

BOOK REVIEW

## Gli esperimenti nelle scienze sociali

by Marina Rago. Franco Angeli, Milano, 2018. 258p. €30.00 paper.

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The advancements in scientific knowledge on natural reality are traditionally achieved through the use of the experimental method, the conceptual instrument conceived in the 1600s by Galileo Galilei. This methodology offers a rigorous answer to two main problems: the empirical acknowledgement of a causal relationship between two properties, as well as the achievement of the goal that this causal relationship is aiming at, which can be usually visualized by means of a Cartesian function.

Even today, the experimental method is applied to many fields of scientific knowledge, including those of human and social sciences. However, in these specific fields of knowledge the constitutive requirements of the classical experimental method are either violated or at least easily misinterpreted. This essential argument is carefully explained in some selected cases from different methodological branches by Marina Rago in her book titled ‘Gli esperimenti nelle scienze sociali’ (2018).

Almost all the arguments developed in this book stem from the work on the application (i.e. its possibilities and limits) of the classical experimental method in the human and social sciences, following the teachings of professor Marradi (2007, 2010). In his works, Marradi highlights how, due to some fundamental epistemological problems, the adoption of the classical experimental method within human sciences is not acceptable, and the implementation of an experiment on human beings is unfeasible, that is impossible to achieve. The main problem lies in the fact that the ‘objects’ investigated experimentally in the human and social sciences are bodily and rational entities in constant change, which are endowed with sensibility, suffering, fears, anxieties, impulses, needs, affections, weaknesses, habits, memory, desires, interests, hopes, creativity, will, inclination to imitate, doubts etc. That is to say that the ‘objects’ investigated experimentally in the human and social sciences are equipped with specific, changeable, and complex features that can be shaped through experience in every moment of the time flow. This is the main reason why these subjective characteristics define each psychic entity as impossible to be switched with another, even if they belong to the same species. The peculiar trait of the ‘non-fungibility’ makes it impossible to observe and to use animated objects and has inexorably influenced all the phases of an experiment carried out on a human being.

In the first part of Rago’s book, the reader can find some of the main intellectual contributions that help demolish the geocentric approach, which supports the acceptance of the Copernican map, thus making the experimental method the fundamental cognitive tool in natural knowledge: the crucial results of Galilei’s studies, and the enlightening promptings of Kepler and Newton. All these works have definitively led to the rejection of the old epistemological vision of Aristotle, considered inadequate to explain the phenomenology of the sensible world. Through a rational discussion, the main articulations of positivist, behaviorist, and neo-positivist approaches are exhibited.

In her book, Marina Rago introduces the assumptions of the classical experimental method and discusses the conceptual and methodological aspects that result to be factually problematic while conducting an experiment. According to the author, many researchers, who are ordinarily engaged in work contexts in which psychological, sociological, and political issues are investigated, have the tendency to set up and conduct investigations that are presented, disseminated, promoted and, very often, applauded. As a consequence, they are imitated and replicated, as successful experiments, although their works clearly violate one or more structural requirements of the classical experimental method. Moreover, their experiments, almost systematically, distort the methodological pillars, the procedural rules and the technical indications that should be respected in the practical and operative experimental environment. In order to discover the flaws of setting up and carrying out the experiments analyzed, so as to make the methodological critique even stronger, studying the book by Campbell and Stanley, titled 'Experimental and Quasi-Experimental Designs for Research' (1963), has been fundamental. In this book, indeed, there is a readable classification of the potential disturbing elements that could undermine the value of the causal imputation in any experimental research conducted for investigating human behavior.

In the central part of the book, we find a precious collection of empirical studies conducted, promoted, and handed down within the scientific community as successful experiments in the field of psychology, sociology, and political science. Among the various experiments that have been listed and analyzed in the field of psychological sciences, we can find the descriptions of two empirical cases that have gained particular attention and curiosity: the experiment by Watson and Rayner (1920) on the conditional phobia of their little son Albert, and the experiment by Asch (1951) on conformism expressed by a subject inserted in a cohesive group. Among the many, accurate descriptions proposed in the field of sociology, we can rediscover an old and interesting experiment by Mayo (1924) on the incidence of working conditions on the productivity of a textile industry. Finally, among the experiments described and analyzed in the field of political science, we can read about the works by Kraut and McConahay (1973) on the conditioning that an interview submitted to voters in their home before the elections may exercise on their voting behavior, and the experimental research by Gerber and Green (2000) on the effect of three types of propaganda (face-to-face, telephone, and postal) on electoral mobilization.

A documented and broad methodological critique of the collected experimental research is accurately presented in the following section of the book, where the reader can find a clear documentation of the conceptual, methodological, and technical violations, and a systematic exposition of the epistemological and methodological distortions that application of the classical experimental method entails in the human sciences.

Yet what are the main violations of the classical experimental method?

Primarily, according to the author, it often happens that the researcher, after stating the intention to carry out experimental research, proposes answers to several questions. This means that he adopts the experimental method to investigate a complex system of relations between properties/variables that influence each other in different combinations, rather than to control a mono-directional relationship between two properties, as the classic experimental method necessarily requires.

Secondly, in many experiments there is not a clear hypothesis to test, thus the empirical research may be considered a series of improvised practical operations. Therefore, the author points out that the researcher elaborates *ex post* some plausible interpretations of what he/she has been able to observe in the empirical context, obviously through an unpredictable succession of human interactions. Moreover, in some research, the artificiality of the situation and the context in which the experiment takes place is an important disturbing factor that can affect the determination of the experimental effect. Besides, the term 'artificiality' can be referred to the physical place (the environment) in which the experiment is conducted, to the scenic artifacts

used during the experiment, as they are either functional to the manipulation of the operational property or useful to give credibility to the treatment, to the role that the subject is induced to play during the experiment according to the screenplay elaborated by the 'experimental direction' of the researcher, etc.

In some experiments apparently set according to the logic of the assumption of invariance, there is no trace of the registration of the state that the experimental property assumes before the operational property is manipulated. During the execution of an experiment, it may even happen that some subjects included in the initial sample are replaced or they may abandon the context of the research. In these cases, there is a serious distortion of the empirical basis, that was composed of subjects characterized by properties used to make the manipulation, and consequently it is impossible to determine the experimental effect.

In conclusion, Rago's book is specifically targeted for social research methodology scholars and offers important insights on the limits of experimental methods that could prove useful for improving empirical work of academics in many different fields. The book provides a very useful assessment of a large collection of experiments conducted in three specific scientific fields, that is psychology, sociology, and political science, and offers a very interesting, solid and clear critique to each experimental design and its application procedure.

Rago states that the classical experimental method, although it constitutes an excellent apparatus for the empirical investigations in natural sciences, cannot be integrally transplanted and replicated in the human and social sciences, because in these fields of knowledge it loses many of its original qualities and acquires many epistemological and methodological complications.

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