

RECENSIONI



JÉRÔME FERRARI

Le Principe

Actes Sud, 2015

pp.176; 16.50 €

ISBN 978-2-330-04871-6

In this small book, Jérôme Ferrari, a successful French philosopher-writer (Prix Goncourt for "Le Sermon sur la Chute de Rome", Acte Sud, 2012) expounds, in his beautiful literary style, his fascination for one highly creative physicist of the first half of the 20th century, Werner Heisenberg, the co-discoverer of quantum mechanics. The author and his editor present this book as a "roman" (a novel). However the book is entirely constructed around real historical events and scientific personalities contemporaneous to Heisenberg. So it is definitely not a fiction novel, unless one sees fiction in the way Ferrari directly speaks to Heisenberg or rather to the inner image of the great scientist that he has constructed in his own mind. Knowledgeable readers are bound to recognize the historical facts and circumstances of the story with pleasure since, as Enrico Fermi quipped, "one should not underestimate someone's pleasure in hearing what he/she already knows". However I doubt that non-scientists or readers ignorant of Heisenberg's biographical circumstances will be able to make any sense of this novel. Personally, I've read the book with great interest as a scream of puzzlement, awe and desperation of a poet-writer expressing his anguish when confronted with the mystery of a world at once beautiful and tragic, such as the one faced by Heisenberg in his lifetime. The book begins with the uncertainty "principle" of quantum mechanics trying, somewhat awkwardly, to explain its physical meaning and philosophical implications, an arduous task still pursued today by physicists themselves ever since 1927. The book ends with Heisenberg's involvement in the tragedy of WWII as a failed nuclear armorer of the Nazis.

Ferrari has focused on one great creator of modern physics but he could have equally chosen anyone of several others such as

Einstein, Bohr, Dirac, Schrödinger (mentioned in the book), all revolutionary scientists of enormous creativity and at least as prestigious as Heisenberg. All facts recounted in the book have been assiduously collected by Ferrari along his readings in the vast literature on this particular physicist. He explains that he has been mainly inspired by Thomas Powers' "Heisenberg's War" (Jonathan Cape, 1993; translated into French as "Le Mystère Heisenberg", Albin Michel, 1993) and by Elisabeth Heisenberg's memoirs ("Inner Exile: Recollections of a Life with Werner Heisenberg", Birkhäuser, 1984). These two particular sources are classified by science historians into the "apologetic" category, namely that which describes Heisenberg's behavior under Hitler in a morally advantageous light. This may help explain Ferrari's tendency to somehow canonize his hero. The author has also read attentively The Farm Hall Transcripts ("Operation Epsilon, The Farm Hall Transcripts", Institute of Physics Publication, Bristol 1993; French translation by Vincent Fleury, Flammarion, Paris, 1994), the conversations of ten German nuclear scientists (including Heisenberg and Otto Hahn) interned at Farm Hall, England, and secretly recorded by the British from July 1945 to January 1946. He gives a partial but rather faithful description of the changing state of mind of the internees around the fateful day of Hiroshima. However Ferrari does not seem at all perturbed by the inconsistency of his ethereal hero and the real Heisenberg, realist, amoral and sometimes cynical, such as transpires from the Transcripts (for a personal analysis of the Transcripts, see "Bombe Atomique et Croix Gammée", Amand A. Lucas, Mémoires de la Classe des Sciences, Académie Royale de Belgique, Tome XXII, 1-119, 2005). Nor is there a single word in the book about Bohr's letters to Heisenberg

concerning their 1941 meeting in Copenhagen, a meeting otherwise mentioned by Ferrari. These letters released by the Niels Bohr Archive in 2002 (<http://www.nba.nbi.dk/release.html>), are incompatible with the lyrical prose of an author carried away by his fascination for an idol: the youthful Heisenberg, perched even higher than Newton on the shoulders of giants, "peers over the shoulders of God".

At the end of his book, Ferrari points an accusing finger towards the physicists who, with the creation of the atomic bomb and in Oppenheimer's biblical words, "have known sin". This is taking seriously the attitude of most researchers who, no less than artists or other creators, are so proud and so jealous of their discoveries that "they take even the credit for the crime". As a case in point, after Hiroshima, Hahn first threatened several times to commit suicide at Farm Hall, then enthusiastically accepted the Nobel prize for the discovery of fission, even demanding to be released from Farm Hall to go to Stockholm, and once liberated went on, for the rest of his life and against all evidence, denying vehemently any contribution to the discovery by his Berlin collaborator and Nazi refugee Lise Meitner (See Ruth Lewin Sime, "Lise Meitner, a Life in Physics", Univ. Ca Press, Berkeley, 1996).

It seems fashionable these days for humanist writers to elevate great scientists like Heisenberg to Olympic heights but dark times such as WWII reveal the ambiguity of their actions, just like that of ordinary people, the uncertainty in the interpretation of their attitudes and, above all the breath of human moral behavior.

Amand A. Lucas

University of Namur, Belgium

Member of the Royal Academy of Belgium