the mind is and how it works. What common sense offers is simply a conceptual myth, often practically useful for limited purposes, but in general a trouble maker because attractive yet ultimately false.

Both the pro and con positions face a puzzle. On the one hand, it looks as though no matter what domain of facts common sense is wise about, it is a superficial wisdom, bound to be wrong, ultimately and fundamentally. This expectation is grounded both in reflection on the nature of common sense and on the historical record of its accomplishments. Nobody expects folk physics or folk biology to be ultimately and fundamentally true of matter or life. On the other hand, as

friend and foe acknowledge, common sense is not only good at figuring out minds and behaviors but indispensable. It offers a conceptual scheme about the mind that we simply cannot do without. This fact presents foes and friends with a vexing question. For the foes, the question is one of success and indispensability based on falsity. If common sense psychology is ontological nonsense, in that it refers to no genuine and causally active properties of the mind, how can it succeed and be indispensable in explaining and predicting what people think, want and do? For the friends, the vexing question is what sort of truth common sense has access to that would explain its success and indispensability. If common sense is good at figuring out what people think, want and do, it must know something important about minds; what could that be?

## THE LOGOS FALLACY

Both friend and foe attempt to explain (or explain away) the apparent success of common sense psychology from the wrong premise. I call it the logos thesis. It says that in making psychological sense of our conspecifics we employ a logos, a theory, with principled types (beliefs, thoughts, desires, etc.) and generalizations (if belief and desire then intention; if intention, then action; and the like) whose business is to explain and predict from true representations of how things are in its domain, essentially, or in virtue of the nature of the things. A scientific logos is indeed expected to deliver types, generalizations and hence explanations which appeal to the nature of things in its domain. I will call these N-types, N-generalizations and N-explanations. Because it N-explains from N-types and generalizations, common sense must be a genuine theory, a logos; and because it explains cognition and behavior, it must be a logos of the psyche. The logos thesis about common sense is compatible with several versions of N-explanation, from the deductive

nomological to functional and even interpretational. In what follows, I will have in mind mostly the first two.

The reasoning behind the logos thesis seems to be based on the principle that the success of a theory points to its essential function which in turn points to its ontology. Common sense psychology is successful at explanation; what it is successful at must indicate its essential function, to explain; and since what is being explained by common sense concerns cognition and behavior, common sense making must be about some N-types and N-regularities of cognition and behavior. This reasoning starts from a good premise but ends in a fallacy.

The good premise connects the essential function of a body of knowledge with its ontology. [1] This premise is justified by the general observation that whenever structures have functions, the latter can be thought of as constraining the former in the sense that (over time) the structures do not get organized that way, or selected and preserved if already organized, unless they perform the desired functions. If we <u>further</u> assume that N-explanation is the essential function of common sense, then we can infer that, in order to be properly served, N-explanation is bound to constrain (select, shape or favor) concepts which can do a N-job. This would mean that the common sense concepts are N-explanatory the way (say) the concepts of force and gravitation are N-explanatory in physics: they are posited to represent the basic entities and properties in the domain which, together with laws governing them, allow us to N-explain various events in the domain.

This is how the common sense psychological concepts end up as N-explanatory in different guises: they are assimilated to either relations to syntactic forms in a language of thought, or to dispositions to behave, or to neural states of some sort, or to phenomenal experiences, depending on which theoretical paradigm one adopts as true of the nature of cognition. On either paradigm, though, the N-explanatory role which is

foisted on the common sense concepts is dictated by an antecedent theoretical ontology of "cognitive natures". Thus, for cognitivism, belief is a computational relation to a syntactic form because (antecedently) syntactic form and computational relation are N-explanatory types (cognitive natures) in the cognitivist ontology; or belief is assimilated to the notion of disposition to behave upon stimulus registration because (antecedently) disposition, behavior and stimulus are N-explanatory types in the behaviorist ontology; and so on. For eliminativists, the common sense notions are theoretical fictions precisely because they cannot be assimilated to the N-explanatory types (be they syntactic forms, neural states, connectionist networks, or whatever) antecedently accepted in the ontology of the neurosciences.

If our common sense wisdom is N-theoretical and N-explanatory, then comparing it with science is both inevitable and instructive. For, when construed as genuine logoi of the mind, both common sense and the cognitive sciences appear to be in the business of conceptualizing the way the mind is in order to N-explain cognition and behavior. The common sense concepts then are either about N-explanatory types, in which case the sciences of cognition ought to adopt and refine them (the somewhat friendly reductionist position), or are about no such types, in which case the sciences of cognition ought to eliminate and replace them with its own (the definitely unfriendly eliminativist position).

Now the fallacy itself. It is all right to reason from the essential function of a body of knowledge to its ontology. (I will use this principle later in my own argument. So it must be all right.) But it is not all right, since fallacious, to reason from the success of a body of knowledge at explanation to the notion that N-explanation is the essential function of that body of knowledge, and hence to the notion that the latter is a logos about the nature of things. This fallacy, alas, is quite endemic. Friends and foes of folk have all too blindly jumped to the conclusion that common

sense is essentially in the business of N-explanation because it is good at explanation (or, more exactly, at something that looks like explanation).

Many concepts can be used successfully to explain something or other, in some manner or another. This does not mean that their essential business is explanation, nor that the explanation they are capable of is particularly of the N-sort. My concept of table (together with other facts) enables me to explain why, and predict that, objects on the table will not fall to the ground (because the top is solid and will hold things not too heavy) and other such things, in some intuitive form of explanation and prediction. Yet, as far as I can tell, my concept of table was not formed in order to explain these profound verities, nor was it formed to explain them the N-way, in terms of some deep and natural facts and laws. My concept of table is a practical concept whose business is to enable me to recognize as well as physically handle tables. The concept also helps me to explain and predict a number of things, in a rather degenerate way, but it does this on the side, as it were, without reaching too far into the nature of tables, if there is one.

In general, concepts are formed, changed or abandoned under constraints reflecting some essential function, even though they can and do perform other less essential functions, on the side. (One can keep the fire alive with a philosophy book or two but this is not what (most) philosophy books are essentially for.) If the constraints on concepts are N-explanatory, then we have one sort of concepts (the scientific sort), whatever other things we may do with them. When the constraints reflect functions essentially other than N-explanation, then success in explanation must originate in an ontology posited for other than N-theoretical reasons, and be measured by criteria other than N-theoretical.

Another way of reaching the same conclusion is to note that the constraints on scientific explanation make N-concepts and N-theories unable to discharge the functions of common sense making. This ought to

suggest that common sense would be foolish to imitate science, even if it could. It is rational for common sense making not to be about what science is about, and not to operate the way science does. Consider two major constraints on psychological explanation, methodological solipsism and methodological individualism (Fodor 1987, ch. 2). The former urges that psychological states be type individuated without respect to their semantic relations, while the latter urges that those states be type individuated with respect to their causal powers. Both recommendations favor internal structures as N-explanantia. Methodological individualism favors internal structures because they alone have the causal powers to drive cognition and behavior; unless the input is internally tokened in some structure, it has no causal efficacy. Methodological solipsism favors a nonsemantic reading of the internal structures because their causal powers do not have access to their semantic relations. Internal structures cause in virtue of their being the right sort of structures (syntactic, neural, whatever), not in virtue of their being semantically pregnant structures. Yet common sense not only needs data structures which are semantically evaluable; it needs the very information relations which invite semantic evaluation. Both these needs make the N-explanation inappropriate for common sense. Moreover, as I am going to argue later, the need that common sense has for information and semantic relations should also alert us that its explanations cannot be of a truly causal form.

## III. The Praxis Alternative

### THE NATURALIZATION

To find out what common sense making is all about, I suggest we go ur and ask some basic questions. Common sense must have biosocial roots which developed into a specialized skill or competence underlying

our mastery and use of sense making concepts and attributions. The competence can be construed as a design solution to the practical problems posed by treating a conspecific's psyche as an information tool.

If making sense of one another is a cognitive competence, it matters how we approach the competence. Here is an analogy. Vision and language processing are now rather well understood cognitive competences precisely because their more recent theories have started from basic questions and have not been fooled (as earlier philosophical and psychological theories all too often have) by the superficial effects and uses of visual and linguistic outputs. The innovative approaches of Noam Chomsky and David Marr to the study of language processing and vision, respectively, owe very much to their methodological insight of asking first questions about the rationale for, and function of, a cognitive competence before asking more technical questions about design, implementation and performance.

To answer the fundamental questions, What is a cognitive competence for?, What is its essential function?, we must begin by asking, What is the original or ur problem that the competence itself is a solution to? What is the rationale for having such a competence? [2] Once we have the answers to these questions, we can ask the more technical questions about the conditions of the exercise of the competence. The first technical question to ask is, Given the conditions in which the sense making competence must be exercised, what are the problems faced by its exercise? Then we can consider the cognitive means (concepts, programs, formalisms, attribution and interpretation strategies, etc.) by which these problems are solved. It is only at this point that we should concern ourselves with the ways in which the solutions are actually implemented, implicitly by architecture and explicitly by representation.

Let us compare for a moment this methodology with the one still popular in the analysis of propositional attitudes and content ascriptions.

We note, with David Marr, that cognitive representations and algorithms can be better understood in terms of the nature of the problem being solved than in terms of the mechanism and the hardware in which they are embodied. For our discussion, think of "representations" as common sense judgments (attributions and evaluations), of "algorithms" as rules and recipes under which such judgments are formed, and of "mechanisms" as the (typically language bound) means by which the "algorithms" are applied, and the judgments made. The "mechanisms" would include logical forms, grammatical constructions, semantic relations (reference, etc.) and artifacts (propositions, etc.), and so on.

While few philosophers would recommend a study of human hardware in order to understand our common sense concepts and judgments, a long, distinguished and very influential tradition initiated by Frege has regarded the logical, semantic and grammatical "mechanisms" operating in language as providing the key to the nature of these concepts and judgments (or "representations"). If the thesis of this essay is right, such analyses of "mechanisms" must come late in our study of common sense making, rather than being its starting point.

Methodologically, then, the Fregean tradition has got things upside down when it comes to understanding common sense making. I call the phenomenon "the Fregean inversion". The reason it is an inversion is that analyses of "mechanisms" can only tell us how (by what means) common sense concepts are applied, and common sense judgments are formed, but not what these concepts and judgments are for, and why they operate the way they do. The logos thesis has conspired with the Fregean inversion, in ways which I cannot detail here, to shape our philosophical intuitions about common sense making. In so doing, it has obscured the latter's nature and functions.

The methodological policy I am suggesting is meant to free us from this unholy coalition. The policy can be formulated in four steps:

(i) ur problem ==> function and domain of the competence

(ii) function + conditions of execution in the domain ==> problems

(iii) problems ==> types of solutions

(iv) implementation of the solutions: (a) explicit by representations

(b) implicit by architectural assumptions;

(i) to (iv) implicitly approximate what I mean by naturalization in this paper, for they point to a disciplined method of answering the question, What is the nature of common sense making? What I am talking about is a design or functional naturalization, as opposed to the much more popular notion of naturalization as ontological reduction constrained by some truth of science. I do not think we should begin with an ontological or reductive analysis of common sense notions, for we do not yet know what the analysanda (belief, desire, thought) are. And we do not know that because we do not yet know what their ontology is; to determine the latter we must first figure the essential function of common sense making. The questions I begin with are about common sense making, the enterprise itself. They are questions about its function, design and raison d'ê tre. The answers will tell us what the business of the enterprise is, and hence what its domain of operation or ontology is. Only when we know the latter can we fruitfully ask analytic or reductive questions about the constitutive notions (belief, desire) and the sort of entities or relations these notions represent.

This essay is exclusively about step (i), with rare intimations of (ii) and (iii) here and there. Although we get to identify the general ontology of common sense making, I will have nothing specific to say about how the common sense notions concretely engage and operate in this ontology. As a result, my discussion is going to be very much unlike most in the current literature. The knowledgeable reader is warned that the

familiar logical and semantic problems of common sense ascriptions and evaluations belong to steps (iii) and (iv), on which I will keep extremely mum. I know I will be losing readers when this sentence is over, but that's naturalization, incremental, modest and slow.

## THE COMPETENCE

The psychological facts about common sense making point to a cognitive competence which is species wide and transcultural. We all make sense of our conspecifics in roughly the same ways, beginning at about the same age, without much effort, unreflectively, fairly quickly, and a good deal of the time successfully. Neither culture nor age nor talent nor education nor tribal affiliations seem to contribute much, either positively or negatively, to the basic exercise of this competence. We communicate to each other the results of our making sense efforts much better than those of other intellectual efforts. Artists, advertisers, German-accented shrinks, political manipulators, and generally sensitive and thoughtful people are often said to be better sense makers than the rest of us. This may well be true, but we are talking here of meat and potatoes sense making, not of French cuisine.

There are also familiar historical and biological facts which indicate that the competence is robust, deeply ingrained and durable, and possibly innate. [3] Historically, common sense making does not appear to have significantly evolved, if at all. This fact tells some logos people (for example, eliminativists such as Churchland 1979, or Stich 1983) that there is something wrong with common sense psychology. It would indeed be, if the latter were an explanatory logos. But it isn't. As a matter of fact, its very lack of intellectual evolution ought to warn us that the exercise of the competence does not have grandiose epistemic objectives and hence is not, and is not meant to be, an evolving body of theoretical

knowledge. This, in turn, is a sign that common sense making is likely to be immune to empirical falsification. I construe the historically proven conservatism of common sense as evidence that the competence at work is a psychological answer to some permanent practical features of our existential situation.

The biological data, still tentative and incomplete, seem nevertheless to suggest that common sense may have an animal pedigree of sorts. [4] That could possibly point to a competence somewhat incrementally shaped by evolution, as opposed to one accidentally and uniquely ours. A number of advanced species seem to have their members sizing each other up, psychologically, before improvising an appropriate course of action, or engaging in deception, or doing other such intelligent things. The animal story offers a delicate balance between the need for making sense of conspecifics (which is obviously there) and the cognitive resources needed to do the job (which most often are not). We are still guessing where to draw the line.

## THE UR PROBLEM

Why make sense of the other? Why such a competence? Because the other is a good, often the only, information source about himself and his environment. Consider animals first. If you are a rabbit in the forest, you must be able to establish whether the fox is full and unlikely to be aggressive in the near future, or whether the lady rabbit is in the mood, or whether the dog has noticed you, or other such pleasant or unpleasant things. Animals face such problems constantly. Many animal species also engage in more complex activities such as travelling and hunting together, caring together for the young, playing together, gathering information, signaling danger, communicating various other things, or building a home -- activities which all have a social and often cooperative

character. To engage in such activities, animals must have ways of figuring out and anticipating each other's behavioral states as well as those of the world, present as well as future. A scared rabbit tells another rabbit that the fox or the dog or the hunter or some other danger is not far away. A rabbit seeing another rabbit running scared by finds out how the world was and still is, for the other, and how it will soon be for itself. (It is a damn scary world.)

It is often said that superior animals are "natural psychologists", that some even have a "theory of mind" which allows them to make attributions of cognitive and conative states to conspecifics and humans as well. Simple organisms have a few vital goals, not much else, and are likely to be innately attuned to the vital goals of other organisms, conspecific or not. The rabbit is a natural fox psychologist! It has no problems knowing the fox's obsessive goals. It has to sweat a bit to figure out the cognitive and motivational states of the fox. If not wired already, some simple associative learning will teach the rabbit a few helpful truths. This would not be much different from how the rabbit learns that barking correlates with dogs, dogs with being chased, being chased with having to run, and having to run with running.

Being a social animal may be necessary but not sufficient for developing a sense making competence. Bees cooperate by sharing incomplete but cumulative information, yet they need not make much sense of each other. They are wired to access and share the collective information. Beavers cooperate in building shelters, and dolphins in saving a sick companion, yet even these remarkable cooperative accomplishments are still compatible with genetic readiness or simple associative learning. Whatever such social animals learn about conspecifics and, through them, about the world, is likely to be more attuned to the vagaries of the context rather than to the vagaries of the very conspecifics to be made sense of.

It is this very last difference that holds an important cognitive clue to the nature of the common sense. Making sense of a human subject, or of the world as represented by a human subject, is not so much a matter of being intelligent in general (which dolphins and chimps are, to some extent), as of being intelligent about the subject's psyche. Common sense requires intelligence about another intelligence. This is the psychoinformational half of the ur problem to which common sense making is an answer: How to read and tap an intelligent psyche for the information of interest? This is part of the question to which the competence for common sense making is an answer.

## INTELLIGENCE ABOUT INTELLIGENCE

Intelligence being a notoriously tricky notion, I will simplify it to coincide with the capacity for problem solving and means-ends reasoning. An organism is deemed intelligent if it can achieve its ends by flexible and often novel means attuned to changing circumstances. Intelligence thus requires individual improvisation, as opposed to species adaptation. The former is at work on an adhoc and short term basis, the latter requires structural changes whose benefits (if any) are only long term. Intelligence makes individual cognition adaptive. Animals are tested for intelligence in terms of their ability to solve (new) problems before reaching their goals. Kö hler's chimp Sultan, for example, was famous for having taken a branch off a bushy tree in his cage in order to recover a banana lying beyond the bars of the cage.

Why is Sultan said to be intelligent? Because he solves a means-ends problem in a novel and constructive way. He projects an interim goal (to find a way to reach the banana) and perceives something (the branch) as the means to get him to the final goal (the banana). To satisfy the interim goal Sultan projects an even more proximal goal (get a tool in the

form of a branch) and perceive an action (breaking off the branch) as getting him to satisfy the latter goal. Both the successive projections of interim goals and the perceptions which guide the actions toward the satisfaction of those goals are newly formed to fit the circumstances. The branch itself is perceived as a tool for getting an interim result. Treating things as means to solve problems to achieve ends is a mark of intelligence.

Suppose now that the other chimps around Sultan often go about their business handling things the way Sultan handled the branch and the banana. The chimps are intelligent problem solvers. Suppose also that they share some goals, and solve a number of problems by social cooperation. Their practical intelligence acquires a social dimension. Suppose, finally, that these intelligent problem solving chimps constantly inform each other about themselves and the world in order to pursue their individual and communal activities. To do that, they must not only form concepts and make judgments and inferences about their intelligent conspecifics, in order to obtain the information of interest (the psychoinformational problem). They must also codify and regiment the concepts and judgments in question, if the latter are to be socially useful and recognizable. This is the other, <u>social</u> half of the ur problem facing common sense. This is the half about which I will have nothing important to say in this paper.

Why is intelligence relevant to understanding common sense making? Because there are key features of common sense making which are best explained by the hypothesis that common sense making is an intelligent practice of extracting information from intelligent subjects. The fact that the subject is intelligent creates operational problems for the exercise of the sense making competence (problems which a full account must specify at step (ii)), which in turn influence the solutions (to be envisaged at step (iii)) that the common sense notions and judgments

embody (step (iv)). The beginning of the story could go as follows.

Intelligent cognition can be individualized and creative (in Chomsky's sense) in how it computes and encodes its data, and hence innovative in how the data convey the information of potential interest to a sense maker. It takes intelligence to register, track and figure out another intelligence. Simple associative concepts that animals can form, or architectural assumptions they are wired to have, are not going to work when it comes to dealing with an intelligent psyche as informant. Common sense must be geared to these properties of intelligent cognition to be successful; and it documentably is (Morton, 1980; Wilkes, 1981; Bogdan 1986a). As a result, the common sense explanandum (e.g. a particular intention formed, or a specific action performed) is unique in an essential way -- unlike the scientific explanandum (e.g. a body falling to the ground, or a cell dividing) which is uniform, average, generic, and unique only inessentially, i.e. with respect to space, time and other boundary conditions (Bogdan 1988b). Having such an essentially unique explanandum, the common sense explanation is bound to be baroque, improvisational, reconstructional, and heavily ceteris paribus. Since intelligence is cognitively penetrable and has holistic access to information, there are many ways in which an intelligent agent can structure his data and thus inform on a situation. The sense maker is therefore bound to make guesses and engage in reconstruction, which she can discipline and keep under control only by simplifications and ceteris paribus assumptions. The role of the latter is to exploit context and experience to eliminate most of the possible routes to representation and action that intelligence allows.

Intelligence provides us with one important instance where the logos view gets things wrong. To say, with the logos people, that common sense explanations simply premise beliefs and desires to infer actions is to emphasize the trivial while missing the essential. Of course, any

organism acts on its data and its needs; and almost any organism (even simpler ones) must be aware of this truism in some form or another when it reacts to another. We would not worry so much about common sense if that were all its wisdom about cognition and behavior. The real logistical problem for common sense is not that intelligent organisms act on data and needs. The real problem is how their intelligence allows them to represent their data and needs -- representations which a sense maker must identify if she is to track the information of interest. Common sense attributions and inferences are hard for the analyst of common sense to understand, not because they premise data and needs, but because those attributions and inferences encapsulate ways of tracking the subject's intelligently utilized data and needs for the information relevant to a sense maker.

## IV. Psychoinformation

If the psyche of a subject is primarily an information tool, how does a sense maker utilize it to get the information she wants? I am going to begin with some simple and intuitive examples. The emphasis is on content, not attitude, that is, on the information that a subject's representations or data structures convey to a sense maker, not the causal efficacy of those representations. I use the notions of representation or data structure in the technical sense of explicit displays of mental symbols, such as images, linguistic forms, etc., in an internal data space, perhaps a short-term memory. The point I will be trying to get across is that such data structures do not generally encode the contents (beliefs, thoughts, desires) that common sense is attributing in sentences of the form 'S believes that p'. The 'p' in the content clause is generally type individuated in relational or psychoinformational terms, not in internal representational or datal terms. The 'p' that S believes

according to the common sense attribution is not the data structure he encodes in his cognitive data space.

The psychoinformational type individuation of content is a result of practical reconstruction. It is practical because, normally, both the sense maker and the subject are agents going about their businesses. The information the subject provides the sense maker must be relevant to latter's goals and agency, or else why would a busy agent want to be a sense maker? To get this information, the sense maker must engage in reconstruction. At some time and in some context, out the subject's many cognitive and behavioral conditions pregnant with information, the sense maker selects and reconstructs only those which provide her with the information needed, in the form needed. The world can also be an informant about an agent, or itself. But again, the world is big, stuffed with information, whereas the sense maker is small, busy, confined by current interests and with limited time on her hands.

## CASES OF SENSE-MAKING

Suppose you ascribe to me the belief that it is going to rain on the basis of the fact that I am walking faster, looking at the sky, and reaching for my umbrella. You are right to make this belief ascription. But, let me tell you, I am doing many other mental and behavioral things at the same time, things that you may not know about. In fact, I am so routinized about rain in this damp and frivolous city that I have "compiled" the information and no longer form any explicit representation of it. I keep my data space free for more worthy items of interest. So I simply walk faster and reach for the umbrella automatically, while at the same time doing many other things: worrying about the force of this very example in the economy of my argument, hearing various noises and inferring to their uncivilized sources, seeing various objects and events, remembering

something else, and so on. The belief you are ascribing to me (the information that explains my behavior) and its form (the very proposition attributed) are the result of your reconstruction from bits and pieces I and the world offer. You simplify, amalgamate and summarize a whole lot. I certainly do not encode my data in the form of information assumed by your ascription. I am only an information tool in your hands.

In the other direction (world to mind), you could have used the fact that it is going to rain to anticipate a belief I am likely to form and the behavior it is likely to cause. You now use the world as an information base to identify my internal conditions, representational as well as physical. The belief you ascribe (that it will rain) need not match the form of any of my current representations. I might not explicitly represent anything to that effect. Your belief ascription reconstructs and summarizes something about me (my internal conditions) on the basis of something about the world (external facts) in a fashion which is suitable for sense making (getting the desired information).

Let us now change your interest but keep me, as an informant, and the context the same. Suppose you are now interested in some cause of my behavior (the sudden change to a faster pace), and are satisfied to establish that I must have noticed something (no matter what). To get this result, you only have to attribute to me the perception that something happened by inferring (on the basis of some behavioral evidence) to no more than my tokening a representation caused by an external event. The attribution allows you to obtain information about the presence of an external cause from the evidence of its effect in me. The form of the information you thus reconstruct is not propositional anymore, although the representation I encode cannot fail to be propositional since it is about some fact or another. But since you are interested only in an unspecified event, you do not care to reconstruct my representations in propositional form. You reconstruct only the causal

form of the information relation I have with the world, for, as mere effect, my representations (not what they represent, just their physical tokening) suffice to indicate the physical presence of some causing event. You could have exercised other attribution options as well, if your interests demanded it.

Things do not change much when the information is deliberately communicated. People communicate to achieve goals. If I am telling you that it is getting late and we should hurry, you, as sense maker, get more than what is literally said. You not only determine my belief that it is getting late and we should hurry, and also the conditional belief that if it is getting late, one should hurry. If, to change the context of your interest but not what is said, you are worried about me, you may take the utterance to inform on my impatience. You may do so on the evidence of what I say or how I say it. I am a versatile informant, and so is everybody else. A speaker's utterance can be the tip of an iceberg or the whole iceberg. It depends on what and how much information the sense maker needs, in what form, and for what purpose.

Here is a collective case of sense making (inspired by Dennett's 1987, p. 56-57). Imagine different people in different places doing their different cognitive and behavioral things and to whom a (type) similar belief is attributed. Imagine that, at a specific time period t1, I ascribe to them the belief that urban ugliness breeds confused and erratic thinking and behavior; I abbreviate the belief as 'p'. Not only are the hardware configurations of these people different at t1, but so is almost everything else in and around them, in particular the information flows they are part of, and hence the cognitive and conative data structures they currently token. Suppose their beliefs that p are <u>virtual</u> in the sense that they are only entailed or suggested by a variety of other explicit data structures our subjects encode but do not share. It takes a reconstruction to isolate and lift the belief that p out of the many data structures among which it

is implicatively buried in different brains busy doing different things in different environments. Their belief that p is the summary of such a reconstruction, not a literally realistic description of their data structures. This is, by the way, how we often attribute political beliefs to people, not from the literal expressions of their representations, but rather, by way of summary, from reconstructing such beliefs from bits and pieces of what people say or even how they say it.

## MY DATA, YOUR INFORMATION

The most important thing these examples are calculated to show is that it is the sense maker's information that determines what counts as the content of the subject's belief. What you construe as my belief that it rains is the outcome of utilizing a frame or grid which you impose on my psyche's relation to the world to fix the information you need in a context. The belief you ascribe to me (that it rains) is formulated as a fact you are interested in. Neither the event (raining) nor my internal representation of it (whatever that is) need have the format (factive construction), the degree of abstraction (ignoring other events involved in raining as well as in my representation of raining) and the implications (logical, functional) of the attitude report in which you summarize the information in question. This is not a claim about the particulars of the case but rather about how the sense maker uses the conceptual resources at her disposal in this case and others.

If you were to represent me in another attitude report as perceiving that it rains, you would use the same content sentence (that it rains). Yet obviously what I am said to perceive and believe, when it comes to raining or anything else, come in vastly different forms of internal representation with respect to format (images may be analog, hence nonfactive, beliefs are factive and digital), degree of abstraction (images take in a lot of

detail, beliefs don't) and implications (beliefs interact inferentially with other beliefs and desires, images don't; beliefs often need linguistic encoding, images don't; and so on). Obviously you don't care about these internal differences in encoding. You are not a psychologist. You are not interested in how my head works or what it literally contains, except to the limited, superficial and pragmatic extent to which it tells you something interesting about the world or about myself. You are a psychopractician, not a theorist.

Your abstractive moves (what to consider, in what form, and what to disregard) in portraying me, first as believing that p and then as perceiving that p, can be best explained by the hypothesis that what you, as a sense maker, are after is information about a condition of the world (that it is p) or of me (that I represent p), relative to the condition of the other relatum. What other reason could there be to use the same sentence to specify such vastly different internal cognitive conditions of the subject as those involved in perceiving and believing? The same could be said, by the way, about belief and desire. We represent them in the same content descriptions (I believe that p; I desire that p) but the internal data structures involved must be vastly different from a psychological point of view. Our content formulations therefore must envisage something other than just the internal representations associated with beliefs and desires.

We should also remember that our ordinary language is rich enough to allow all sorts of constructions when the need arises. Consider perception. If I want to describe the proximal input of your perception of a fact, as opposed to a fact you perceive (via the input), I can say something like, "it appears to you, as you visualize the scene in front of you, that there is a patch of color which....". The sense data terminology would indeed have a point if the content descriptions were calculated to pick up features of the stimulus or indeed of the image it causes. Yet

even a sense data description cannot fail to be psychoinformational, albeit at a closer remove, as it singles out (narrower) informational covariations between data structures and stimuli, and describes the former in terms which inform on the latter.

The examples also show how the same content sentence can be used by the sense maker to find out how the subject or the world are, will be, have been, or could be, possibly or even counterfactually. If you take me to believe that it rains, you not only find out how the world is right now and in the near future (rainy) but also, as a future event, how I am likely to behave (walk faster, mutter some harsh words), how I came to be in this cognitive condition (by noticing clouds, seeing agitated birds) and hence how the world was a while ago (cloudy, full of agitation). Your belief attribution allows you to access these various pieces of information about all sorts of conditions with which I am, was, or could be correlated in different ways, but which I do not explicitly represent at the moment.

The psychoinformational story can handle intelligibly and plausibly such a variety of uses of information relations intersecting at a subject. It tells us that the sense maker's interest is neither in the subject's internal data structures per se nor in the world's intrinsic condition (at some level of N-theoretical description) but rather in a partial and pragmatic reconstruction of the commerce between the two, to the extent to which, and in a format in which, it can deliver the useful information.

The subject's data are the functionally efficacious structures tokened in his head and processed in various forms (inference, decision, storage). The structures are said to be datal because (a) they explicitly represent conditions of the world, and (b) causally drive as well as guide cognition and action in virtue of what and how they represent. I assume that the datal structures and processes can be taxonomized in terms of internal types by the sciences of cognition. This taxonomy is a logos business. I have also assumed that the datal structures are intrinsically intentional.

They covary with aspects of the world which have biological and cognitive importance to us, and these covariations are constrained by various functional and behavioral obligations that the data structures have in our cognitive economy. I happen to believe that the ultimate constraints on covariations and hence on the intrinsic intentionality of cognition must receive a teleological account; up to a point, such an account is likely to be part of our logos understanding of cognition (Bogdan 1988a). But this is not the issue now. The issue is that the intrinsic intentionality of our representations is not for common sense to clarify and explain. The contents that common sense attributes assume the intentionality of our datal structures and processes, and go on to exploit it to corner the information of interest.

That information, the sense maker's, is the relation between the subject's internal conditions (datal, hence intentional, as well as physiological and behavioral, hence nonintentional) and the world around him. Information is a relation, a data structure only an element of it, a relatum. The psychoinformational types are relation sensitive, not relatum sensitive. The common sense notion of content is informational, not datal, for it picks up and summarizes what the sense maker needs to know, given the subject's (mostly) datal encounters with the world. This claim is about what the common sense notion of content is designed to represent, as part of the sense making competence, hence about its objective constraints and limitations. It is very important to see that it is a claim about common sense competence, not about performance. It is not a claim about how common sense concepts are intended to be used or indeed are used in particular situations by particular people. I may want to use common sense psychological concepts to study the mind or the table or the universe. I may even make some progress. Yet this is not what these concepts are for.

Suppose I intend to describe your visual image of a scene. I have two

choices. Either I describe the image (as data) in the theoretical vocabulary of vision, in which case I cannot common sensically describe what you see, as content, or else I describe the latter, in which case I cannot theoretically describe your image. And, as far as I can tell, tertium non datur. I explain this dilemma a few paragraphs below. Right now I want to extend this point about perception to more central forms of cognition such as thinking or planning in order to consider a serious and popular alternative to my account. Either we describe the datal outputs of higher cognition in some N-theoretical vocabulary (of, say, cognitive psychology), or else common sensically, as contents. In the former case, we type individuate the outputs by internal criteria of form and function, in the latter case, by relational psychoinformational criteria. These two sorts of individuation criteria do not pick up the same entities from two different perspectives; nor do they pick up various properties or relations of the same entities. Which is why the following friendly and reasonable compromise is not acceptable.

The compromise suggestion, of a dual track spirit, is this. What about having the two candidates for content, data and information, join forces in the sense that an internal data structure qualifies as (attitudinal) content only if it informs in relation to the world? This suggestion saves the apparently ineliminable intuition that contents are in the head because encoded by data structures there; and at the same time acknowledges that contents matter publicly to common sense only to the extent to which they inform. The suggestion also trades on the often visible isomorphism between the content attributed (say, that p) by the sense maker and the very data structure encoded by the subject (the same p). This is a matter on which I will have more to say later. Since, as I have assumed, both the content attribution and the subject's encoding are intrinsically intentional because they are both cognitive representations, they must be about the same fact. The content, then,

must be in the subject's head, notwithstanding the fact that it is type individuated in semantic or psychoinformational terms.

Why not say, then, in this ecumenical spirit, that a belief is a reliable datal informant about how the world is? A number of philosophers (Field, Loar, Schiffer, Barwise and Perry) hold that beliefs and other cognitive states should be construed informationally while others (Stampe, Dretske, Stalnaker, Fodor) analyze this informational construal in terms of regular covariations between a state of the world p and one's datal state that p, under some normality conditions. A regular covariation is, after all, the metaphysical soul of an information relation. This suggestion places beliefs and other attitudinized contents back in the head, as internal types of data structures, but requires that their type individuation be informational.

The trouble with this suggestion is that what is informational on one proposal need not be covariational on the other, and vice versa. To assume otherwise is to assume, quite implausibly, that there are internal types of data structures which are determined by the external, psychoinformational criteria of common sense. The assumption becomes even more implausible when we ask how the internal datal tokens of those externally determined types could be causally efficacious in cognition and behavior in virtue of the functional laws ranging over those types. How does common sense get these magical results? How does it carve up the mind at exactly the joints which both inform the sense maker interestingly and flexibly about the world, and internally constrain the subject's cognition and guide his behavior in that world? How can common sense get the internal functional laws of cognition and behavior to range exactly over types determined by factors outside the subject's head? (Preestablished harmony?) These puzzling questions have been asked by the dual tracks theorists and by their critics, and their answers generally tell us that semantic relations do not mesh well with internal

functional roles, and hence cannot be construed as criteria which taxonomize the latter (for a survey and spirited discussion of the matter, see Fodor 1987).

Yet my reluctance to buy the suggested compromise goes deeper than the implausibility of a miraculous coordination between the information needed by common sense and the inner workings of cognition. I think that such a coordination is virtually impossible because the properties in virtue of which a cognitive state informs a sense maker are not necessarily, and are not likely to be, the properties in virtue of which a cognitive state either covaries with the world or causes other cognitive and behavioral states or both. What I am saying is that the intrinsic intentionality of a cognitive state of the subject is quite unlikely to ever overlap, typewise, with the information needed by a sense maker; what the former state represents is not the same as what the content description encoding the latter information represents.

Consider vision. Methodological individualism allows for an analysis which acknowledges the intrinsic intentionality of vision. This means that the analysis can taxonomize visual data structures which systematically covary with features of the input and of the external world, and whose covariations have further functional roles in cognition. Such a taxonomy is intentional. Yet the intentionality of vision is beyond common sense. It is hard to imagine that common sense attributions of perceptual contents could possibly capture a subject's visual data structures. One cannot be said, common sensically, to perceive that p if the intended analysis is to the effect that (i) one's visual structures covary, via input, with the scene perceived; and (ii) the clause 'that p' describes what one's visual structures or images covary with. (ii) is simply false.

Visual images covary with (proximal) light intensities, and through them, with (distal) edges, boundaries, textures, surfaces, shapes, motions, forms and such. The latter are not what the content clause 'that

p' represents, as far as common sense is concerned. Suppose I take you to see that p, where p is 'the table is to the left of the wall'. There isn't any visual image of that scene which can be said (in the principled vocabulary of a theory of vision) to covary with what p represents, according to common sense. The common sense content attribution not only appeals to concepts (table, left of, wall) which do not belong to the principled vocabulary of vision but it selects very little from the richness of the visual image on grounds which have nothing to do with that image's covariations.

If we were to try to translate p into the scientific vocabulary of vision, we would lose track of what the common sense content judgment represents. And if we want to do justice to the latter, we must abandon the language of, and the constraints on, the covariations involved in vision. I see no way out of this dilemma. This conclusion is independent of the assumption, which I entered earlier, that common sense exploits the intrinsic intentionality of the cognitive states it exploits as informants. Needless to add, common sense does not and cannot have the foggiest idea of what visual structures are, and how they covary with proximal light and distal features; nor does it appear too embarassed by this limitation.

In further support of the distinction between the subject's data and the sense maker's information, and of the claim that the latter cannot be taken to taxonomize the former, there is the obvious observation that common sense attributions of content depend on the manner of content specification. We talk, for instance, of de re and de dicto individuations of perception or belief or thought, and also of direct object individuation of contents (e.g. I see the landing plane) as opposed to fact centered or propositional individuation of contents (I see that the plane is landing). We cannot plausibly believe that these distinctions are datal, that is, internal to cognition. We have no evidence, for example, that vision is

specialized in object as well as propositional representation (a submodule for facts and another for objects?). Yet this is what we ought to conclude if the common sense attribution of perceptual content were to taxonomize internal types of visual data. Similarly, if beliefs were types of internal data structures, then we ought to conclude that we have de re and de dicto types of doxastic data structures. But neither conclusion makes much sense, as I have argued elsewhere (Bogdan, 1986b).

So we seem to have a reductio: if, in general, contents are individuated de re or de dicto, in terms of either objects or facts, then the contents envisaged by common sense cannot be datal, for there are no intrinsic features of our data structures which reflect these forms of content individuation. On the psychoinformational account, the latter specify not types of internal data structures but rather the relata in terms of which an information relation is identified. These relata can be worldly items (de re readings) or datal ones (de dicto readings); with an eye to the worldly items they inform about, the datal relata can in turn be described in a direct object or propositional format. If this suggestion is true of such various specifications of content, why not say that it is true of any common sense specification of content? Or, simply, of content? What else is there to content but its common sense specification?

This last suggestion and the examples considered a section ago do indicate, however, that common sense token individuates datal configurations in a context, relative to their informational importance, either in terms of their manifest expressions (linguistic, behavioral) or of their worldly corelata. Common sense also token individuates actions in terms of their immediate effects or distant repercussions, without the implication that a behavior becomes type identical with its effects or repercussions. (What I am denying, again, is that common sense can or cares to individuate datal configurations in virtue of their being tokens of internal types with causal powers under functional laws.) Common sense

reaches inside the head for data structures but only in their particular or token configurations which are then taxonomized in terms of their psychoinformational significance. How common sense accomplishes such individuations of token datal configurations is a complicated matter that concerns the methodological steps that I said I will not consider in this essay. (There are a number of proposals around which I briefly survey in the introductory paper to this volume.)

## SELF INFORMANT: LANGUAGE, CONSCIOUSNESS AND MENTAL CAUSATION

Having reached this point in our argument, we must dispose of a few stubborn and reactionary intuitions which may obscure the truth we are after. They cluster around the first person perspective we all have on our cognition and that of others. I have so far portrayed the sense making game as eminently social. I think that this is how the game originated and how is typically played. I think its motivation is social, which is why its concepts reflect the common denominators of our inevitably partial, often idiosyncratic and almost always publicly inaccessible representations. Yet the game is also played privately. There is self sense making.

It is consciousness and language that make common as well as self sense making possible and at the same time obscure it. I consider conciousness first. For the purpose of our discussion, let us construe consciousness as awareness or internal access of some sort. The conscious self access is phenomenal, more direct and surefooted than the access we have to the others. Yet, I want to suggest, what we are tracking consciously is only the evidence for applying the common sense concepts to ourselves. When we consciously inspect and talk about our own THOUGHTS, BELIEFS AND ACTIONS, as publicly and common sensically categorized in these terms, we either explicitly treat ourselves

as informants (subjects) or else exploit the conceptual resources we have as common sense makers. In either case, we apply psychoinformational concepts to ourselves. The difference between social and private sense making is in the nature of the evidence for applying the concepts, not in what the concepts are objectively about.

When one self attributes the concept of belief (takes oneself to believe something), one takes one's experiences, or consciously accessed data structures, such as images, memories, and the like, and other conditions, such as feels, to guide the application of the psychoinformational concept that common sense has taught one to use in the social case. Without the common sense concept one would not know what the internal evidence is evidence for. A visual image may move me to action (just as it can move an animal) but I would not know to treat its information as a content I BELIEVE, so categorized common sensically, unless I had the conceptual means to treat it this way (which the animal does not). There is no private ontology of types of internal experiences that the common sense concepts of content naturally spring from and represent.

I happen to think that even the attitudes (believing, desiring) cannot be fully taxonomized by introspection. But the discussion here is about contents, not attitudes. I fail to see how one can taxonomize contents just introspectively. Since this failure is likely to upset a lot of introspective folks, I give them a choice: either we discuss the issue in terms of common sense concepts, in which case they had better come up with a competitive account of these concepts, commensurate with an alleged introspective grasp; or else we avoid common sense discourse altogether and try to capture, if we can, the phenomenal passing show in terms of suitably private and introspective descriptions. Since you know my position on common sense, let me tell you what's happening privately inside me when I describe myself as believing or thinking something.

The data structures I internally experience come in all sorts of forms and shapes such as vivid images, faded images, cartoonish sketches, fragments of utterances in sotto voce or aloud in some language or another, occasionally an aria or a chanson, even mixtures of all of the above, vaguely and intermittently sampled linguistically. Short of imposing a common sense content taxonomy, I fail to see any shared internal types or even vaguer family resemblances within this variety of experienced data structures. If I describe the latter structurally, i.e. with respect to their form, then they have very little, if anything, in common that I am aware of. If I describe and group them with respect to what they represent or are about, then how can I avoid the common sense scheme of individuation? (The experienced data structures do have an intrinsic intentionality but, as the earlier discussion of vision was meant to suggest, it is inaccessible for examination and analysis to both introspection and common sense.)

If it looks to us that what we encode and process datally is what we say we PERCEIVE or BELIEVE, conceptualized in these very terms, it is because we must formulate our cognition to ourselves in common sense terms. I am not merely saying that we must formulate what is going on in us in a public language (what other choice is there?). I am also denying that it is the intrinsic representational and functional features of our datal structures and processes that we taxonomize with the help of the notions of perception, belief and the like. I do not think we can do that even if we wanted it.

I hasten to add that the epistemology of the self attribution and self evaluation (the fact that, in a strong sense, I know when I believe, and how strongly I believe, but not know when and how strongly another person believes) has nothing to do with the point I am laboring here to the effect that in both social and self attribution and evaluation I owe my grasp of the content types to the common sense paradigm. The

epistemology of attitude attribution and evaluation has to do only with the evidence for the particular conditions in which the common sense concepts are applied.

A subject can cooperate with a sense maker by volunteering 'I believe that p' to indicate either how the world is or was (in a p condition), or how the registered condition of the world might affect the subject's subsequent cognition and behavior, or both. It may well be that this is how we learn self attribution. When I am telling myself (or simply thinking) that I believe that p, I am surely telling myself something about a condition of the world (that it is p), and perhaps implicitly how I got the information about it (say, by perception); and I am also telling myself how the information about the condition of the world could later be treated in my cognition and behavior (I may confidently infer something from it, or act on it). This is of course a bit artificial (I may not talk to myself, or not talk to myself in English, or not explicitly think about my beliefs) but I am not interested in how we describe a self attribution; I am only interested in what it objectively amounts to, as an application of common sense concepts. Common sense is with me, inside the skull. I am a self ascriber and evaluator (a self interpreter) because on so many occasions I am a self informant.

What about natural language? Doesn't it collapse the distinction I am making between the sense maker's information and the subject's data structures, particularly when the two are one and the same person? Aren't many of the subject's data encoded in a natural language? Doesn't a natural language (like English) provide the means to encode our higher level datal outputs (thoughts, beliefs, plans)? And isn't this the very same language in which we also make sense of others and ourselves? If so, can't the content that the sense maker attributes, say, that p, be the very linguistic structure the subject relates to internally when he is described as thinking that p? Isn't this even clearer in the case of self

attribution? If I form and attitudinize the sentence p as a data structure in my head and do something internally with it, I can surely take the data structure to be the very content I am self attributing. Well, you guessed, it is not so simple.

My first move is to challenge the assumption, implicit in the some of the above questions, that a natural language is a typical code of cognition and a primary form of encoding its data structures. The primary code may well be a computational mentalese or connectionist neuralese or something similarly antecedent to, more basic than, and possibly responsible for, our natural language competence. A natural language may be used to recode and make sense of the outputs of cognition in the primary code. My thinking that p (in English) may well be such a recoding. If the data structures which run our cognition are in some primary code, they must be inaccessible to common sense, in which case the linguistic episodes, such as my thinking that p, are artifacts by means of which we recode, sample and summarize the datal outputs (in the primary code) in an accessible natural language fragment.

One important function of the natural language recoding and sampling is indeed that of self sense making. My thought that p may be a self directed common sense summary of my (deeper) cognitive encodings and processes in a primary code. The linguistic summary is an internal datal encoding but it does not causally drive (and explain) my cognition and behavior; it just reidentifies and makes sense of structures in the primary code which do the real representational and functional chores. My thought that p is the common sense's kibitzer on the scene, in which case 'that p' indeed identifies an internal encoding of data (a linguistic structure) but only with respect to its instantiating a thought content whose type is taxonomized by common sense. As a content description, the linguistic structure is an instance of a type (the thought content) which does not characterize the internal workings of the mind.

Even outside sense making contexts, the natural language recodings and summaries of primary (mentalese or neuralese) cognition can be active functionally, as data, without doing a representational or functional job. In which case, again, the linguistic data we encode may coincide with a content ascribed and yet fail to taxonomize the cognitive properties responsible for representation and mental causation. It follows that a linguistically explicit self attribution cannot pick up cognitive N-types of the representational or functional sort, even though it picks up a functionally active data structure.

Here is an example of what I have in mind, which also brings the general matter of mental causation into sharper focus. Suppose I hear an utterance and come to encode an active (not kibitzing) linguistic structure to the effect that p. I am faced with a serious situation, p is my information about it, so I must think, infer and decide in terms of p; yet p is not the data structure doing the real cognitive work. Let p be 'that dog is getting vicious'. Its key concepts are 'dog' and 'vicious'. A concept (we may assume) contains a list of features, some encoded as prototypes, some as visual stereotypes, others as activators of, or links to, other concepts (lists). Doghood and viciousness mean nothing to me unless I access and open up the right conceptual files in my head. Those files have linguistic labels, nowadays in English, but what they contain is neither linguistic nor particularly English. They are mostly imagistic and cartoonish (I have that kind of mind). It is these prototypical and stereotypical encodings in my mental files which do the representing and also cause other states in virtue of what they represent. (Relative to the situation described, it is my mental files which are intrinsically intentional.) The words 'dog' and 'vicious' help me access and open the files. This is an internal function of the sentence containing these words but is not the representational function which steers my cognition and behavior. The words in questions also have the function of aligning my perhaps

idiosyncractic files to the public concepts. This is how I am able to map the heard utterance onto my mental files.

The sentence 'that dog is getting vicious' does not only inform me about the world. It can also be used, for making sense purposes, to identify a belief of mine with that content. But now it looks as though the very same sentence both describes a belief content (the common sense role) and plays a functional, file activating role, in my mind (the cognitive role), and moreover plays the latter role in virtue of what it describes, contentwise. This must collapse my distinction between data and content, for the sentence 'that dog is getting vicious' is now both. Yes, but it is not the right kind of data. Neither the belief content ascribed to me nor the sentence which describes that content nor indeed the initial utterance which alerted me to the vicious dog are in my mental files. My mental representation and causation originate in the latter, when activated by some input. If I use the sentence 'that dog is getting vicious' to self ascribe a belief, I am using an internal kibitzer (the content description) which also happens to have a functional (file activating) role. The coincidence between the linguistic input with the latter role and the content description with the former role is not grounded in how my mind works, representationally and functionally, but rather in how linguistic communication and common sense making are coordinated.

We communicate in terms in which we make sense of others and ourselves. If we ask what the belief content is in the case described, the answer is that it is what the sentence 'that dog is getting vicious' describes. That is precisely what a sense maker, myself or someone else, would need to know about the world and myself when I activate my mental files and pick up the stereotypical and prototypical representations with which I register the situation and do something about it. The sentence in question is a public and informative summary of which items in my mental files will be doing the relevant representational

and causal work in me relative to which publicly identifiable aspects of the environment. In the first person case the same sentence not only allows for self sense making, but also has the functional role of a file activator. In neither position, however, is the sentence an instance of an intrinsic representational or intentional type with functional role.

Needless to say, the causal story told by this example is just one of many. A worldly fact can activate my mental files without my having to hear or utter myself, and thus encode, a sentence to that effect as explicit data. Nor is sense making in the datal form of a content sentence needed for such file activation. Moreover, even when an utterance plays the role of an informative input, it may not only open mental files but also incrementally coordinate with other linguistic and nonlinguistic data structures already tokened in my internal data space, and cause in virtue of such coordination (Bogdan 1986a, 1988b).

In all these cases the common sense content ascriptions pick up token datal configurations (the items in my mental files, other linguistic tokens, etc.) which must be considered from two distinct perspectives: on the one hand, these datal configurations inform on the world and myself, and are thus part of a relational triangle (subject-world-sense maker) whose taxonomy is psychoinformational and common sensical; on the other hand, the very same token datal configurations belongs to internal types (concept, mental file, stereotype, language forms, etc.) whose intrinsic intentionality and functions are or can be, to a vast extent, N-taxonomized by the sciences of cognition.

## V. Explanation It Ain't

The moral of what follows is that, in more ways than one, common sense explanation is not what it seems to be. In the opening sections of this essay I was endeavoring to puncture the logos thesis by showing that

common sense does not and cannot explain from the nature (essential properties and laws) of things in its domain. In later sections I have attempted to show that the main function of common sense making is psychoinformational. Yet common sense does a lot of explaining and predicting, and a good deal of it appears to be based on causes. We are said to believe because we perceive, and perceive because we interact with the world; we also act because we believe and desire; and so on. The 'because' is very often that of causality. If common sense explanations and predictions are often causal and successful, aren't they successful <u>because</u> causal? In which case, isn't the relation between causality and success telling evidence that common sense carves up the mind at essential and lawful N-joints? How else could it use causes to explain successfully? Isn't then common sense a sort of N-theory of cognition and behavior, as the logos thesis claims? And if it isn't, as I claim, what exactly is going on? Let us proceed incrementally and from several directions. The reluctant reader needs a lot of softening up.

<u>False theories can explain successfully</u>. We all know about Ptolemy's astronomy and Newton's physics. Great stuff, often good for explanation, but plain false. Scientific theories do not have to be true to explain. This goes to show that even if a theory misses the N-joints of its domain, it may still explain successfully. The implication I need for our discussion is that being true of N-joints is not essential to successful (causal) explanation. This implication gives our thesis some elbow room. For it suggests that there need be no incompatibility between common sense making not being about the N-joints of cognition and behavior, and its explanations of cognition and behavior being causal and successful. But I am not maintaining that common sense psychology is a false theory of the mind (as eliminativism claims), for it is not a theory at all, and is not about the mind.

The fact that false, or N-indifferent, theories can explain may have a number of reasons. Nature may "cooperate", as it were, by organizing itself in ways in which many properties are causal without revealing the ultimate N-texture (fundamental properties and laws) of things. This is what functionalism appears to claim about nature. It is also possible and indeed likely that what we consider a satisfactory explanation is not always and not irremediably tied to the true N-story of the world. It may even be the case -- as van Fraassen (1981) and Cartwright (1983) have argued -- that truth is not only independent of, but in some sense may be an obstacle to, explanation. Or it may be that what we think is explanation is not. These explosive thoughts originate in an important distinction.

Explanation is quite different from explaining; and the satisfactoriness of the former can often be found only in the modus operandi of the latter. Explaining is answering a why (or how) question, whereas an explanation is a regimented and simplified representation of the answer. The former is a complex and ramified question/answer structure, the latter the public summary of the answer. In the sciences, an explanation is said to take the form of an argument from laws (or mechanisms, or capacities) plus boundary conditions, in a deductive or inductive format. The logical format of the explanation argument, which is determined methodologically by requirements of justification or theory construction or theory application, may have nothing to do with the strategies of explaining which are determined by such pragmatic factors as uncertainty, curiosity, novelty, available evidence, alternative hypotheses, and so on.

Since explaining is answering some question, it is a request for information. Our spontaneous inferences and cogitations have been long recognized as displaying the general features of question answering or

problem solving: activated or generated by some uncertainty, problem or issue in a context, they move from a data basis and some background knowledge to the selection of a solution or answer out of several possible candidates, under suitable constraints and measures of plausibility, relevance and usefulness. Let us call the entire process, subject to such pragmatic constraints, mental induction. As recent work has shown, mental induction serves a variety of cognitive enterprises, from inference and belief fixation to decision making and communication. It also operates in scientific explanation (van Fraassen, 1980; Garfinkel, 1981).

Now, if mental induction is (a) a form of answering questions and providing the information of interest in a context, and (b) is so pervasive in our cognition, it ought to follow (c) that in our natural cognitive condition we explain the way we normally cogitate or think, by mental induction. And the way we normally think is the way to get the right information about whatever bothers us at the moment in a context. This is why common sense explaining comes so easily and naturally: it is a normal way of thinking about a particular sort of topic, namely, a subject informing on himself or the world in a context. This is also why we are satisfied with what and how we are explaining in the same way we are satisfied with what and how we are thinking or deciding or communicating, namely, by getting the right answer to a question in a context, or forming the right plan for action, or conveying the right information in a conversation. In all these cases, the criteria and measure of a satisfactory solution or answer are determined relative to the pragmatic parameters of the question/answer structure (context, data base, alternative solutions, relevance relations, and the like).

If an explanation satisfies, it does so, not because its official summary specifies intrinsic reasons for the explanation to be satisfactory, in the sense that the premises refer to basic entities and laws in the domain, the boundary conditions fix their range of application, and,

presto, we have an explanation because we have a nice deduction. The explanation satisfies because its official summary condenses and regiments an answer found pragmatically satisfactory relative to an antecedent question/answer structure. In other words, an explanation is satisfactory because it answers a question by providing the right information.

Making sense is (mostly) explaining. The distinction between explaining and explanation also operates in common sense making. A common sense explanation may have the regimented logical form of an argument of the sort <attitude report and attitude report entail action report>, an instance of which would be 'He did it because he wanted to get there and thought this is the way to do it'; or <attitude report and attitude report entails another attitude report>, an instance of which could be 'She believed him because she saw the event and remembered how he reacted'. This is how we phrase the outcome of explaining, and how we publicly indicate or recognize that an explanation is offered. Yet, as in the scientific case, the argument form of the answer is different from how the answer was mentally arrived at, what question it addresses, and why it is satisfactory.

Here are some supporting considerations. Most analyses of common sense making overlook the fact that ordinarily we do NOT use the argument forms of explanation -- unless we have to summarize in order to convince, justify, look clever, or for other such rhetorical reasons. We explain ordinarily by answering why (and other) questions after going through the mentally inductive moves identified earlier. Likewise, we normally understand what, and how, other people explain by following or reconstructing their mental induction. Even when we step aside from the flow of reasoning or communication, and turn to an argument form of explanation, the goodness of the explanation still depends on how good

an answer it provides to the initial why question; and the goodness of the answer is going to be implicit in the mentally inductive moves we made to come up with the answer.

This is not to deny that we often make explicit attitude reports and link them logically in some form of explanation. But in normal contexts of cogitation, communication or learned discourse, attitude reports and explanations appear for what they are, namely, convenient summaries of underlying or preceding or even suppressed but reconstructible chains of mental inductions -- the logical tips of the less visible, more baroque, question-and-information icebergs. As in science, the reasons for resorting to the summarizing argument forms (the explanations) are rhetorical or epistemic or methodological rather than strictly cognitive.

Let us press this point a little further, and ask: Why should a scientific explanation be (say) deductive? And why deductive from laws? Why should a deduction from laws explain anything? Suppose I ask why x is P, and am told that all members of the set to which x belongs are P. This answer tells us that the explanation is deductive, not that it is an explanation. The answer is explanatorily satisfactory (if it ever is) for reasons that need not reside in the semantic or logical dimensions of its public summary form, i.e. what the latter's law and initial conditions statements are about or how they are logically organized. The logical form of scientific explanation is convenient for testing, theory application, justification, formalization, and other such epistemic, methodological and rhetorical objectives. By contrast, the cognitive value of a scientific explanation typically accrues elsewhere, in the mentally inductive processes that produce it.

The contrast between the logical skin and the pragmatic entrails of explanation is also visible in the specific case of causal explanation. And this matters to our discussion. The first fact to note is that the logical skin of explanation often bears few, if any, traces of causality. The causal

relations that an explanation invokes are rarely made explicit by its logically regimented summary. Consider the law subsumptive (D-N) type of explanation. Fundamental laws have no causal potency by themselves. It is the structures and mechanisms these laws animate that instantiate events and thus cause what they do. When we come to consider the causally potent structures and mechanisms, and the events they instantiate, we are bound to consider the messiness of the real world, where causes interact and combine with, or cancel, each other -- not the formal purity of the fundamental laws. And the messiness of the world, in which causes are active and push things around, can only be handled by empirical or "phenomenological" (i.e., superficial and limited, as opposed to fundamental) laws, ceteris paribus provisions, and other methodological compromises (Cartwright, 1983).

I am rehearsing these familiar observations to indicate that quite often the fundamental laws which figure in the official scientific explanation arguments are not necessarily the real causal workers. Finding the latter requires is a rather laborious pragmatic process of mental induction, one which scientists do not always care (or even know how) to describe publicly, logically and crisply. When it comes to the right framework for individuating causes, it should be that of explaining, rather than of explanation, that we must examine.

The same, I submit, is true of common sense making. We <u>say</u> we explain causally in terms of beliefs, desires, intentions, and other such attitudes, but we cannot possibly <u>mean</u> it, if what we are saying is that it is the public attitude reports that explain causally <u>by capturing structures with causal potency</u> under suitable generalizations. True, we publicly formulate our common sense explanations as arguments in the regimented terms of attitudes and action reports. An attitude report contains an attitude description (say, believing) and a content description or sentence (say, that p). An action report contains a behavior

description and often some further parameter (the behavior's object, or relation to environment, or effect, or cause). I have suggested earlier that attitude and action reports are regimented summaries of the information of interest to a sense maker in a context. The suggestion now is that the attitude reports and their generalizations (belief and desire lead to intention; intention to action; and the like) by themselves do not and cannot identify the causally efficacious structures and processes which do the explaining.

I must be dogmatically short about the defense of this claim, and rely on points made earlier in this essay as well as on work done elsewhere. We have already seen one argument (about vicious dogs and mental files) in the previous section showing the causal impotence of what the attitude reports linguistically represent. I have provided elsewhere arguments to the effect that semantically construed content sentences rarely if ever capture the genuine datal configurations which animate an agent's cognition (Bogdan, 1988b; 1989). There are also more familiar arguments in the literature about methodological solipsism and the dual track theory of content which show that semantically construed content descriptions fail to account for mental causation. So much for the causal potency of what content reports report.

We can move on to common sense generalizations. They logically connect attitude and action reports. To say that a belief and a desire explain an action is to mean that they do so ceteris paribus. To say ceteris paribus is to mean that other competing or interfering data and needs of the agent have been considered and set aside by the sense maker, that some normality assumptions about the agent have been duly made, and so on. We have a situation parallel to that in science. The official formulation of the common sense generalizations is just a public facade. From a strictly causal standpoint, it explains little. When ceteris paribus considerations are brought into the picture, we move behind the

logically luminous facade into the darker rooms of explaining, or reconstructing, where most of the cognitively causal action is likely to be visible. The surface argument form of our common sense explanations is not the right framework in which to see, analyze and understand why and how attitude reports explain causally and often successfully (several decades of furious philosophizing at the surface level notwithstanding). The right framework is that of explaining. Admitting this is a step forward. The question now is whether it is a step in the right direction.

Explaining by other means. Many analysts take common sense making to be essentially an explanatory enterprise (the logos thesis). Yet, as we just saw, the model of explanation they have in mind (arguments from attitude and actions reports under appropriate generalizations) is not likely to identify the causal factors at work in cognition. To find the causal factors the analysts of common sense should attend to how the sense maker herself engages in explaining by mental induction. Explaining from causes is parasitic therefore on getting the right information by mental induction. But is this explaining from causes anymore? Probably not, at least not in a deliberate and explicit sense. So we have a paradox: the common sense explanations, as summarizing arguments from attitude reports and generalizations, are not very causal, while the mentally inductive reconstructions to, and inferences from, causes do not look like explanations anymore.

Causes are not essential for common sense making unless they help deliver the right information. As a result, the explanatory derivations from causes are byproducts, not objectives, of the mental induction in search of the right information. To understand why this is so, we should recall that prediction and retrodiction can be seen as forms of tensed explanation. If you have an explanation such as "the earth rotates around the sun because (such and so)", then you can temporally index it to

predict that "the earth will rotate tomorrow because (same such and so)" or retrodict that "the earth was rotating in 1448, when the Ottoman Turks had a jolly good time, because (same such and so)".

Common sense, however, is more likely to have it the other way around. It can explain because it wants to predict or retrodict. And it wants the latter, much more than the former, because it is interested in information about particular events and conditions in the world and the subject, as they occur in time, rather than in deep and timeless mechanisms and laws. Common sense manages to explain causally to the extent to which, in predicting or retrodicting, it considers or exploits conditions which are informationally pregnant and useful, and which also happen to have a hand on causation. Common sense causal explanation is a byproduct of information-hungry prediction and retrodiction.

What makes this suggestion plausible is that we can predict or retrodict without having to explain causally; we do this quite often. (It is this very possibility, by the way, that generates the problem of induction: we can induce successfully without necessarily having adequate causal justification. Explanation is most often nothing but causal justification.) I can, for example, predict that Babeau will sing tomorrow morning because he has done so in the past, without fail. The fact that he has done so in the past is no causal explanation of (and no conclusive justification for) what he will do tomorrow. My prediction cites no causal conditions and mechanisms, although (I guess) some are at work; it only informs on a future conditions relative to past conditions.

To take another example, suppose I want to know why some fellow is nervous. It appears that this is the 'why' of causal explanation. But (I suggest) it isn't -- at least not in my frame of interest now. What I want to know, and need information about, are antecedent conditions, of his and the world around him, which are relevant to his current (nervous) condition. I need to retrodict to his immediate past. I may find out that he

worked too much and was tired, or that the hot weather was too much for him, or that he thought that all this interest in common sense psychology is getting out of hand (another anthology?). None of the antecedent conditions are explicitly causal, and only the second comes close to redescribing a chain of causal conditions, while the first and the third are too superficial summaries of too many things to allow any easy reconstruction of underlying causal conditions (if any). The antecedent conditions are construed, summarized, phrased and communicated with an eye to their psychoinformational, not explanatory, duties. As a sense maker, I find the antecedent conditions plausible candidates because they supply the information I need in daily life, not because they help me understand the deeper causes. I call them explanations in the common sense parlance, but on further reflection I know they aren't, at least not in a causal sense. If I were a physician, I will be looking for those antecedent conditions which instantiate causes and mechanisms of nervousness, not those which only tell me how the world and the patient were some time ago, although some of the two sorts of conditions may well overlap.

To round it up, let us consider an example discussed by Garfinkel (1981). When Willie Sutton was asked why he robbed banks, he is said to have answered that that's where the money is. (Still true.) The common sense maker smiles and is satisfied, the social scientist (a priest in the real story) doesn't and isn't. The latter would like to subsume and represent Sutton's behavior under some deep generalizations, such as poor and uneducated people, maltreated by society, tend to rob, and the like. (Notice, again, that the generalizations point to no causal mechanisms. Being poor or uneducated cannot, strictly speaking, be a cause of robbing or of anything else, for that matter.) Why does common sense smile? Because it is alert to the underlying pragmatic frame of explaining that is made visible by Sutton's answer. (Jokes also trade on

the punch line making visible, quickly and unexpectedly, an underlying infrastructure of assumptions and inferences.) Here are a few elements of that frame. The presupposition is obvious (people need money and robbing is a way of getting it); there are several solutions for Sutton's problem, compatible with the presupposition (banks versus other moneyed places such as mattresses, pockets, or USA TODAY machines); there is also a faint suggestion of an evaluation criterion (risks and effort versus benefit); and so on.

Why does Sutton's answer appear satisfactory in the context? Because, we are often told, it is opaque in the sense that it portrays the situation from his angle. True enough. His answer does summarize some of his thought processes and motivations, and thus tells how he sees the matter. Common sense explanations are said to be intensional in that they are true in virtue of the way the agent represents his situation and his actions. It is also said that the agent's representations cause his other representations and actions. As a result, we are also told, explaining intensionally amounts to explaining from internal causes. It is this conclusion that I resist.

We have already seen that content descriptions, even in an intensional tone, do not necessarily capture the subject's data structures that do the causal work. And even when they do, they only capture token data structures, not their types. How do we get such a token handle on datal internal causes? When a content description appears to explain causally what Sutton did, it does so by allowing us to reconstruct his mental induction and in this way close in on some of his datal conditions responsible for both his public reports and his actions. This reconstruction is still psychoinformationally motivated but it ends up opening up some of Sutton's mental files where the token datal causes are. Suppose, to press our search for the datal causes, we ask Sutton, Why rob at all? And he may answer, Why not? Or he may answer, What do you want me to do?

Teach philosophy? Become a tenured zombie? Or he may become autobiographical, or whatever.

Are these answers more explanatory, causally? Hardly. All we get is further information about still earlier conditions of Sutton and his milieu. These conditions may be relevant to what happened later or could happen next; they predict and even appear to explain. By elimination and reconstruction, they may succeed in sampling some of the Sutton's causally effective representations in his mental files. At that point the search for information has come up with some genuine internal causes. The means and hence the taxonomic types which the sense maker uses to characterize these token causes are psychoinformational. The common sense inference from such causes may look like explaining. But it surely is not a deduction (or induction or analogy) from internal types of causal mechanisms and their laws, so it is not much of an explanation, really.

## VI. Practicalities

As a pretext for review and anticipation, I am going to conclude with a few remarks about what makes common sense making a practice, and why the practice is successful. We know what it is for a scientific theory to be successful: it must be true of the N-joints (types and laws) of its domain or ontology. We also know, at the other extreme, what it is for a behavioral skill (such as writing or riding a bike) to be successful: it must engage its domain (movements, things to move, relations to surrounding things, etc.) at the causal joints where the right performance produces the desired effects.

Common sense making is neither theory nor behavioral skill. Unlike other skill based practices (such as driving a car), common sense making appears to rely on explicitly encoded knowledge (its concepts and axioms), and also results in explicit representations (the common sense

judgments). But then, isn't the success of common sense based on a truth about its domain, and isn't it therefore a theory of that domain?

Let us begin with the outputs. The common sense judgments are explicitly represented and truth valuable. What these judgments are mostly about is, as we saw, a sort of trilateral informational patterns ranging over internal conditions of a subject, external conditions of the world, and the sense maker's own cognitive condition (curiosity, interest). It is these "triangles" that specify the truth conditions of our common sense judgments. To put it crudely, the ontology of common sense making is made of such triangles and combinations thereof. This does not make common sense making a theory of psychoinformational triangles, notwithstanding the fact that its outputs are explicit representations of the triangles. One reason for this is that the psychoinformational triangles have no fixed natures (in the form of essential properties and laws) that the common sense concepts could invariably and reliably pick up and represent truly. Another reason is that the competence for common sense making can be thought of in terms of rules and instructions to construct specific representations (common sense judgments) about the situation at hand; it is hard to think of such rules and instructions as strictly descriptive, hence true, of anything. The two reasons are related. If the psychoinformational triangles have no fixed nature, then there is nothing specific in them for the common sense concepts (in the form of rules and instructions) to represent.

I begin with the latter reason. It is possible, although I do not know how likely, that our common sense knowledge is deep down procedural in that it contains rules and instructions which are not themselves explicitly encoded somewhere (e.g. in memory) -- and hence are not consulted as text when the occasion arises. This reminds one of the controversial matter of how our grammatical knowledge is encoded. Is it a text somewhere, ready for consultation, or is it accessible in some other form,

say, compiled or wired in? The grammatical outputs, like those of common sense making, are explicitly encoded but the grammatical knowledge that produces them need not be. There are some reasons to push this proceduralist line of thought. As we saw, there are features of common sense making such as innateness, smooth and unreflective operation, immunity to education, culture and sophistication, which may point to something like an inexplicit, possibly architectural set of rules and instructions. If this were true, then it would be hard to see what such rules and instructions could possibly be about, or true of, strictly speaking. Rules and instructions can, when applied, produce events and structures, including representational structures, without having to be about these events or structures; this is true not only of grammatical but also of genetic instructions and traffic rules as well.

How do the common sense making rules work? This is a matter to be taken up in the later stages of the naturalization of common sense. By way of anticipation, here is a useful metaphor. We saw that a content ascription is a representation of a psychoinformational triangle in which, given her curiosity and interests, the sense maker positions herself relative to a subject and a portion of the world. I am looking for a notion which intuitively approximates this script, something like "informational triangulation by representation under appropriate rules". Triangulation, says the dictionary, is the location of an unknown point by forming a triangle having the unknown point and two known points as vertices. Triangulation is very much used in navigation. And that, you remember, was our ur problem, how to navigate through life with the help of conspecifics. We must triangulate them, the world, and us in a context. Since the conspecifics are intelligent, and the triangles vary with context, no fixed representation of triangles will do. What we need are rules to apply flexibly and contextually, as well as sequentially (chains of triangles) and compositionally (using various combinations), not mere associative

concepts that we can learn in a context and generalize over other similar contexts.

I am going therefore to hijack the concept of triangulation for our purposes. If a sense maker knows (or has evidence for, or does a ceteris paribus with respect to) any two of the angles, she can in principle triangulate the third. A sense maker can be said to apply the concept of content if she can generate a representation of the psychoinformational triangle of interest in a context, under appropriate rules, evidential clues and ceteris paribus assumptions. To make or understand a content ascription is to know how to apply the representation in question and triangulate the information of interest. To have, antecedently, the very concept of content is to know the rules which generate the representation in the first place. The truth conditions of a content ascription reflect a triangulation by some representation under rules. This is to look only in the direction of the solutions to the psychoinformational problems. There are also, as I have indicated, social coordination problems that we have not even touched here.

We have now material enough to tackle the other reason why I do not think that our common sense competence is true of the nature of its ontology (the triangulation domain). The reason is that psychoinformational triangles have no fixed nature, which is why the basic concepts of common sense making are essentially practical. Here is an important analogy. Think of practices which involve tools, of which sense making is an instance, since it treats conspecifics as an information tools. Most tools have no essential natures. None of the physical or geometrical properties of tables are essential to tablehood. Play with these properties and you will see. What material is typical of tablehood? Wood, iron, plastic? How many legs for a table? Four, twenty, one hundred? How tall the legs? One meter, two, twenty? No legs at all? Just the top? All right. How thick? Half a meter? One centimeter? Aluminum foil thickness? The

game is obvious. It leads nowhere if essential nature is our destination. All that matters is the function of tables, which is to eat and write and put things on. The physical and geometrical properties fit the tablehood type relative to how well they serve the assigned function.

The concept of table is functional in that it enables its possessor to recognize properties and relations of candidate objects to the extent to which they satisfy the functional conditions of tablehood. It is the function which selects the properties that get into the extension of the concept. This makes for a tight (analytic?) connection between what a table is for, and what a table is, as a type -- an indication that what counts as a table is a matter of interest and decision, not of objective correspondence to some fixed type of external facts. The connection between function and type is tight notwithstanding the fact that the type tablehood is inherently fuzzy. If one meets a borderline case and does not know whether the concept applies (the top, made of dry baguettes and supported by huge champagne bottles, extends from Cannes to La Napoule, and everybody eats there in the evening, facing the sea and singing Trenet's 'La Mer'), it is because the function allows for and indeed encourages such indeterminacy. If one knows the function, and hence has the concept of table, one cannot be too wrong about an object being or not being a table. It is the function - type conspiracy which makes the concept of table so successful. When the function is in addition practical, the conspiracy almost guarantees success. This is what I think happens with our common sense making concepts.

The concept of table can again help to clarify the point. The concept is not only functional but also practical. The difference is the following. Items in the extension of a functional concept have functions in virtue of their nature or design; those in the extension of a practical concept have functions in virtue of being designed for practical uses. Hearts have the function of pumping blood because so designed (arrived at) by evolution;

knives or tables are designed to have practical uses. The practical concepts are more flexible and versatile than the functional ones, as they are meant to adjust to the needs and the dimensions of the practice itself. Simple functions may be fixed forever (pumping blood is all that hearts do, which is just as well). The functions in the service of a practice are context sensitive and adjustable. The functional properties of a table adapt to various conditions in which tables are put to some practical use. The concept of table reflects this adaptive character. Our concepts of tools are practical in this sense, and so are those of common sense making.

The common sense triangulation of psychoinformational patterns is not unlike constructing (or recognizing) tables to fit particular situations, needs, and possibilities. Imagine we are in a forest. Lunch time. No table in sight, so we must improvise one. Although we may each have a (perhaps) visual prototype of a table, as a control representation, we still must deploy <u>further</u> "tablehood rules" flexibly, compositionally and contextually, to take account of the conditions around us: how many we are, how informal we want to be, how tall we are, standing or sitting, what we want to eat, what material is available, and so forth. No prototype or any other explicit representation can take care of all these contingencies.

Notice two things about this example. First, all I have said about tables and their construction (or recognition) does not make the concept of table less referential in a robust realist sense. The concept is about real things with real properties. It is, however, applied under practical constraints which determine what properties in what relations get into its extension. That varies from context to context. A table prototype may invariantly refer to a common denominator but that still is only a fixed part (the control part) of our more versatile practical knowledge of tables. Second, with the latter knowledge, one cannot be too wrong

about what counts as a table. How could one? The success criterion is built into the practical functions. Once the latter are known, not only anything will do that serves the function, but often the context of the practice can further liberalize the range of the concept. One can of course misidentify a table for something else. This is a matter of concept application. Yet one is not likely to have a concept of table (the type) which does not refer to tables and does not license successful representations of, or predictions about, tables.

I want to say pretty much the same about our common sense making concepts (qua rules). Attributing a belief (e.g. triangulating someone's cognitive state from the way the world is and how he behaves, relative to what the sense maker needs to know) is not unlike improvising a table in the forest. The concept of belief has robust application: its triangulation rules focus on and pick up real aspects and relations in the subject and the world, in a regular pattern. These aspects and relations are variables whose values can be fixed only in a context. Given the practical functions of a belief attribution, which is to provide the sense maker with a representation of the information of interest, how could the sense maker be wrong about having rules with which to corner and fix the information of interest? She surely could be wrong in applying the rules and, for example, misread the evidence and fail to determine a cognitive state or an action of the subject. That happens quite frequently, and makes common sense judgments empirically truth valuable. But this is different from saying that the common sense rules for psychoinformational triangulation systematically misapply, or do not apply at all. The latter failure does not make much sense, unless of course we take common sense making to be in a totally different business, with a totally different ontology.

The common sense concepts apply successfully because they serve a practice of tracking information and sharing it socially. The very

conditions of the practice ensure that the concepts apply. This plot should warn us that common sense making cannot possibly be an empirical theory of anything, let alone of the most frustratingly complex systems imaginable, our own minds. If common sense making were sensible, it would have constituted itself as an information tracking practice, not as an empirical theory of the mind. Its historical survival and efficacy shows that it was sensible. So it must be such a practice. [5]

## NOTES

1 This is not an instrumentalist axiom. The fact that explanation and prediction constrain the concepts they use does not imply that the concepts fail to have real extensions; it only implies that which properties and relations matter and are included in the extension, at what level of abstraction, are largely determined by the need of explanation and prediction.

2 I am not suggesting that a cognitive competence is created or evolves for a reason. I am suggesting that, no matter what pedigree it has, such a competence does not get selected, reinforced and improved unless (normally) it does a job for the organism and enables it to solve some major bioexistential problem. Such a solution then constitutes the (evolutionary) rationale for the competence.

3 See Fodor, 1987, pp. 129-133. Dennett talks of common sense psychology as a "vernacular social technology, a craft" which we know the way we know the grammar of our native tongue (originally in 'Three Kinds of Intentional Psychology', 1981, reprinted in his 1987, p. 46). The literature on animal psychology (next note) points in the same direction.

4 See Premack & Woodruff (1978), Griffin (1984).

5 I want to thank the regulars of the Tulane Seminar on Current Research for criticisms and suggestions.

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