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**Book Review**

**Santo Di Nuovo and Maria Sinatra (eds.) (2023). *How to Measure Mind: A Historical and Epistemological Approach to Psychological Assessment*. Göttingen: Hogrefe**

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At present, psychology has become a highly diverse field of scientific study and applied technology, whose pursuits are matched by greater heterogeneity among psychologists, who currently deal with a wide variety of objects of investigation and apply a vast array of methods. Nevertheless, the main purpose of its origins was more unified because it aimed at finding and developing methods to measure human mind (though also through the body). On this precise topic, there is still very little literature. The recent collective volume *How to measure mind*, edited by Santo Di Nuovo and Maria Sinatra, is conceived to fill this gap from a double perspective. Indeed, the several attempts made by psychologists starting from the nineteenth century to understand the nature of mind – the *fil rouge* of the volume – are treated both at the theoretical-epistemological level and in their empirical and practical aspects.

The volume begins with the chapter of Maria Sinatra on a much discussed but unresolved issue concerning the subject-object relationship, that is, how the self is at the same time both a subject and an object to itself, or: how the internal mental, cognising subject can fit itself as the external physical world, on which the subject's cognitive activity observes.

A central point when psychology was breaking away from philosophy to become an autonomous science, the subject-object relation has been crucial in philosophy, epistemology

and in other research areas. For instance, it has re-appeared in discussion of *functional tone* (von Uexküll), *equipment* (Heidegger), *affordance* (Gibson), and, more recently, *distributed cognition* (Hutchins), *extended mind* (Clark & Chalmers), etc. Thus, the first chapter helps expert and non-expert readers to better understand such relation since it takes an in-depth look at its origin contextualized in the methodology of the early experimentalists and in their connection/break with the philosophical background. On this path, Herz, Breguer, Donders, Du Bois-Reymond, Helmholtz, Fechner, etc. are investigated to show how they were able to convert mental processes into mathematical formulations, giving birth to psychological assessment.

Walther Moede's work is the focus of the second chapter by Horst Gundlach. The importance of this chapter lies in the fact that, despite being considered the founder of psychotechnics, Moede has been very little treated in literature on the history of psychology. Gundlach traces his research within the broader context of applied psychology of the first decades of the twentieth century clarifying some criticisms of his work as those of Danziger and comparing his conceptual issues and experimental methods with those of psychologists such as Hugo Münsterberg or Jean-Maurice Lahy. It is also interesting the citation of the various companies and associations born in the 1920s in Germany and devoted to work that marked the establishment of industrial psychology. Indeed, the instruments invented by Moede did not measure directly mind, but they concerned tasks requiring the coordination of manual movements or the driving of vehicles.

The third chapter by Luigi Traetta deals with the epistemological premises that allowed the foundation of the Wundtian laboratory of psychology. Although treated exhaustively by researchers such as Danziger or Brock, Traetta takes account of an aspect not sufficiently underlined: it concerns the programmatic lines and the methodological model developed in the laboratory that had strong roots in Comtian positivism and English empiricism, as well as in the Herbartian efforts to regenerate scientific investigation in Germany. Indeed, behind the project of making quantitative and quantifiable psychology, there were the position Wundt held in Zurich as a professor of Inductive philosophy, his interest in the logic, to the point of calling his journal dedicated to experimental psychology "Philosophical Studies". However, Traetta does not forgive to go to the source of such quantification of psychology, which is traceable in A. Quetelet's more known pioneering statistical methods based on extensive anthropometric research, as well as in the less known studies of C.C. Vogt, who suggested a relationship between intellectual development and skull size, and in those of J.-B.-M. Parchappe de Vinay, who «was convinced that the causes of mental illness could be localized and that a "mathematical tool" [...] instead of ambiguous phrenological examinations, would allow "doctors to solve

definitively the riddles of mental illness”» (pp. 50-51). The memory of these anthropometric means to scientifically understand human beings allows Traetta to compare Wundt’s laboratorial methods to Binet’s or Galton’s ones, making the chapter stand out in the panorama of the vast literature on Wundt.

The chapter by Santo Di Nuovo reviews the history of psychometric assessment, with reference to the psychological tests, from the early mental “reactive” devised by Galton and McKeen Cattell to the attempts to measure Mental Age and IQ by Binet and Simon in Europe and by Terman in the US. Criticism of these instruments and to the quantitative and ‘objective’ evaluation of intellectual abilities (e.g., Gould’s “The mismeasure of man”) and the sense of ‘measuring’ is discussed. Going beyond the limits of ‘objective’ psychometrics, qualitative and dynamic assessment modalities and the ‘criterial’ approaches are presented. The second part of the chapter deals with the ‘objective’ measurement of personality both through ‘inventories’ and ‘projective’ tests (e.g., Rorschach Inkblot, Thematic Apperception Test). The conclusions of the chapter try a synthesis about the main question: is a test an ‘objective’ evaluation tool? The history of psychometrics, and the epistemological reflection on it, confirm that it could be deceptive to conclude that the test is in any case an ‘objective’ tool that allows a diagnostic nomothetic classification, while useful clinical and idiographic knowledge can be obtained.

Chapter 5 by Herbert Fitzek discusses the question subjectivity and objectivity in psychology by connecting it to the difference between qualitative and quantitative methods in empirical research. To this purpose, the author analyses the key concept of self-observation, an umbrella term for a variety of methods related to first-order accounts of mental activity, i.e., introspection, and first-person reporting, and cultivated since the inception of psychology in various contexts, from scientific milieus to the everyday life of the literate classes. After mentioning Wundt’s usage of the term linked to the method of holding and attentively manipulating a memory image of a psychological process, Fitzek focuses on self-observation from a qualitative methodological perspective, particularly, from a psychoanalytic point of view. By doing so, he can show how self-observation, utilized in natural scientific experimentation, can also be applied in the case of the «states of mind», which provide a protective framework for the derivatives of unconscious tendencies» (p. 89). Hence, he considers psychoanalysis a kind of «experimental psychology of perception (in terms of self-observation)» (p. 90). The last paragraphs are devoted to the explanation of the role played by in-depth interviews in their relationship with self-observation in morphological psychology.

An expert in Machine Learning ad Robotics (Alessandro Di Nuovo) and a psychologist (Daniela Conti) explore in their chapter the new frontiers of psychometry, based on Artificial Intelligence.

“Computerized Adaptive Testing” allows the automatic adjustment of the procedure to the current state of knowledge and performance of the subject. This makes tests 'tailored' to specific subjects and therefore more appropriate and precise especially for extreme cases. Instead of the fixed thresholds of traditional tests, artificial networks can use "mobile thresholds" based on dynamic systems, fuzzy logic, or on classifications using mixture models.

Robotics can aid psychometric testing to implement 'dynamic' assessment methods, speed up assessments and increase the number of people evaluated, and optimize the standardization of testing.

The electronic assessment of cognitive skills allows the creation of “e-portfolios”, but specific guidelines for remote assessment should be followed to enhance the potentialities. Remote psychological assessment, widespread after pandemics, is not a 'surrogate' for traditional testing, but specific psychometric tools should be created and adequate experimentation is needed to confirm the characteristics of reliability and validity of these new tools.

The last chapter by Pierpaolo Limone deals with the passage «from subject to object and vice versa» put into an e-learning context. The historical-epistemological path of assessment evaluation procedures in education outlined by Limone allows readers to enter more easily into the *spirit* and the goals of the current learner-centered e-learning environments, which aim at adopting – following socioconstructivist and sociocultural approaches – authentic formative assessment activities.

In conclusion, the volume offers a mass of detailed information often omitted in the manuals of history of psychology, but useful (1) to give a look into the origins of psychology when the assessment process was a key concept to transform psychology into a scientific discipline, and (2) to be aware of its development in basic and applied psychology in order to better utilize the different methodologies.



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