

## Foreword to *Teorie dell'assurdo. I rivali del Principio di Non-Contraddizione*, by Francesco Berto

In Book 4 of the *Metaphysics*, Aristotle took it upon himself to defend two principles not endorsed by a number of earlier philosophers (at least according to him). These were to become known in Western logic as the Principle of Excluded Middle (PEM) and the Principle of Non-Contradiction (PNC). The first says that every proposition is either true or false; the second says that no proposition is both.

The principles need not stand or fall together. None the less, there is an obvious duality between them, which suggests, at least *prima facie*, that similar sorts of considerations might apply to both. Given any two states of affairs, there are, in general, four possibilities: that one obtains but not the other, *vice versa*, both, or neither. Applying this to truth and falsity, we might therefore expect the class of propositions to be divided up into four:

$T$					
$R$					
- $U$	-	+	-	-	-
$E$					
		$F$	$A$	$L$	$S$ $E$

The PEM says that there is nothing in the top right quadrant. The PNC says that there is nothing in the bottom left. (The duality comes out most clearly in the semantics for the logic of First Degree Entailment, where the *both* and *neither* cases are completely symmetric.)

Given this, the history of the two principles in Western Philosophy since Aristotle is a rather odd one. Despite his endorsement of the PEM, Aristotle himself argued that it may fail. He argued, famously, in chapter 9 of *De Interpretatione*, that, on pain of fatalism, contingent propositions about the future, such as ‘There will be a sea battle tomorrow’, are neither true nor false. The theme gets taken up by a number of medieval philosophers in connection with God’s foreknowledge and other matters. Within a few years of the revolution in logic provided by Frege and Russell, Lukasiewicz, drawing on Aristotle, introduced the first modern logic with “truth value gaps”, and Heyting introduced formal Intuitionist Logic, in which the PEM is not logically valid. Now, in contemporary logic, truth value gaps are everywhere: in proposals to handle paradoxes of self-reference, vague language, presupposition failure, and so on.

By contrast, the PNC has been high orthodoxy for some two and a half millennia, taken to be so obvious that scarcely anyone since Aristotle has thought it necessary to defend it. Indeed, the endorsement of a contradiction has been taken to be the height of absurdity. There have been a few notable philosophers who took on the orthodoxy. The most obvious is Hegel. But even he can be thought of as endorsing the PNC at a dynamic level, since contradictions are the motor of change, and get resolved in the process—though how accurate an account of Hegel’s relationship to the PNC this is, is another matter.

Given these histories, an obvious question to ask why the two principles have been treated so differently. That is something that we must leave historians of philosophy to argue about. But now, at least, the PNC has come under attack. In recent years, various philosophers have argued that there are propositions that live in the bottom left hand corner of the above diagram. They have even coined a new name for them: *dialetheias*. The view has therefore come to be called dialetheism. We need not go into the details of who and why here, since these can be found in abundance in this book.

Of course, given the sophistication of modern logic, such a view could not be taken seriously unless it could be accommodated by an appropriate formal logical theory. In particular, given that the only logics available are those in which contradictions imply everything, dialetheism makes no sense: patently, not everything is true. The development of logics where contradictions do not entail everything, *paraconsistent* logics, was therefore a necessary precondition for the viability of dialetheism. Such a development took place in the second half of the twentieth century. Again, the who and why of it need not be documented here, since this book contains details. There are now many such logics, but, in nearly all of them, the appropriate semantics asks us to consider situations (or interpretations, as logicians call them more usually) in which contradictions may obtain. Of course, the logic itself does not force us to suppose that these situations may be actual, so that the contradictions may be true. The situations may only be hypothetical, counterfactual, impossible, or even the world according to some corrupt data base. A paraconsistent logician may well, therefore, not be a dialetheist. Perhaps most are not. But it remains the case that the construction of formal paraconsistent logics provided the theoretical space wherein dialetheism could arise as a serious theory.

As one might expect, both paraconsistent logic and dialetheism have met with a fierce resistance from orthodox logicians and philosophers. Many, especially in the early years of the development of the ideas, took the views to be so absurd that they could be entirely ignored. Fortunately, the number philosophers of this kind is now decreasing; and over recent years we have witnessed many lively debates in books and journals.

Much of the debate—though certainly not all—has gone on in English-language publications, however. Even those logicians whose native language is not English have often chosen to publish their work in English. So it is that in many countries where philosophy is not dominated by the English language, the developments are not well known. The appearance of books such as this, which aim to engage non-English-speaking philosophers in the area is therefore greatly to be welcomed. People reading this book will find an introduction to many of the important ideas, techniques, and results. I am deeply grateful to Francesco Berto for taking on the task of writing the book; I am sure that my view will be shared by many more of my colleagues who have worked on the subjects.

The book does not attempt to be a neutral survey of the area. Francesco has chosen to pick up aspects of the subject that intrigue him, and to engage with many of the relevant arguments. That is, of course, an author's prerogative; and we all, in the end, take the responsibility for the things we choose to write about and what we say about them. I think that his was a good choice, however. For those of us who have been working on dialetheism and paraconsistency for the last 30 years or so, the time has been one of great intellectual challenge and excitement. No one knew quite what was going to happen next. A book like this, via the author's own enthusiasm for the material, conveys some of this, and, hopefully, transmits it to readers.

Nor, I am sure, has this period come to an end. Much has been achieved by way of laying the foundations for the area. But there is much that still needs to be done. Many concepts, techniques, arguments, counter-arguments, connections with philosophical issues and historical philosophers (East and West), need to be investigated. The debate has, I think, only just started. After two thousand years of not thinking about the subject, it will probably take us a good time yet even to figure out the most important questions to ask. Francesco's book not only contributes to these debates, but will aid Italian-speaking philosophers to do the same. I wish it every success in this enterprise.

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