

Edited by

Michael Bruce and Steven Barbone

JUST THE ARGUMENTS

100

**of the Most
Important
Arguments
in Western
Philosophy**



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The Master Argument of Diodorus Cronus

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The “Master argument” (*ho kurieuôn logos*) is usually credited to Diodorus Cronus, a philosopher of the Dialectical school in the fourth century BCE. Its name is probably derived from the stock example used but connotes also its sophistication: It was a masterly argument about a master (see Michael Psellus, *Theologica*, 3.129–35). Together with Aristotle’s sea-battle argument (*De Interpretatione* 9), it belongs to a series of arguments pertaining to the discussion of possibility and necessity and their bearing on the determination of the future. The master argument hinges on the alleged logical incompatibility of three intuitively valid conceptions:

- (1) The necessity of the past: What is past cannot be changed; thus truths about the past seem to be necessary.
- (2) The closure of the possible over entailment: A possible proposition does not entail any impossible propositions but only possible ones; this can be used as a test for checking whether something is indeed possible (cf., Aristotle, *Metaphysics* IX 3–4).
- (3) The existence of unrealized possibilities: There seem to be plenty of unrealized possibilities. For example, it seems both to be possible that I sit at noon and that I stand at noon, but at most one of these possibilities will be realized.

Diodorus’ aim is to disprove (3), that is, to show that it is inconsistent to assume that a statement such as “You are a master” may be possible, although it neither is nor will be true. On this basis, Diodorus was able to argue for his characterization of the possible in temporal terms as that which either is or will be (Cicero, *On Fate* 13; Boethius, *On De Interpretatione* 234.22). But it leads also to a form of “logical determinism,” because if there are no unrealized possibilities, everything is necessary. His fellow Dialectician Panthoides and others, however, used (2) and (3) to reject (1), and the Stoic Chrysippus used (1) and (3) to reject (2). Anterior to this debate, Aristotle was able to hold all three ideas by distinguishing absolute necessity (of, e.g., logical truth) from time-relative necessity. For it is only now that singular past facts are unchangeable; when they were still in the future, they were contingent and thus nonnecessary, because they could have been changed. As we have no ancient sources about the structure of Diodorus’ argument, its reconstruction is somewhat speculative, and several competing reconstructions have been suggested, using different modern logical systems such as tense logic or quantified temporal logic with or without indexicals.

These seem to be the sort of starting-points from which the Master Argument is posed. The following three propositions mutually conflict: ‘Every past truth is necessary’; ‘Something impossible does not follow from some-

thing possible'; and 'There is something possible which neither is nor will be true.' Diodorus saw this conflict and exploited the convincingness of the first two to establish the conclusion that 'Nothing which neither is nor will be true is possible.' (Epictetus, 38A)

- P1. If α is or has been the case, then it is necessary that α is or has been the case.
C1. If α is or has at least once *not* been the case, then it is not possible that α is and has always been the case (contraposition, P12).
- P2. If α necessarily implies β , and α is possible, then β is possible.
C2. If α necessarily implies β , and β is not possible, then α is not possible (contraposition, P2).
- P4. There is a proposition, p , that is possible but neither is nor will be the case (assumption for *reductio*).
C3. p is possible (simplification, P4).
C4. p neither is nor will be the case (simplification, P4).
- P5. If p neither is nor will be the case, then it is or has at least once not been the case that p will be true (tense logic).
C5. It is or has at least once not been the case that p will be true (*modus ponens*, C4, P5).
C6. It is not possible that it is and has always been the case that p will be true (*modus ponens*, C1, C5).
- P6. p necessarily implies that it is now and has always been the case that p will be true (tense logic).
C7. p is not possible (*modus ponens*, conjunction, C2, P6, C6).
C8. There is no proposition that is possible but neither is nor will be true (*reductio*, P4–C7).