Introduction

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In his book on Leibniz, Bertrand Russell wrote that «[t]hat all sound philosophy should begin with an analysis of propositions, is a truth too evident, perhaps, to demand a proof» (Russell, 1900: 8). This claim could have been made by Charles S. Peirce (1839-1914), who more than a century after his death is recognized as America's greatest philosopher, the originator of pragmatism, and one of the founders of modern logic. Peirce was also a pioneer in the field of "semiotics", the general theory of signs, and many have regarded him as the father of the contemporary form of the discipline. Whatever the title by which he is known today, Peirce considered himself first and foremost a logician. In point of fact, for Peirce logic and semiotics are not two distinct disciplines. There are not two Peirces, Peirce the logician and Peirce the semiotician[1]. His idea was that logic has to be regarded as *identical with* semiotics, an idea that he thought had its origin in ancient Greek philosophy.

The concept of proposition holds a privileged position in logic. This is why, just like Bertrand Russell, Peirce considered the analysis of propositions to be the foundation of sound philosophy, and in particular of logic. He considered the question of the analysis of propositions to be «the most vexed question of logic» (R 478: 43, 1903) of his days, and was confident that he had the conceptual and mathematical instruments to solve it.

The interest in Peirce's theory of the proposition has grown considerably in the last decades[2]. This interest is not merely historical: it is believed that Peirce's approach may still make a positive con-

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[1] Tiercelin (1993: 262).
[2] See at least Hilpinen (1992), Houser (1992), Chauviré (1995), Thibaud (1997), Stjernfelt (2014); see also the works cited by Brioschi in her contribution to this volume.

tribution to contemporary debates in philosophy of language and logic, especially with regard to the problems of reference, definite descriptions, proper names, propositional unity, and speech act theory. By gathering contributions on diverse topics connected with Peirce's theory of the proposition, the present issue of *Blityri* seeks to advance our understanding of that theory. As far as I know, this is the first collection of essays that focuses entirely on this crucial aspect of Peirce's logical philosophy.

This introduction is divided into two sections. The first section contains an attempt to defend the view that with "sign" Peirce very often simply means "proposition". This is a very unorthodox view, and its defense will inevitably be impressionistic and incomplete, but not, I think, to the point of being misleading. If I am correct in this view, then a massive reconsideration of Peirce's theory of signs is urgently needed. The present issue is, I hope, a step in that direction. The second section of this introduction offers an overview of the papers that compose this issue.

1. *Signs and propositions*

In all of his writings preceding the *Minute Logic* of 1902 Peirce divides signs in general into icons, indices, and symbols, and symbols in turn into terms, propositions, and arguments. With the *Minute Logic* an important "reform" of speculative grammar is introduced which consists in considering the members of the two trichotomies (<icons, indices, symbols> and <terms, propositions, arguments>) not as *classes* of signs, but as ways of classifying signs, i.e. as *semiotic parameters* by the combination of which the classes of signs are obtained. This reform makes it necessary to determine how parameters interact, that is, to determine the compossibility of parameters[3]. This means that while before the reform only symbols were subdivided into terms, propositions, and arguments, after the reform all signs are so divided. Now, a term – more appropriately labeled a "rheme" and conceived as a propositional function with a

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[3]   For a discussion of the rules of semiotic compossibility see Short (2007, chs. 8-9), Burch (2011), Bellucci (2017, chs. 6-7).

certain valence[4] – is an incomplete proposition, while an argument is a proposition (the argument's copulate premise) that is a sign of another proposition (the argument's conclusion); both terms and arguments are thus "propositional": the term is a sub-propositional component (or "constituent": see below) of a proposition, an argument is an over-propositional compound of propositions. Since after the reform of speculative grammar made in the *Minute Logic* all signs are either terms, propositions, or arguments, all signs may be said to be "propositional" in this sense.

It is well known that according to its definition, a sign is a relate of a triadic relation with an object and an interpretant sign. Anything is a sign which refers to an object and determines an interpretant sign to refer to the same object. Now, in R 7 «On the Foundations of Mathematics» (c. 1903) Peirce says: «a sign sufficiently complete must be capable of determining an *interpretant* sign […] a sign sufficiently complete must in some sense correspond to a real object» (SW: 131). What he elsewhere calls a "sign" *simpliciter* he here calls a "sign sufficiently complete"; this strongly suggests that it is complete signs that, properly speaking, refer to objects and determine interpretant signs of those objects, and that the definition of the sign in terms of its relation to an object and to an interpretant is, properly speaking, a definition of the complete sign. In the same manuscript Peirce writes that «a sign may be complex; and the parts of a sign, though they are signs, may not possess all the essential characters of a more complete sign» (SW: 131), i.e. a sign may be complete while its parts are incomplete signs not possessing all the essential characters of complete signs (they may not represent objects and determine interpretant signs of those objects). It is also evident that terms are incomplete signs, while propositions are complete signs: when later in the same manuscript he says that «an icon cannot be a complete sign» (SW: 134), this has to be taken as an enunciation of one the rules of semiotic compossibility, according to which an icon cannot be a proposition (R 425 = SW: 99), which of course confirms that "complete signs" are propositions. In this sense, it is sufficient to understand Peirce's reference to "signs" *simpliciter* as a reference to "complete signs", and to see that complete signs cannot be but propositions, to conclude that with "sign" he most often

4   See Brioschi, in this volume, and section 2 of this introduction.

means "proposition". Let us put this exegetical argument in terms of a syllogism in *Barbara*: a complete sign is a proposition (major premise); in most contexts, "sign" means "complete sign" (minor premise); therefore, in most contexts, "sign" means "proposition".

Evidence of the truth of the minor premise of my exegetical syllogism comes from a note recorded in the *Prescott Book* (R 277) on October 28, 1909:

> By a "Sign" is meant any Ens which is determined by a single Object or set of Objects, called its Originals, all other than the Sign itself, and in its turn is capable of determining a Mind, something called its Interpretant, and that in such a way that the Mind is thereby mediately determined to some mode of conformity to the Original or Set of Originals. This is particularly intended to define (very imperfectly as yet) a Complete Sign. But a Complete Sign has or may have Parts which partake of the nature of their whole; but often in a truncated fashion.

The definition of the sign is first and foremost a definition of "complete" signs. Complete signs are themselves composed of signs; these incomplete signs "partake of the nature" of the complete sign, but in a truncated fashion, i.e. do not possess all the features of complete signs. Out of Peirce's semiotic jargon, this means that rhemes (incomplete signs) partake of the nature of propositions (complete signs), because a rheme is a component of a proposition and can only be defined as something that is extracted from a proposition (see my comments on Brioschi, below); a rheme is a "truncated" proposition, i.e. a proposition from which something has been removed.

Evidence of the truth of the major premise of my exegetical syllogism comes from a note recorded in a manuscript on logical notations:

> Certainly, a proposition is a sign; and of what else can a proposition be a sign except of the universe? Any other sign is but an incomplete sign. To say that "Every man is a sinner" is to say that "Anything in the universe is either a non-man or a sinner". To say that some man is not a sinner, is to say that "Anything in the universe is coexistent with something at once a man and a non-sinner" (R 530, c. 1902).

Peirce's point in this passage is that a proposition, whether universal or particular, always refers to a "universe of discourse" which is singular. This was one of the innovations that came out of the work of Peirce's former Johns Hopkins student Oscar Mitchell on the algebra of logic in the 1880s, which contributed to their joint

"discovery" of quantification in 1882: once the universe of discourse is independently identified, the quantifiers specify how to select objects in it that satisfy the predicate of the proposition. Besides this, however, the passage states that all non-propositional signs, i.e. all sub-propositional ones, are incomplete signs, and suggests that propositions are the only complete signs, which is all that is required for the truth of the major premise of my exegetical syllogism.

Further evidence of the fact that a sign for Peirce has a propositional size comes from later writings. There is a passage from a 1906 letter to Lady Welby that suggests that propositions are the prototypical sign for Peirce, i.e. that his conception of the sign was modeled after the propositional sign.

> the sign not only determines the interpretant to represent (or to take the form of) the *object*, but also determines the interpretant to represent the sign. Indeed in what we may, from one point of view, regard as the principal kind of signs, there is one distinct part appropriated to representing the object, and another to representing how this very sign itself represents that object. The class of signs I refer to are the dicisigns. In "John is in love with Helen", the object signified is the pair, John and Helen. But the "is in love with" signifies the form this sign represents itself to represent John-and-Helen's Form to be. (EP 2: 477-8)

"Dicisigns", i.e. propositions, are "the principal kind of signs". Propositions manifest a structure that is found in all signs: they not only have a part deputed to represent (more precisely, to indicate or denote) the object (the "subject"), but also a part deputed to represent how the sign itself represents the object, i.e. the quality that the sign attributes to the object (the "predicate"). This is true of propositions, the "principal kind of sign".

In one of the versions of the preface to the «Essays on Meaning» to which Peirce worked extensively in 1909 and 1910 we read:

> The Sign can only represent the Object and tell about it. It cannot furnish acquaintance with or recognition of that Object; for that is what is meant in this volume by the Object of a Sign; namely, that with which it presupposes an acquaintance in order to convey some further information concerning it. No doubt there will be readers who will say they cannot comprehend this. They think a Sign need not relate to anything otherwise known, and can make neither head nor tail of the statement that every Sign must relate to such an Object. But if there be anything that conveys information and yet has absolutely no relation nor reference to anything with which the person to whom it con-

veys the information has, when he comprehends that information, the slightest acquaintance, direct or indirect – and a very strange sort of information that would be – the vehicle of that sort of information is not, in this volume, called a Sign. (R 634-637 = CP 2.231)

Peirce has just given his usual definition of the sign as something that represents an object and determines an interpretant sign of that object. He then adds the explanation contained in this passage, which he begs the reader to take quite seriously. A sign must represent, and determine interpretant signs about, an object otherwise known. If anything does not fulfill this condition, it is not a sign for Peirce. It is sufficiently clear from Peirce's discussion of "collateral observational" or "collateral acquaintance" in this period[5] that only a proposition can fulfill this condition. For a proposition is precisely that thing that represents an object already known: if I tell you that "Napoleon was lethargic" (to use one of Peirce's bizarre examples), this sign only conveys some information to you if you already know, even vaguely, who Napoleon was; if you have not the slightest acquaintance, direct or indirect, with the object about which the information is conveyed, the sign does not fulfill its function: you know that something is or was lethargic, but this is equivalent to the rheme "_ is lethargic" and coveys no information. Anything that does not fulfill the condition of representing an object already known is not a "sign" for Peirce; but only propositions fulfill that condition; ergo, etc.

2. *The present issue*

The present issue of *Blityri* gathers contributions from Peirce specialists that examine various aspects of Peirce's theory of the proposition and highlight its philosophical richness. In what follows I will point to the main themes covered by the papers in this issue and will offer some comments on – what I consider – aspects of crucial importance.

Maria Regina Brioschi's paper is a rich discussion of Peirce's notion of "rheme" which explores its logical, grammatical, and philo-

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[5]   Cf. Bellucci (2017: 323-5, 331-8).

sophical dimensions. A rheme is an unsaturated predicate, like "_ kills _" or "_ gives _ to _", which being filled with appropriate subjects becomes a full proposition. In Brioschi's view, the concept of rheme can be viewed as the most basic, structural element of the proposition, that which gives a proposition its structure. The chemical analogy, already used by Frege (Picardi, 1994), is such that it renders the structural description of a proposition a function of the structural description of the rheme it contains, i.e. in terms of the rheme's "valence" or number of its possible subjects.

The focus of Brioschi's paper is on the writings of the 1890s. This is for reasons both biographical and intellectual a crucial period of Peirce's life, and a quite productive one. It is a somewhat "transitional" period of his logical philosophy, intermediate between the logico-algebraical works of the 1880s and the new phase opened with the semiotic taxonomies of the *Minute Logic* (1902) and the *Syllabus* (1903). Brioschi shows that it is only in the writings of the 1890s – the incomplete multi-volume *How to Reason* (1894), the «Short Logic» (1895), the reviews to Schröder (1896-1897) – that Peirce moved from the nominal relative form ("killer of _") of the 1870s and 1880s to the verbal relative form ("_ kills _"). The transition from the nominal to the verbal form, Brioschi suggests, has to be connected with Peirce's studies in historical linguistics (esp. on the basis of James Byrne's *General Principles of the Structure of Languages*, 1885). Linguistics for Peirce is an empirical science that can by no means provide the foundation for logic. Yet, Brioschi explains, the purely logical analysis of the proposition in terms of the rhema it contains finds empirical confirmation and support precisely in the facts about natural languages[6].

The second paper in this issue, by Richard K. Atkins, is about

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[6] In Bellucci (2018) I have argued that, like Dummett's Frege, Peirce was under the influence of a distinction, which he never explicitly makes, between two different conceptions of analysis: "analysis" proper and "decomposition" (Dummett 1981a, Dummett 1981b). His repeated claim that analyses can be multiple (CP 4.58, 1894; R 1147: 269-270, 1901; CP 4.438, 1903; R 280: 41, 1905) is a clear symptom that he has Dummett's decomposition in mind. By contrast, his analysis of a molecular proposition (a proposition containing sentential operators) into rhemes of first intention (the simple predicates and relational expressions) and rhemes of second intention (the sentential operators) (CP 3.433, 1896) is a clear indication that he has Dummett's analysis in mind. This remains an open problem in Peirce's theory of rhemes and propositions.

gestures and propositions. It is well known that Peirce's "standard definition of the proposition", as Hilpinen (1992) called it, states that a proposition is «a sign which separately indicates its object» (CP 2.357, 1901; cf. CP 5.139, 5.569; R 7 = SW: 135; R 491 = SW: 141; R 284 = SW: 221). Arguably, in this definition the adverb "separately" means "by means of one of its parts", so that the definition becomes "a sign which indicates its object by means of one of its parts", or "a sign that has a part that indicates the object". This in turn implies that a proposition is composite and has parts. Such "mereological" conception of the proposition is the object of a long and intricate "deduction" in the *Syllabus* of 1903, in which from the very fact that a proposition represents itself as true Peirce "deduces" that any such sign that represents itself as true must be composed of two parts (R 478 = EP 2: 275-7)[7].

Now the interesting point that Atkins makes in the paper is that in very basic and simple cases we use gestures to communicate propositions to one another, and that sometimes such propositional signs consist of nothing more than a pointing finger. But how can a single, i.e. non-composite sign, be a proposition or communicate the content of a proposition? Atkins' proposal is that propositions need not have *distinct parts* but only *distinct relations* to the object represented. According to Atkins, the very existence of single signs, like single words (e.g. *fulget*) and gestures (e.g. a pointing finger), that function as propositions forces us to embrace either one or the other of two dilemmatic horns: «on the first account just described the proposition is one sign which stands in two relations to its object whereas on the second account just described it is two signs, each of which signifies the object». Atkins thinks that taking the first horn of the dilemma (one sign with two significant relations to the object rather than two signs) helps clarify why Peirce thinks single words can be propositions, and also helps explain why gestures too can be and can communicate propositions. They can be propositions because even though they do not have distinct significant parts, they do have distinct significant relations to the object they represent.

Peirce was as much interested in the analysis of the structure of the propositional sign as he was interested in providing a *classifica-*

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7   See Stjernfelt (2014: ch. 3) and Bellucci (2017: ch. 7).

tion of propositions. Several propositional taxonomies can be found in his works, both based on traditional logical distinctions (universal, particular, singular propositions; categorical, hypothetical, relative propositions; etc.) and on distinctions of his own invention (indexical *vs* symbolic propositions; type *vs* token propositions, etc.). One of the traditional divisions of propositions, that into "analytic" and "synthetic", is the topic of Jean-Marie Chevalier's paper. In this thoughtful and detailed exploration of the notions of "analytic" and "synthetic" in Peirce's philosophy of logic and mathematics, from which the reader will have much to learn, Chevalier shows that long before Quine's famous attack on the dogma, Peirce offered several reasons to relativize the analytic/synthetic divide. One such reason is that the distinction, at least in Kant's formulation (an analytic proposition is one in which the predicate is "covertly contained" in the subject), is psychological, while propositional divisions are to be purely logical. For in order to see that the predicate is covertly contained in the subject I have to make some experience, even be it the purely imaginative experience of analyzing the subject, and this renders the proposition synthetic rather than analytic. Another reason has to do with Peirce's earliest account of scientific inferences, which was based on the notions of *denotation*, *connotation*, and *information*. Here Chevalier is at his best in expounding the sophisticate propositional distinctions that these three notions allow Peirce to make and the manner the analytic/synthetic divide is thereby affected. One further reason for the relativization of the Kantian distinction is offered by the logic of relatives, and especially by Peirce's mature notation for it, the system of Existential Graphs. The logic of relatives shows that «Deduction is really a matter of perception and of experimentation, just as induction and hypothetic inference are; only, the perception and experimentation are concerned with imaginary objects instead of with real ones» (CP 6.595, 1893; quoted by Chevalier). Deduction involves the observation of, and experimentation with, diagrams (whether algebraical or geometrical), and it is in virtue of such observation and experimentation that new truths can be discovered than those that were necessary for the construction of the diagram. This "discovery", which is the merit of the logic of relatives to bring to light, shows that the Kantian distinction is only due to a poor conception of logic. In the sequel of his paper, Chevalier offers further stimu-

lating arguments for Peirce's relativization of the analytic/synthetic divide, which I leave to the reader to accurately ponder. Chevalier also devotes a section of his essay to the problem of the nature of the proposition itself. This is the occasion to address the problem of the terminological and conceptual distinction between "proposition", "judgment", "sentence", and "assertion". Peirce is notoriously not wholly consistent in the use of these terms. Chevalier sees some of the problems and offers some solutions, not all of them entirely free from difficulties. Yet Chevalier does not fail to see that the essential property of the *logical* notion of proposition is that it determines not only a quality (like terms or rhemes do) but also an object, while it does not explicitly determine an interpretant (like arguments do). This amounts to nothing more than Hilpinen's already mentioned standard definition of the proposition as "sign which separately indicates its object".

The fourth paper in this issue is by Giacomo Guidetti. The aim of this paper, which is also its title, is to answer the crucial question "What is the object of the proposition?" for Peirce. Guidetti begins with the standard definition just recalled. Since in this definition reference is made to an "object", the question arises as to what the object of a proposition is. Now, from 1904 the object of a sign is considered by Peirce under two respects: the "immediate" object and the "dynamic" object. On the basis of a careful reconstruction of the relevant writings, Guidetti argues that the standard interpretation of this dichotomy is wrong: the "object separately indicated" is the dynamic object, but the immediate object is not the *qualitative* respect of it which the sign represents; rather, it is the *quantitative* manner in which the dynamic object is indicated. In this Guidetti disagrees with almost everyone that has discussed Peirce's notion of the immediate object[8].

Guidetti thinks we can talk of the "object" of a sign in three senses. In one sense, the object is that which the denotative part of the sign denotes; this is the "object" in the strict sense for Peirce; from 1904 onwards, Peirce calls this object "dynamic" and calls the part of the sign that indicates it the sign's "immediate object". In a second sense, the object of the sign is that which the predicative part of the sign says of its dynamic object, i.e. the quality the sign

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[8]   But see Bellucci (2015).

represents its object to have. Peirce rarely use the word "object" in connection with this second sense, one exception being the passage from the *Logic Notebook* discussed by Guidetti. In a third sense, the object of the sign is the state of things that the sign represents. This of course requires the sign to have a propositional structure, for only propositions can represent state of things; but this is not a problem at all, because as I have argued "sign" very often stands for "complete sign" in Peirce, and thus for "proposition". The use of "object" in connection with this third sense is also quite rare in Peirce. Hilpinen, again, was quite lucid in pointing to this (Hilpinen, 1992: 473-4): a proposition represents a state of things but the state of things is not the "object" of the proposition in the strict Peircean sense of "object". This is why it is important to render "represent" in the standard definition of the proposition as "indicate": a proposition is a sign that separately *indicates* an object (or set of objects).

Guidetti's tripartition of the object nicely corresponds to the tripartition of the forms of Peirce's realism that is presented in the next and last contribution to the issue, Frederik Stjernfelt's «Peirce as a truthmaker realist. Propositional realism as backbone of Peircean metaphysics». The aim of this short, brilliant essay is to investigate the interdependence between Peirce's "philosophy of propositions" (a major theme of Stjernfelt's work in recent years) and his realism. That the interdependence is strict is already shown by the claim that «a realist is simply one who knows no more recondite reality than that which is represented in a true representation» (CP 5.312, 1868). This passage, as many other in Peirce's early and late writings, clearly evidences the propositional roots of Peirce's realism: reality is represented, and can only be represented, by propositions and proposition-like signs. Stjernfelt further agues that such propositional roots are an indication of the Kantian ground of Peirce's realism: just as for Kant and neo-Kantians transcendental inquiry must assume the existence of science and proceed from that assumption towards its conditions of possibility, so for Peirce logic must assume the existence of true propositions and from that proceed to the investigation of the forms of reasoning, especially of synthetic reasoning (inductive and abductive). In other words, the logical validity of the forms of synthetic reasoning cannot be proven without assuming that some propositions are true. This is what Stjernfelt calls Peirce's "basic Kantian argument".

The passage from CP 5.312 also points to the fact already discussed above, i.e. that a sign has for Peirce a propositional structure. This is of course a point quite familiar to Stjernfelt, whose *Natural Propositions* (Stjernfelt, 2014) contains both an exegetical foundation and a theoretical development of Peirce's propositional semiotics. That passage is evidence of Peirce's propositional semiotics because a "true" representation – where "representation" is here, as in the majority of Peirce's early writings, synonymous of "sign" – can only be a proposition: only the proposition is a truth-bearer, because only the proposition separately indicates an object.

Each of Guidetti's three "objects" corresponds to a specific form of realism. Stjernfelt claims that the subject of a proposition embodies "independence realism" (i.e. the idea that anything is real which is as it is independently of being represented), while the predicate embodies "realism as to universals" or "Scotistic realism" (i.e. the idea that generals, and not just singulars, are real). Besides these two forms of realism, each embodied in one of the two parts of which a proposition is composed (subject and predicate), there is a third form of realism, which Stjernfelt calls "realism of facts" and which corresponds not to a *part* of the proposition but to the proposition as a whole. Peirce writes in R 283 (quoted by Stjernfelt): «A state of things is an abstract constituent part of reality, of such a nature that a proposition is needed to represent it» (CP 5.549). Stjernfelt is aware that states of things cannot be taken to be "objects" of propositions in the strict sense. Yet, the purpose of a proposition is not just to indicate an object or to signify some quality of it, but to do both things at once, i.e. its purpose is to represent state of things. Stjernfelt points out that Peirce's state of things are structured like Wittgenstein's *Sachverhalte*. However, while Wittgenstein's *Sachverhalte* must be assumed to have a fixed level of generality (for the *Tractatus* the number of simple objects is given, and *Sachverhalte* are simple compositions of simple objects), Peirce's states of things are allowed a far greater deal of ontological flexibility: a state of things is simple with respect to more complex ones (typically, those expressed by compounding simple states of things by means of truth-functional operators), but may be regarded as complex with respect to the simpler states of things into which these may be analyzed.

Stjernfelt's essay ends with an overview of the influence of Peirce's "propositional realism" upon his metaphysics. For Peirce

– who in this respect remains «the most Kantian of thinkers» (Rorty, 1980: 720) – metaphysics depends upon logic, so that what is found to be the case about logical forms should also be the case for metaphysical forms. Stjernfelt gives some examples of this dependence, and his conclusion is that by so grounding metaphysics upon logic, and thus metaphysical realism upon propositional realism, Peirce went farther than "truthmaker realists" – those who think that the real is that which makes a true proposition true. Peirce went farther because for him the real is anything that follows, or may be developed from, the truth of a proposition.

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