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2 **69 Science as a Communicative Mode** 3 **of Life**

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6 I do not call the solitary studies of a single man a science. It is only when a group of
7 men, more or less in intercommunication, are aiding and stimulating one another by their
8 understanding of a particular group of studies as outsiders cannot understand them, that I
9 call their life a science". (MS 1334: 12–13, 1905).

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12 This beautiful quotation from Charles S. Peirce comes from his "Lecture I to the
13 Adirondack Summer School 1905" and was catalogued as MS 1334 (Robin 1967).
14 In 1986 Kenneth L. Ketner chose fifteen pages (7–22) of the *Notebook I* of these
15 lectures to represent Peirce's conception of science in the volume *Classical*
16 *American Philosophy* (Stuhr 1987: 46–48). "The Nature of Science" was the
17 appropriate title assigned to that selection, which up to then had been almost
18 unknown to the majority of Peirce scholars. Sara Barrena translated the piece
19 into Spanish in 1996 (Barrena 1996: 1435–1440) and we chose the quotation
20 above as the motto for our then incipient group of Peirce scholars in the Spanish-
21 speaking world because it so finely expressed the aim of our undertaking. Against
22 the traditional image of the philosopher as a solitary thinker near the stove,
23 we wanted, following Peirce, to encourage cooperation and communication
24 between our researchers not only as something useful, but as something *essen-*
25 *tial* for the real development of science.

26 The circumstances of these Adirondack Summer School Lectures have been
27 studied with attention by Edison Torres (2015). In 1905 Charles S. Peirce and his
28 wife Juliette were in a desperate economic situation (Brent 1998: 324). Peirce
29 learned that William James had been invited to Glenmore School in the Adiron-
30 dack region and he tried to get also an invitation for himself as well. The idea
31 was to deliver four lectures in a week, as Peirce explains in the opening para-
32 graph of the *Notebook*. Regretfully, the whole project failed since the school
33 promoted by Thomas Davidson in 1890 could only afford to pay the lodging
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1 expenses, but could not provide honoraries for the trip.³ Two notebooks of this
2 planned course have survived covering a total of 60 pages.⁴

3 Although Peirce was a philosopher and a logician, he was first and foremost
4 a real practitioner of science. Not only was he trained as a chemist at Harvard,
5 but for thirty years (1861–91) he worked regularly and strenuously for the U.S.
6 Coast Survey as a metrologist and as an observer in astronomy and geodesy.
7 His reports to the Coast Survey are an outstanding testimony to his personal
8 experience in the hard work of measuring and obtaining empirical evidence. A
9 glance at his official reports to the Coast Survey or at the *Photometric Researches*
10 he produced in the years 1872–75 immediately confirms the impression of a man
11 involved in solid scientific work (W3: 382–493). As Max Fisch points out, “Peirce
12 was not merely a philosopher or a logician who had read up on science. He was
13 a full-fledged professional scientist, who carried into all his work the concerns of
14 the philosopher and logician” (W3: xxviii–xxix; see also Lenzen 1969).

15 Having done research in astronomy, mathematics, logic and philosophy and
16 in the history of all these sciences, Peirce tried all his life to disclose the logic of
17 scientific inquiry. Peirce insisted that the popular image of science as something
18 finished and complete is totally opposed to what science really is, at least in its
19 original practical intent. What constitutes science “is not so much correct con-
20 clusions, as it is a correct method. But the method of science is itself a scientific
21 result. It did not spring out of the brain of a beginner: it was a historic attain-
22 ment and a scientific achievement” (CP 6.428). Science is for Peirce “a living
23 historic entity” (CP 1.44), “a living and growing body of truth” (CP 6.428), and
24 above all – as our quote stresses – a *communicative mode of live*.

25 The quote is taken from the heart of the first lecture, when Peirce is dealing
26 with the issue of the classification of the sciences. Although Peirce supported
27 Auguste Comte’s view of each science as a historical development, he disliked
28 Comte’s metaphor of sciences forming “a sort of ladder descending into the
29 well of truth, each one leading on to another, those which are more concrete
30 and special drawing their principles from those which are more abstract and
31 general” (CP 2.119). Peirce preferred a *natural* classification of the sciences, that
32 is, one which embodies “the chief facts of relationships between the sciences so
33 far as they present themselves to scientific and observational study” (MS 1334).

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35 ³ There is a surviving letter from Stephen F. Weston, who ruled the school after Davidson’s
36 death in 1900, to C. S. Peirce about this course, from July 27, 1905 (L 465). Since William was
37 spending the summer in the area, the trip was not a problem for him. As William James writes
38 to Peirce “the cash would doubtfully cover your journey. Shed no tears for that!” (Letter August
39 1, 1905; Perry 1936: 436).

40 ⁴ The images of the pages of *Notebook I* are available at <<http://www.unav.es/gep/Adirondack1-30.pdf>> and <<http://www.unav.es/gep/Adirondack31-48.pdf>>

1 And Peirce continues asking himself and his projected audience, “What is
2 a science as a natural object?” His answer is essential for us: “It is the actual
3 living occupation of an actual group of living men”.⁵

4 To Peirce science is not ‘systematic knowledge’, but “the life devoted to the
5 pursuit of truth according to the best known methods on the part of a group of
6 men who understand one another’s ideas and works as no outsider can. It is not
7 what they have already found out which makes their business a science; it
8 is that they are pursuing a branch of truth according, I will not say, to the
9 best methods, but according to the best methods that are known at the time”
10 (MS 1334: 12). These words, which are located in the text just before our selected
11 quotation, emphasize that for Peirce science is above all “*a mode of life*”. As he
12 writes in another manuscript from 1902: “Science is to mean for us a mode of
13 life whose single animating purpose is to find out the real truth, which pursues
14 this purpose by a well-considered method, founded on thorough acquaintance
15 with such scientific results already ascertained by others as may be available,
16 and which seeks cooperation in the hope that the truth may be found, if not by
17 any of the actual inquirers, yet ultimately by those who come after them and
18 who shall make use of their results” (MS 1343: 6–7; also in CP 7.55).

19 Three essential elements may be highlighted in this account of science as a
20 mode of life: 1) Science is the methodical pursue of a branch of truth in the hope
21 that truth may be found; 2) Science is communicative and cooperative work on a
22 particular area; and 3) The fruit of working together is the establishment of an
23 affective community between researchers. Let us look at these elements in more
24 detail.

25 In the first place, science is always for Peirce a process of searching for the
26 truth: “The essence of truth lies in its resistance to being ignored” (CP 2.139). In
27 contrast to postmodern skepticism and relativism, Peirce’s defense of fallibilism
28 does not imply that there is no hope for acquiring sound knowledge, or that it is
29 not possible to reach the truth. Although in the short term the methods of
30 science may produce errors, in the long run they are successful: science is a
31 self-corrective research activity. To Peirce a question “has one answer decidedly
32 right, whatever people might think about it” (CP 2.135), and even error has a
33 positive effect in the journey towards the truth: “The idea of science is to pile
34 the ground before the foot of the outworks of truth with the carcasses of this
35 generation, and perhaps of others to come after it, until some future generation,
36 by treading on them, can storm the citadel” (CP 6.3; Haack 1996: 647). Peirce’s
37 fallibilism does not close the doors to truth, but on the contrary makes it possi-
38 ble to progress towards it. “If I am asked”, Peirce writes in another place, “to

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40 ⁵ Of course, today Peirce would have written “men and women”, instead of “men”.

1 what the wonderful success of modern science is due, I shall suggest that to
 2 gain the secret of that, it is necessary to consider science as living, and therefore
 3 not as knowledge already acquired but as the concrete life of the men who are
 4 working to find out the truth. Given a body of men devoting the sum of their
 5 energies to refuting their present errors, doing away with their present ignorance,
 6 and that not so much for themselves as for future generations, and all other
 7 requisites for the ascertainment of truth are insured by that one” (CP 750, n.d.).

8 In this sense, it should be said that, in the second place – as our quote
 9 stresses – scientists are always part of a community extended through space
 10 and time to which they contribute with their work: “I do not call the solitary
 11 studies of a single man a science. It is only when a group of men, more or less
 12 in intercommunication, are aiding and stimulating one another by their under-
 13 standing of a particular group of studies as outsiders cannot understand them,
 14 that I call their life a science” (MS 1334: 12–13). Each community of scientists
 15 grows up around specific ways of perceiving, certain special methods of research.
 16 Each science corresponds to a special kind of observation which distinguishes
 17 the mode of thought of the students of each special branch (CP 1.100). Scientists
 18 are “men who spend their lives in finding out similar kinds of truth about
 19 similar things understand what one another are about better than outsiders do.
 20 They are all familiar with words which others do not know the exact meaning
 21 of, they appreciate each other’s difficulties and consult one another about
 22 them. They love the same sort of things. They consort together and consider
 23 one another as brethren. They are said to pursue the same *branch* of science”
 24 (NEM 804–5).

25 Peirce’s personal experience as a scientist working for years in an interna-
 26 tional context in astronomy and geodesy is essential to his defense of science
 27 as a communicative and cooperative process: “Geodesy is the one science the
 28 successful prosecution of which absolutely depends upon international solidarity”
 29 (W4: 81). The key to the advancement of knowledge and to the development
 30 of the sciences is communication. Communication between the members of a
 31 scientific community is essential for scrutinizing the evidence and the results
 32 achieved in research. There is no algorithm – no routine or unfailing method –
 33 for discovering the truth or knowing for sure when you have it. Thus, truth and
 34 knowledge – at least in the hard sciences – are located at the level of the scien-
 35 tific community rather than the individual inquirer (Ransdell 1998: 10).

36 In the third place, Peirce clearly asserts that the scientific community, far
 37 from being an assembly or a parliament whose members fight each other with
 38 fierce arguments, should be more like a family. “A given science with a special
 39 name, a special journal, a special society, studying one group of facts, whose
 40 students understand one another in a general way and naturally associate

1 together, forms what I call a family” (CP 1.238). A scientific community is always –
 2 or at least should be, according to Peirce – an affective community of brothers.
 3 This image of a scientific community implies a peculiar mixture of interaction
 4 and differences, kept united by *agape* (Hausman 1998). Real communication is
 5 always a task of love: Truth is the goal of scientific inquiry and love is a distinc-
 6 tive feature of truth. In the words of Peirce: “The Law of Reason is the Law of
 7 Love”.⁶

10 Acknowledgements

12 We are grateful to the Spanish Ministry of Economy and Development for the
 13 support given to our project “Charles S. Peirce en Europa (1875–76): Comunidad
 14 científica y correspondencia” [FFI2011–24340FISO] in which this paper is inscribed.
 15 We are grateful also to Edison Torres and to Erik Norvelle for revising our draft.

38 ⁶ “Review of *Clark University, 1889–1899. Decennial Celebration*”, *Science* 11 (1900), 620;
 39 reprinted in P. P. Wiener, ed. (1966). *Charles S. Peirce: Selected Writings. (Values in a Universe*
 40 *of Chance)*, New York: Dover. 332.

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