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Trivial Languages

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Abstract I here present and defend what I call the Triviality Theory of Truth (TT), to be understood in analogy with Matti Eklund's Inconsistency Theory of Truth (IT). A specific formulation of (TT) is defended and compared with alternatives found in the literature. A number of objections against the proposed notion of meaning-constitutivity are discussed and held inconclusive. The main focus, however, is on the problem, discussed at length by Gupta and Belnap, that speakers do not accept epistemically neutral conclusions of Curry derivations. I first argue that the facts about speakers' reactions to such Curry derivations do not constitute a problem for (TT) specifically. Rather, they follow from independent, uncontroversial facts. I then propose a solution which coheres with (TT) as I understand it. Finally, I consider a normative reading of their objection and offer a response.

The idea that the Liar paradox shows that "our language is inconsistent", what is now called the Inconsistency Theory of Truth (IT), goes back at least to Tarski.[1] How exactly to understand the idea that our language is inconsistent is a matter of ongoing debate. I will here expound what I take to be the best rendering of this phrase, by which I mean least contentious explication, which nevertheless captures most of what its adherents take it to involve.

However, it is not (IT), but the related Triviality Theory of Truth (TT) that will be the main focus of this paper. As we will see, this theory raises some new questions and has been questioned on grounds irrelevant to (IT). In a nutshell, (TT) says of Curry's paradox (and of the Liar paradox plus *ex contradictione quodlibet*) what (IT) says about the Liar, namely, that *the principles used in the respective paradoxical derivations are*

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[1]In addition to Tarski (1944), such views have been defended by Wittgenstein (1956: app. I: 12), Chihara (1979, 1984), Yablo (1993), Barker (1998), Burgess (2002), Eklund (2002a, b), Ludwig (2002), Azzouni (2003, 2006, 2007, 2013), Patterson (2007a, b, 2009), and Scharp (2007, 2013a, b).

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meaning-constitutive. These theories have misleading names, however, for they are not "theories of truth" in the ordinary sense: they do attempt to say "what truth is", or state conditions for something to be true, and they are not intended to provide a *solution* to the truth-paradoxes, i.e. an answer to the question what goes wrong in the Liar derivation.

In fact, they make no claims at all about validity or truth, but rather concern what the word "true" means, and what constitutes someone's understanding it (or being semantically competent with it). On the versions of (IT) and (TT) discussed here, meaning is typically analysed in terms of understanding (semantic competence), rather than in terms of truth. A common view of this kind is that the meaning of an expression simply *is* its understanding conditions (see, e.g. Båve (2009)). This separation of matters of meaning and matters of truth is consonant with (IT) and (TT)'s commitment to rejecting the idea that any meaning-constitutive sentence is true. More on this below.

More specifically, (IT) must be distinguished from dialethism and (TT) must similarly be distinguished from what is normally called "trivialism", i.e. the view that every sentence/proposition is true.[2] (IT) does not entail that there are true contradictions, and (TT) does not entail that every sentence is true, at least not according to their adherents. Indeed, (IT) and (TT) can be seen as attempts to avoid the radical claims of dialethism and trivialism, while doing justice to some of the facts motivating the latter. These two pairs of theories are also related in the following way: *if* every sentence/ inference that is meaning-constitutive is also true/valid, then: if (IT) is true, so is dialethism and if (TT) is true, so is trivialism. Since adherents of (IT) and (TT) typically want to avoid dialethism and trivialism, they claim that some meaning-constitutive principles (sentences or inferences) are untrue or invalid. As I will be defining (IT) and (TT), moreover, they are also silent on the normative characteristics of meaning-constitutive principles, e.g. whether they *ought* to be accepted.

As theories of understanding, or semantic competence, the main purpose of (IT) and (TT) is to explain linguistic behaviour, in particular, our reactions to the paradoxes. This is a thoroughly psychological matter, and the connection to questions about validity and truth is not obvious. On my preferred versions of (IT) and (TT), they take semantic competence to consist in *dispositions to accept* certain principles, where acceptance is a psychological relation similar to belief, except it relates speakers to sentences, rather than propositions. It is thus not a behavioural notion and must not be confused with, e.g. *assent*, which is.

While (IT) and (TT) are logically independent, it is rather natural to accept one if one accepts the other. For instance, the main intuition motivating (IT), namely, that Liar reasoning is impeccable, has an obvious counterpart motivating (TT), namely, the intuition that Curry reasoning is impeccable. Still, (TT) raises some new and separate issues that I will focus on in this paper.

I begin, in Section 1, by giving my preferred formulations of (IT) and (TT) and defining the concepts involved (meaning-constitutivity, competence conditions, acceptance dispositions). I there also compare these theories with similar views in the literature, and with dialethism. In Section 2, I defend (TT) from objections related to the notion of meaning-constitutivity. In Section 3, which forms the bulk of the paper, I argue that my versions of

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[2] On trivialism, see, e.g. Priest (2000), Azzouni (2003, 2006, 2007, 2013), Mortensen (2005), Bueno (2007), and Kabay (2010).

these theories fare better with the empirical data than their rivals, and I especially discuss a fact about speakers' reactions to certain Curry derivations, which Gupta and Belnap (1993) have claimed to present insuperable problems for theories like (TT). I argue that the problem arises independently of any theory about "true", and thus poses no problem for (TT) specifically. In the final Section 4, I consider some normative issues, particularly a "normative reading" of Gupta's and Belnap's argument, and argue that it is not convincing on this reading either.

1 Formulating (IT) and (TT)

(IT) claims that the principles (sentence schemata and inference rules) used in the derivation of a contradiction in the Liar paradox are meaning-constitutive. In particular, it holds that the (double) inference rule, (T) ($<p>$ is true $\Leftrightarrow p$) is meaning-constitutive, as well as some set of inference rules and/or sentence schemata (involving "if", "and", etc.) jointly sufficient for deriving the contradiction.

(TT), similarly, is the claim that there is some set of principles, jointly sufficient for deriving an *arbitrary* sentence, all of whose members are meaning-constitutive. One such (alleged) derivation constitutes Curry's paradox, which arises when we consider the sentence,

(C) If (C) is true, then p,

where "p" is an arbitrary sentence. Assuming (C) is well formed, we can infer "p" assuming only (T), *modus ponens* and contraction, which are arguably all meaning-constitutive. Another way of deriving an arbitrary sentence from allegedly meaning-constitutive principles is to first derive a contradiction by Liar reasoning, and then apply disjunction introduction and disjunctive syllogism (amounting to *ex contradictione quodlibet*, or (ECQ)).

A major motivation for these claims is of course that most people find the principles used in the Liar paradox and Curry's paradox impeccable, and similarly for disjunctive syllogism and disjunction introduction. Dialethists have of course given ingenious, principled arguments for rejecting these inferences (see especially Priest (2006: Chap. 6)). But these arguments concern validity, not meaning-constitutivity. And saying that these principles are invalid is consistent with (IT) and (TT). More to the point, these arguments do not alter the fact that most people find the principles impeccable.

Now, Curry's paradox is in some ways more interesting than the Liar-plus-(ECQ) derivation, since the former relies on a weaker logic (the principles assumed in the Curry derivation are valid in standard relevance logic, whereas (ECQ) is not). Note, however, that (IT) still does not entail (TT). One can hold that whereas the Liar derivation (of a contradiction) relies on purely meaning-constitutive principles, there is no set of meaning-constitutive principles sufficient for deriving an arbitrary sentence. This is analogous to what paraconsistencist dialethists hold (see Priest (1992)), namely, that the Curry derivation is invalid (in particular, conditional proof or contraction is invalid) whereas the Liar derivation is valid. (Note that I say merely that it is *analogous*, since dialethists make claims about truth and validity, while (IT) and (TT) speak rather of meaning-constitutivity.)

What, now, is meant by "meaning-constitutive"? I will here assume Matti Eklund's (2002a) elucidation on which a meaning-constitutive principle is one that *speakers are disposed to accept in virtue of their semantic competence* (again, acceptance is a belief-like psychological relation).[3] That a speaker is disposed to accept a principle in virtue of her semantic competence, I propose, means that (i) there is an expression e she is competent with and (ii) a necessary condition for being competent with e is that one be disposed to accept the principle. To be disposed to accept a sentence schema is to be disposed to accept its instances, and similarly for inference rules. To be disposed to accept a specific inference (i.e. an instance of an inference rule) is just to be disposed to accept the conclusion if

i.   one accepts the premises,
ii. one considers both the premises and the conclusion,
iii. there are no inhibiting factors present.

By contrast, the stimulus conditions for a disposition to accept a sentence merely includes consideration and absence of inhibitors.[4] Note that "being disposed to accept" thus means slightly different things depending on whether the "principle" at issue is a sentence or inference (I adopt this terminology mainly for the purpose of brevity).

Now, given the elucidation of meaning-constitutivity defined above, we can see that (IT) makes the following claim:

(1)   There are derivations of contradictions consisting entirely of principles that speakers are disposed to accept merely in virtue of their semantic competence with certain expressions.

I shall define (IT) as containing not only (1), however, but also,

(2)   We are disposed in virtue of our semantic competence with certain expressions (namely, conjunction and negation) to *reject* contradictions.

Note that in (2), "merely" is lacking. Presumably, our disposition to reject contradictions does not fall out immediately from our semantic competence with negation and conjunction, but rather requires a sequence, however short and obvious, of processes each of which we undergo as a direct result of our semantic competence with conjunction and negation, respectively. Thus, the competence conditions of neither expression entail that one rejects a contradiction *merely* upon reflection thereupon (this

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[3] Paul Horwich proposes that acceptance be functionally defined as "the psychological (but non-semantic) relation to a sentence that is manifested in our relying on it as a premise in theoretical and practical inference" (Horwich 2005: 40f). See also (Horwich 2005: 30f. and n. 7).

[4] Some philosophers have expressed doubts that the notion of an inhibiting (disturbing, interfering) factor can be spelt out in such a way as to make appeals to them testable and non-vacuously true (e.g. Schiffer (1991) and Earman et al. (2002)). However, given the ubiquity of laws hedged by such qualifications in the special sciences (biology, economics, psychology, and perhaps even physics), there is good reason to think the problem must have some solution. For more discussion about these matters, see Fodor (1983), Hausman (1988), Lange (2002), Kusch (2005), Cheng (2009), and Steinberg (2010: §4)

is plausible since competence with the one expression should not entail any disposition with regard to the other).

I am assuming here (as is natural for a non-dialethist) that the competence conditions of negation entail that one is disposed (upon conscious consideration, as always) to proceed from accepting a sentence to rejecting its negation, and vice versa. This "proceeding", I take it, is just like inferring, except involving rejection, rather than merely acceptance. How to fully account for rejection is too complex and difficult a matter to discuss here. Suffice it to note one important feature of rejection: that rejecting a sentence tends to inhibit acceptance thereof. The final explanation of why we reject contradictions presumably requires some assumption to the effect that we follow the rule of negation-introduction (except it concerns rejection, in the first place, rather than acceptance of a negation). However, I will not, and should not, be any more specific about what specific dispositions account for (2).

Now, (2) and (IT) jointly entail that our language is inconsistent in the sense that there are sentences that we can come to accept merely by executing competence-grounding dispositions and that we can also come to reject merely by executing competence-grounding dispositions. Thus, the kind of inconsistency that (IT) attributes to our language seems to be in some sense "deeper" than that attributed to it by dialethists (cf. Eklund (2002b)). On (IT), there is an *inescapable* tension induced by the competence conditions of "true" and the logical connectives, whereas dialethism is consistent with holding that the acceptance of contradictions does not in any way conflict with competence-grounding dispositions. Another interesting and related claim that could be added to (IT) is that our disposition to *backtrack for errors* (cf. Azzouni (2006: p. 98)) when having reached a contradiction is also one we have in virtue of our semantic competence with negation, which would be another example of a competence-induced tension. Dialethists, by contrast, do not take any such general disposition to backtrack to be required for semantic competence.

In tandem with (1) and (2) above, we can now state,

> (TT) For every sentence, there is a derivation of it consisting entirely of principles that speakers are disposed to accept merely in virtue of their semantic competence with certain expressions.

Having thus stated my versions of (IT) and (TT), I will now briefly consider two alternative versions of (IT), namely, Patterson's (2009) view that semantic competence consists in the knowledge or "cognizing" of an inconsistent Tarskian truth-theory and Ludwig's (2002) view that the correct meaning-theory "mentions", but does not entail, an inconsistent truth-theory. Both of these views are compatible with (IT) on my version, and in particular, with the claim that competence with "true" entails a disposition to accept the instances of (T). In fact, Patterson even seems committed to the latter, for he takes "cognizing" to entail a "quasi-perceptual impression that various things are the case, e.g. that 'snow is white' is true iff snow is white [and so on]" (Patterson 2009: p. 419). But this seems very much like a *disposition to accept* "'snow is white' is true iff snow is white", and so on. Indeed, on the standard analysis of "seeming" or appearance, if it seems/appears to one that *p*, then one is disposed to believe that *p* (see, e.g. Sosa (1996)).

In general, it is hard to see in what sense one can be an "inconsistency theorist" without accepting that we are so disposed. If the theory does not say we have such a (competence-induced) disposition, it is unclear how it is supposed to explain why we are taken in by the paradoxes, which is one of the main purposes of the theory. It therefore seems reasonable to see their views as *adding* to this basic claim a proposal as to what mechanism is responsible for the disposition. But for the purposes of (IT), it is not necessary to be thus specific about the mechanism underlying the disposition, as long as it is claimed that we have the disposition.

Not only are the additional claims Patterson and Ludwig make unnecessary; they are also implausible, in my view. Patterson argues persuasively that Ludwig's proposal commits him to inconsistencies (Patterson 2009: Sect. 2), and he himself agrees that his own account entails that all expressions of English are meaningless-in-English, i.e. that the truth-theory fails to assign meanings to English expressions. Each of these problems may well be taken as a *reductio*. Further, the very idea that semantic competence consists in cognizing (etc.) a truth-theory faces objections independent of (IT) (cf. Scott Soames (1992, 2008)). This view is also not standard among adherents of truth-theoretic semantics. For instance, Davidson himself clearly wanted to avoid this conclusion (Davidson 1973: p. 25, Davidson 1986: p. 438, Davidson 1990: 311f.). Note also that one obvious problem for (IT) and (TT) as I have defined them—that of how to define *acceptance*—is equally a problem for many truth-theoretic semanticists (cf. Davidson's "holding-true"). For these reasons, it seems wiser to adopt the less contentious and less involved definitions of (IT) and (TT) given above.

Last, but not the least, although I am throughout speaking (IT) and (TT) as claims explicating the idea that our *language* is inconsistent, it is not hard to see how a parallel claim about our conceptual scheme would be formulated (thus allowing for the idea that the inconsistency of our language is only derivative of an explanatorily prior *conceptual* inconsistency). To wit, on one such view, the inconsistency consists in our *concepts* having *possession conditions* (e.g. as in Peacocke (1992)), analogous to the semantic competence conditions for expressions proposed above. These conditions would be to the effect that one be disposed to *believe* such and such contents involving the concepts, or to infer, in the sense of belief-transition, in accordance with certain rules. Note that on this variant view, there is no need to spell out "acceptance", since it is replaced by the already understood "belief". Though this last observation is important, since the commitment to spell out "accept" may be seen as a serious problem for (IT) and (TT), I will here stick to my original conception of these theories as dealing with semantic competence with expressions, as per (1)–(3), rather than possession of concepts.

2 Objections Relating to Meaning-Constitutivity

Meaning-constitutivity in the sense defined above is of course a variety of analyticity, which is a controversial notion. But the view that our language is inconsistent seems committed to it. For the mere claim that we are disposed to accept the steps in the derivations is uncontroversial and does not seem like an explication of the phrase, "our language is inconsistent", as it has been understood by its defenders. On the other hand,

meaning-constitutivity as understood here is not metaphysical analyticity—truth in virtue of meaning—that Quine convinced most of us to discard.

Meaning-constitutivity in the sense above does not entail truth or even justification (and it is consistent with justified rejection). Still, it is not philosophically idle. For if there is no analytic-synthetic distinction in this sense, then an ordinary solution to the paradoxes will not be different in kind from a revision of an empirical theory. On such a view, it makes no sense to say, e.g. that we ought to revise our concepts, whereas on (IT) and (TT), it does.

On the assumption that dialetheism is false, we can see that (1) entails that some meaning-constitutive principle is untrue or invalid. This consequence, too, is very controversial (and, indeed, seems to be the main reason why philosophers reject (IT)). Still, I know of no argument against it. By contrast, Chihara (1979) and Eklund (2002a) have adduced rather clear and simple arguments in its favour. Also, it seems odd to me that meaning-constitutivity, in the present sense, should entail truth, whether conceptually or metaphysically; truth and meaning-constitutivity in this sense are, after all, rather different properties. It would be interesting to hear a detailed defence of this entailment claim, given how deeply rooted it seems to be among philosophers.

Some philosophers might accept that *if* there are meaning-constitutive principles (in our sense) at all, then English is indeed inconsistent and trivial in the sense of (IT) and (TT). And this seems fairly plausible (in particular in view of the replies to certain objections below). Therefore, it seems, the best way to resist these theories is to deny that there are meaning-constitutive principles. Such a denial is naturally coupled with the alternative view that competence with any expression is a matter of degrees and thus does not have absolute conditions of the kind I have considered (the view typically endorsed by sceptics about meaning-constitutivity). On such a view, to be competent with logical connectives, "true", etc., one must be disposed to accept *sufficiently many* instances of a certain form, but not necessarily all of them, wherefore the competence condition will not *entail* that one is disposed to accept a given instance, whence it is not meaning-constitutive. The best-known arguments to date against the kind of meaning-constitutivity defined above are those of Williamson (2007: 4.3), but I agree with Eklund (2007) that these arguments rely on a misunderstanding of how "disposition" is used by defenders of this type of analyticity (see also Wedgwood (2007) for a different criticism of Williamson's arguments). The dispositional claim is to be understood as intimately connected with a counterfactual: in order to understand "true", one must be such that *if one were to* lack any reason against accepting an instance of (T), one *would* accept it. This just seems intuitively compelling: surely, someone who suspends judgment on an instance of (T) in spite of not seeing any reasons not to accept it must fail to understand "true".

Kevin Scharp has argued recently against Eklund's account of meaning-constitutivity, claiming that someone who has once mastered a concept by becoming disposed to accept certain principles must be able to "eliminate" these dispositions and still understand the word (Scharp 2013b: p. 45). This goes right against the intuition above, but it also seems right in some way. I think the objection conflates two notions of understanding, however. In the proper sense of "understand", one does not understand a word that one has no dispositions to use in any way. But there is also a sense of "understand" in which one would understand the word if one knew which acceptance-conditions are necessary and sufficient for understanding it, and, let us suppose, knows

everything else about the word. This becomes clearer in the case of concepts: if one has no dispositions to form any attitude whatsoever involving a given concept, one does not possess it. However, one might still be capable of having thoughts *about* this concept, and knowing everything about a concept is easily mistaken for *possessing* it.

There are also a host of possible objections against the more specific claims (TT) makes about meaning-constitutivity. One objection might be that a sentence that is the conclusion of an inference consisting entirely of meaning-constitutive premises and inference steps will itself be meaning-constitutive in some sense. Let us say that such a sentence is *meaning-entailed*. Now, clearly, (TT) entails that every sentence is meaning-entailed. While this may sound radical, it is really just a restatement of (TT) using a new terminology, and thus hardly makes for an objection. Given how "meaning-constitutive" was defined, further, it is also not the case that a sentence that follows from a meaning-constitutive sentence via a meaning-constitutive inference rule is itself meaning-constitutive. Even if competence with e requires a disposition, upon consideration, to accept s and competence with e' requires a disposition to accept s' given acceptance of and conscious consideration of s and s' (i.e. a disposition to infer s' from s), it does not follow that there is an expression competence with which requires a disposition to accept s'. Hence, meaning-entailedness does not entail meaning-constitutivity.

There is of course one very weak sense in which we are disposed to accept any sentence in virtue of our competence. However, once this sense is clarified, I think this consequence should not appear any more implausible than the original statement of (TT). To wit, we are disposed to accept any sentence in virtue of our competence in the sense that there are expressions competence with which requires dispositions such that, if manifested in the right sequence—namely, one matching a paradoxical derivation of an arbitrary sentence—then the speaker would accept this arbitrary sentence. But this "disposition to accept any sentence" is highly conditional (that is, very much goes into its stimulus condition) and very different from the competence-induced dispositions discussed above. Also, since dispositions, as I am using this notion, are *defeasible*, i.e. their description comes with a "barring inhibiting factors" qualification, to say that we have this disposition should not invite the suspicion that (TT) entails that we would in fact accept any sentence on the basis of Curry reasoning. It should now be clear that it is rather misleading to say that we have a "disposition" to accept any sentence at all. In any case, that we are disposed in *this* (misleading) sense to accept any sentence is a trivial consequence of (TT), as formulated here, and something its adherents can simply accept.[5]

Paul Horwich has argued that there cannot be trivial meanings like the alleged meaning of "tonk", for that would entail that we were disposed to accept every sentence, but this, he says, is inconsistent with the nature of acceptance, in particular, with its role in explaining action ((Horwich 2008: 457f.)—cf. also his (Horwich 1997)). However, Horwich tries to sustain this claim by arguing that one could not *in fact* accept every sentence (for reasons having to do with action). But it is difficult to see how to infer from this (plausible) claim that we could not be *disposed* to accept every

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[5] It is common, also, to suppose that there must be some property P, such that if there are meaning-constitutive principles from which a given sentence can be derived, then it has P and if a sentence has P, then its negation does not (a common candidate for such a P is truth). Combined with (IT) or (TT), this assumption leads to contradiction. But further argument would be needed to demonstrate that adherents of (IT) or (TT) are committed to positing such a property.

sentence, especially if the dispositions are multiply conditional (in the sense above) and invariably inhibited. (Of course, it may still be impossible, for other reasons, to use a connective governed by the "tonk" rules specifically. But (TT) is not committed to that possibility. If "tonk" is impossible, it is presumably because of the quick and direct way in which it could be used to infer anything, but Curry derivations are much less direct.)

It may seem that adherents of (TT) need some notion of meaning-constitutivity that is weaker than meaning-constitutivity, but nevertheless does not hold of all sentences (unlike meaning-entailedness). We need it, for instance, for characterizing negations of contradictions, for the latter are not meaning-constitutive, although they are something of the sort. To recall the above comment about claim (2), that we reject contradictions not *merely* in virtue of semantic competence, a simple computation is needed in addition. The same of course holds for our acceptance of negations of contradictions.

Now, one may object, what might this notion of meaning-constitutivity be, if not meaning-entailedness? But since this notion applies to every sentence, given (TT), it cannot be used to characterize negations of contradictions in any non-trivial way. My reply is that there is an important difference between the way in which we are disposed to accept negations of contradictions and the way in which we are disposed to accept arbitrary sentences. To wit, a competent speaker will accept negations of contradictions partly due to her recognition of their semantic structure and content, while the conclusions of Curry derivations are precisely arbitrary in that the derivations leading to them are insensitive to their semantic structure and content. Thus, what we need is rather an "intermediary" notion of meaning-constitutivity, call it "IMC", such that,

> (IMC-df) A sentence s is IMC $=_{df}$ there is a derivation of s relying merely on meaning-constitutive principles, and every such derivation either contains redundant steps or depends on the structure and/or content of s.

The derivations of arbitrary sentences considered above do not depend in any way on the content and/or structure of the conclusion. Also, I submit, the only derivations of arbitrary sentences that depend on the content/structure of the conclusion are ones containing redundant steps (added for the sole purpose of making the derivation dependent on the structure of the conclusion). If indeed, there is no such derivation, IMC does not apply to every sentence, and then we have captured a non-trivial notion of meaning-constitutivity which can be used to characterize negations of contradictions.

With this notion of IMC, we can also respond to an objection to the effect that (TT) precludes the idea that the apriority of logical truths can be explained by their analyticity. Meaning-constitutivity would be too narrow, since sentences derived from meaning-constitutive principles by meaning-constitutive inference rules need not themselves be meaning-constitutive. Meaning-entailedness, by contrast, is too wide, since it applies to every sentence. But it has yet to be shown why IMC could not be the notion of analyticity adequate for explaining the apriority of, e.g. logical truths.

3 Accounting for the Acceptance Facts Related to the Paradoxes

While the sections above were intended to explicate (IT) and (TT) and consider some general suspicions against them, this section deals with the question of how they fare

with contributing to explain the empirical data proper to it (I say "contribute to explaining" since auxiliary assumptions are clearly needed in addition to (IT) and (TT) to explain these data). The claim that a given expression has certain competence conditions is clearly an empirical claim. It is contingent, since words are only conventionally associated with their competence conditions (and meanings) and it is a posteriori, since no mere reflection on expression types and semantic competence can yield knowledge about their competence conditions. Also, since we assume as a "Moorean fact" that ordinary people around us *are* competent with common expressions of English, like "true" and "if", claims about competence conditions are empirically testable (we simply see whether the ordinary speakers around us satisfy the proposed competence conditions).

I will also assume that (IT) and (TT), if true, must contribute to explaining the use of the relevant expressions (cf. Horwich (2005: Chap. 2)). One of the main recommending features of (IT) and (TT) is precisely their ability to do so, in particular, to explain our reactions to the truth-paradoxes (cf. Eklund's "argument from pull" (Eklund 2002a)). This contrasts with views on which our competence with "true" consists in cognizing the kind of highly complex theories proposed as solutions to the Liar, or in a corresponding set of dispositions (see, e.g. Chihara (1979)). As we will see, however, not all facts about our reactions to the paradoxes have obvious explanations. This section will be devoted to arguing that whatever difficulties this task presents, they are not difficulties afflicting (IT) and (TT) specifically, and that, overall, these theories are in fact better equipped to explain the totality of relevant facts than any rival view.

Beginning with our reactions to the Liar paradox, it is fairly clear how to explain them on the basis of (IT). The derivation seems compelling because its steps are meaning-constitutive, but acceptance of the contradictory conclusion is normally inhibited because speakers reject contradictions in virtue of their competence with negation and conjunction and basic computational capacities.[6]

The explanation of why most of us reject the contradiction, rather than suspending judgment or even accepting the contradiction is plausibly that the operation prompting the rejection of the contradiction is *simpler* than that prompting its acceptance. This probably also underlies many philosophers' scepticism towards dialethism; the Liar derivation may seem more likely to be at fault simply because there are more steps that could be at fault, whereas the law of non-contradiction seems to assume less.

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[6] Here, something must be said about the plethora of empirical studies that aim to show that we in fact accept contradictions quite often. For instance, in Peng and Nisbett (1999), we are told of various cases in which speakers assent to sentences of the form "*p* and not-*p*". For such a case, the first thing to ask is of course whether there might be a pragmatic explanation, or whether the subjects interpret the non-logical vocabulary in the conjuncts differently. Indeed, the latter seems clearly to be the case with the subjects in their study. Unfortunately, they do not consider that obvious alternative explanation, and so do not present any support for the idea that speakers accept contradictions in any interesting sense. All other studies I have come across aspiring to empirically establish gross illogicality or inconsistency among humans suffer from a similar neglect of alternative explanations.

The most credible examples of speakers really accepting contradictions are dialethists (who, ironically, do it consciously and rationally). Hence, my qualification "normally" in the text. But even such cases do not force us to say that anyone really accepts contradictions, and the view that it is impossible to accept contradictions is sustainable even in the face of them. For instance, dialethists may be taken as temporarily interpreting the negation in an idiosyncratic way, or as merely "trying out" a philosophical theory. Quite generally, their behaviour may be seen as a very sophisticated higher-level theoretical reasoning that occurs above the low-level dispositions that in fact constitute their understanding of the relevant words.

In any case, (IT) clearly predicts that the Liar will cause conflicting inclinations. Note that it also seems to account for the *temporal* aspects of Liar reasoning. We *first* accept the inference steps only to find ourselves hesitating *later on*, when we see what follows. Though such aspects are seldom mentioned, since they are irrelevant to the question of which rules used in the paradoxical derivations are *valid*, they are clearly real aspects of the *use* of the relevant expressions.

What about the arguments leading to arbitrary sentences, i.e. the Liar-plus-(ECQ) and Curry's paradox? The reason we do not accept arbitrary sentences on the former lines is simply that we do not accept the contradiction in the first place. However, Curry's paradox is considerably more difficult to handle. If the conclusion is absurd, and so already rejected by the speaker (or such that it would be rejected upon consideration), then that will itself be the explanation of why it is not accepted (since rejection always tends to inhibit acceptance). But if the conclusion is *neutral*, like "The number of stars is odd", which the speaker neither accepts or rejects (and has no reason to), then, it may seem, our account predicts incorrectly that the conclusion will be accepted. To explain the fact that speakers do not accept it (call this fact "the Datum"), we need to identify an inhibiting factor that is present in every case in which a speaker is confronted with a Curry derivation with a neutral conclusion.[7]

Gupta and Belnap (1993): 15f.) have claimed that in order to deal with the problem of Curry derivations with neutral conclusions, adherents of (TT) need to define some notion of "reasonable inference", and argue that doing so will impute at least as much complexity as required by a consistent truth-predicate. This is in reply to Chihara's claim that rivals to (IT) must be unacceptably complex (and would also target my claim above that (IT) and (TT) are preferable to their rivals because they can explain our use of "true" and logical connectives in such a "simple and obvious" way). It is not clear, however, whether Gupta and Belnap mean that the problem is that of explaining why speakers do not in fact accept the neutral conclusion of a Curry derivation, or the problem of explaining why they *should* not. The topic of this section is the former, but, as will be argued in the final section, the solution to this problem will suggest an answer to the latter, normative problem.

The most important thing to note about this alleged problem is that it is not specifically a problem for (TT) at all. Thus, any difficulty explaining the Datum should cast no doubt on (TT). How can this be? Well, (TT) predicts that speakers will accept neutral conclusions of Curry derivations because it predicts that speakers will be disposed to infer in accordance with the inference rules figuring in the derivation. But it is already an undeniable fact that competent speakers are so disposed. This is an understatement: speakers find the rules extremely plausible. So the "prediction" will equally be made on the basis of uncontroversial facts about speakers' dispositions. (TT) merely adds to these facts the claim that the dispositions in question are necessary for competence with certain expressions. But this additional claim does not make for any more problematic prediction as regards the Datum. Thus, the fact that speakers do not accept neutral conclusions of Curry derivations (the Datum) is simply a generally

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[7] Of course, speakers tend to reject Curry derivations as bad reasoning even when they accept or reject the conclusion (the exceptions being perhaps confusing cases in which, e.g. the conclusion is identical with the antecedent of the Curry sentence), so we could equally have taken the Datum to be the fact that the find the argument unpersuasive although they find the inference rules constituting it to be plausible. I do not think the difference is important.

puzzling fact to be dealt with independently of what we think about "true" and the logical connectives.

It seems reasonable to say, for any derivation, that when a speaker consciously considers and accepts every inference step in a derivation, then, barring inhibiting factors, she will accept the conclusion. This assumption, furthermore, is independent of (TT). But if it is true, then the solution to our problem must consist in identifying an inhibiting factor. The need to identify an inhibiting factor thus also arises independently of (TT). If this is right, then Gupta's and Belnap's objection against (TT), on its "descriptive reading", must fail, since the commitment they ascribe to it, and which they think cannot be met, is a commitment of any theory.

But I also promised to argue that (TT) in fact does *better* than its rivals in accommodating the relevant facts about speakers' reactions to Curry's paradox. I here intend theories according to which our competence only entails dispositions to accept jointly consistent principles. Such theories need to explain why speakers find the jointly inconsistent principles (obviously) valid. (TT) simply explains this by claiming that they are meaning-constitutive.

It may seem at first glance that such "consistencist" views are better suited to accommodate the Datum, since the Curry derivation is invalid (lest every sentence be true), and since speakers indeed do not infer its conclusion. But this impression gives way under closer examination. Firstly, if speakers' reactions to the Curry derivation should be explained by reference to their competence, consisting in dispositions to accept consistent principles, then speakers should not intuit that all of the inference rules involved in the derivation are valid.

Note also that it is not when considering each step at a time that speakers come to think that one of them is invalid. Rather, it is when they consider the whole derivation "in a blow", and notice that anything could be proved by it. But it is odd that speakers' competence with "true" and the connectives should be manifested *not* when they focus on the individual steps in the derivation, but rather when they assess the whole argument in a blow. If speakers' assessment of the Curry derivation should be seen as a manifestation of their semantic competence, things should be the other way around.

Even having concluded that the derivation must be at fault, speakers (including logicians) keep finding each of the individual steps intuitively valid. Surely, it is more plausible to explain this last reaction by appeal to speakers' competence, and the other reaction, the intuition that the derivation must somehow be at fault, by reference to some extra-semantic factor.

A different kind of rival to (TT) is the view that competence with the relevant words does not consist in a disposition that is strictly necessary and sufficient for competence, but rather that semantic competence comes in degrees (as someone like Williamson might hold). On this view, speakers can change their mind about particular instances of sentence schemata or inference rules without thereby failing to understand some expression. The problem with this view is that it seems unable to explain our inability to understand how one of the steps in the Curry derivation can be invalid. This should be no harder than changing one's mind about other matters one has firmly believed. These facts about speakers' reactions seem overall to indicate that (IT) and (TT) indeed provide the overall best accounts of our linguistic practice.

We have seen that the Datum is a problem for any theorist, and also that rivals to (TT) offer no obvious explanation. How might it be explained, then? One natural idea is that

speakers realize that anything could be proved by this kind of reasoning. However, this hypothesis does not quite match ordinary speakers' actual reactions. These reactions tend rather to be comments of the kind, "You can't reason about a sentence like that to prove something about stars", "Sentences on a paper have nothing to do with stars", etc. (this type of answer has been common when I have asked non-philosophers about it). So, it may seem that, at least in these cases, the real explanation is not a realization that the argument "proves too much". Further, it seems that those who *do* respond that the argument proves too much probably found the argument odd and unpersuasive *even before* they came to think of this objection. Realizing that the argument proves too much only *entrenches* their scepticism against it, which was already firm. But if they had already dismissed the argument beforehand, we still need to identify the real (original) inhibiting factor.

I can here only present a rather inchoate and speculative solution. The real inhibiting factor, I think, is something like an inchoate, implicit mental state that *underlies* the conscious, explicit realization that the argument proves too much. We might call it a kind of sensitivity to the fact that the conclusion is arbitrary. Such a sensitivity will plausibly, given suitable further inputs, lead one to realize that any sentence could have been put in its place, and hence that anything could be proved by this kind of reasoning. But speakers do not necessarily need to come to think thus explicitly about the matter for the first, diffuse perception to inhibit acceptance of the conclusion.

For want of a more precise description of this alleged inhibiting factor, then, I propose that what explains the Datum is some more or less inchoate perception that the conclusion is arbitrary. Although I think this explanation of the Datum is at least on the right track, I should repeat that my defence of (TT) does not depend on it. Rather, all theorists are equally committed to explaining the Datum, and we have seen that (IT) and (TT) seem to be overall better equipped to deal with the totality of facts about our intuitions involving "true" and the logical constants.

4 Normative Issues

I said there is also a normative interpretation of Gupta's and Belnap's objection. Roughly, this is the charge that it will be difficult for adherents of (TT) to explain why we *ought* not accept the neutral Curry conclusion. I think the worry here should be understood as a suspicion that when stating normative generalizations about inference rules, i.e. claims to the effect that some such rules are good or rational in some sense, and others not, adherents of (TT) will be forced to give an unattractively complex or ad hoc set of such generalizations. This is certainly a worry that needs to be considered.

Firstly, it seems clear that this suspicion is based partly on the assumption that there is a link between meaning-constitutivity and normativity. This seems plausible enough, so let us grant it. More precisely, let us assume that every meaning-constitutive principle is in some sense *rational*. But in which sense? MacFarlane (unpublished) contains a very helpful taxonomy of "bridge principles" of the form, "If i is valid then N", where N is some claim involving normative notions about the inference i. An example might be the bridge principle,

If i is valid, then if one accepts the premises of i, one should accepts its conclusion.

But many of the constraints on such principles about the normative characteristics of *valid* arguments will not be relevant here, since we are interested

rather in bridge principles from claims about *meaning-constitutivity* to normative claims.

Now, to fend off the normative version of Gupta's and Belnap's argument, I will be content to point out *one* natural understanding of "rational inference rule" given which we can accept that every meaning-constitutive inference rule is rational without any commitment to the claim that we should accept any sentence. It is enough for responding to the objection that a reasonable candidate can be pointed out, given which the *reductio* is blocked. This would show that the objection is inconclusive *as it stands* (although it could obviously be enhanced, e.g. by arguments to the effect that my proposed notion of rational inference rule is somehow defective).

I believe, with Thomas Hofweber (2007, 2009), that both the classical rules and the (T)-rules are rational in an important sense, and I take it to be a recommending feature of my preferred notion of rational inference rule that it allows us to say precisely this without the absurd consequence that we ought to accept any sentence. In my view, logical inference rules are similar to non-logical a priori inferences and perceptual inferences, in that they are merely *defeasibly rational*. More precisely, I would suggest the following definition:

> (RI)An inference rule r is rational = $_{df}$ for each instance i of r, if (i) one rationally accepts the premises of i, (ii) one consciously considers the premises (P) and conclusion (C) of i, and (iii) there are no defeaters against P or against inferring C form P, then one ought to accept C,

where a "defeater" is something normative, something like a reason not to accept.[8] A defeater against inferring something might be either a reason not to accept C or a reason to think the inference itself is somehow unreliable. The latter would be relevant in the case of Curry reasoning to neutral sentences.

(RI) allows us to say that all the classical rules and the unrestricted (T)-rules are rational rules of inference without having to accept that we ought to accept arbitrary sentences on the basis of Curry reasoning. We can thus grant also that these rules are meaning-constitutive (which is what (IT) and (TT) claim) *and* that every meaning-constitutive inference rule is rational (in the relevant sense). A corresponding definition of a "rational sentence" or "rational sentence schema" would be as follows: a sentence (schema) s is rational just in case: if one consciously considers (an instance of) s and there are no defeaters to accepting it, then one ought to accept it.

Though I will not defend these views at length, let me only point out a few advantages. Firstly, thanks to the qualification to sentences that one consciously considers, this account does not require that one accept everything that follows via the rule from what one accepts, but only, reasonably enough, those one considers.

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[8] (RI) shows that MacFarlane's chart of normative claims is incomplete in that he does not consider conditionals in which the normative term in the antecedent differs from that in the consequent, but only considers conditionals where the same normative term occurs in both (he labels them "B" for "both"). Against these B-principles, he claims that according to them, "logic is only normative for those whose beliefs are already in order". But this is wrong for several reasons. Firstly, these principles do not contain a "that's all" clause, and so do not rule that there may be further normative claims. Also, it is not true that they only concern *people* whose beliefs are in order: what they concern is *cases* in which a person's beliefs are in order. But it is hard to see what is wrong with this. If we are after principles stating conditions under which a person ought/may/has reason to believe the conclusion of an inference on the basis of its premises, it seems that limiting ourselves to cases where the beliefs in the premises are in order is precisely the right thing to do.

Secondly, thanks to the qualification that there be no defeaters, the claim that *modus ponens* is rational does not absurdly entail that whenever a sentence, *however absurd*, follows by that rule from what one accepts, one should accept it. (The arguments I am here responding to have been most famously put forward in Harman (1984, 1986), although he was of course arguing against bridge principles from validity claims, rather than bridge principles from claims of meaning-constitutivity.)

Thirdly, thanks to the qualification that there be no defeaters against the *premises*, the claim that an inference rule is rational does not entail that one ought to accept sentences on the basis of irrationally accepting other sentences (cf. Broome (1999: p. 405)).

Fourthly, note that we have avoided the above objections while still giving ought claims, rather than retreating to claims about mere permission. The latter would have invited the complaint that we have dodged the objection by turning to the easier question of how meaning-constitutivity claims entail permission claims, leaving the tough question unanswered.

Fifth, this account makes logical reasoning normatively more similar to other kinds of reasoning (perceptual, non-logical a priori reasoning), which I think is more plausible than taking it to be an exception to the general rule.

Sixth, this account of rational inference rules closely parallels the account of meaning-constitutive inference rules. They only differ in that the definition of "rational" uses "defeater" where the definition of "meaning-constitutive" uses "inhibiting factor", and in that the definition of "meaning-constitutivity" has no qualification that there be no inhibiting factors pertaining to the premises. While I think this similarity is attractive, it would take me too far afield to try to motivate this claim here.

I think we have already seen enough advantages of this account of rational inference rules (and sentences or sentence schemata) to conclude that this is a simple and independently motivated (hence, not ad hoc) account of rational inferences, on which we can say that meaning-constitutive principles are rational without being committed to saying that we ought to accept any sentence, as was the charge of Gupta's and Belnap on the normative reading.

I should finally like to briefly consider a very different type of objection concerning normativity, to which I think some of the foregoing conclusions provides a satisfactory reply. The objection is that on theories like (IT) and (TT), our language would be seriously *defective* (cf. Stebbins (1992: 114f.)). But while it is reasonable that theories on which our language would be seriously defective are probably false, I do not think (IT) and (TT) entail that it is. On the contrary, one might argue that since competence merely requires *defeasible* dispositions, we can have expressions implicitly defined by strong and simple rules (namely, the classical rules and the (T)-rules), without any risk of coming to accept arbitrary sentences. By contrast, it would be cognitively wasteful to use a consistent truth-predicate, complex as such have turned out to be (cf. Chihara (1979: p. 610)), and similarly, a deductive loss to have to operate with such weak logics on which Curry's paradox are avoided (like those of Priest (1992) or Field (2008)).

Compliance with Ethical Standards

Conflict of Interest   The author declares that he has no conflict of interest.

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