

Eötvös Loránd Tudományegyetem  
Bölcsészettudományi Kar

Doktori Disszertáció

Measurement, Concepts, Sociology

Summary

Csatári Ferenc

**Filozófiatudományi Doktori Iskola**

Vezetője: Dr. Boros Gábor, DSc, egyetemi tanár

**Logika és Tudományfilozófia Program**

Vezetője: Dr. E. Szabó László, DSc, egyetemi tanár

**A bizottság tagjai**

Elnök: Dr. Bodnár István CSc, egyetemi tanár

Bírálok: Dr. Máté András CSc, egyetemi docens

Dr. Szabó Gábor PhD, tudományos főmunkatárs

Tagok: Dr. Ambrus Gergely PhD, habilitált egyetemi adjunktus

Dr. Gyenis Balázs PhD, tudományos munkatárs

Póttagok: Dr. Mekis Péter PhD, egyetemi adjunktus

Dr. Gyenis Zalán PhD

**Témavezető:** Dr. E. Szabó László, DSc, egyetemi tanár

2016

In my thesis I provided a detailed conceptual analysis of measurement along with a critical survey on the main theories: empiricist representationalism, operationalism and axiomatic representationalism. Beyond this, I investigated the role of measurement in the practice of social research, and, not the least, I sketched some arguments for a constructive approach to measurement.

The main observations of the study are the following.

- I. Early representational theories define measurement through concatenation operations and rules. I showed that though concatenation operations substantiate an important share of measurement procedures, they are not necessary for a coherent measurement concept.
- II. I also observed that the rules of measurement, as proposed by the empiricist, neither qualify as genuine scientific laws nor feature any proper, flesh and blood measurement procedure.
- III. Convention plays an important role in measurement well beyond the arbitrariness of unit choice. I argued, however, that congruent (or convergent) behavior provides a reason for choosing one group of phenomena over the other as foundations for measurement.
- IV. Congruent phenomenal behavior likewise provides base for time and temperature measurement. This fact, adding to the dispensability of concatenation, further blurs the traditional distinction between extensive and intensive quantities.
- V. Social sciences cannot readily adapt the “receipts of success” in measurement. Physicalism is not viable in practice. On the other hand, arbitrarily widening the notion of measurement—as the radical wing of operationalists seemed to suggest—is illegitimate. Still, the operationalist approach has a point in drawing the attention to structure and meaningfulness.
- VI. I introduced the axiomatic foundation project, which synthesizes the merits of representationalism and operationalism. Beyond summarizing the supposed reasons for its lack of real success known in the literature, I pointed out that futility sometimes enters the picture too. The reason is that the relation of structures involved in

measurement and the mathematics applied in certain theories is unclear.

- VII. I surveyed the uncertainties stubbornly surrounding the whole measurement endeavor. The error theory I examined provided to be unappealing in several respects.
- VIII. I took a look on sociology from a measurement point of view. I concluded that the practice of the sociologist reveals many of the problems of measurement at work, and also exposes new ones, specific for the given discipline.
- IX. On a different train of thought, I argued that a measurement procedure always exhibits rationality in a relevant sense. Further, I observed that either a realist or an operationalist approach to measurement likewise face with serious troubles when accounting for errors or truth. (A sentence asserting a measurement result is always false for the realist and always true for the operationalist.)
- X. The point above provides strong motivations for a constructive theory. Also, the theory of intuitionist reals and the congruent (and non-congruent) pre-theoretic, phenomenal behavior exhibited by compared or iterated measurement procedures provide a strong cognitive base for it.