

Trying to Understand History. Stephen Jay Gould: an Intellectual Biography

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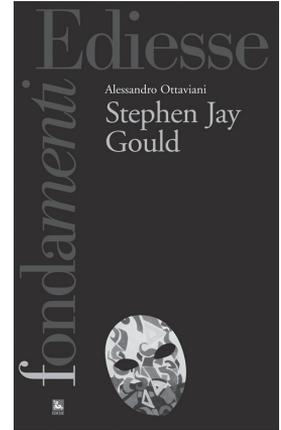
In French language there are two ways to translate the English word “scientist”: *scientifique* and *savant*. The former refers specifically to a person who specializes in a scientific field, namely in hard sciences, whereas the latter is less and less employed and even considered obsolete by hard scientists. Thus, one could believe that a scientist is nothing else but a *scientifique*, and the word *savant* would accordingly be conceived consistent with an ancient idea of science.

Stephen Jay Gould was a scientist in both senses of *scientifique* and *savant*. His life-long career serves as an example of what is a *savant*. Not only gave he a great contribution to paleontology — and in this sense he may be conceived as a *scientifique* — but he also thought over the nature of history as an epistemologist. He was a learned scientist, involved with philosophical and historical matters; indeed, was he a *savant*.

Alessandro Ottaviani¹ has recently published Stephen Jay Gould’s biography² in Italian. In this book, a great portrait emerges: Gould is considered in all his scientific complexity, according to his commitment to the comprehension of the evolutionary process, as to scientific vulgarization and to historicizing biological theories. In the author’s view, Gould’s interest in the history of ideas plays a methodological role: while he watches backwards to the roots of present concepts seeking for their history, he discovers the ideological nature of these ideas which have instead been spread as neutral. Thus, as an historian of ideas Gould is *radical* (from Latin *radix*, that is “root”); his attitude consists in understanding the context in which scientific concepts have first occurred in the past, in order to clarify the ideological meaning they carry in the present (p. 10).

Focusing on Gould’s popular writings — first published in the column *This view of Life* and then collected in several volumes — Ottaviani shows how influential have been Michel de Montaigne’s essays on the American *savant*. From the French philosopher, Gould learned his brilliant style dealing with communicating science to a large lay public (p. 12–13).

The author presents the American paleontologist’s research as the life-long work of a *man* — not only of a scientist. Ottaviani’s biography has the merit of setting the scientist’s ideas within the frame of the man’s interests and attitudes. In politics, Gould was a Marxist. This has several implications on scientific activity, and it is worthy to be considered. In *Mismeasure of Man* and in other writings, Gould refuses the racist drift implied by sociobiology and genetic determinism. The author seems to connect Gould’s political ideas to this conception of life phenomena and to his scientific contribution to biology. All Gould’s work represents



¹ PhD in Philosophy and History of Ideas, specializes in the Renaissance and in 19th century history of science.

² Ottaviani A. Stephen Jay Gould. Roma: Ediesse, 2012. 219 p.

a struggle against bad uses of science — that is, according to a fine epistemological level, against reductionism and, according to a sociological level, against racism (p. 52–54).

Among paleontologists, Gould is mainly known for his theory³ of the *punctuated equilibria*. He had been invited to a meeting about speciation and accepted to go — and to write a paper — but felt uncomfortable with that topic, thus he suggested his colleague Niles Eldredge to work together on that subject. Their meeting was of great insightfulness; their contribution consisted in advancing an image in order to describe the biological phenomenon of allopatric speciation, according to fossil evidence. Although this hypothesis seems to disagree with Darwinian gradualism, indeed explains it how new species actually occur. After a long stasis, punctuated events come to perturb it and new species arise. Thus, the fact that fossil documents do not show gradualism is not to be interpreted as a lack of paleontological information, but rather as normal — as an evidence which demands to be explained. And Gould and Eldredge did explain it with a great image.

Moreover, the author exploits Gould's critiques against adaptationism. Most biologists explain somatic or behavioral characters in term of adaptation, relying them to a function that is then conceived as prior in relation to the character itself. Gould suggests that not every character is adaptive⁴. Some functions are accomplished by pre-existing structures. This biological phenomenon needed a name, and Gould⁵ solved the problem calling it *ex-aptation*, that is the peculiar adaptation of a structure whose previous function was different.

Alessandro Ottaviani's biography is more than just a biography: it presents Gould's contribution to life sciences to a large public, focusing also on his epistemological insight.

³ Which he has worked out together with Niles Eldredge in 1972: *Eldredge N., Gould S.J.* Punctuated Equilibria: An Alternative to Phyletic Gradualism // *Models in Paleobiology* / ed. by T.J.M. Schopf. San Francisco: Freeman, Cooper & Co, 1972. P. 82–115.

⁴ *Gould S.J., Lewontin R.C.* The Sprendels of San Marco and the Panglossian Paradigm: A Critique of the Adaptationist Programme // *Proceedings of the Royal Society of London. Series B, Biological Sciences*. Vol. 205. № 1161. P. 581–598.

⁵ *Gould S.J., Vrba E.S.* Exaptation — A Missing Term in the Science of Form // *Paleobiology*. 1982. Vol. 8. № 1. P. 4–15.