

## Applying Peirce in Tallinn and Helsinki

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Research in Charles Sanders Peirce's thought has grown rapidly both within and outside the arenas of semiotics and philosophy on the global level. Peirce's pioneering contributions to philosophy, pragmatism, logic, the theory of signs, methodology, philosophy and history of science and to numerous further fields are currently being explored not only in philosophy and semiotics but also in sciences and in art studies. The second instalment of the Applying Peirce conference, first held in Helsinki in June 2007 in conjunction with the 9th World Congress of Semiotics, was held in Tallinn and Helsinki on 21–23 April, 2014. The gathering brought together around 50 scholars and researchers to explore and discuss Peirce's thought and its applications in the diverse fields of contemporary academia.

The year 2014 marks the centenary of Peirce's death in Milford, Pennsylvania, on 19 April 1914. The second Applying Peirce conference was the only one celebrating the centennial as close to the actual date as possible. The official centennial celebration took place in mid-July 2014 in Lowell, Massachusetts. Other events commemorating the occasion have been held during 2014 at least in Italy, the Czech Republic and China.

The Second Applying Peirce was also rather special in that it took place in the twin cities of Tallinn and Helsinki – sometimes termed Talsinki though not Hellinn – connected by a two-hour ferry ride across the Gulf of Finland which is one of the most populated ferry routes in the world. The events of the first day were held at the Tallinn University of Technology, hosted by the Chair of Philosophy. On the morning of the second day, conference participants sailed across the gulf and enjoyed the continuation of sessions at the University of Helsinki, now hosted by the Peirce Research Centre and the Helsinki semiotics programme in the beautiful setting of the musicologists' lecture hall.

The programme consisted of four workshops and a nice selection of contributed papers. In total 36 presentations were delivered. The opening workshop was "Peirce and His Students", organized by Jean-Marie Chevalier and Amirouche Moktefi. The

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purpose was to assess the extent of relationships between Peirce and his pupils, students, collaborators, as well as successors and inheritors, together with the wider aims of establishing to what extent these notions themselves might call for historical and philosophical clarification when it comes to the legacies of great minds.

The opening paper “Second Metaphysical Club and its general significance to the development of American science” was by Ahti-Veikko Pietarinen. Now it has sometimes been claimed that, unlike many other classic thinkers, Charles Peirce had few or even no intellectual heirs. Although he held no permanent academic position in his entire life, Peirce led the Baltimore Metaphysical Club in 1879–1883 and instructed a famous circle of students of logic and philosophy at Johns Hopkins University during those years. He lectured throughout his life, developed correspondence courses and collaborated with a number of scientists. For example, it was his joint work with his student Joseph Jastrow that came to define what became the field of experimental psychology. A wealth of historical evidence abounds which testifies to the impact of the works and collaborations Peirce had during the Johns Hopkins era.

Furthermore, Peirce’s massive correspondence reveals that many were eager to learn from his tuition. He wrote long responses and designed the courses with attention to detail, even to that of teaching and pedagogy, although the delivery may not have been entirely successful on site. Thanks to the efforts of Ladd-Franklin and many other students of his, a Peircean school of logic may have been in the making already in his lifetime, naturally with lively debates on what such a new logic should look like. These and many other issues thus appear to invite a closer investigation of Peirce’s legacy as evidenced by his students, including John Dewey, Allan Marquand, Fabian Franklin, Christine Ladd-Franklin, Oscar Howard Mitchell, Benjamin Ives Gilman, Joseph Jastrow, Ellery W. Davis, Thorstein Veblen, Josiah Royce, Washington Irving Stringham and Henry Taber.

The workshop prompted questions such as: How do Peirce’s teachings show up in the careers of Dewey, James, and others? What was Peirce’s overall influence on his colleagues and collaborators? What was his own place in academia and those of his research groups? What was the impact of the Metaphysical Club on the development of science and philosophy? What was the nature of the Peircean lineage in logic? What, in fact, was Peirce’s real influence on Ramsey and on the Cambridge (UK) community? What was Welby’s significance in comparison to Peirce’s, and what was the real reception of pragmatism in Peirce’s own lifetime?

The day in Tallinn continued with lively sessions on semiotics and perception. At the Helsinki end, the day began with a workshop on theorematic reasoning, organized by Ahti-Veikko Pietarinen, with Frederik Stjernfelt as an invited speaker. Stjernfelt presented a new classification of theorematic reasoning types, published

and presented in detail in his new book *Natural Propositions* (Docent Press, 2014). Two more workshops were held during the second day: one on abduction organized by Sami Paavola and the other on Peirce and the social sciences organized by Mats Bergman. Lively discussions ensued. The contributed talks were grouped in the sessions on history of science and epistemology, and science and inquiry.

Two plenary talks were presented on the evening of the second day, one by Helmut Pape entitled “Compulsions, forces and assertions: Peirce on the semiotics of rhetorics” and the other by Jaakko Hintikka with the title “The place of Peirce in the history of logic”. According to Pape, Peirce’s rhetoric was a bouquet of conflicting conceptions ranging from truth-enhancing methods of research and representation (Peirce’s methodeutic) to a general theory of conditions of understanding and communication (Peirce’s universal rhetoric). Pape argued that contrary to appearances, Peirce developed some of these approaches in more detail than has previously been recognized. Pape then presented a wealth of detailed rhetorical considerations that are present in semiotics, most importantly the dialogical one, which could also be termed the game-theoretical model of the meaning of assertions, albeit one in which the interaction should be seen as taking place in a cooperative mood.

Hintikka proceeded to argue that Peirce’s work is relevant to the future of logical theory in several different respects. He began by presenting the celebrated question: Is there a curtain between language and the world (‘language as a universal medium’, a view that used to be predominant in the past), or is language a tool for representation (‘language as calculus’, or the model-theoretic view, which emerged much later)? Hintikka noted how Peirce’s logic is grounded on important semiotic and semantic views, of which Tarski, having held a certain static view on semantics, did not manage to say nearly everything there is to be said. Peirce’s pictorial view, his view on the dynamic nature of the language-world relations, is created and maintained by human institutions, stated Hintikka, and mentioned how Peirce’s logic of quantifiers was an explicitly game-theoretic one in which quantifiers do not simply ‘range over’ the objects in the universe of discourse: through their formal dependencies they express the actual dependencies of their variables on each other. He then identified a dramatic development in the history of logic, namely that Frege did not understand the all-important dependence-indication of quantifiers, and so what came to be regarded as proper first-order logic is seriously flawed. Hintikka noted that another correction also is needed: Peirce was aware of the basic problematic concerning the role of quantifiers in a logical theory, though he did not spell it out fully. In a striking contrast to Frege, whose logic was not fully adequate to account for the reasoning as exhibited in the mathematics of his time, Peirce even managed to correct errors that some mathematicians were led to in the light of the analysis that the dependence-indication of quantifiers can bring out. According to Hintikka, logic calls for

experimentation on different kinds of structures and models, systematizing, among others, the study and analysis of thought experiments. He then pointed out the importance of icons in logical theorizing, such as the logic of existential graphs, and articulated the difference between the corollarial and theorematic reasoning in terms of how many individuals are needed in models: the reasoning is corollarial when there is no need for new individuals, while it is theorematic when new individuals need to be introduced. This was what Peirce called his “first real discovery in logic”. Hintikka also mentioned connections of these topics with the theory of computation, such as the length of proofs and the P vs. NP problem. What makes reasoning non-trivial thus affects the status of decision problems, among others.

Many more papers of vital importance were presented in nine different sessions which cannot even briefly be described in a short report. In summary, the conference explored the manifold applicability of Peirce’s thought to current questions and problems in various disciplines across the sciences and the arts. The aims of the meeting, namely to identify where some of the leading edge on Peirce studies in connection to fields in sciences and arts is to be found, were largely met. Those fields include the areas of history of science; mathematics, logic & diagrams; abductive reasoning; communication & rhetoric; cognitive & computing sciences; linguistics, pragmatics & semiotics; fine arts & design; physics, biology, & geology; psychology, economics & sociology; and anthropology & archaeology, all covered in one way or another during the three days of intensive talks.

The Applying Peirce conference testified that Peirce’s thought is very much in touch with living science, representing a *field of research* and not, as Max Fisch and Nicholas Rescher have aptly formulated, “the strife of systems”. The end-of-the-day discussions during the much-due reception time were facilitated by the three types of Peirce wines that Helmut Pape’s Vinosofia produced in Bamberg, Germany, savoured with the three types of Roquefort cheese (Peirce’s own favourite brand of cheese) selected and flown over from France by Peirce experts for this sole purpose.

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