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Introduction: The Formalization of Dialectics

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ABSTRACT

The idea at the basis of this special issue is that reopening the old debate about the logical status of Hegel's dialectics is extremely interesting, for various reasons. The first reason is that a new Hegel is circulating, nowadays, in the philosophical literature, with specific reference to Hegel's dialectical logic and its relation to the history and philosophy of logic. This development deserves to be accounted for. Secondly, new research about the connection between contradictory logical systems and Hegel's dialectics is also being developed, and this too deserves to be acknowledged. Finally there are, recently, confirmations that the concept of dialectics is of general interest, and that the usual perplexities about the Hegelian triadic and fairly mechanic device of 'yes, not, and not not' are in remission.

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The idea at the basis of this special issue is that reopening the old debate about the logical status of Hegel's dialectics is extremely interesting, for various reasons.¹ The first reason is that a new Hegel is circulating, nowadays, in the philosophical literature, with specific reference to Hegel's dialectical logic and its relation to the history and philosophy of logic.² This development deserves to be accounted for. Secondly, new research about the connection between contradictory logical systems and Hegel's dialectics is also being developed, and this too deserves to be acknowledged. Finally there are, recently, confirmations that

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¹ See *Marconi 1979* for a brilliant reconstruction and presentation of the first discussions about the formalization of Hegel's dialectics. Among the works that shaped the debate are *Apostel 1978*, *Asenjo 1965*, *Kosok 1966*, *Petersen 1973*, *Routley and Meyer 1976*, *Günther 1976*, *Rescher 1979*, *Havas 1981*, *Batens 1986*, *Priest 1989* and *Priest 1995*.

² The idea to reopen the question of the formalization of Hegel's dialectics belongs to the wider project of revising the canon of the history of logic by clarifying the role of traditional philosophy for modern logic (see among others *Peckhaus 1997* and *Gabriel 2008* on the roots of modern logic in the philosophy between Leibniz and Trendelenburg and, on the role of Hegel for the history of modern logic, *Ficara 2021* and *Redding 2023*). The consideration of Hegel from an 'analytical' point of view has also evolved, in recent years (see among others the groundbreaking *Stekeler-Weithofer 1992*, the essays collected in *Nuzzo 2010*, *Brandom 2014* and *2019*), and this has had some consequences for the connection between Hegelian logic and modern, classical and non-classical logics. Recent contributions are not limited to themes of the philosophy of mind and epistemology, but deal with logical topics (the meaning of negation, the relationship between logic and metaphysics, the concept of contradiction) and examine them in the perspective of the history of logic (see the long section on Frege and Hegel in *Houlgate 2021* and, for further references about Hegel's logic *vis à vis* modern classical and non-classical logic *Ficara 2021*, 1ff.).

the concept of dialectics is of general interest, and that the usual perplexities about the Hegelian triadic and fairly mechanic device of ‘yes, not, and not not’ are in remission.³

The papers in this collection are philosophically and historically motivated presentations of formal features of Hegel’s dialectics (Priest, d’Agostini, Redding, Beall and Ficara); critical considerations about the very idea of ‘formalizing dialectics’ (Nuzzo, Moss); presentations of past attempts to formalize Hegel’s dialectics (Pluder).

Nuzzo’s essay clarifies the meaning of key Hegelian concepts whose comprehension is indispensable if one wishes to grasp the form of Hegel’s dialectics, or to consider Hegel’s dialectics from the point of view of the history and philosophy of logic. It addresses the capital challenges the very idea of formalizing dialectics faces: giving an account of dialectics’ specific aim, namely that of revising both ordinary language and traditional logical language (see also *Nuzzo 2010*, 65–66); giving an account of the connection between the specifically logical forms and the spiritual and real forms; giving an account of the connection between the instance (person) who formalizes and the material that is to be formalized; giving an account of the ‘living’ nature of the forms in dialectics and of the interplay between the ‘fixity’ of forms in logical theories and their ‘life’ within natural and philosophical language.

Redding’s paper elucidates moments and questions in the history of logic that are decisive for an assessment of the role of Hegel’s logic in it. It highlights the need to overcome one-sided reconstructions of the history of logic and, in this, is in line with works (such as, among others, *Thiel 1965*, *Peckhaus 1997*, *Gabriel 2008*) that are explicitly devoted to changing the usual historiography of formal logic by encompassing the consideration of the philosophical tradition (the Leibnizian, the German Classical Kantian and Post-Kantian tradition) and by overcoming rigid oppositions between, for example, classical and non-classical, analytical and continental approaches to logic.

In his paper, Priest defines dialectics as a process in which contradictions arise and are transcended (*aufgehoben*). According to him, the contradictions that arise and are *aufgehoben* are contradictions in the logical sense of ‘contradiction’, that is: pairs of predicates (concepts) or sentences one of which is the negation of the other and, since *Aufhebung* does not (only) mean ‘overcoming’ but also ‘maintaining’, dialectics requires dialetheism, the view that there are some true contradictions. For this reason, Priest adopts a paraconsistent logic, LP, as a general model of how Hegelian dialectics works.

Beall and Ficara present central textual passages drawn from Hegel’s early writings in which Hegel introduces the notion of *Vereinigung* (the unification of antinomic opposites). They highlight the formal behavior of the Hegelian conjunction of contradictories, and propose a semantics that revolves around the idea that, while the *Vereinigung* is true, the conjuncts are false (untrue) and so simplification fails.

Along these lines (see also *d’Agostini and Ficara 2021*), in her analysis of Hegel’s interpretation of the Sorites in the *Lectures on the History of Philosophy* and in the *Science of Logic* d’Agostini shows that Hegel’s approach to soritical arguments (and paradoxes in general) can be read as a kind of conjunctive paraconsistency (Ripley 2015, Barrio and Da Ré 2018, d’Agostini 2021), a kind of paraconsistency whereby the explosive effect of contradictions

³ In the European commemorations for the 250th anniversary of Hegel’s birth the idea of dialectics – as Hegel explained to Goethe in 1827 – as ‘the spirit of contradictions, which is fundamental in order to distinguish truth from falsity’ has had a significant role.

is avoided by assuming that contradictory conjunctions are not simplifiable. The Hegelian treatment of the Sorites, in her reconstruction, enlightens the metaphysical as well as the epistemological grounds of the unity of the opposites as the germinal principle of Hegel's dialectics.

Moss's paper is centered on the Hegelian concept of the concept, and the meaning of 'formal' in the *Doctrine of the Concept* in Hegel's *Science of Logic*. More specifically Moss argues that the concept is 'self-predicative' and 'existentially implicative'. As such, it is a dialetheic (i.e. truly contradictory) unity of opposites. Moss shows that this has specific consequences for the very project of formalizing the conceptual dialectics.

Pluder examines the interpretation and formalization of Hegel's dialectics proposed by the German logician and philosopher Gotthard Günther in different works published between 1976 and 1978. Günther sees Hegel's dialectics in light of his trans-classical logic, a logic that is not an alternative to, but an extension of classical logic. Günther's trans-classical logic gives voice to the dialectical instance of 'reflection on reflection' by introducing a new negation operator. While classical negation, if applied to the contradictory opposites (such as for example being and consciousness) only switches between the two and is not able to justify the further passage to the unity of the opposites, the new negation negates the opposition as a whole – on this basis, it makes possible to reflect upon it and to express the last step of the dialectical process.

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