

Beyond methodology

About the disunity of psychology

Course: Philosophy of Psychology

Paper III

Due date: December 10th, 2010

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Words: 1042

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‘In the overwhelming majority of cases in psychology, the intended interpretations of research data go beyond the actual observations’, Borsboom et al. state in their article on the disunity of psychology (2009, 8). Considering Lykken’s hypothesis (1991; in: Borsboom et al.) about the differences between people, they overview Cronbach’s (1957) aim at one unified psychological science. According to Borsboom et al., psychology is directed at extracting ‘indicators’ of ‘underlying structures’ out of observations, which are called ‘somewhat misleadingly, a ‘construct’ (8). This last utterance they place as a side issue between brackets, but it might indeed be the grail in the controversy. For what is this ‘construct’ and how does it reveal underlying scientific perspectives?

According to Borsboom et al. (2009), there are two types of researchers in psychology. Experimental researchers manipulate variables systematically in order to ‘demonstrate the existence of causal effects’ (Borsboom et al., 3). Correlational researchers focus on the ‘structure of association between variables on which people differ’ (ibid., 5). ‘What the experimental psychologist views as error, [...] is the object of study for correlational psychologists’ (ibid.). Borsboom et al. however state that this disunity of psychology should be embraced ‘as the working hypothesis’ (Fodor, 1974; In: Borsboom et al., 26). Distinguishing between experimental and correlational researchers, Borsboom et al. suggest that the differences in their theoretical views are driven by their methodological choices, that is, the differences are determined by methodology. Left open however is how scientist come to make these choices. What goes beyond these researcher’s methodologies?

However misleading the ‘construct’ may seem, according to Borsboom et al. (2009) it is extensively used in psychological research. As indicators of underlying structures, experimental psychologists use constructs that ‘give evidence in support of a universal law or mechanism’, although ‘through the ‘lens’ of statistical analysis’ (Borsboom et al., 4). This aim is consistent with the logical positivist perspective on science, which states that ‘every scientific statement should be based on and reducible to statements of empirical observations’ (Carnap, 1995a, 3). Universal laws are then generated as expression of ‘regularities [...] observed at all times and all places’ (ibid.). Logical Positivist Rudolf Carnap states that in psychology ‘statistical laws are

the best that can be stated, because there is not sufficient [...] knowledge to warrant a universal law' (ibid., 8-9).¹ Nonetheless, experimental psychology is headed at catching the world in laws, with psychological constructs as its fishnet. This aim implies that it is *possible* to formulate psychological laws about the world, were it at least about certain parts of certain populations.

Philosopher of science Ian Hacking would call this pursuance of psychological research 'constructivism' (1999, 49). Constructivism is the practice of creating a construct in order to be able to use it: without being created the construct does not exist, but when created, the construct is supposed to be lawful. Exemplary is the invention of mathematical constructs, without which we were not able to calculate, but whose meaning is since their creation lawfully fixed (Hacking, 46-47). In psychological methodology, this kind of constructivism seems to be the aim: using a variety of statistical methods, we try to create constructs that furthermore follow statistical laws, and are, since 'hypothetical entities or quantities [are] called constructs' (Hacking, 1999, 44) more or less constructively valid (Cronbach & Meehl, 1955). This form of constructivism is again consistent with a logical positivistic view on science: although the laws described by psychological constructs are not universal, the possibility to find statistical laws does *exist*. The opportunity to find constructs is inherent to the object of study.

However, psychology does not end with the formation of constructs; it is directed at application in the outer world. Mathematically constructed and approved devices are used in a variety of outer world settings to understand something about certain people. Researchers and practitioners directed at individual differences however mainly aim to understand the world out of people's perspective. In this respect, cognitive behavioural therapists McGinn and Young (1996) state that psychology is a constructionist science, directed at the constructs people hold in life. '[Psychologists] reject a "correspondence theory" of truth [...]. Instead, they hold that the viability of any given construction is a function of its consequences for the individual who adopts it.' (McGinn & Young, 184).

The question arises if we are still talking about the same 'construct'. Is the constructivism of psychological methodologists equal to the constructionism

¹ Universal laws apply to any concerning x in all possible worlds, 'at any place in universe, at any time, past, present, or future', e.g. "all ice is cold" (Carnap, 1995a, 3). Statistical laws may be valid 'if the percentage is specified or if in some other way a quantitative statement is made about the relation or one event to another', e.g. "ripe apples are usually red" (ibid.). See Carnap (1995a), Chapters 1 and 2.

embraced by psychologists? According to Hacking (1999), it is not. He states that constructivism and constructionism differ with respect to the actor. Constructivists *are* the actor in the process of construction, while constructionists follow the way constructions are produced *by* actors other than themselves. Speaking with Cronbach, the constructivist would be the ‘puppeteer’, while the constructionist rather is ‘observer of a play’ (1957, 7). This difference might yet be extended into a fundamental perspective on science. Experimental psychologists hold the view that science is able to find laws about *the world*, at least to a certain degree. Psychologists directed at individual differences hold the view that people are driven by their own interpretation of the world, which implies that in practice we cannot assume *the world*.

This matter displays similarity to the issue raised by Joel Michell (2006), who states that certain constructs measured in psychology are not inherently quantitative and thus not measurable. Going beyond the psychological assumption of measurability, he finds that the objects of study *inherently* differ in quantifiability. The same awareness might be needed regarding the inherent structure of the ‘construct’ used in different fields of psychology. Michell states that ‘science, as the attempt to understand nature’s way of working, knows nothing of practicalism, for scientific knowledge is neither useful nor useless, in itself’ (2006, 365). With regard to the disunity of psychology this idea is unavoidable: psychological research is pursued involvement in the outer world. Methodological devices are designed and applied to understand and guide people in their world. One could wonder though, if it is possible to apply devices on objects, while they radically differ in their perspective on the possibility to know ‘the world’. Does this difference between the worldviews beyond methodology do justice to Borsboom et al.’s (2009) aim to embrace disunity of psychological methodology as working hypothesis? Or might they be inherently incompatible?

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