Review of "Vladan Djordjevi: Goodman's Only World"

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Published in:
Mathematical Reviews

Publication date:
2014

Document version
Early version, also known as pre-print

Citation for published version (APA):

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The first part of Djordjević’s article is a critical investigation both of Nelson Goodman’s analysis of so-called counterfactuals (cf. [2, 3]) and of the reception which Goodman’s approach has met within logical semantics. The final part of the article is a plea that Goodman’s approach is still worth consideration in the more advanced framework of a possible-worlds-semantics for counterfactuals.

A counterfactual is a conditional statement in the subjunctive mode; the use of that mode indicates that the antecedent is considered false. According to Goodman’s analysis (as put forward in [2]), such a counterfactual $A \rightarrow C$ is true iff there is a set of support propositions $S$ such that $(\alpha) S \cup \{C\}, S \cup \{\neg C\}$, and $S \cup \{A\}$ are all consistent and the third set entails $C$; while $(\beta)$ there is no set $S'$ such that again the three sets $S' \cup \{C\}, S' \cup \{\neg C\}$, and $S' \cup \{A\}$ are consistent and the third sets entails $\neg C$. (Be aware that the arrow is used for the main connective of a counterfactual conditional and does not stand for material implication.) Reacting to a critique by William T. Parry [6], Goodman [3] modified his approach by adding the additional requirement $(\gamma)$ that $S$ should be “contenable” with $A$ where, generally, $E$ is said to be containable with $D$ iff $\neg (D \rightarrow \neg E)$. Djordjević points out that it is not clear whether $(\gamma)$ should be understood as requiring that each member of $S$ should be cotenable with $A$ or as postulating that the conjunction of the elements of $S$ (which thus should be a finite set) should be cotenable with that proposition.

Of course, Goodman’s modified explanation of counterfactuals cannot be considered as providing the truth conditions for such statements since it presupposes the notion of a counterfactual by making use of the relation of cotenability. Though Goodman thus does not deliver a reductive definition of the truth conditions of counterfactuals in terms of such notions as consequence and consistency, it may, as Djordjević argues, nevertheless function as a valuable source of inspiration for the construction of logical systems for counterfactuals. However, Goodman’s approach has, as Djordjević shows, been wrongly understood and mutilated by many of his more recent commentators. The main misunderstanding concerns the support set $S$: according to a widely accepted interpretation of Goodman it contains all true statements which are cotenable with the antecedent. But, as Djordjević points out, several authors have recognized that this interpretation implies the debated principle of conditional excluded middle (CEM), $(A \rightarrow B) \lor (A \rightarrow \neg B)$, which is explicitly rejected by Goodman. Goodman conceives of $A \rightarrow B$ and $A \rightarrow \neg B$ as contraries rather than contradictories; they cannot be both true but they can be false simultaneously.

Several authors have noted this connection: Djordjević cites Cross [1], Loewer [4], and Mårtensen [5]. In the last part of his article, he himself provides a proof for this result within the framework of possible worlds semantics, which thus yields a more intuitive rendering of the result which makes rather clear what it actually amounts to. On an informal level his argument may be stated thus: Let for a given $A$, $S$ be the set of those $B$ which are true in the real world and cotenable with $A$. Then, among the propositions which are actually true, those propositions $D$ are excluded from $S$ which are incompatible with
A, i. e., those which would be false if A were true. This means that S is a partial description of a world which differs from the real one only by excluding everything incompatible with A. Adding A to that partial description will hence make it complete in the sense that there will be only one single maximally consistent set containing $S \cup \{A\}$ as a subset; i. e., $S \cup \{A\}$ determines uniquely one single world. This is the content of Djordjević Theorem 2 and explains the title of his article. But then it is clear that $A \rightarrow C$ or $A \rightarrow \neg C$ since the maximally consistent set will contain either $C$ or its negation.

The argument sketched in the previous paragraph transfers the basic idea of the minimal change theory of counterfactuals (cf., e. g., David Lewis’ well-known book Counterfactual; MR0421986 and MR1865986) to Goodman’s framework: in evaluating a counterfactual we change the description of the actual world only minimally in order to include the antecedent as a true proposition. Seen from Goodman’s point of view, this theory amounts to admitting to the support set everything contenable with the antecedent. This, however, is in conflict with Goodman’s rejection of the (CEM). The modified minimal change approach would have been blocked in advance if we understood Goodman’s contenability condition in such a way that the conjunction of the members of the support set are contenable with the antecedent. In that case the support set has to be finite whereas the support sets of the modified minimal change theory are infinite. In the last part of his article Djordjević shows that different decisions about what to include into the support sets leads up to different logical systems for counterfactuals. Blowing up the support sets leads up to strong systems whereas meager support sets yield weak systems. This illustrates how considerations carried out within Goodman’s theory can be used as heuristics for the development of more modern approaches within the possible-worlds-framework.

References


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