1

What's So Bad About Contradictions?

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In this chapter[1] I will address the title question; and the answer I shall give is 'maybe nothing much'. Let me first explain how, exactly, the question is to be understood. I shall interpret it to mean 'what is wrong with believing *some* contradictions?' I emphasize the 'some'; the question 'what is wrong with believing *all* contradictions' is quite different, and, I am sure, has a quite different answer. It would be irrational to believe that I am a fried egg. (*Why*, we might argue about, but *that* this is so is not contentious.) A fortiori, it is irrational to believe that I am both a fried egg and not a fried egg. It is important to emphasize this distinction right at the start, since the illicit slide between 'some' and 'all' is endemic in discussions of the question, as we will see.

I think that there is nothing wrong with believing some contradictions. I believe, for example, that it is rational (rationally possible—indeed, rationally obligatory) to believe that the Liar sentence is both true and false. I shall not argue for this directly here, though. I have discovered, in advocating views such as this, that audiences suppose them to be a priori unacceptable. When pressed as to why, they come up with a number of arguments. In what follows, I shall consider five of the most important, and show their lack of substance.

The five objections that we will look at can be summarized as follows:

1. Contradictions entail everything.
2. Contradictions can't be true.
3. Contradictions can't be believed rationally.
4. If contradictions were acceptable, people could never be rationally criticized.
5. If contradictions were acceptable, no one could deny anything.

I am sure that there must be other possible objections; but the above are the most fundamental that I have encountered. I will take them in that order. What I have to say about the first objection is the longest. This is because it lays the basis for all the others.

[1] The chapter is a written version of a lecture that was given at universities in South Africa, Canada, and the United States in 1996 and 1997. I am grateful to many audiences for their lively discussions. It is reprinted with only minor modifications from the *Journal of Philosophy*, 95 (1998), 410–26. I am grateful for permission to reprint.

OBJECTION 1: CONTRADICTIONS ENTAIL EVERYTHING

The first objection is as follows. Rational belief is closed under entailment, but a contradiction entails everything. Hence, if someone believed a contradiction, they ought to believe everything, which is too much.

I certainly agree that believing everything is too much: I have already said that there is an important difference between *some* and *all* here. Still, I take the argument to be unsound. For a start, it is not at all obvious that rational belief is closed under entailment. This seems to be the lesson of the 'paradox of the preface'. You write a (non-fictional) book on some topic—history, karate, cooking. You research it as thoroughly as possible. The evidence for the claims in your book, $\alpha_1, \ldots, \alpha_n$, is as convincing as empirically possible. Hence, you endorse them—rationally. None the less, as you are well aware, there is independent inductive evidence of a very strong kind that virtually all substantial factual books that have been written contain some false claims. Hence, you also believe $\neg(\alpha_1 \wedge \ldots \wedge \alpha_n)$—rationally. However, you do not believe $(\alpha_1 \wedge \ldots \wedge \alpha_n) \wedge \neg(\alpha_1 \wedge \ldots \wedge \alpha_n)$, a simple contradiction, even though this is a logical consequence of your beliefs. Rational belief is not, therefore, closed under logical consequence.

This is all just softening-up, though. The major problem with objection number one is the claim that contradictions entail everything: $\alpha, \neg\alpha \models \beta$, for all α and β. The Latin tag for this is *ex contradictione quodlibet.* I prefer the more colourful: *Explosion.* It is true that Explosion is a valid principle of inference in standard twentieth-century accounts of validity, such as those of intuitionism and the inappropriately called 'classical logic'. But this should be viewed in an historical perspective.

The earliest articulated formal logic was Aristotle's syllogistic. This was not explosive. To see this, merely consider the inference:

Some men are mortals.
No mortals are men.
Hence all men are men.

This is not a valid syllogism, though the premisses are inconsistent. According to Aristotle, some syllogisms with inconsistent premisses are valid, some are not (*An.Pr.* 64^a15). Aristotle had a propositional logic as well as syllogistic. It was never clearly articulated, and what it was is rather unclear. However, for what it is worth, this does not seem to have been explosive either. In particular, a contradiction, $\alpha \wedge \neg\alpha$, does not entail its conjuncts.[2]

The Stoics did have an articulated propositional logic. But whilst one might try to extract Explosion from some of the theses that they endorsed, it is notable that it is not to be found in anything that survives from that period—and one would expect any principle as striking as this to have been made much of by the most

[2] See Priest (1999*a*).

notable critic of Stoicism, Sextus Empiricus. Presumably, then, Explosion was not taken to be correct by the Stoics.

So if Explosion is not to be found in Ancient Logic, where does it come from? The earliest appearance of the principle that I am aware of seems to be in the twelfth-century Paris logician, William of Soissons. At any rate, William was one of a school of logicians called the Parvipontinians, who were well known, not only for living by a small bridge, but also for defending Explosion.[3] After this time, the principle appears to be a contentious one in Medieval logic, accepted by some, such as Scotus; rejected by others, such as the fifteenth-century Cologne School.

The entrenchment of Explosion is, in fact, a relatively modern phenomenon. In the second half of the nineteenth-century, an account of negation—now often called 'Boolean negation'—was championed by Boole, Frege, and others. Boolean negation is explosive, and was incorporated in the first contemporary formal logic. This logic, now usually called classical logic (how inappropriate this name is should now be evident), was so great an improvement on traditional logic that it soon became entrenched. Whether this is because it enshrined the Natural Light of Pure Reason, or because it was the first cab off the rank, I leave the reader to judge.

There is, in fact, nothing sacrosanct about Boolean negation. One can be reminded of this, by the fact that intuitionists, who gave the second contemporary articulated formal logic, provide a different account of negation. Despite this, intuitionist logic is itself explosive. Logics in which Explosion fails have come to be called 'paraconsistent'. The modern construction of formal paraconsistent logics is more recent than anything I have mentioned so far. The idea appears to have occurred to a number of people, in very different countries, and independently, after the Second World War. There are now a number of approaches to paraconsistent logic, all with well-articulated proof-theories and model-theories.

I do not intend to go into details here. I will just give a model-theoretic account of one propositional paraconsistent logic, so that those unfamiliar with the area may have some idea of how things might work.[4] I assume familiarity with the classical propositional calculus. Consider a language with propositional parameters, $p, q, r, \ldots$ and connectives $\wedge$ (conjunction), $\vee$ (disjunction) and $\neg$ (negation). In classical logic, an evaluation is a *function* that assigns each formula one of 1 (true) or 0 (false). Instead of this, we now take an evaluation to be a *relation*, R, between formulas and truth values. Thus, given any formula, α, an evaluation, R, may relate it to just 1, just 0, both, or neither. If $R(\alpha, 1)$, α may be thought of as true under R; if $R(\alpha, 0)$, it may be thought of as false. Hence formulas related to both 1 and 0 are both true and false, and formulas related to neither, are neither true nor false.

[3] For references and more details of the following history of paraconsistency, see part 3 of Priest (2002).

[4] The logic is that of First Degree Entailment. For further details of all the approaches to paraconsistency, see Priest (2002).

As in the classical case, evaluations of propositional parameters are extended to all formulas by recursive conditions. The conditions for $\neg$ and $\wedge$ are as follows. (The conditions for $\vee$ are dual to those for $\wedge$, and may safely be left as an exercise.)

$$R(\neg\alpha, 1) \text{ iff } R(\alpha, 0)$$
$$R(\neg\alpha, 0) \text{ iff } R(\alpha, 1)$$

$$R(\alpha \wedge \beta, 1) \text{ iff } R(\alpha, 1) \text{ and } R(\beta, 1)$$
$$R(\alpha \wedge \beta, 0) \text{ iff } R(\alpha, 0) \text{ or } R(\beta, 0)$$

Thus, $\neg\alpha$ is true iff α is false, and vice versa. A conjunction is true iff both conjuncts are true; false iff at least one conjunct is false. All very familiar.

To complete the picture we need a definition of logical consequence. This also presents no surprises. An inference is valid iff whenever the premisses are true, so is the conclusion. Thus, if Σ is a set of formulas:

$$\Sigma \models \alpha \text{ iff for all } R \text{ (if } R(\beta, 1) \text{ for all } \beta \in \Sigma, R(\alpha, 1))$$

It is now easy to see why the logic is paraconsistent. Choose an evaluation, R, that relates p to both 1 and 0, but relates q only to 0. Then it is easy enough to see that both p and $\neg p$ (and $p \wedge \neg p$) are true under R (and false as well, but at least true), whilst q is not. Hence $p, \neg p \not\models q$. For future reference, note that the same evaluation refutes the disjunctive syllogism: $p, \neg p \vee q \vdash q$.

The logic given here should look very familiar. It *is* very familiar. It is exactly the same as classical logic, except that one does not make the assumption, usually packed into textbooks of logic without comment, that truth and falsity in an interpretation are exclusive and exhaustive. The difference between classical logic and the above logic can therefore be depicted very simply. In classical logic, each interpretation partitions the set of formulas (Fig. 1.1). In the paraconsistent logic, an interpretation may partition in this way: classical interpretations are, after all, simply a special case. But in general, the partitioning looks like Fig. 1.2.

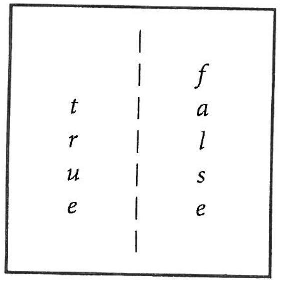

Fig. 1.1.

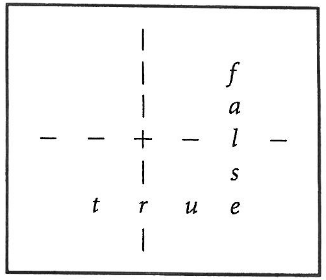

Fig. 1.2.

The crucial question now, is: assuming that all the other assumptions packed into the story are right, should we, or should we not, countenance interpretations that correspond to the second picture? There is no quick way with this question. Each logic encapsulates a substantial metaphysical/semantical *theory*. It should be noted that a paraconsistent logician does not have to hold that truth itself behaves as in the second picture. They have to hold only that in defining validity one has to take into account interpretations that do. And though the claim that truth itself behaves like this is one argument for this conclusion, it is not the only one. If we think of interpretations as representing situations about which we reason, then interpretations of the second kind might be thought to represent 'impossible' situations that are inconsistent or incomplete, such as hypothetical, counterfactual, or fictional situations, or as situations about which we have incomplete or inconsistent information. One may well suppose that there are, in some relevant sense, such situations, and that they play an important metaphysical and/or semantical role.

More boldly, one may suppose that truth itself behaves according to the second picture, and hence that there must be at least one interpretation that does, namely, that interpretation which assigns truth values in accord with the actual. One cannot simply *assume* that it does not. Here, again, lie profound metaphysical issues. Even the founder of Logic, Aristotle, did not think that truth satisfies the first picture. According to him, statements about future contingents, such as the claim that there will be a sea battle tomorrow, are neither true nor false (unless you live in Bolivia).[5] The top left square of Fig. 1.2 is therefore occupied. And modern logic has provided many other possible candidates for this square: statements employing non-denoting terms, statements about undecidable sentences in science or mathematics, category mistakes and other 'nonsense', and so on.

The thought that the bottom right corner might also have denizens is one much less familiar to modern philosophers. Yet there are plausible candidates. Let me give two briefly.[6] The first concerns paradoxes of self-reference. Let us take the

[5] *De Interpretatione*, ch. 9. He seems to think that this is consistent with the Law of Excluded Middle, however. At least, he defends this law in *Metaphysics* Γ.
[6] These and others are discussed at much greater length in Priest (1987).

Liar as an example. The natural and most obvious principle concerning truth is encapsulated in the T-schema: for any sentence, α: $T\langle\alpha\rangle \leftrightarrow \alpha$. I use '$T$' here as a truth predicate, and angle brackets as a name-forming device. With standard self-referential techniques, we can now produce a sentence, β, that says of itself that it is not true: $\neg T\langle\beta\rangle \leftrightarrow \beta$. Substituting β in the T-scheme and juggling a little gives $\beta \wedge \neg\beta$. Prima facie, then, β is a sentence that is both true and false, and so occupies the bottom right corner.

Another example: I walk out of the room; for an instant, I am symmetrically poised, one foot in, one foot out, my centre of gravity lying on the vertical plane containing the centre of gravity of the door. Am I in or not in the room? By symmetry, I am neither in, rather than not in, nor not in, rather than in. The Pure Light of Reason therefore countenances only two answers to the question: I am both in and not in, or neither in nor not in. Thus, we certainly appear to have a denizen of either the top left or the bottom right quarter. But wait a minute. If I am neither in nor not in, then I am not (in) and not (not in). By the law of double negation, I am both in and not in. (And even without it, I am both not in and not not in, which is still a contradiction.) Hence we have a denizen of the bottom right.

There is, of course, much more to be said about both these examples. But I do not intend to say anything further here.[7] The point is simply to illustrate some of the semantic/metaphysical issues that must be hammered out even to decide whether truth itself satisfies the first or the second picture. To suppose that the answer is obvious, or that the issue can be settled by definition is simple dogmatism.

There is a famous defence of classical logic, by Quine, that comes very close to this, in fact. Someone who takes there to be interpretations corresponding to the second picture just 'doesn't know what they are talking about': to change the logic is to 'change the subject'. It is changing the subject only if one assumes *in the first place* that validity is to be defined in terms only of interpretations that satisfy the first picture—which is exactly what is at issue here. Two logicians who subscribe to different accounts of validity are arguing about the same subject, just as much as two physicists who subscribe to different accounts of motion.[8]

[7] Though since the second example is not as familiar as the first, let me add one comment. Let us represent the sentence 'GP is in the room' by α. An obvious move at this point is to suggest that α is, in fact, a denizen of the top left quarter, but that one cannot express this fact by saying that I am neither in nor not in the room. What one has to say is that neither α nor its negation is true, $\neg T\langle\alpha\rangle \wedge \neg T\langle\neg\alpha\rangle$. This is certainly not an explicit contradiction. Unfortunately, it, too, soon gives one. The T-schema for α and $\neg\alpha$ tell us that $T\langle\alpha\rangle \leftrightarrow \alpha$ and $T\langle\neg\alpha\rangle \leftrightarrow \neg\alpha$. Contraposing and chaining together gives: $\neg T\langle\neg\alpha\rangle \leftrightarrow T\langle\alpha\rangle$, and we are back with a contradiction. A natural move here is to deny the T-schema for α or $\neg\alpha$ (presumably these stand or fall together). But on what ground can one reasonably do this? 'GP is in the room' is a perfectly ordinary sentence of English. It is meaningful, and so must have truth conditions. (In fact, most of the time it is simply true or false.) These (or something equivalent to them) are exactly what the T-schema gives. Compare this with the case of the Liar. Many have been tempted to reject the T-schema for the Liar sentence on the ground that the sentence is semantically defective in some way. No such move seems to be even a prima facie possibility in the present case.

[8] For references to Quine, with further discussion, see Priest (2003).

And now, finally, to return to the main point. I have not shown that Explosion fails, that one ought to take into the scope of logic situations that are inconsistent and/or incomplete, though I do take it that when the dust settles, this will be seen to be the case, and that even truth itself requires the second picture.[9] The point of the above discussion is simply to show that the failure of Explosion is a plausible logico-metaphysical one, and that one cannot simply *assume* otherwise without begging the question.

OBJECTION 2: CONTRADICTIONS CAN'T BE TRUE

Let us turn now to objection number two. This is to the effect that contradictions can't be true. Since one ought to believe only what is true, contradictions ought not to be believed.

This argument appeals to the Law of Non-Contradiction (LNC): nothing is both true and false. The first thing we need to do is distinguish clearly between the LNC and Explosion. They are very different. For a start, as we have seen, Explosion is a relative newcomer on the logical scene. The LNC is not. It is true that some have challenged it: some Presocratics, such as Heraclitus; some Neoplatonists, such as Cusanus; and some dialecticians, such as Hegel. But since the time of Aristotle, it is a principle that has been very firmly entrenched in Western philosophy. (Its place in Eastern philosophy is much less secure.) The view that the LNC fails, that some contradictions are true, is called *dialetheism*. As we have already seen, one does not have to be a dialetheist to subscribe to the correctness of a paraconsistent logic, though if one is, one will. As we also saw, though, there are arguments that push us towards accepting dialetheism. Is there any reason why one should reject these a priori? Why, in other words, should we accept the LNC?

The *locus classicus* of its defence is Aristotle's *Metaphysics*, Γ4. It is a striking fact about the Law that there has not been a sustained defence of it *since* Aristotle (at least, that I am aware of). Were his arguments so good that they settled the matter? Hardly. There are about seven or eight arguments in the chapter (it depends how you count). The first occupies half the chapter. It is long, convoluted, and tortured. It is not at all clear *how* it is supposed to work, let alone *that* it works. The other arguments in the chapter are short, often little more than throw-away remarks, and are at best, dubious. Indeed, most of them are clearly aimed at attacking the view that *all* contradictions are true (or even that someone can *believe* that all contradictions are true). Aristotle, in fact, slides back and forth between 'all' and 'some', with gay abandon. His defence of the LNC is therefore of little help.[10]

[9] Though, as a matter of fact, I think that its top left quarter is empty. See Priest (1987), ch. 4.

[10] For a detailed analysis of Aristotle's arguments, see Priest (1998).

So what other arguments are there for the LNC? Very few that I am aware of, and none that survive much thought. Let me mention four here. The first two, some have claimed, are to be found in Aristotle. I doubt it, but let us not go into this here.

1 Wittgenstein?!

According to the first argument, contradictions have no content, no meaning. If so, then, a fortiori, they have no true content: contradictions cannot be true. The first thing to note about this objection is that it is not only an objection against dialetheism, but also against classical logic. For in classical logic, contradictions have *total* content, they entail everything. One who subscribes to orthodox logic cannot, therefore, wield this objection.

There have been some who endorsed different propositional logics, according to which contradictions do entail nothing, and so have no content.[11] But the claim that contradictions have no content does not stand up to independent inspection. If contradictions had no content, there would be nothing to disagree with when someone uttered one, which there (usually) is. Contradictions do, after all, have meaning. If they did not, we could not even understand someone who asserted a contradiction, and so evaluate what they say as false (or maybe true). We might not understand what could have brought a person to assert such a thing, but that is a different matter—and the same is equally true of someone who, in broad daylight, asserts the clearly meaningful 'It is night.'

2 A second objection (to be found e.g. in McTaggart) is to the effect that if contradictions could be true, *nothing* could be meaningful. The argument here appeals to the thought that something is meaningful only if it *excludes* something (*omnis determino est negatio*): a claim that rules out nothing, says nothing. Moreover, it continues, if α does not rule out $\neg\alpha$, it rules out nothing. An obvious failing with this argument is, again, the slide from 'some' to 'all'. Violation of the LNC requires only that some statements do not rule out their negations (whatever that is supposed to mean). The argument depends on the claim that *nothing* rules out its own negation.

But there is a much more fundamental flaw in the argument than this. The premiss that a proposition is not meaningful unless it rules something out is just plain false. Merely consider the claim 'Everything is true.' This rules nothing out: it entails everything. Yet it is quite meaningful (it is, after all, false). If you are in any doubt over this, merely consider its negation 'Something is not true.' This is clearly true—and so meaningful. And how could a meaningful sentence have a meaningless negation?

3 A third argument for the LNC, and one that is typical of many, starts from the claim that the correct truth conditions for negation are as follows:

$\neg\alpha$ is true iff α is not true.

11 See Priest (1999*a*).

Now suppose that $\alpha \wedge \neg\alpha$ is true. Then assuming that conjunction behaves normally, α is true, and $\neg\alpha$ is true. Hence by the truth conditions of negation, α is both true and not true, which is impossible.

It is not difficult to see what is wrong with this argument. For a start, the truth conditions of negation are contentious. (Compare them with those given in the previous section.) More importantly, why should one suppose that it is impossible for α to be both true and not true? Because it is a contradiction. But it is precisely the impossibility of having true contradictions that we were supposed to be arguing for. The argument, therefore, begs the question, as do many of the other arguments that I am aware of.[12]

4. The fourth, and final, argument I shall mention is an inductive one. As we review the kinds of situations that we witness, very few of them would seem to be contradictory. Socrates is never both seated and not seated; Brisbane is firmly in Australia, and not not in it. Hence, by induction, no contradictions are true. Note that one does not have to suppose that logical principles are a posteriori for this form of argument to work. One can collect a-posteriori evidence even for a priori principles. For example, one verifies $\alpha \vee \neg\alpha$ every time one verifies α.

The flaws of this argument are apparent enough, though. It is all too clear that the argument may be based on what Wittgenstein called 'an inadequate diet of examples'. Maybe Socrates *is* both sitting and not sitting sometimes: at the instant he rises. This, being instantaneous, is not something we observe. We can tell it to be so only by a-priori analysis. Worse, counter-examples to the principle are staring us in the face. Think, for example, of the Liar. Most would set an example such as this aside, and suppose there to be something wrong with it. But this may be short-sighted. Consider the Euclidean principle that the whole must be larger than its parts. This principle seemed to be obvious to many people for a long time. Apparent counter-examples were known from late Antiquity: for example, the set of even numbers appeared to be the same size as the set of all numbers. But these examples were set aside, and just taken to show the incoherence of the notion of infinity. With the nineteenth century all this changed. There is nothing incoherent about this behaviour at all: it is paradigmatic of infinite collections. The Euclidean principle holds only for finite collections; and people's acceptance of it was due to a poor induction from unrepresentative cases. In the same way, once one gets rid of the idea, in the form of Explosion, that inconsistency is incoherent, the Liar and similar examples can be seen as paradigm citizens of a realm to which our eyes are newly opened (we can call it, by analogy with set-theory, the transconsistent). In any case, the inductive argument to the LNC is simply a poor one.

It is sometimes said that dialetheism is a position based on sand. In fact, I think, it is quite the opposite: it is the LNC that is based on sand. It appears to have no

12 In particular, one may argue for the LNC from Explosion, assuming that not all contradictions are true. But an appeal to Explosion would beg the question, as we have already seen.

rational basis; and the historical adherence to it is simply dogma. Hence—and finally to return to the second objection—it fails.

OBJECTION 3: CONTRADICTIONS CAN'T BE BELIEVED RATIONALLY

The third objection is that even if contradictions could be true, they can't be believed rationally, consistency being a constraint on rationality; hence one ought not to believe a contradiction since this would be irrational.

We have already seen, in answer to the first objection, that this objection fails. The paradox of the preface shows that it can be quite rational to have inconsistent beliefs. Hence, consistency is not an absolute constraint on rationality. The rational person apportions their beliefs according to the evidence; and if the evidence is for inconsistent propositions, so be it.

There is, of course, more to the story than this. To approach it, let me take what will appear to be a digression for a moment. Have you ever talked to a flat-earther, or someone with really bizarre religious beliefs—not one who subscribes to such a view in a thoughtless way, but someone who has considered the issue very carefully? If you have, then you will know that it is virtually impossible to show their view to be wrong by finding a knock-down objection. If one points out to the flat-earther that we have sailed round the earth, they will say that one has, in fact, only traversed a circle on a flat surface. If one points out that we have been into space and seen the earth to be round, they will reply that it only *appears* round, and that light, up there, does not move in straight lines, or that the whole space-flight story is a CIA put-up, etc. In a word, their views are perfectly consistent. This does not stop them being irrational, however. How to diagnose their irrationality is a nice point, but I think that one may put it down to a constant invoking of ad hoc hypotheses. Whenever one thinks one has a flat-earther in a corner, new claims are pulled in, apparently from nowhere, just to get them out of trouble.

What this illustrates is that there are criteria for rationality other than consistency, and that some of these are even more powerful than consistency. The point is, in fact, a familiar one from the philosophy of science. There are many features of belief that are rational virtues, such as simplicity, problem-solving ability, non-adhocness, fruitfulness, and, let us grant, consistency. However, these criteria are all independent, and may even be orthogonal, pulling in opposite directions. Now what should one do if, for a certain belief, all the criteria pull towards acceptance, except consistency—which pulls the other way? It may be silly to be a democrat about this, and simply count the number of criteria on each side; but it seems natural to suppose that the combined force of the other criteria may trump inconsistency. In such a case, then, it is rational to have an inconsistent belief.

The situation I have outlined is an abstract one; but it seems to me that it, or something like it, already obtains with respect to theories of truth. Since the abstract point is already sufficient answer to the objection we are dealing with, I do not want to defend the example in detail here; still, it will serve to put some flesh on the abstract bones. The following is a simple account of truth. Truth is a principle that is characterized formally by the T-schema: for every sentence, α, $T\langle\alpha\rangle \leftrightarrow \alpha$ (for a suitable conditional connective). And that's an end on't. (There may be more to be said about truth, but nothing that can be captured in a formalism.) This account is inconsistent: when suitable self-referential machinery is present, say in the form of arithmetic, the Liar paradox is forthcoming. Yet the inconsistencies are isolated. In particular, it can be shown that, when things are suitably set up, inconsistencies do not percolate into the purely arithmetic machinery. In fact, it can be shown that any sentence that is grounded (in Kripke's sense) behaves consistently.[13] What are the alternatives to such an account? There is a welter of them: Tarski's, Kripke's, Gupta and Herzberger's, Barwise and Perry's, McGee's, etc., etc. These may all have the virtue of consistency, but the other virtues are thinly distributed amongst them. They often have strong ad hoc elements; they are complex, usually involving transfinite hierarchies; they have a tendency to pose just as many problems as they solve; and it is not clear that, in the last instance, they really solve the problem they are supposed to: they all seem subject to extended paradoxes of some kind.[14] It seems to me that rationality speaks very strongly in favour of the simple inconsistent theory. This is exactly a concrete case of the abstract kind I have described.

Naturally, it may happen that someone, a hundred years hence, will come up with a consistent account of truth with none of these problems, in which case, what it is rational to believe may well change. But that is neither here nor there. Rational belief about anything is a fallible matter. It is a mistake to believe where the evidence does not point; but it is equally a mistake not to believe where the evidence points.

I have argued that it may well be rational to believe a contradiction, and shown how this may arise. If there is sufficient evidence that something is true, one ought, rationally, to accept it. Let me consider just one reply. It is natural to suppose that there is a dual principle here: if there is sufficient evidence that something is false, one ought, rationally, to reject it. If, therefore, there is strong evidence that contradictories, α and $\neg\alpha$, are both true, there is evidence that both are also false. One ought, then, to reject both.

No. In the appropriate sense, truth trumps falsity. Truth is, by its nature, the aim of cognitive processes such as belief. (This is the 'more' to truth that I referred to above.) It is constitutive of truth that that is what one ought to accept. Falsity, by contrast, is merely truth of negation. It has no independent epistemological

13 For a proof of this, see Priest (2002), s. 8.
14 See Priest (1987), ch. 1.

force. One should not necessarily, therefore, reject something simply because its negation turns out to be true.

The situation may well be different with respect to untruth. At least arguably, if something is shown not to be true then one ought to reject it.[15] But one cannot suppose that falsity and untruth are the same thing, if the second picture drawn in connection with objection number one is correct. If one does so suppose, as epistemologists traditionally have done, then something shown to be false, is shown to be untrue, and so not a target for belief. This may be why the dual principle has its appeal. But once one sees that truth and falsity (i.e. truth of negation) cannot always be separated, like the elements of a constant-boiling mixture, it becomes clear that this is overly simplistic.

At any rate, we have seen more than enough to answer objection number three.

OBJECTION 4: IF CONTRADICTIONS WERE ACCEPTABLE, PEOPLE COULD NEVER BE RATIONALLY CRITICIZED

The fourth objection also concerns rationality, and is to the effect that if contradictions were acceptable, no one could be rationally criticized for the views that they hold. The thought here is that if you hold some view, and I object to it, there is nothing, rationally, to stop you maintaining both your original view *and* my objection.

The most obvious failing of this argument is that it makes the familiar and illicit slide from 'some' to 'all'. The mere fact that some contradictions are rationally acceptable does not entail that all are. The charge 'you accept some contradictions to be true, so why shouldn't you believe any contradiction to be so?' is as silly as the charge 'you believe something to be true, so why shouldn't you believe anything to be so?'

It might be argued that if it is logically possible for any contradiction to be true (as it is in the semantics we looked at in reply to objection one), then all contradictions are rationally acceptable. This, though, most certainly does not follow either. The fact that something is a logical possibility does not entail that it is rational to believe it. It is logically possible that I am a fried egg, though believing that I am is ground for certifiable insanity. As we saw in reply to the last objection, there is a lot more to rationality than consistency. A view, such as that the earth is flat, may be quite consistent (and so logically possible in traditional terms), and yet quite irrational.

A person's views may be rationally criticized if they can be shown to entail something that is rationally unacceptable. This might be a contradiction, but it might be some non-contradiction. Some non-contradictions, e.g. that I am a fried

[15] Though one may well contest this too. See Priest (1993).

egg, are, in fact, better than some contradictions, e.g. that the Liar sentence is both true and false. In the last instance, what is rationally acceptable, and what is not, is likely to be a holistic matter, to be determined by the sort of criteria I discussed in response to the last objection. Let me illustrate again. I argued there that an inconsistent account of truth, which endorsed the T-schema, was preferable to the numerous consistent accounts available. Suppose that it turned out, in defending the inconsistent view, that it had to be shored up in the same methodologically unsatisfactory ways as extant consistent accounts—e.g. to avoid strengthened paradoxes—until it was just as complex and contrived. It would then cease to be rational to accept it. The fact that one can accept some contradictions would do nothing to help the matter.

This is a perfectly adequate reply to the objection, but let me say a little more. I am frequently asked for a criterion as to when contradictions are acceptable and when they are not. It would be nice if there were a substantial answer to this question—or even if one could give a partial answer, in the form of some algorithm to demonstrate that an area of discourse is contradiction-free. But I doubt that this is possible. Nor is this a matter for surprise. Few would now seriously suppose that one can give an algorithm—or any other informative criterion—to determine when it is rational to accept something. There is no reason why the fact that something has a certain syntactic form—be it $p \wedge \neg p$ or anything else—should change this. One can determine the acceptability of any given contradiction, as of anything else, only on its individual merits.

Despite this, I do think that there are general reasons as to why contradictions are a priori improbable. Classical logicians, who hold that contradictions all have probability 0, should agree with this! But it may reasonably be asked why one should suppose this to be so, once one has given up the assumption that that probability is 0. The answer to this question is simply that the statistical frequency of true contradictions in practice is low. This low frequency suffices to determine a low probability.

How do we know that true contradictions have a low frequency? Return to the inductive argument for the LNC that we considered in connection with objection number two. I pointed out there how weak this was as an argument for the *universality* of contradiction-freedom. But as an argument for the infrequency of contradictions it is much better. The counter-examples to the universality of the LNC are of very particular sorts (involving self-reference, or states of affairs that are but instantaneous, etc.), and we do not deal with these kinds of situations very often.

As a measure of this fact, recall the disjunctive syllogism ($\alpha, \neg\alpha \vee \beta \vdash \beta$). This is not valid in the semantics we looked at. Yet we use it all the time in practice, and rarely does it lead us astray. It will lead us astray only when there is a situation where α is both true and false, and β is not true. Hence, there are few such situations. This could be for two reasons. The first is that there are few αs which are both true and false; the second is that there are few βs which are not true. But we may rule out the second possibility: if this were the case, then we would rarely go wrong in *any* conclusion we draw, but we do. Hence, the frequency of true contradictions is low.

The fact that contradictions have low probability grounds the fact that inconsistency is a rational black mark. If we have views that are inconsistent then we are probably incorrect. We should go back and examine why we hold such a view, and what the alternatives are. We may find that we would be better off going a different way. But we *may* find that there are no better ways to go. In which case, we may just have to conclude that the improbable is the case. After all, the improbable happens sometimes. We would seem to be in exactly this situation with respect to theories of truth and the Liar. In one way or another, we have been over this ground for over 2,000 years—for the last 100 years very intensively—and no satisfactory consistent theory has been found. At any rate, inconsistency provides a prima facie ground for rejecting a view. One cannot *simply* accept a contradiction. There is other work to be done. This provides another answer to objection number four.[16]

OBJECTION 5: IF CONTRADICTIONS WERE ACCEPTABLE, NO ONE COULD DENY ANYTHING

The final objection takes us into new territory, one concerning public speech. The argument here is to the effect that if contradictions were acceptable, then no one would have a way of denying anything: whenever they asserted $\neg\alpha$, this would not show that they rejected α, for they might accept both α and $\neg\alpha$.

To discuss this argument, we first need to be clear about asserting and denying.[17] These are speech acts, like questioning or commanding. Which ones? If I assert something, α, then this is a speech act whose intention is to get the hearer to believe α, or at least, believe that I believe α—with whatever Gricean sophistication one may wish to add. If I deny something, α, then this is a speech act whose intention is to get the hearer to reject α (cast it out from their beliefs, and/or refuse to accept it), or at least, to get the listener to believe that I reject it—with whatever Gricean sophistication one may wish to add.

Now, prima facie, at least, assertion and denial are quite distinct kinds of speech act, and this is the way they have often been understood traditionally, e.g. in the *Port Royale* logic (though of course, the point was not put in terms of speech acts, which is a modern invention). But Frege suggested, and many now accept, that denial may be reduced to assertion by the equation:

denial = assertion of negation

[16] For a further discussion of the issue, see Priest (1987), chs. 7 and 8.
[17] The following follows Priest (1993). The discussion is taken further in Priest (1999*b*).

This identity is incorrect. To assert the negation of something is *not* necessarily to deny it. When I, for example, assert the negation of the Liar sentence, I am not denying it. After all, I *accept* it, and intend you to do the same. Nor does this really have anything to do with dialetheism. We, all of us, discover sometimes—maybe by the prompting of some Socratic questioner—that our beliefs are inconsistent. We assert α, and then a little later assert $\neg\alpha$. We may well wish to revise our views in the light of this—we usually do. But that is not the point here. The point is simply that in asserting $\neg\alpha$, we are not denying α. We *do* accept α; that, after all, is the problem. Hence, to assert a negation is not necessarily to deny—and the problem that this objection points to is just as much a problem for the classical logician as for the dialetheist.

More importantly, and conversely, one can deny something without asserting a negation. One can use a certain tone of voice, or body language (like thumping the table). The issue is simply one of how to convey one's intentions. This is the solution to the problem. In fact, one *can* often deny something by asserting its negation. (Thus, this objection, again, makes the now very familiar slide from 'some' to 'all'.) Whether or not one is denying, just depends. This raises the question of how one knows whether someone who utters a negated sentence is asserting or is denying. I doubt that there is any simple way of answering this question. In any case, it is of a kind very familiar from speech-act theory. Someone utters 'The door is open.' This could be an assertion, a question, a command. How does one know? Well, one has to determine the utterer's intentions; to do this one needs to know all kinds of things about language, the context, the social power-relations, etc. Never mind if we don't know exactly *how* we do it. We do it all the time.

Before we leave the subject, let me mention one final, related, point. It is sometimes said that it is impossible even to express contradictory beliefs: if someone asserts α, and then asserts $\neg\alpha$, they have not expressed contradictory beliefs; their second utterance merely 'cancels out' the first.[18] This could be an appeal to the claim that contradictions have no content, which I have already dealt with. But more likely it is an appeal to the idea that asserting a negation is a denial. To deny something asserted is to 'cancel out' the assertion, in the sense that it leaves the hearer no coherent way of interpreting the utterer's beliefs, short of supposing that they have changed their mind. But as we have seen, uttering a negation may just be a simple assertion: there need be no cancellation of any kind.

The ambiguity of 'assertion' (between the content of what is asserted, and the act of assertion), bedevils the history of logic until Frege. The ambiguity of 'denial' (between the content of a negated sentence, and an act of denial) may still bedevil it, as objections of the kind we have been looking at demonstrate.[19]

[18] e.g. Strawson runs this line. For references and further discussion, see Priest (1998), s. 13.
[19] I have heard it suggested that once one distinguishes between negation and denial there will be versions of the Liar paradox, formulated in terms of denial, that a paraconsistent solution cannot handle. This is false. The standard Liar is a sentence, α, of the form $\neg T\langle\alpha\rangle$. Let us write $\dashv$ as a force

We have now considered all the supposed a priori objections I started by enumerating. The sophist Gorgias argued that there is no truth; and even if there were, you could not know it; and even if you could, you could not express it. The arguments we have been looking at might be summarized, loosely, by saying, similarly: a contradiction cannot be true; but even if it could be, you could not know it; and even if you could, you could not express it. The arguments, as we have seen, have no more force than Gorgias' arguments. So what's so bad about contradictions? Maybe nothing.

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operator, indicating denial. The analogue would be a sentence, α, such that α is $\dashv T\langle\alpha\rangle$. But this makes no sense, since $\dashv$ is not part of a propositional content. We can formulate a proposition, α, whose content is 'I deny that α.' Does this pose problems? Well, if I deny it, then it is true, and presumably obviously so to me. So I ought not to deny it. Conversely, if I don't deny it, then it is false, and again, presumably, obviously so to me. So I ought to deny it. In either case, then, I am going to fail an obligation. Perhaps, in the end, one just has to live with this fact. It is not a contradiction (and even if it were, isolated contradictions need not be a problem for a dialetheist). Moreover, the dialetheist does not even have to agree with the argument. As we have already seen in reply to objection number three, it is not necessary to reject (and so deny) something simply because it is false. A classical logician, on the other hand, for whom this is just as much a problem, cannot make the same move. Note that there are other paradoxes in the vicinity here that are even more embarrassing for a classical logician. See Priest (1995), s. 4.

II

What is the LNC?