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Peirce’s Theories of Assertion

Frederik Stjernfelt

A man first comes to the study of logic with an immense multitude of opinions upon a vast variety of topics; and they are held with a degree of confidence, upon which, after he has studied logic, he comes to look back with no little amusement.

“The Regenerated Logic”, 1896, CP 3.432

It is fairly easy to give a brief account of the mature Peirce’s standard view of assertion, that is, after the many theoretical developments of the fertile 1902-04 period – the sixth and seventh phases of the development of Peirce’s semiotics, in Francesco Bellucci’s recent count (Bellucci 2017). In *Reason’s Rules* (1902), e.g., it goes like this: “… to assert a proposition is to make oneself responsible for its truth”.[[1]](#endnote-1) It ties into the idea that propositions are general ideas and do not, in themselves, perform any action. They may, however, be put to use in a number of different act types, utterances, questions, orders, wishes, beliefs, etc. – prominent about those being the act type of *asserting* a proposition. This, of course, amounts to the germ of a Peircean speech act theory in which the act of asserting a proposition in public differs, in particular, from the act of personally believing the same proposition to be true in private, an act also covered by concepts such as *belief, judgment*, and *assent.* Thus, it is possible to assert a proposition simultaneously with not assenting to it, that is, lying.[[2]](#endnote-2)

This, however, also indicates that it would be a vain endeavor to try to define Peirce’s concept of assertion in isolation. Rather, it belongs to a considerable conceptual cluster charting the whole field of possibly truth-involving expressions and utterances, situated between logic, philosophy of logic, semiotic pragmatics (or “speculative rhetorics” as Peirce would have it) and philosophy of science –  a conceptual field involving terms like *judgment, belief, assent, resolve, proposition, corollary, theorem, affirmation, claim, thought, thinking, fact, truth, reality*, and several more. This note attempts to give an overview over Peirce’s development behind the mature standard view as well as to place that standard view in the context of the conceptual cluster mentioned – an overview which also gives occasion for noting certain tensions and even unresolved issues.

*Assertion from colloquial to technical term*

In much of Peirce’s early and middle period up to the mid-90’s, “assertion” is not singled out as a technical term but is rather used interchangeably with “proposition” or even “judgment”, implying that, in this period, Peirce rarely considered the distinction between the structure and content of propositions on the one hand, and their utterance and force to claim truth on the other.[[3]](#endnote-3) Rather, he took for granted that it was part and parcel of a proposition itself to possess some sort of illocutionary force, often localized in the copula. As is well known, Peirce focused upon investigating and formalizing the relations and structure of propositions in his versions of propositional logic and first order logic in the two “Algebra of Logic” papers (1880-85); among the other terms of the propositional concept cluster which Peirce develops in the early period, particularly that of *belief* stands out, to continue to play an important role also in his ensuing development.

Famously, the definition of “belief” is crucial to the classic formulations of pragmatism in Peirce’s 1878 *Popular Science Monthly* paper series, developing further Alexander Bain’s quip “Belief is that upon which man is prepared to act”. That idea had been much discussed among Peirce, William James, Chauncey Wright, and Nicholas St. John Green in their “Metaphysical Club” around 1870. In “How to Make our Ideas Clear”, Peirce found that belief “… has just three properties: First, it is something that we are aware of; second, it appeases the irritation of doubt; and, third, it involves the establishment in our nature of a rule of action, or, say for short, a habit.” (5.397). The latter property, of course, constitutes pragmatism’s core idea that the meaning of a proposition lies in the conception of its effects having practical bearings, as stated in the “pragmatic maxim” (5.402). So, “the whole function of thought is to produce habits of action”, and “what a thing means is simply what habits it involves.” (5.400). Real belief involves a readiness to act as if the involved proposition were true; ideas which do not entail such readiness may appear to be a sort of beliefs, they may even be believed to be beliefs, but they are not really beliefs. Thinking and mental habit-taking are thus one and the same thing, and the process of acquiring propositional insight by habit-taking should go on to form a relatively stable cornerstone in Peirce’s ongoing charting of the propositional field. It is important to note that in another of the pragmatism papers, Peirce already connects this action interpretation of belief propositions to his idea that the real, active proponent of science is the scientific community rather than the individual scholar: “… death makes the number of our risks, of our inferences, finite, and so makes their mean result uncertain. The very idea of probability and of reasoning rests on the assumption that this number is indefinitely great.” (“The Doctrine of Chances, 1878, 2.654). This tension is resolved by merging the individual researcher into the continuum of existing and possible future scientists, and coupling our limited number of individual lifetime inferences into the indefinite series of future research. In that sense, “… our interests shall *not* be limited. They must not stop at our own fate, but must embrace the whole community. This community, again, must not be limited, but must extend to all races of beings with whom we can come into immediate or mediate intellectual relation. It must reach, however vaguely, beyond this geological epoch, beyond all bounds.” This beautiful Enlightenment idea about individual beliefs as finite building blocks of an infinite quest shall continue to inform the development of Peirce’s charting of the propositional field.

Not much later, in his paper formalizing propositional logic, “On the Algebra of Logic” (1880), Peirce makes the following distinction: “A cerebral habit of the highest kind, which will determine what we do in fancy as well as what we do in action, is called a *belief*. The representation to ourselves that we have a specified habit of this kind is called a *judgment*. A belief-habit in its development begins by being vague, special, and meagre; it becomes more precise, general, and full, without limit. The process of this development, so far as it takes place in the imagination, is called *thought*.” (W 4:164; CP 3.160). Here, an important vacillation is introduced, as to the *degree of awareness* which is required to entertain a belief. Habits are not necessarily conscious, rather most of them are not, but the special habit subtype of *belief* seems different. In 1878, a requirement for belief was that the believer was *aware* of it; now, more cautiously, *judgment* is defined as one’s representation to oneself that one has this or that belief – the implication being that the latter needs not, in itself, be the object of awareness or consciousness. This tension should occupy Peirce many times in the years to come.

In the early and mid-1890’s, working on the unfinished “Grand Logic” and “Short Logic”, Peirce returns to the propositional field and the idea, originally introduced in the “Algebra of Logic” papers, that the erasure of the subject indices of a proposition, be it expressed in a diagram or in a sentence, yields the result of a naked predicate structure with the small difference that “It differs from a relative term only in retaining the "copula," or signal of assertion.” (“The Critic of Arguments”, CP 3.420, 1892). Here Peirce, in the passing, identifies the copula of a proposition as the sign of assertion, a widespread idea in the philosophy of logic at the time. At the same time, he expands on the idea: the copula in an assertion represents the experience which forces the specific combination of subject and predicate in a proposition: “The deliverer thus requires a kind of sign which shall signify a *law* that to objects of indices an icon appertains as sign of them in a given way. Such a sign has been called a *symbol*. It is the *copula* of the assertion.” (1896, CP 3.435).[[4]](#endnote-4)

Peirce would later toy with other possibilities for identifying what it is in a proposition that makes it not only taking a truth value, but makes it *assert* its truth. A couple of years later, however, things are already more complicated: “A proposition *asserts* something. That assertion is performed by the symbol which stands for the act of consciousness. That which accounts for *assertion* seeming so different from other sorts of signification is its *volitional* character. Every assertion is an assertion that two different signs have the same object. If we ask why it should have that dual character, the answer is that volition involves an action and reaction.” (“Short Logic”, EP 2:20; CP 2.436-438).

Here, two important new ideas appear. One is the idea that the assertion functions by addressing *aspects or parts of the propositional sign itself*: it claims that two partial signs of the proposition (the subject and the predicate) have one and the same object. A bit later, this idea is taken to make other mechanisms of assertion superfluous: “A proposition should be defined as that which *professes* to be true, or assigns a logical value to itself. The *Truth* is defined as that logical value which a proposition assigns to itself. Whether or not there really is such value, whether there *is* any truth is a question, not of definitions, but of fact.” (“On the Logic of Quantity”, MS [R] 13,7 1896). Here, this self-reference of the proposition is sufficient to make it assert its truth. The other new idea is that this claim is not really made by the proposition sign itself, but in an underlying *act of will* performed by a consciousness which is really here the source of assertion, while the expression of it in a symbol is a secondary representation of that volitional act. Oftentimes, it is surprising how psychologistic Peirce’s logic anno mid-1890’s – Bellucci’s fourth phase – may appear, complete with an accompanying hesitation about the existence of truth and reality.

But the two mentioned ideas are sufficiently important to play important roles also in the much more anti-psychologistic period beginning with the invention of the Existential Graphs in 1896 and the metaphysical introduction of “real possibilities” in 1897: the basis of the claim aspect of assertions lying in a specific type of self-reference of the proposition sign, and the actual realization of that claim by means of a further act, independent of that of shaping and understanding the proposition. The self-reference idea matures in the labyrinthic “Deduction of the Dicisign” of the *Syllabus* in 1903; the idea of a further assertion act on top of the proposition sign is fleshed out in further detail in the same period, beginning around the *Minute Logic* of 1902.

Simultaneously, a competing idea shows up: in “That Categorical and Hypothetical Propositions are one in essence, with some connected matters” (1895-6 [c.], CP 2.334-35), Peirce introduces the interpreter’s point of view as integral to assertion: “In every assertion we may distinguish a speaker and a listener. The latter, it is true, need have only a problematical existence, as when during a shipwreck an account of the accident is sealed in a bottle and thrown upon the water. The problematical “listener” may be within the same person as the “speaker”; as when we mentally register a judgment, to be remembered later. If there be any act of judgment independent of any registry, and if it have any logical significance (which is disputable), we may say that in that case the listener becomes identical with the speaker.” This gives rise to the idea of argumentation as essentially dialogical, even when it takes place in the mind of one individual. Peirce continues: “The assertion consists in the furnishing of evidence by the speaker to the listener that the speaker believes something, that is, finds a certain idea to be definitively compulsory on a certain occasion. There ought, therefore, to be three parts in every assertion, a sign of the occasion of the compulsion, a sign of the enforced idea, and a sign evidential of the compulsion affecting the speaker in so far as he identifies himself with the scientific intelligence.” [[5]](#endnote-5) Here, the aim of the act of assertion becomes intersubjective: it is to provide evidence to an interpreter that the utterer has a certain belief. Again, this is couched in rather psychologistic terms, but it shall continue to develop into the idea that the assertive claim aspect of a proposition is there to persuade an interpreter that 1) the utterer believes in the proposition; 2) it is true.

Some years later, the asserting role even passes to the subject term, the index, of the proposition: “It is remarkable that while neither a pure icon or a pure index can assert anything, an index which forces something to be an icon, as a weathercock does, or which forces us to regard it as an icon, as the legend under the portrait does, does make an assertion, and forms a proposition.” (“Kaina Stoicheia”, 1901?, EP II, 307).[[6]](#endnote-6) Assertion here is undertaken by the index; not by its pointing out an object, however, but by its connection to an icon predicate which it forces to be read as a picture of the object. This, however, is seen from the point of view of the interpreter of the assertion, not of the utterer of the assertion. This idea should soon be overtaken by passing the role to the predicate itself, albeit in a new and daring interpretation of what it means to be a predicate.

*Assertion as the proposition sign’s self-reference*

The issue of the assertion of the proposition – how it is possible for a composite sign to make a claim – is analyzed by the mature Peirce in a number of dimensions. One is the idea that a proposition not only combines a denoting index and a signifying icon, but it makes its claim by means of a specific self-reference involving these two parts, their interrelation and the composite sign itself. We already met the idea that an assertion asserts that the two parts of the assertion – the subject and the predicate – address one and the same object. In the “Deduction of the Dicisign” in the *Syllabus*, this self-reference is detailed in the following way. In order for a proposition to be able to “convey information” (2.309) – one of the mature Peirce’s proposition definitions – it needs to refer to its own connectedness to its object in order to claim authority to report upon it.[[7]](#endnote-7) Here, Peirce explicitly distinguishes this ability of the proposition from the issue of a person’s mental acceptance of it which he analyzes as a completely different, independent issue which cannot be used as an explanation of the assertion of the proposition nor of the proposition itself. In this analysis, the *predicate* of the proposition really becomes the part responsible for the assertion, and the predicate is analyzed as possessing a hidden structure of some complexity. To put it in a popular way, the predicate is really a shorthand for the proposition’s self-reference, so that saying “The sky is blue” really means what may be colloquially paraphrased as “This sign is really connected to the sky as a true index of it, which is why the sign is authorized to state that it is blue”. Peirce’s argument goes as follows: “a Dicisign must profess to refer or relate to something as having a real being independently of the representation of it as such, and further that this reference or relation must not be shown as rational, but must appear as a blind Secondness. But the only kind of sign whose object is necessarily existent is the genuine Index. This Index might, indeed, be a part of a Symbol; but in that case the relation would appear as rational. Consequently a Dicisign necessarily represents itself to be a genuine Index, and to be nothing more.” (2.310). This complicated claim is what the predicate really states about the subject index of the composite proposition sign. The claim that the sign is really connected to its object introduces, at the same time, a first version of the much-discussed “immediate object” which is not any sort of preliminary *description* of the object and its qualities, but which has to do with the professed connection between proposition and object. It is a bit ambiguous whether this secondary object is simply *part of* the sign (as the claim must also be present in false propositions where the claimed connection does not exist, or in cases where the sign is made based on rumor in which case the connection may exist or not, no matter whether the sign is true), or whether it is an external connection between the sign and its primary object. But as we would not say the *primary* object is part of the sign in cases of propositions in which the object does not exist (“The present king of France”), we should probably also not say the *secondary* object is part of the sign in cases where it does not exist. The *claim* about the secondary object, of course, is a part of the proposition predicate; not the object itself.

This complicated way of making the predicate responsible for the proposition’s ability to convey information leads to an important array of corollaries in the *Syllabus*: the proposition sign’s double composition, this composition’s depiction of the sign-object relation by means of the predicate-subject relation, this depiction’s necessity of co-localizing in some topological sense the subject token and the predicate token of the proposition sign as an iconic illustration of the professed connection.[[8]](#endnote-8) At the same time, these acts (of conveying, of professing) are ascribed to the proposition *itself*. But the mere ideal, repeatable structure of a proposition, even if self-referential, cannot perform any actions. It is only the actual *utterance* of the proposition, a fact which in the Syllabus deduction is inherent in the argument that the self-reference turns on the actual sign *token,* not its general type, that is, on the concrete, physical sign vehicles uttered and existing at a certain time and location. So, the intricate machinery of the self-referring predicate part of the proposition is only put into play in utterances, understood as any sort of “putting forward” a proposition. This dependence of assertions on actual acts of utterance comes to the fore in two other central analyses of assertions.

*Assertion as assumption of responsibility*

In the vast semiotic thrust of 1902-03, a new definition of assertion appears: to assume responsibility for the truth of the proposition asserted, so that if it is shown not to be true, a certain penalty may be visited on the asserter in the shape of moral, social, or legal punishment. One of the first occurrences of that idea is “Reason’s Rules” of 1902 (MS [R] 599:5): “An *assertion* is an act by which a person makes himself responsible for the truth of a proposition.” In another version of the same text, Peirce elaborates: “Let us distinguish between the *proposition* and the *assertion* of that proposition. We will grant, if you please, that the proposition itself merely represents an image with a label or pointer attached to it. But to assert that proposition is to make oneself responsible for it, without any definite forfeit, it is true, but with a forfeit no smaller for being unnamed.” (“Reason's Rules” CP 5.543). The elegant and brief definition of a proposition (“an image with a label or pointer”) makes clear that the naked proposition taken in itself is not sufficient to make an assertion: somebody must take responsibility for its truth. But what more lies in the responsibility definition of assertion? In order for the claimed responsibility to be effective, the assertion must be presented in some public forum – which is evident from the following precision: “An act of assertion is a contract, the effect of which is that if what is asserted is not true, the assertor forfeits in a measure his reputation for veracity.” (“Lectures on Logic, to be delivered at the Lowell Institute. Winter of 1903-1904. Lecture I”, MS [R] 454:5). Contracts and reputations are social phenomena; the former characterizing explicit interpersonal deals involving mutual obligations, the second characterizing a person’s relation to some social group as a whole. So, the assertion is a contract proposal in which whoever reads it may assume the role of the contractee, and in case the contract is not kept, the contractor risks his or her reputation in a larger social group. Over the period of 1902-04, this aspect is described in increasingly acute terms and growing detail:

“Now it is a fairly easy problem to analyze the nature of *assertion*. To find an easily dissected example, we shall naturally take a case where the assertive element is magnified, – a very formal assertion, such as an affidavit. Here a man goes before a notary or magistrate and takes such action that if what he says is not true, evil consequences will be visited upon him, and this he does with a view to thus causing other men to be affected just as they would be if the proposition sworn to had presented itself to them as a perceptual fact. We thus see that the act of assertion is an act of a totally different nature from the act of apprehending the meaning of the proposition and we cannot expect that any analysis of what assertion is (or any analysis of what judgment or belief is, if that act is at all allied to assertion), should throw any light at all on the widely different question of what the apprehension of the meaning of a proposition is.” (“Harvard Lectures on Pragmatism: Lecture I”, 1903, CP 5.29-31).

Here, Peirce completely distinguishes the act of understanding a proposition from the act of asserting it. Of course, in order to publicly reject a proposition, one must be equally capable of understanding it as in order to assert it. In the same period, assertion is repeatedly contrasted with another act type, with which it shares certain qualities, namely *assent,* the act of accepting the truth of a proposition. The two share the aspect that both of them aim at impressing the truth of the proposition upon somebody, in the former case another person or larger social group, in the latter case oneself: “What is the essence of a Judgment? A judgment is the mental act by which the judger seeks to impress upon himself the truth of a proposition. It is much the same as an act of asserting the proposition, or going before a notary and assuming formal responsibility for its truth, except that those acts are intended to affect others, while the judgment is only intended to affect oneself.” (“A Classification of the Sciences”, 1902, CP 2.252). In a certain sense, assertion and assent are subtypes of judgments, that is, acts of convincing somebody about the truth of a proposition – with the *differentia specifica* of the former being directed towards other persons or social entities, the latter towards oneself. While the former assumes responsibility towards others, the latter assumes responsibility for one’s own future action habits: “ … an act of assertion supposes that, a proposition being formulated, a person performs an act which renders him liable to the penalties of the social law (or, at any rate, those of the moral law) in case it should not be true, unless he has a definite and sufficient excuse, and an act of assent is an act of the mind by which one endeavors to impress the meanings of the proposition upon his disposition, so that it shall govern his conduct, including thought under conduct, this habit being ready to be broken in case reasons should appear for breaking it. Now in performing either of these acts, the proposition is recognized as being a proposition whether the act be performed or not.” (“Syllabus: Syllabus of a course of Lectures at the Lowell Institute beginning 1903, Nov. 23. On Some Topics of Logic”, 1903; EP 2:278; CP 2.315). Assertion and assent differ as to future consequences: the former act risks moral, social or even legal punishment, the latter only personal habit action problems. Assertion and assent, on the other hand, agree in assuming future responsibility; the former in public, the latter in private. The emphasis on the public sphere becomes explicit in 1908:

“Unless truth be recognized as *public*, – as that of which any person would come to be convinced if he carried his inquiry, his sincere search for immovable belief, far enough, – then there will be nothing to prevent each one of us from adopting an utterly futile belief of his own which all the rest will disbelieve. Each one will set himself up as a little prophet; that is, a little “crank,” a half-witted victim of his own narrowness. But if Truth be something public, it must mean that to the acceptance of which as a basis of conduct any person you please would ultimately come if he pursued his inquiries far enough; – yes, every rational being, however prejudiced he might be at the outset.” (Letter to Lady Welby, 1908, SS 73). Peirce virtually repeats Kant’s famous definition of enlightenment as taking place in public, from “Was ist Aufklärung?” – the argument here being that the connection of a proposition to the idea of truth-directed, indefinitely long future inquiry necessitates *public* expression; otherwise, as Peirce says, every individual might assume his or her own, crank and futile theories. The public aspect of assertion is what prevents us from that.

It was probably Peirce’s work on the Existential Graphs begun in 1896 which gave him the idea that such public acts necessarily involve concrete *tokens* or *replicas* of the propositions involved, different from the same propositions considered as types, as general, repeatable signs. It was this insight which gave rise, during the elaboration of the *Syllabus* in 1903, to the adoption of a new sign trichotomy, that of *qualisign-sinsign-legisign* (later: *tone-token-type*) with its important distinction between concrete, individual, actual occurrences of a sign, and the same sign understood as a general rule for the articulation of such occurrences. An assertion, thus, can only be undertaken by the *utterance* of a particular token of the proposition asserted at a particular time and place. In the context of the Existential Graph, this became evident in the principle that the very act of *scribing* the sign token on the sheet is equivalent to asserting it (hence the name of the sheet: “the sheet of assertion”): “The graphist may place replicas of graphs upon the sheet of assertion; but this act, called *scribing* a graph on the sheet of assertion, shall be understood to constitute the assertion of the truth of the graph scribed. (Since by 395 the conventions are only "supposed to be" agreed to, the assertions are mere pretence in studying logic. Still they may be regarded as actual assertions concerning a fictitious universe.) "Assertion" is not defined; but it is supposed to be permitted to scribe some graphs and not others.” (“Syllabus”, 1903, CP 4.397). This is a specific convention of Peirce’s EG rule system, but it is chosen because it is informed by the general regularity that an assertion only assumes its contractual responsibility by actually being uttered in a concrete act of enunciation. In legal terms, it has been known since antiquity that a law becomes a law only when it is stated publicly (“Leges instituuntur cum promulgantur” – the Catholic Church’s rule for the validity of Canon Law: Laws are made valid by being announced, that is, publicly asserted). In conformity with Peirce’s generalization of propositions to potentially multimodal “dicisigns” in the same text (the “Syllabus”), such utterances need not use linguistic means of expression. Utterance here is taken in a more generalized sense: ”By “*Uttering*” I mean putting forth, whether audibly or visibly or otherwise any sort of sign. For instance, I should say that the master of a ship who should cause signal flags to be hoisted “Uttered” that combination of flags.” (“The Rationale of Reasoning”, 1910.11.25, MS [R] 664, 7)

*Assertion as persuasion*

We already touched upon a third theory of assertion, defining it by its *purpose* (which, to Peirce is the proper way of defining, if possible, natural kinds): that of making evident what the speaker claims to believe, with the intention of persuading an interpreter. Assertion in itself provides no logical ground for accepting the proposition (that would require an argument) which is the reason behind the close tie of assertion to the responsibility and reputation of the utterer. Having a strong reputation may help convincing the interpreter to actually believe that the asserted proposition stands in the claimed relation to its object as a guarantee for its truth.

In the taxonomy of the propositional field which Peirce undertakes in the compact initiation of the 1902-03 developments in “Kaina Stoicheia” (1901?), assertion is now called “affirmation”: “An *affirmation* is an act of an utterer of a proposition to an interpreter, and consists, in the first place, in the deliberate exercise, in uttering the proposition, of a force tending to determine a belief in it in the mind of the interpreter. Perhaps that is a sufficient definition of it; but it involves also a voluntary self-subjection to penalties in the event of the interpreter’s mind (and still more the general mind of society) subsequently becoming decidedly determined to the belief at once in the falsity of the proposition and in the additional proposition that the utterer believed the proposition to be false at the time he uttered it.” (EP 2.312-13) Here, persuasion (determining the belief of the interpreter) may even count as a *sufficient* definition, so that the whole complex of public responsibility is taken to follow from that definition: assuming responsibility for the truth of the assertion is a prerequisite for persuading anybody to believe in it. There are other means of persuasion, of course, both more implicit or non-logical by means of association, flattering, threats, etc. as well as more explicit and more logical means of full arguments making their conclusion explicit; assertion being itself explicit but still non-inferential requires that the asserter enjoys an untarnished reputation. That is why the persuasion definition may appear as *the* definition of assertion: “… a sign which belongs to a conventional system of possible signs, and which is intended and calculated to produce a belief in the mind to which it is addressed is an *assertion*.” (“The Fourth Curiosity”, 1907, MS [R] 200:91)

Thus, three different theories of assertion can be found in the mature Peirce from around the turn of the century: assertion as a special self-reference of the proposition sign; assertion as a public utterance assuming responsibility for the truth of the proposition; and assertion as an utterance intended to convince an interpreter of the truth of the proposition. Oftentimes, only one of the three theories is addressed when discussing assertions. It does not mean, however, that they form three competing explanations. Rather they are developed in detail in the very same fertile period of 1901-04, and they seem to form a series of presuppositions: persuasion as the final aim of assertion presupposes the assumption of responsibility by the utterer which, in turn, presupposes the proposition sign’s self-referential structure as potential indexical truth grant. Read in the opposite direction: the existence of self-referential proposition signs does not entail that anybody actually takes responsibility and asserts them, and even if they are indeed so asserted, this is no guarantee that anybody will actually be persuaded.

*The role of conscious deliberation*

*Belief* is defined as an action habit in the field of thought. As such, it is connected to the concepts of *judgment* and *assent* as individual acts manifesting or changing belief. Assertion, by contrast, as an explicit, deliberate act of persuasion, is inherently social and public. As such, assertion forms the indispensable building-block in the *spreading* of belief, in social settings of everyday life as well as in the special case of more controlled belief-adoption of the scientific cross-generational community on its trajectory converging towards truth in the limit. In this connection between belief and assertion lie some interesting issues: assertion is a deliberate act, but to what degree is the belief which it communicates the object of deliberate, conscious decision? How do scientific beliefs and assertions differ from everyday beliefs and assertions? And what is exactly the scope of claims covered by the assertion’s assumption of responsibility?

In the original, pragmatist definition of belief 1878, as we saw, belief was subject to *awareness*, manifested by a feeling of which content ideas – subject and predicate – it combines. In Peirce’s subsequent evolution, however, again and again he vacillates with respect to which degree of awareness or consciousness of beliefs is really possible.[[9]](#endnote-9) This comes from the fact that belief is a subspecies of habit, which means that a belief is not an action *hic et nunc*, but a general law or tendency over a prolonged stretch of time during which it may give rise to any number of concrete acts. And there is no guarantee that the individual possesses conscious access to his or her own habits. This obviously clashes with another important standard: Peirce’s increasing insistence that the act of logical inference must be subject to conscious, deliberate self-control in order to count as real reasoning. Habits are overwhelmingly unconscious; reason must be conscious. In exactly the same period of Peirce’s mature theory of assertion, he develops the idea that human beings are characterized by five or six levels of self-control, the higher levels controlling the lower ones, and that the function of consciousness is to make higher levels of self-control efficient.[[10]](#endnote-10) The type of self-control associated with consciousness, then, is deliberate control of reasoning. But if belief and change of belief are *not* so subject to self-control, the adoption of beliefs could not count as reasoning, and belief would be cut off from the possibility of attaining scientific status. Peirce never explicitly expresses this problem in such terms, but he does make attempts to solve it: “A *belief* in a proposition is a controlled and contented habit of acting in ways that will be productive of desired results only if the proposition is true. (…) A *judgment* is a mental act deliberately exercising a force tending to determine in the mind of the agent a belief in the proposition; to which should perhaps be added that the agent must be aware of his being liable to inconvenience in the event of the proposition’s proving false in any practical aspect.” (“Kaina Stoicheia”, 1901?, EP 2:312-13). Here, the responsibility part of assertion is included in what must be covered by awareness. More generally, the notion of *judgment* is taken to be the deliberate mental act of attempting to form a *belief* in a proposition. It follows that no act of deliberate will can unilaterally shape habit or belief. It may *tend* to do so, but that is all. Earlier, we saw an attempt to make *judgment* the becoming-aware or making explicit of a belief. But it remains contentious whether or to what extent human beings can really make explicit what they believe: “Belief does not principally consist in any particular act of thought, but in a *habit* of thought and a conduct. A man does not necessarily believe what he thinks he believes. He only believes what he deliberately adopts and is ready to make a habit of conduct.” (“ Sketch of Dichotomic Mathematics”, 1904, NEM 4:297-8). Persons do not necessarily believe what they themselves think they believe. This pessimistic claim stands in a strange tension with the next claim: that they only believe what they deliberately decide as a habit of conduct. The former claims there is a distance between believed belief and real belief; the latter that this distance may be, nonetheless, overcome by deliberate action. This may sound like a sort of almost desperate decisionism, far from logical self-control. In this light, the actions of assertion and assent are indeed deliberate, but not necessarily subject to meticulous self-control. The problem is related to Peirce’s pessimist suspicion that the amount of logical reasoning in everyday life is really pretty small:

“Of excessively simple reasonings a great deal is done which is unexceptionable. But leaving them out of account, the amount of logical reasoning that men perform is small, much smaller than is commonly supposed. It is really instinct that procures the bulk of our knowledge; and those excessively simple reasonings which conform to the requirements of logic are, as a matter of fact, mostly performed instinctively or irreflectively.

Reasoning, properly speaking, cannot be unconsciously performed. A mental operation may be precisely like reasoning in every other respect except that it is performed unconsciously. But that one circumstance will deprive it of the title of reasoning. For reasoning is deliberate, voluntary, critical, controlled, all of which it can only be if it is done consciously.” (“A Classification of the Sciences”, 1903, CP 2.181-2).

Here, the vast majority of knowledge is instinctive and beyond the reach of conscious, logical self-control. The same must hold for the vast majority of assertions giving public voice to such knowledge. Here, the optimism inherent in Peirce’s enlightenment vision of the scientific community approaching truth in the limit is close to vanishing. It seems to be in order to prevent such a consequence that Peirce considerably delimits what it takes to be conscious of a piece of reasoning:

“This does not imply that we must be aware of the whole process of the mind in reasoning or, indeed, of any portion of it. It is very desirable to have a clear apprehension of this distinction. We are, so to speak, responsible for the correctness of our reasonings. That is to say, unless we deliberately approve of them as rational, they cannot properly be called reasonings. But for this purpose, all that is necessary is that we should, in each case, compare premisses and conclusion, and observe that the relation between the facts expressed in the premisses involves the relation between facts implied in our confidence in the conclusion. What we call a reasoning is something upon which we place a stamp of rational approval. In order to do that, we must know what the reasoning is. In that sense, it must be a conscious act, just as a man is not bound by a contract if it can be proved that he signed it in his sleep. It must be his conscious act and deed. But for that purpose he only needs to know the character of the relation between the premisses and the conclusion. He need not know precisely what operations the mind went through in passing from the one to the other. That is a matter of detail which is not essential to his responsibility. The mind is like the conveyancer who has drawn up a deed. What books he looked into in choosing his

verbiage is no concern of the person who signs, provided he knows what the paper binds him to doing.” (Op. cit. 2.183)

Peirce compares reasoning to a contract – cf. his description of the responsibility inherent in an assertion as a contract. In order to understand a contract, one must understand its logical *structure:*  what it compels one to do, if the other party fulfils its requirements. One does not have to remember the exact wording of this logical structure. That is, one has to know the relation between premises and conclusion but one has no need to have conscious awareness of the detail of psychological processes resulting in that knowledge. This forms a sort of subtle compromise between the unconscious character of most beliefs on the one hand and the subset of logically controlled reasonings on the other. This compromise also entails that one may logically develop the conscious parts of a belief by elaborating on further consequences in the imagination: Beliefs – contrary to other habits – permit of exercising such future acts in fantasy, finetuning eventual, potential action if it once should occur in a situation. Such working on imaginary diagrams of possible future activity permits the extension of awareness of the logical structures of belief, sometimes changing those structures in new habit-taking –  even with no guarantee of ever articulating and criticizing the whole of belief which remains instinctual.

But then what about the decisionist influence on those acts which are the ultimate ends of beliefs? “By a *categorical resolution* I mean a representation to oneself that one will behave in a certain general way in a certain expected contingency, this representation being received with satisfaction, being rehearsed with pleasure, and perhaps exciting a special effort to learn it as a lesson. The purpose toward the accomplishment of which the action tends is taken for granted.” (“Pragmatism”, Prag [R], 1905, CP 5.517 n). A ”categorical resolution” – sometimes also called a ”resolve” – is the firm decision to adopt a particular action habit in the future. Here, there is no control with the logicality of the relevant belief. This, of course, involves the possibility for the ongoing logical control of them. In the quote, Peirce describes a successful case of “categorical resolve” but it goes without saying that far from all such resolves necessarily succeed – think of the fate of most “New Years Resolutions”. The activity through which one attempts to force oneself to adopt the assent or resolve of a belief is described by Peirce as the person uttering an assertion in the internal dialogue with him- or herself: *I says to myself*: “Do we not all perceive that *judgment* is something closely allied to *assertion*? That is the view that ordinary speech entertains. A man or woman will be heard to use the phrase, "I says to myself." That is, *judgment* is held to be either no more than an *assertion to oneself* or at any rate something very like that.” (“ Harvard Lectures on Pragmatism: Lecture I”,  1903, PPM 116-117; CP 5.29-31). So, assertion is the vehicle for the person’s attempt to persuade not only other persons to adopt a particular habit, but also to persuade him- or herself to the same. Thus, the result of this tension between instinctual belief and self-controlled reason is a role of assertion far away from a naïve, immediate theory of assertion as the expression of belief. It is rather the opposite: assertion as a means to attempt to induce or even change belief, in others as in oneself.

*Everyday and scientific assertions*

This tension between belief and reason is also behind a surprising distinction between colloquial and scientific assertions: “Hence, I hold that what is properly and usually called *belief*, that is, the adoption of a proposition as a {ktéma es aei} [that is, a precious or invaluable piece of property, fs] to use the energetic phrase of Doctor Carus, has no place in science at all. We *believe* the proposition we are ready to act upon. *Full belief* is willingness to act upon the proposition in vital crises, *opinion* is willingness to act upon it in relatively insignificant affairs. But pure science has nothing at all to do with *action*. The propositions it accepts, it merely writes in the list of premisses it proposes to use. Nothing is *vital*for science; nothing can be. Its accepted propositions, therefore, are but opinions at most; and the whole list is provisional. The scientific man is not in the least wedded to his conclusions.” (“Cambridge Lectures on Reasoning and the Logic of Things: Philosophy and the Conduct of Life”, 1898 CP 1.635). In the pragmatism papers of 1878, it was implicitly understood that the analysis of the third degree of conceptual clarity held for all beliefs, scientific or not – and that the adoption of the principle might aid the clarification of concepts particularly in the scientific field. That principle is completely given up here: the pragmatic maxim is all but deemed irrelevant to science because the purpose of science is tentative understanding, not action. But would that imply that the scientist does not make judgments and does not assent to his or her conclusions, that the scientist’s presentation of results makes no use of assertions? It is a very weak portrayal of science Peirce gives here, even given the constraints of fallibilism: science is but a bundle of preliminary opinions. The quote is from the mid-1890s, arguably a period in which Peirce comes closer than ever to psychologism and skepticism, but which he resolutely leaves in the next years:

“But in science instinct can play but a secondary *rôle*. The reason of this is that our instincts are adapted to the continuance of the race and thus to individual life. But science has an indefinite future before it; and what it aims at is to gain the greatest possible advance in knowledge in five centuries or ten. Instinct not being adapted to this purpose, the methods of science must be artificial. As Professor Trowbridge hints, pure science has nothing to do with *belief*. What I *believe* is what I am prepared to go on today. Imagine a general besieging a city. He sits in his tent at night preparing the details of his plan of action for the morrow. He finds that what his orders ought to be and perhaps the whole fate of his army depend upon a certain question of topography concerning which he is in need of information. He sends for his best engineer officer, – a highly scientific man, – and asks how he is to ascertain the fact in question. The officer replies, “There is only one possible way of ascertaining that. So and so must be done.” “How long will that take?” “Two or three months.” The general dismisses the man of science, – as Napoleon dismissed Laplace, – and sends for another officer, not half so scientific, but good at guessing. What this officer shall say, the general will go by. He will adopt it as his belief.” (“Telepathy”, 1903, CP 7.606).

Here, the tension between ordinary, individual belief on the one hand and collective science is maintained, but the analysis of the difference differs. Science is systematically critical against belief and instinct, because their *purpose* differs: theirs is that of the survival of the individual, that of science is the advance of collective knowledge in the limit. The sneaking skepticism of the former quote has vanished: now the difference is due to different purposes, to different future action of the assertions in everyday belief and in those of science.

*The scope of assertive responsibility*

The vast difference of the temporal horizons of instinctive belief and of the scientific endeavor is related to an unaddressed issue in the responsibility definition of assertions: how *wide* is the scope of the responsibility one undertakes when uttering an assertion? Is it the literal truth of the claim of the asserted, or does it also comprise some or even all of its implications? If I claim that Brutus killed Caesar, it would seem strange if I refused thereby to have also assumed responsibility of the claim that Caesar was killed by Brutus. But if I claim the elementary axioms of arithmetic, do I thereby also assume responsibility for all theorems which may now, and in an indefinite future, be derived from them? Peirce actually picks that Hilbertian example: "There is but one conclusion of any consequence to be drawn by ordinary syllogism from given premisses. Hence, it is that we fall into the habit of talking of *the* conclusion. But in the logic of relatives there are conclusions of different orders, depending upon how much iteration takes place. What is the conclusion deducible from the very simple first principles of number? It is ridiculous to speak of *the* conclusion. The conclusion is no less than the aggregate of all the theorems of higher arithmetic that have been discovered or that ever will be discovered." ("Detached Ideas, The First Rule of Logic", 1898: CP 5.579). The upshot of both the logic of relations and the axiomatic method in mathematics is that there is no such thing as *the* conclusion of most propositions. Most often, there are several, even many, even an indefinite number of possible inferences to be drawn from an assertion. Which among these are covered by the utterer’s responsibility? The issue is connected to the classic conundrum of “logical omniscience”: why is it that a person knowing something, and knowing the rules of elementary logic, can be (and most often is) unaware about the consequences of his or her own knowledge?

This question receives an answer from one of the main developments of Peirce’s eighth and final period in Bellucci’s enumeration of the phases of his semiotics, namely the distinction between types of “interpretant”, that is, of meaning of a sign. That distinction comes from Peirce’s correspondence with Lady Welby:

“A little book by Lady Victoria Welby has lately appeared, entitled "What is Meaning." The book has sundry merits, among them that of showing that there are three modes of meaning. But the best feature of it is that it presses home the question "What is Meaning." A word has meaning for us in so far as we are able to make use of it in communicating our knowledge to others and in getting at the knowledge that these others seek to communicate to us. That is the lowest grade of meaning. The meaning of a word is more fully the sum total of all the conditional predictions which the person who uses it intends to make himself responsible for or intends to deny. That conscious or quasi-conscious intention in using the word is the second grade of meaning. But besides the consequences to which the person who accepts a word knowingly commits himself to, there is a vast ocean of unforeseen consequences which the acceptance of the word is destined to bring about, not merely consequences of knowing but perhaps revolutions of society. One cannot tell what power there may be in a word or a phrase to change the face of the world; and the sum of these consequences makes up the third grade of meaning.” (“What Makes a Reasoning Sound?” Nov. 23. 1903, CP 8.176)

Welby’s triad of meanings becomes, in Peirce’s interpretation, one of the first versions of what later became the distinction between the initial, the dynamic and the final interpretant. Here, the first grade of meaning of an expression is its ability to communicate a piece of knowledge. The second grade is those implications of the assertion which the person intends to be held responsible for. And the third is the total sum of the maybe infinite number of consequences the assertion would have in the limit. Here, a possible solution to the scope of responsibility is outlined: the utterer of an assertion is responsible for all predictions of it, which that person *intends*: “A Proposition is nearly the same as an “Assertion.” The distinction which I use the two words to mark is that an Assertion includes no more than it is the intention of the Utterer to declare, while the Proposition includes all that he does declare, which is inevitably considerably more than he intends.” (“The Rationale of Reasoning”, 1910.11.25, MS [R] 664:8). Here, Lady Welby’s second and third levels are used to distinguish the contents of an assertion and the corresponding proposition, a bit like Gricean speaker’s meaning vs sentence meaning. The former, as an utterance *hic et nunc*, is tied to the intention of the utterer, while the latter, as a general claim beyond particular situations, is not tied to any single utterance of it and potentially involves more than intended by the utterer. Such a solution may immediately sound tempting, until we realize that in the vast majority of cases, assertions do not make explicit what that intention is. It remains a psychological escape which an asserter in distress may cynically use by simply restricting his or her claim about which entailments were originally intended by the assertion. It is true that you may indeed often find such restriction attempts in the public sphere when an utterer is attacked for an assertion uttered, and the distinction is pertinent to the extent that it is correct there is a possible tension between implications realized by an utterer and the sum total of possible implications, cf. logical omniscience. The distinction, however, gives us no clear picture of what the responsibility of any particular assertion covers. Rather, the distinction opens the scope for unending quarrels between asserters and their interpreters where the latter may ascribe the former more encompassing intentions than the former are willing to admit. “I did not mean to imply that …”

This becomes evident if we compare Welby’s second meaning with Peirce’s later second interpretant, the ”dynamic interpretant” which is the sign’s effect in an actual situation, the meaning as actually understood by a particular interpreter. Understood as a dynamic interpretant, the second Welby meaning would not amount simply to the utterer’s intention, but rather to something like: *the intention of the utterer as understood by the interpreter.* This would make explicit the point that in contentious cases, the intention of how much assertive responsibility covers is exactly what utterer and interpreter may disagree about. It makes evident that the intention is not only for the utterer him- or herself to decide but is, in itself, a central part of dialogical negotiations between parties, both in friendly and in more inimical cases.

*Conclusion*

Peirce’s Theories of Assertion – combining the self-reference of proposition signs, the assumption of responsibility on part of the utterer, and the purpose of spreading belief in the proposition (to others or to him- or herself), forms an important link between Peirce’s philosophy of logic and his theory of science. It is intimately connected to his realism in both senses of the word: the independent existence of the objects of science, and the basis in reality of many general predicates.[[11]](#endnote-11) It is an important corollary, however, that one does not have to accept these metaphysical commitments in order to see that the theory may be put to pragmatic use in an important sense. The responsibility part of the theory claimed that asserting something is to assume responsibility for the claim’s truth, implying willingness to accept penalties in case the assertion proves false. By this definition, we can scrutinize the social field for where such penalties are actually practiced.[[12]](#endnote-12) When a journalist is sacked for not checking sources and publishing unwarranted claims, when an academic is relegated for having provided falsified evidence, when a draughtsman is threatened for claimed implications of a cartoon, and in many more cases, we see Peircean responsibility-for-assertion at work. The theory does not give us tools to settle such cases because they depend upon the facts referred to and the intended responsibility of the utterers, but it shows us why struggles over the truth of assertions are omnipresent in the public sphere of modern societies. In a period of infights over “fake news”, Peirce’s theories of assertions may give us a semiotic grasp of what is going on which differs radically from the truth nihilism of more conventionalist or constructivist semiotics. It is hard to remain a relativist if one does not want to dismiss the totality of such struggles over assertions as mere wars of raw power.

Literature

Bellucci, Francesco 2013 "Peirce's Continuous Predicates", *Transactions of the Charles S. Peirce Society,* vol. 49, no. 2, 178-202

– 2014 "Peirce and the Unity of the Proposition", *Transactions of the Charles S. Peirce Society,* vol. 50, no. 2: 201-219

– 2015 "Exploring Peirce's Speculative Grammar: The Immediate Object of a Sign", *Sign Systems Studies* 43(4), 399-415

2017: *Peirce's Speculative Grammar. Logic as Semiotics*, N.Y. and London: Routledge

Kant, Immanuel, 1784: „Was ist Aufklärung?“, *Berlinische Monatsschrift*, Vol. 4, 481–494; https://de.wikisource.org/wiki/Beantwortung\_der\_Frage:\_Was\_ist\_Aufklärung%3F

Murphey, Murray (1961) *The Development of Peirce's Philosophy*, Harvard Mass: Cambridge UP

Peirce, C. 1977 *Semiotic & Significs: The Correspondence Between Charles S. Peirce & Victoria Lady Welby* (eds. [Charles S. Hardwick](https://www.amazon.com/s/ref=dp_byline_sr_book_1?ie=UTF8&field-author=Charles+S.+Hardwick&text=Charles+S.+Hardwick&sort=relevancerank&search-alias=books) and [James Cook](https://www.amazon.com/s/ref=dp_byline_sr_book_2?ie=UTF8&field-author=James+Cook&text=James+Cook&sort=relevancerank&search-alias=books)), Bloomington: Indiana University Press

– 1982ff. *Writings* vols. I-IV; VIII, Bloomington: Indiana University Press

– 1992 *The Essential Peirce*, vol. I (1867-1893) (referred to as EPI)

(eds. N. Houser and C. Kloesel), Bloomington: Indiana University Press

–1998. *Collected Papers* [CP, references given by volume and paragraph numbers], I-VIII, (ed. (ed. Hartshorne and Weiss; Burks) London: Thoemmes Press (1931-58)

– 1998a *The Essential Peirce* , vol. II (1893-1913) (referred to as EPII)

(eds. N. Houser and C. Kloesel), Bloomington: Indiana University Press

-2020 *Selected Writings on Semiotics 1894-1912* (ed. F. Bellucci), Berlin/Boston: Gruyter Mouton

– Undated. Manuscripts at the Houghton Library referred to by Ms. numbers in the

Microfilm edition 1966 *The Charles S. Peirce Papers, Microfilm Edition, Thirty Reels*

*with Two Supplementary Reels Later Added.* Cambridge: Harvard University Library

Photographic Service (referred to as R), numbers simultaneously referring to the Richard Robin catalogue of the Mss. (1967, 1971). Some of the Mss. are dated by Peirce, others not so.

Stjernfelt, Frederik 2002 "Tractatus Hoffmeyerensis: Biosemiotics as Expressed in 22 Basic

Hypotheses", in *Sign Systems Studies*, vol. 30, no. 1, 337-345

– 2007 *Diagrammatology. An Investigation on the Borderlines of Phenomenology,*

*Ontology, and Semiotics*, Dordrecht etc.: Springer

–2012 “[The evolution of semiotic self-control](https://link.springer.com/chapter/10.1007/978-94-007-2336-8_3)”, in (eds. Deacon, T., Schilhab, T. and Stjernfelt, F.) *The Symbolic Species Evolved*, Dordrecht: Springer, 39-63

– 2014 *Natural Propositions: The Actuality of Peirce's Doctrine of Dicisigns*, Boston: Docent Press

– 2015a "Dicisigns", in *Synthese* 192 (4), 1019-1054

– 2015b "Iconicity of Logic - and the roots of the “iconicity” concept", in Hiraga, M. et

al. (eds.) Iconicity: East Meets West (Iconicity in Language and Literature), Amsterdam: John

Benjamins, 35-56

–2016 ”[Dicisigns and habits: Implicit propositions and habit-taking in Peirce’s pragmatism](https://vbn.aau.dk/da/publications/dicisigns-and-habits-implicit-propositions-and-habit-taking-in-pe)”, in Consensus on Peirce’s concept of Habit: Before and beyond consciousness. West, D. & Anderson, M. (red.). cham switzerland: [Springer](https://vbn.aau.dk/da/persons/frederik-axel-stjernfelt/publications/?page=1), 241-64

— 2018 “A Peirce for the 21st Century”, review of Bellucci, Peirce’s Speculative Grammar, in *Sign System Studies*, 46, 4, 590-616

– 2019a "The Identity of Sweet Molly Malone: Dicent Indexical Legisigns – a New

Element in the Periodic Table of Semiotics?", [*Transactions of the Charles S. Peirce Society.*](https://vbn.aau.dk/da/persons/frederik-axel-stjernfelt/publications/) 55, 2, 175-184

–2019b “Co-localization as the Syntax of Elementary Propositions: An Amazing Peircean Idea and Some Implications for the Semiotics of Truth”, in *Bloomsbury Companion to Contemporary Peircean Semiotics*, ed. Tony Jappy. London: Bloomsbury Academic.

­2021 “Peirce as a Truthmaker Realist: Propositional realism as backbone of Peircean metaphysics”, in *Blityri.* *Studi di storia delle idee sui segni e le lingue*, IX, 2, 123-36

1. CP 5.543; variant in MS [R] 599, 5: “An *assertion* is an act by which a person makes himself responsible for the truth of a proposition.” [↑](#endnote-ref-1)
2. It is a classic problem of picture theories of propositions like Russell’s or Wittgenstein’s how to account for false or mendacious propositions. It would not be wrong to call Peirce’s theory of propositions a picture theory, but it makes room for false propositions due to its distinction between the reference and signification of the proposition, and for lies with its distinction between assertion and assent. [↑](#endnote-ref-2)
3. Even far into his period of technically defining “assertion”, Peirce may still use the term in the non-technical way as a synonym of “proposition”, e.g. in ”On Logical Graphs”, 1903, CP 4.354 [↑](#endnote-ref-3)
4. In a parallel draft, Peirce expands the copula to include, more generally, the “asserting verb” (MS R 787, 1896) [↑](#endnote-ref-4)
5. This tripartition poses some problems, couched in the non-technical terms of “compulsion” and “occasion”. Is the triad simply identical with 1) subject, 2) predicate; 3) an early version of the immediate object? Or is it rather a new, illocutionary trichotomy so that 1) “the enforced idea” is the whole of the proposition; while 2) is the act of claiming the proposition in a certain situation, and 3) the situation-bound intention of the utterer? In the latter case, it is a new analysis of the pragmatics of asserting. [↑](#endnote-ref-5)
6. The weathercock-type example mentioned here would develop into the subtype of “informational index” (as opposed to non-informational indices) and “dicent indexical sinsign” (in the 1903 ten-signs system) in the development of the *Syllabus* a couple of years later. [↑](#endnote-ref-6)
7. The *Syllabus* Deduction of the Dicisign, see Stjernfelt 2014, ch. 3; Bellucci 2013, 2014 and 2017, ch. 7. [↑](#endnote-ref-7)
8. A further elaboration of the latter, see Stjernfelt 2019b [↑](#endnote-ref-8)
9. See Stjernfelt 2016 for a more detailed account of Peirce’s problems with awareness of habits. [↑](#endnote-ref-9)
10. Peirce’s notion of self-control, see Stjernfelt 2012, 2014, and 2016. [↑](#endnote-ref-10)
11. Cf. Stjernfelt 2021 [↑](#endnote-ref-11)
12. In Stjernfelt 2014 (ch.7), I use the definition in this way on a couple of examples to substantiate my claim that many multimodal expressions are actually asserted propositions which can be seen from the fact that severe penalties may befall those uttering them in case of falsity or fraud. [↑](#endnote-ref-12)