Belief Ascription: Objective Sentences and Soft Facts

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It is two claims I shall argue for in this paper.[1] What they come to, put roughly, is this: first, there are facts concerning what a person believes; secondly, they are not hard, scientific facts. The first claim is supported by an argument to the effect that some belief sentences are objective and true. The argument for the second claim focuses on the role of normality assumptions in belief ascription: our best ways of justifying belief ascriptions require principles which contain essentially ineliminable normality constraints.

I

By a **belief sentence**, I mean any sentence of the type "S believes at t that p" or "S doesn't believe at t that p", in which the value of "p" is a sentence which contains no indexical items (like "here", "now", etc.) and is true, false or objectively indeterminate.

A sentence is called **objectively indeterminate,** if it is parametrically complete but neither true nor false.[2] A sentence is called **parametrically complete** if it explicitly mentions all features on which its truth value (true, false, objectively indeterminate) depends. A **parameter** is a determinable feature such that the truth value of a given sentence (or predication) may vary with different specifications of this feature. An example of a parametrically incomplete sentence is "In the year 2000, Peter was poor", since at least one parameter is not specified in this

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1 Thanks to Frances Egan, Jerry Fodor, Brian Loar, Colin McGinn, Marina Sbisà and Stephen Schiffer for helpful comments.

2 Moreover, all predicates occurring in the sentence are fit for at least one classical truth value. That is to say, they have a non-empty positive or a non-empty negative extension, the positive extension of a predicate "F" being the set of things of which "… is F" is true, and the negative extension being the set of things of which "… is not F" is true.—The clearest example of an objectively indeterminate sentence is one in which a vague predicate is asserted of a borderline case.

sentence. Consider "In the year 2000, Peter was poor according to the standards of the world bank". In this example, a standard of poverty is a parameter, since the truth value of the predication of poverty in 2000 to Peter may differ as different standards of poverty are applied. If a sentence is parametrically incomplete, the parameters required for completion are called **hidden parameters.**

If Π is a hidden parameter of a sentence "p", then there are specific values (π_1, π_2) of Π such that a sentence of the following kind is true:

Relative to π_1, p, but relative to π_2, it is not the case that p.[3]

Parametrical completeness is different from grammatical completeness of sentences. Grammatically complete sentences may be parametrically incomplete; in fact, such sentences are almost ubiquitous. So the grammatical question whether a given predicate "F" is a two place or a three place predicate is not the same question as the question whether a given predication, say "a is F to b", is parametrically complete. A sentence like "Events #1 and #2 occurred simultaneously" is grammatically complete, but it is famous for being parametrically incomplete as long as no inertial frame has been specified.

Now let's turn to belief sentences. Take as our example the sentence

(1) Harvey believes that some numbers are prime

(for convenience, I shall drop the reference to a certain time at which Harvey is said to have this belief), and assume that the sentence "Some numbers are prime" is parametrically complete. Moreover I shall take it for granted that the belief sentence is grammatically complete. What I shall argue for is this: This sentence is also parametrically complete. Or, more generally: Whenever the lacuna in the sentence form "S believes at t that—" is filled in by a parametrically complete English sentence, the resulting sentence is parametrically complete.

The claim then is this. Given that the sentence "Some numbers are prime" is parametrically complete, there is no determinable feature Π such that the truth value of, say, "Harvey believes that some numbers are prime" varies with different specifications of Π. This is to say, the statement that Harvey believes that some numbers are prime is not in need of a further specification in order to be true, false or objectively indeterminate. Or better, there is no pair of features (π_1, π_2) such that a sentence of the type

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3   Read "it is not the case that p" as "either it is false that p or it is objectively indeterminate that p".

Relative to π_1, Harvey believes that some numbers are prime, but relative to π_2, it is not the case that Harvey believes that some numbers are prime

is true.

As far as I can tell from the literature, all candidates for features which might be considered as hidden parameters of belief sentences really aren't hidden parameters. The candidates I shall discuss here are: modes of presentation, stances, interpretation theories and community assignments.

1. Think for example of modes of presentation. And let us, for the sake of argument, assume that believing that p cannot take place without there being a mode of presentation under which it is believed that p. Sentence (1) does not specify any mode of presentation under which Harvey believes that some numbers are prime. Given our assumption, it follows from (1) that

(2) There is some mode of presentation under which Harvey believes that some numbers are prime.

We may even assume it to be a conceptual truth, which is part of the mastery of belief sentences, that (1) entails (2). But still, this wouldn't show that modes of presentation are hidden parameters of sentences like (1). For the crucial consequence does not follow: namely that there are modes of presentation m_1 and m_2 such that

(3) Relative to m_1, Harvey believes that some numbers are prime, but relative to m_2, it is not the case that Harvey believes that some numbers are prime.

(3) has to be distinguished from (4):

(4) Relative to m_1, Harvey believes that some numbers are prime, but it is not the case that relative to m_2, Harvey believes that some numbers are prime.

It may follow from the theory of modes of presentation that a sentence of the kind of (4) must be true if (1) is true, given that no finite creature can believe anything under all modes of presentation. But this doesn't show that (3) could be true for any pair of modes.

To see this, compare the sentence "Peter hits Paul", from which it may be claimed to follow that there is something such that with it, Peter hits Paul. But there is no instrument parameter hidden in "Peter

hits Paul". For there are no two instruments such that relative to the one, Peter hit Paul, and relative to the other, it is not the case that Peter hit Paul. If Peter hit Paul with a stick, it doesn't follow that relative to an umbrella, Peter didn't hit Paul. If Peter hit Paul with a stick, then there is no sense in which it is not true that Peter hit Paul—hence "Peter hit Paul" contains no hidden parameter for instruments. (Whereas "Event #1 and event #2 occurred simultaneously" does contain a hidden parameter for inertial frames, since it may be that relative to the centre of earth, the events in question occurred simultaneously, and relative to the spaceship, they did not occur simultaneously.)

Let me add that, as far as I know, no version of the mode of presentation theory claims that such modes are hidden parameters of belief sentences. (Remember that I am speaking only about belief sentences which contain no indexical items in their that-clauses.) My purpose here is not to attack the mode of presentation theory but to argue that even if we had reason to think that some version of this theory is true, we would thereby not have reason to think that modes of presentation are hidden parameters of belief sentences with parametrically complete that-clauses.

2. Think of stances which we may take in characterizing a person or some other system. A stance, according to Dennett, is a strategy we adopt when we try to explain and predict the behaviour of a system.[4] Dennett mentions three such stances: the physical stance, the design stance and the intentional stance. It seems that only when the intentional stance is adopted, the truth value of belief sentences can be an issue. If the physical stance or the design stance is adopted, belief sentences are just not used.

Let us, for the sake of argument, assume that some version of the stance theory à la Dennett is true. Are stances, then, hidden parameters of belief sentences? Consider

(5) Relative to the intentional stance, Harvey believes that some numbers are prime, but relative to the physical stance, it is not the case that Harvey believes that some numbers are prime.

Let's focus on the second conjunct of (5). Viewing Harvey from the physical stance, is it false that Harvey believes that some numbers are prime? Certainly not, the question what Harvey believes simply doesn't arise as long as Harvey is viewed exclusively from the physical stance.

4   Daniel Dennett (1978), 3 ff.

Or is it, from this stance, objectively indeterminate that Harvey holds this belief? No. A sentence is objectively indeterminate only if (a) all predicates it contains have a non-empty positive or negative extension, and (b) in the light of all possibly relevant information, the sentence is neither true nor false. If sentence (1) were to be objectively indeterminate from a certain stance, it would have to be assumed, in adopting the stance in question, that the predicate "[...] believes that some numbers are prime" is true of some things or is false of some things; and it would have to be assumed that all possibly relevant information is such that sentence (1) is neither true nor false. But no such assumptions are made when one adopts the physical stance. As soon as the physical stance is adopted, sentences containing belief predicates simply drop out of the picture; they are neither true nor false, and they aren't objectively indeterminate either. So the second conjunct of sentence (5) is not true. The same kind of consideration applies to the case of the design stance, and since no further stances are known we may conclude that belief sentences contain no hidden parameter for Dennettian stances.

Let me add that, of course, Dennett's stance account is not committed to any claim to the effect that stances are parameters of belief sentences, or, for that matter, of any other sentences. On the contrary, there is some textual evidence that Dennett would think of such a claim as a misunderstanding of what he is up to. He says, for example: "The decision to adopt the intentional stance is free, but the facts about the success or failure of the stance, were one to adopt it, are perfectly objective".[5]

3. Think of a theory people use, or may use or may be imagined to use, in ascribing beliefs (and other intentional attitudes) to other people. Very roughly speaking, such a theory would be, among other things, a systematic way of giving or withholding assent to belief sentences in the light of information about what people can be seen or heard to be doing. Given the observable facts so-&-so, the theory sometimes delivers belief sentences. Now let's assume that we all employ, more or less tacitly, such a theory whenever we assert a belief sentence. And let us furthermore assume that such theories could be made sufficiently explicit to compare them to each other with regard to established standards of quality for such theories. Now imagine somebody were to invent a proof to the effect that there are indefinitely many theories of this kind which are optimal with regard to the established standards

of quality but which nevertheless deliver conflicting belief sentences on the same evidence however rich. Imagine that given the same totality of information input, the one theory churns out (1), the other theory churns out the negation of (1), and both theories are optimal. Let's call the two imagined theories θ_1 and θ_2. Now consider

> (6) Relative to θ_1, Harvey believes that some numbers are prime, but relative to θ_2, it is not the case that Harvey believes that some number are prime.

Question: Would (6) be true, given all the assumptions made? I should not deny it would.

But would the truth of (6) show that interpretation theories are hidden parameters of belief sentences? Well, we should note that even if this whole lot of assumptions I've just mentioned were in fact true—assumptions about our tacit employment of such theories, the best of which can have conflicting results in a wide range of cases—we nevertheless may not be in a position to sensibly qualify our belief ascriptions in the way envisaged. As long as these interpretation theories are tacitly employed but never actually laid down, it is difficult to refer to them in a helpful qualification. There are no such theories to which we could refer; we can merely hint at them in a highly speculative and attributive manner. So there is a problem of how to make the determinate values of the allegedly "hidden" parameter explicit. The best we may come up with may be something like this: "Relative to the (optimal) interpretation theory, whatever it is, I am currently employing, Harvey believes that p". As long as the cards can't be put on the table, this is another way of saying "As far as I can tell, Harvey believes that p". But saying this much is not a way of making a hidden parameter of "Harvey believes that p" explicit.

But more importantly, there seem to be cases in which any interpretation theory which might be considered optimal has to come up with the same belief sentence. Imagine this. Harvey is a normal adult, a competent speaker of standard English, who has just in a normal situation, on reflection, assented to "Some numbers are prime"; he was speaking literally and he was serious and not deceitful in making this assertion; moreover, he was, when he assented to the sentence, not "counter-disposed", i.e. he was not disposed to assent to any sentence σ of any language he speaks such that assent to σ is a way of denying that some numbers are prime. In such a case, any interpretation theory which could be considered optimal should deliver sentence (1).

Let's call such special cases **paradigmatical** cases of belief ascription. In these cases, a speaker **optimally expresses** a belief he holds: He assents

to a parametrically complete sentence and fulfils certain requirements (no absentmindedness, no rashness, no slip of the tongue, mastery of the language, no linguistic confusion, a normal occasion for the use of the sentence, seriousness, literalness, and what have you). He couldn't do anything better to express the belief in question; and if there is something missing in the list which would make the case an even better case of expressing the belief in question, we simply add it to the list. The following is, I think, a conceptual truth:

> (CT)   If S is at t disposed to optimally express the belief that p, then, *ceteris paribus*, S at t believes that p.

Paradigmatical cases of belief ascription are cases in which a speaker actually manifests the disposition mentioned in (CT); hence it is a conceptual truth that in such cases the speaker believes that p, so long as no hitherto unknown relevant feature interferes.

Let me add that, of course, we can never *establish* that a given case in which a speaker assents to a given sentence is a paradigmatical case of belief ascription. Similarly, we could never establish that a person at a particular time is disposed to optimally express a certain belief. But we have excellent reason to make the general presumption that

> There are some values of "p" such that some people are sometimes disposed to optimally express the belief that p.

Furthermore, we have good reason to presume that normally the *ceteris paribus* constraint of (CT) is satisfied in cases in which people are disposed to optimally express a belief they hold. Therefore, we have good reason for the claim that

> There are some values of "p" such that some people sometimes believe that p.

In paradigmatical cases of belief ascription, every interpretation theory which churns out English belief sentences and aspires to be optimal would have to come up with the same result. In these cases, there is in principle no leeway for a result like this:

> (7)   Relative to θ_1, S believes at t that p, but relative to θ_2, it is not the case that S believes at t that p.

Therefore, I shall not try to argue against the assumptions about interpretation theories which I have mentioned (some of which I find utterly unfounded), but confine myself to paradigmatical cases of belief

ascription. That is to say, I stipulate Harvey to be disposed at t to optimally express the belief that some numbers are prime.

So the upshot is this. Interpretation theories (believe in them or not) are no hidden parameters of belief sentences as used in paradigmatical cases of belief ascription. Since we restrict ourselves here to those cases of belief ascription, we can be more succinct: Interpretation theories are no hidden parameters of belief sentences.

4. How about assignments of communities, or of public languages? Think of the fact that even in a case which otherwise is a case of paradigmatical belief ascription, it may be that the subject is a competent speaker of two languages such that the sentence, σ, by assent to which he (otherwise) optimally expresses a belief he holds is a sentence of both languages. Now the difficulty may seem to be this. If S, in assenting to σ, is speaking L_1, he expresses the belief that p, whereas if he is speaking L_2, he expresses a different belief, say the belief that q.

To make things vivid, imagine that, besides English, there are two languages Harvey has mastered: German (L_1, for short) and Switzerdütsch (L_2). The two languages semantically overlap to a great extent, but with regard to the sentence "Manche Zahlen sind Primzahlen" they don't. "Primzahl" in Switzerdütsch denotes the prime numbers. Whereas "Primzahl" in German, let's imagine, denotes the prime numbers with the exception of one of them, the favourite number of Emperor X who ruled that this number must not be referred to as a "Primzahl" but as "die Kaiserzahl". German mathematicians, obedient as we may imagine them, gave in, and have stuck to this habit ever since. Their textbook definitions of a "Primzahl", if you look them up, make an extra mention of the *Kaiserzahl* as a non-*Primzahl*. Since the *Kaiserzahl* is very big, it is not mentioned at elementary schools. In English translation, the German concept of a "Primzahl" is rendered as "German-prime numbers".—What is the belief expressed by Harvey, who knows nothing about these things, when he assents to "Manche Zahlen sind Primzahlen"? It seems that if he assents to this sentence as a member of the community of L_1 speakers, he expresses one belief, if he assents as a member of the L_2 speakers, he expresses a different belief. Shouldn't we say:

(8) Relative to L_1, Harvey believes that some numbers are German-prime, but relative to L_2, it is not the case that Harvey believes that some numbers are German-prime.

Clearly not. What someone believes is not a matter of what language he may use to express his belief. (8) deserves to be called a category-mistake, if anything does.

But what about

> (8*) Relative to assigning Harvey's assent to σ to the assentings of L_1 speakers, Harvey [(optimally) expresses the belief that some numbers are German-prime, and therefore, *ceteris paribus*, he] believes that some numbers are German-prime; but relative to assigning Harvey's assent to σ to the assentings of L_2 speakers, it is not the case that Harvey [(optimally) expresses the belief that some numbers are German-prime, and therefore, *ceteris paribus*, he] believes that some numbers are German prime.

This is much better, as long as you don't suppress the parts I have bracketed. Here comes the version of (8*) in which the stuff within the brackets is left out:

> (8minus) Relative to assigning Harvey's assent to σ to the assentings of L_1 speakers, Harvey believes that some numbers are German-prime; but relative to assigning Harvey's assent to σ to the assentings of L_2 speakers, it is not the case that Harvey believes that some numbers are German-prime.

(8minus) is hopelessly confused. Two issues are mixed up: on the one hand, there is the issue of competing interpretational hypotheses ("he may be speaking L_1 or he may be speaking L_2"); on the other hand, there is the issue of what Harvey believes. It makes no sense to relativize the one to the other. Relativized statements are categorical statements of actual facts, not conditional statements about epistemic possibilities. In contrast to (8minus) consider

> (8plus) Relative to assigning Harvey's assent to σ to the assentings of L_1 speakers, **our established principles for belief ascription yield that,** *ceteris paribus*, Harvey believes that some numbers are German-prime; but relative to assigning Harvey's assent to σ to the assentings of L_2 speakers, it is not the case that **our established principles for belief ascription yield that,** *ceteris paribus*, Harvey believes that some numbers are German-prime.

(8plus) makes it clear that the relativization does not concern the subject's believing that p but rather the result of the applying certain principles. The principles yield one result, if Harvey's assenting is regard-

ed as an action performed by an L_1 speaker; they do not yield this result if Harvey's assenting is regarded as an action performed by an L_2 speaker.

Whatever one may think of these cases which involve two languages in this puzzling way, it seems fairly clear that we should keep two sorts of question apart. First, there is the epistemological question: If we know that Harvey assented to σ, but don't know whether he was speaking L_1 or L_2, or both, what belief would we be justified, by the relevant principles, to ascribe to him? Second, there is the "metaphysical" question: Is Harvey's holding the belief, whatever it is, he means to be expressing by assenting to σ, dependent upon the language he is speaking? The answer to the "metaphysical" question should be: No. There is no clear sense in which a believing that p could be relativized to a language, such that relative to one language it obtains, but relative to another it doesn't. But with regard to the epistemological issue the relativizing move makes sense: Relative to regarding Harvey's assent as assent to a sentence of L_1, we are justified in ascribing him the one belief; but relative to to regarding his assent as assent to a sentence of L_2, we are not justified in ascribing him this belief. Put differently, assigning a person to a certain language community is often part of our justification for ascribing him a certain belief on the basis of evidence about his (disposition to) linguistic behaviour. But it is not part of our belief ascription, i.e. it is not part of what we assert when we say of him that he believes that so-and-so.

Therefore belief sentences do not contain assignments to communities as hidden parameters. To think otherwise would be to confuse "epistemological" issues (concerning the evidence, or justification, for belief ascriptions) with "metaphysical" issues (concerning the states of affairs such ascriptions are about).

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Up to now, we have found no hidden parameter of belief sentences. I know of no further candidates. So I shall assume that belief sentences are parametrically complete if the embedded sentence is parametrically complete. Parametrically complete sentences I shall, following Felix Mühlhölzer, call **objective sentences**.[6] The sense in which they are

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6   Cf. Felix Mühlhölzer (1988). Mühlhölzer argues that objectivity, in this sense, is of central importance in the natural sciences. My way of approaching these issues has been much inspired by Mühlhölzer's thinking about objectivity.

objective has to do with the sense in which Fregean thoughts are objective: with regard to their truth value, there is no leeway for any kind of fiddling about. They have everything which is needed to fix their truth value definitely. They are true, false or objectively indeterminate as they stand. The world, "as it is in itself", determines their truth value, whatever difficulties we may encounter in our attempts to find out what their truth value is.

Some people think that belief sentences are not objective. There are those (like Quine, Churchland, Stich and Dennett) who hold that no belief sentence is, strictly speaking, true. Dennett tries to put this point in the mildest way, when he says that no belief sentence expresses a truth *sensu stricto*, but at best "a truth one must understand *with a grain of salt*".[7] Belief sentences have no truth value, but merely a truth-*cum-grano-salis* value.[8] Belief sentences may be O.K., in their humble way; there is nothing about them, in their line of business, which might be considered a parameter missing (or rather: a parameter-*cum-grano-salis* missing). But, Dennett seems to hold, they simply aren't in the line of business which is about genuine truth.

Truth-*cum-grano-salis* is just a polite phrase. If we tried to take it seriously, it would probably raise problems as deep as those it is meant to cover up. Now what would it mean to say that belief sentences do not have truth values? No belief sentence is true, no belief sentence is false, no belief sentence is objectively indeterminate. But this seems to be clearly false. In fact, it seems to follow from some uncontroversial assumptions that some belief sentences are true.

(C)　　If somebody is at t disposed to optimally express a certain belief (say, the belief that p), then, *ceteris paribus*, he at t holds the belief expressed, i. e. he believes that p.

(F1)　　Sometimes some people are disposed to optimally express a belief.

(F2)　　At some times when people are disposed to optimally express a belief, everything relevant is normal.

(C) is a generalized version of (CT), and is a conceptual truth which results from the very concepts of "(optimally) expressing the belief that …", "believing that …", and "*ceteris paribus*". (F1) is a factual assumption to the effect that

7　Daniel Dennett (1987), 72 f.
8　Daniel Dennett (1987), 73.

there are normal adult competent speakers of standard English who are sometimes disposed to seriously and non-deceitfully assent in a normal situation, on reflection, to a parametrically complete English sentence in such a way that they are speaking literally and have no counter-dispositions.

This assumption I assume to be uncontroversial, as long as skepticism is not the issue. (F2) says that it is not always the case that when somebody actually has such a disposition, some hitherto unknown exceptional relevant feature interferes—a feature which blocks the transition from the person's being disposed-to-optimal-expression to his believing what would be expressed. Again, as long as skepticism is not the issue, (F2) should be uncontroversial. (F1) says that the antecedent of (C) is sometimes satisfied; and (F2) says that the *ceteris paribus* clause in (C) is satisfied in *some* cases in which the antecedent is satisfied.

From these three statements it follows that some objective belief sentences are true. Objective sentences which are true describe facts. That's one part of the story. But not all facts are hard facts. This leads me to the second part.

II Determinate Belief Ascription

Often we feel justified by a given piece of evidence about the behaviour of a person (or some other creature or "system") to assume that he or she or it has certain beliefs. Here is an example. Before leaving his home, S looks out of the window and then takes off his light bomber jacket and puts on his raincoat. This is evidence of his believing something to the effect that it is raincoat weather. But there are a whole range of different belief predicates the application of which would be equally well evidenced by what we have S seen to be doing:

> "... believes that it may easily rain today"
> "... believes that it may easily snow today"
> "... believes that he will feel more comfortable with his raincoat"
> "... believes that it is not bomber jacket weather"
> and so on.

If it is our purpose just to make sense of his behaviour (looking out of the window, changing his clothing), these different predicates may serve us equally well. And we have, let's assume, no further evidence which would favour the attribution of one item from this list over any other one. We are not in a position to ascribe to him one belief determinately.

Here is a slightly different version of the example. When *S* takes off his bomber jacket, his wife asks him: "Honey, what are you doing?". Putting on his raincoat he replies: "It may easily rain today". Now there is one predicate on the list which sticks out; we have particularly good evidence for his believing that it may easily rain today. Of course, he may also believe that it may easily snow today; he may also believe that it is raincoat weather, and so on. But any of these other beliefs we can justifiably ascribe only indeterminately, with an added qualification like "or believes something similar". Whereas with regard to the belief that it may easily rain today, we are now, given his remark to his wife, in a position to ascribe it to him determinately. We are in a position to specify precisely, without any qualification, something that is believed by him. (Of course, we may be wrong; what he said may not be something he believes. But we have a piece of evidence which points to one belief determinately, not merely to a family of beliefs indeterminately.)

The contrast I want to bring out is this: Ascription of *the* belief that *p*, as opposed to ascription of *some belief like*, for example, the belief that *p*. For practical purposes this difference often doesn't matter much. But for questions concerning, solemnly speaking, the nature of belief facts, it is of some interest.

We may ask: What is it that sometimes justifies a determinate belief ascription over and above the ascription of a more or less indistinct class of beliefs? The answer I want to suggest is: Iff there is a belief which has been expressed, we are justified in ascribing it determinately. Iff there is a belief which has been optimally expressed, we are fully justified in ascribing it determinately.

Now what is it to express a belief? Basically, to express the belief that *p* is to do something *X* (under circumstances *Y*) such that there is an established analytical principle of the type

> If a member of population *P* performs an action of type *X* (in *Y*), then he believes that *p*.

I shall confine myself to the population (if "population" is the right word) of normal human beings and sub-populations thereof. Since I think that all established analytical principles of this type contain a *ceteris paribus* clause, let us turn to

> (CPA) If a normal human being (in circumstances of type *Y*) performs an action of type *X*, and conditions $<c_1, ..., c_n>$ are satisfied, then, *ceteris paribus*, he believes that *p*

as the general form of such principles.[9] If (CPA) is a conceptual truth and *S* is a normal human being who does *X* in *Y*, then he thereby produces not only evidence for his believing that *p*, but rather *cp-analytical evidence*. Such evidence is, in one respect, more forceful than evidence which is merely empirical. For to the extent in which everything relevant can be assumed to be normal, it cannot be coherently denied that *S* believes that *p*, given that *S* does *X* (in *Y*). Yet *cp*-analytical evidence still is defeasible evidence, as long as it is considered a possibility that something relevant may not be normal. And normally, this must be considered a possibility.

Consider again our example of *S*, putting on his raincoat. What he does in the first version of the story (the silent version) is evidence for his believing that it may easily rain today. But his doing what he does is not *cp*-analytical evidence. There is no true generalization of the type

> If a normal human being (or, for that matter, a normal English speaker) before leaving his house looks out of the window, takes off his bomber jacket and puts on his raincoat (in this order), then, *ceteris paribus*, he believes that it may easily rain today.

But even if there were a true generalization of this type, it would not be an established conceptual truth. Therefore, *S*, in the silent version, does not *express* the belief that it may easily rain today.

But in the second version of the example *S* does express this belief in saying "It may easily rain today". As a normal speaker of English, in making the utterance he produces *cp*-analytical evidence for his believing that it may easily rain today.

Let's call principles like (CPA) **expression principles**.[10] Such principles mention action types performed under certain circumstances in

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9 The reference to a certain type of circumstances may be dropped in favor of appropriate additions to the list of conditions. Each of the conditions may contain *local* normality constraints which are about specific features involved (like *e. g.* lighting conditions, emotional state of the agent, etc.), but they have to be distinguished from the global normality constraint expressed by "*ceteris paribus*". The global normality constraint is essential for the conceptual truth of instances of this schema.

10 The reason for calling them thus is this. A subject *S*, by doing (action token) *x*, **expresses** an intentional state Ψp (like the belief, desire, hope ... that *p*) iff, roughly, the following conditions obtain:
    1. In doing *x*, *S* performs an action of type *X* (in circumstances of type *Y*);
    2. there is an established analytical principle of the (CPA)-variety: "If somebody does *X* (in *Y*), and $<c_1, ..., c_n>$ are fulfilled, then, *ceteris paribus*, he Ψs that *p*";
    3. there is a presumption that $<c_1, ..., c_n>$ are fulfilled in *Y*;
    4. *S* does nothing to indicate that he is not aware of (1) – (4).

the antecedent and one specific belief in the consequent; they are established conceptual truths; they contain a *ceteris paribus* clause essentially (i.e. without such a clause they wouldn't be conceptually true, not even—I assume—true at all).

I am not sure if there are any such principles which do not mention linguistic actions in the antecedent. However this may be, let's concentrate on those which do mention linguistic actions (such as assenting to a sentence or making a statement). Among these there is one that deserves special mention. It concerns those beliefs which are explicitly expressed in performing the linguistic action.

> For all values of "*p*": If a normal person, on reflection, non-deceitfully says that *p*, then, *ceteris paribus*, he believes that *p*.

I shall say that someone **explicitly expresses** the belief that *p* iff he expresses the belief by saying that *p*. (By saying that one believes that *p*, one expresses the belief over-explicitly.)

People express many more beliefs by their linguistic actions than those which they express explicitly. Consider the case where a speaker assertively utters "Some numbers are prime"; he expresses both the belief that some numbers are prime and, e.g., the belief that this is worth saying. In fact he expresses a whole lot of beliefs. Whenever a normal speaker performs a linguistic action in normal circumstances, there will be a whole lot of different expression principles which can be applied, justifying the ascription of various specific beliefs. But although, by asserting "Some numbers are prime", he expresses the belief that it is worth saying that some numbers are prime, he does not, thereby, express it explicitly. To do that he would have to *say* that it is worth saying that some numbers are prime.

Now I can state a little clearer what a certain phrase I have used before, "optimal belief expression", is supposed to mean. A person **optimally expresses** the belief that *p* iff to the best of our knowledge he satisfies all requirements I have mentioned above (mastery of the language, no momentary linguistic confusion, seriousness, etc.) and says that *p*.

Since this may sound confusing, let me give you a short overview on the terminology. We start with:

> In doing *X*, *S* **produces evidence** that he believes that *p*.

If there is an established principle to the effect that:

> If someone does *X* and ..., then, *ceteris paribus*, he believes that *p*,

and what is mentioned in "..." is not perspicuous by its absence in the situation in which *S* does *X*, then

the belief that *p* is **ascribable** to *S* **in a principled way.**

If the principle in question is a conceptual truth, then

in doing *X*, *S* **expresses** the belief that *p*.

If *S*, in doing *X* (i. e. by now: in expressing the belief), says that *p*, then

in doing *X*, *S* **explicitly expresses** the belief that *p*.

And if, to the best of our knowledge, all conditions are fulfilled which are mentioned in the "..." part of the conceptually true ascription principle, then

in doing *X*, *S* **optimally expresses** the belief that *p*.

Optimal belief expression is the highest standard by which determinate belief ascription can be justified. In a case of explicit expression, we can fully justify our ascription of the very belief that *p* (no need for a "or some similar belief" qualification); and because all known requirements are (to the best of our knowledge) fulfilled, we have best *cp*-analytical evidence for the truth of our ascription.

What kind of evidence is this? We may have evidence that a certain person is a normal speaker of English; we may have evidence that a certain person, in making a certain remark, is speaking literally, on reflection, that he is not suffering from momentary linguistic confusion, that he is not absentmindedly reciting a line from a poem he is in the course of writing, that he is not trying to mislead us about what he really thinks, that he is not in a playful mood in which his remarks can't be taken seriously, and so on. All this evidence is required for justifying the claim that by a certain utterance a speaker has literally said that *p*. But isn't a circle lurking here? Or maybe more than one?

The intentionalistic circle: The evidence required contains facts described in intentionalist vocabulary about what the person in question is able to do, is inclined to do, is prepared to say, etc. And we have no clear idea how to describe these facts in a non-intentionalist way. Hence the evidence required (for justifying the claim that *S*, in assenting to sentence σ, has optimally expressed the belief that *p*) presupposes intentionalist facts.

The evidential circle: The evidence required (for justifying the claim that *S*, in assenting to σ, has optimally expressed the belief that *p*)

presupposes evidence which is evidence of the required kind only if it is independent evidence for *S*'s believing that *p*.

I accept that there is the intentionalistic circle. But the suspicion that there is an evidential circle seems to be unfounded. To see this, let me try to be a little more explicit. Let us say that *A* **evidentially presupposes** *B* iff

(1) there can be optimal evidence for *B* which is not evidence for *A*;
(2) any body of optimal evidence *E* for *A* must contain a piece of evidence *e* such that *e* is independently optimal evidence for *B*.

If *A* evidentially presupposes *B*, then, very roughly speaking, in order to find out that *A* you have to find out that *B*. There is no way of empirically establishing *A* which does not contain, as a proper part, the task of empirically establishing *B*. In a case where *A* evidentially presupposes *B* and where *B* is considered as being in need of evidence, *A* cannot be offered as genuine evidence for *B*.

Does "*S* optimally expresses the belief that *p*" evidentially presuppose "*S* believes that *p*"? I do not see any reason for thinking so. First, I don't think that condition (1) is satisfied; I don't think that there can be optimal evidence for *S*'s believing at *t* that *p*, which is not evidence for *S*'s optimally expressing at *t* the belief that *p*. But I shall, for the sake of argument, assume that condition (1) is satisfied in the case under consideration. Therefore we have to consider whether condition (2) of our informal characterization of evidential presupposition is satisfied.

Let's first get clear about what is at issue. Here is a list of conditions satisfaction of which make it true that *S*, in doing *x*, optimally expresses the belief that *p*:

S is a normal speaker of a normal language *L*;
S assertively utters (or assents to) sentence σ of *L* under normal conditions;
S, in asserting σ, speaks literally;
S, in asserting σ, makes a serious assertion;
ceteris paribus: to assert σ under such conditions is to explicitly say that *p*;
S, in asserting σ, is not trying to mislead anybody about anything;
S, in asserting σ, is not being rash;
S, in asserting σ, is not suffering from momentary linguistic confusion;
S, as he asserts σ, is not counter-disposed;
and maybe more of this kind of stuff.

I see no reason for thinking that any item, or combination of items, from this list entails or evidentially presupposes that *S* believes that *p*. In particular, I see no reason for thinking that optimal evidence for any of these items requires a piece of evidence which is independently optimal evidence for *S*'s believing that *p*. So I see no reason for suspecting an evidential circle in connection with the assumption that what I call *cp*-analytical evidence for *S*'s believing that *p* is genuine evidence.

I admit, ungrudgingly, that such evidence cannot be thoroughly non-mentalistic evidence. Since it is part of my idea of a **hard fact** that it can be established, to the extent it can be thought of being established at all, by dint of compiling nothing but thoroughly non-mentalistic evidence, I thereby admit that belief facts aren't hard facts. Nevertheless, there are, as we have seen, belief facts—facts described by true objective belief sentences. We may call them soft facts. By calling them soft, I don't mean to suggest that are not really facts, or facts merely in a metaphysically secondary sense, but rather that they are not fit for the incorporation into the hard sciences.

There is more reason (than the point about evidence just mentioned) why they deserve the epithet "soft". I shall mention a few:

Belief properties (like the property of believing that some numbers are prime) may not be natural kinds of any mature science, not even psychology. Stephen Stich and others have argued convincingly that if two people believe that *p*, it doesn't follow that they have some feature *F* in common such that *F* is a psychological kind which plays a role in cognitive psychology.[11]

Belief properties may have no realizers at all in the subjects of which they are true. There may be no belief token in Harvey, no neural state which is or realizes his believing that some numbers are prime. Even if it is assumed that the brain of a believer must contain representation tokens, Dennett might be right when he says that "there is no reason to suppose the [...] concrete, salient, separately stored representation tokens [...] will explicitly represent (or *be*) a subset of our *beliefs* at all".[12]

Belief properties are poorly individuated. It is difficult to count them. How many belief properties are instantiated by a normal person at a given time? Maybe there is only one good answer to this somewhat strange question: Indefinitely many. What makes them so hard to count? We don't know, in a general way, how to tell whether two given belief predicates denote the same belief property or not. Think of "[...] believes

11   Stephen Stich (1983), chapters 4 and 11
12   Daniel Dennett (1987), 56.

that Paul is older than Peter" and "[...] believes that Peter is younger than Paul".

The concept of belief seems to give rise to a paradox or something like a paradox. "A reasonable person believes [...] that each of his beliefs is true and that some of them are false".[13]

The concept of belief seems anthropocentric, as long as it is used in a non-metaphorical way. We have no clear idea what exactly would make it literally true of an animal or a robot that it believes that so-&-so.

But even the application of the concept of belief to normal adult human beings is inextricably tied to provisos. For all we know, the generalizations which are required for the justification of determinate belief ascription have at least three features which make it difficult to regard them as fit for the incorporation into any of the hard sciences. These generalizations (i) contain *ceteris paribus* clauses essentially, (ii) they refer us to features (like mastery of a language, seriousness, etc.) the justified ascription of which is equally dependent on inexhaustible *ceteris paribus* qualifications, and (iii) they are conceptually true if they are true at all. Such generalizations cannot—or cannot easily—be regarded as laws (not even as non-strict 'laws'-only-in-quotes) of "an embryonic theory which is on its way to being developed to the point where it makes definite claims about the world".[14] Earman and Roberts say that "the main interest of ‚*ceteris paribus* laws' is that they are (hopefully) stations on the way to a better theory with strict generalizations"[15], and I agree. But given the three features just mentioned, the principles of determinate belief ascription are not stations on the way to a theory with *strict* generalizations. If it is a hallmark of a hard fact that it can be stated and confirmed within a law-stating (or 'law'-only-in-quotes-stating) theory of a hard science, and if such theories do not allow for *cp*-analytic generalizations (although they may contain, as long as they are in the state of "work in progress", *ceteris paribus* laws), then belief facts aren't hard facts.

But, as we have seen, they are facts nevertheless.

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13 Willard V. Quine (1987), 21.
14 John Earman/John Roberts (1999), 466.
15 John Earman/John Roberts (1999), 467.

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