Part 2:

The Central Account is Mythology

VI

Introduction

> Spearman gives a long discussion of the attempts that have been made to define general intelligence. He does not define it, he computes it, and at that only by a regression equation, he does not measure it any more than he would weigh a person by computing his weight from his height through a regression equation of weight on height. He sets forth a hypothesis that the general intelligence is energy, the special abilities are engines, with apparently the will as engineer. This is allegory. If intelligence were energy it should be measured in ergs-but again he calls it a force (p.414), so perhaps he thinks of measuring it in dynes. Or perchance the whole is mere logomachy. It would be interesting to enquire which of the technical physical terms is most like g, the general intelligence. Perhaps it might be efficiency. It would also be interesting to know just what he or Maxwell Garnett (a competent applied mathematician) means by the word unique in the proof that the resolution into g's and s's is unique...If he means that given the n_k grades m_{ax}, m_{bx}, ...,m_{ay},... we can determine the actual values of g_x, g_y,..., why are we given the regression? (Wilson, 1928b, p.245)
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> ...many these of traditional metaphysics are not only useless, but even devoid of cognitive content. They are pseudo-sentences, that is to say, they seem to make assertions because they have the grammatical form of declarative sentences, and the words occurring in them have many strong and emotionally loaded associations, while in fact they do not make any assertions, do not express any propositions, and are therefore neither true nor false. (Carnap, 1963, p.44)
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> ...there is nothing, so plain boring as the constant repetition of assertions that are not true, and sometimes not even faintly sensible; if we can reduce this a bit, it will all be to the good. (J.L. Austin, 1962, p.3)

The case that will be argued in Part II is in no way directed against the idea that there exist causes, nor that scientists can, and do, discover these causes, nor that measurement is important to the scientific endeavour, nor that there exist constituents of natural reality (e.g., entities, gases, and forces) that, in certain senses, are unobservable. Neither will it be argued that there do not exist within science a very large number of tools of detection and exploration of brilliant design. Finally, this chapter is not a blanket attack on the discipline of psychometrics, the discipline having clearly contributed many impressive mathematical and technological innovations. Among other successes, psychometricians have developed profound mathematical treatments of the representational problem and have invented a variety of useful techniques of data reduction.

However, in order for the innovations of the psychometrician to be given their proper due, and, in the hands of competent researchers, play a role in the furthering of scientific knowledge within the social and behavioural sciences, they must be seen in the correct light. It was argued in Chapters III and V that theoretical work on, and applied work using, latent

variable models is understood in terms of a picture called, herein, the Central Account. The Central Account is akin to a set of lenses through which latent variable models and modeling are viewed. It explains to the social and behavioural scientist how he should go about detecting properties and causes, adjudicating on measurement claims involving sets of items, and estimating measurement error. The case that will be argued in this chapter is that the Central Account is a mythology. Indeed, the case that will be argued is that many aspects of the CA are neither *factually* incorrect, nor bad theory, for they make neither empirical, nor theoretical, assertions. They are, rather, metaphysical doctrines.

It will be argued that the theses of the CA range from blatant mischaracterization to outright nonsense. In particular, it will be argued that latent variable models are mischaracterized when they are portrayed as tools for the detection of causal sources and/or properties/attributes. The concept *latent variate to* ***X*** does not have a referent that happens to be a causal source (property/attribute) of the phenomena under study. The concept does not play the role of denoter of any constituents of natural reality. The unobservability component of the CA, on the other hand, is mere nonsense. That is, there is no *sense* to sentences which contain ascriptions of the predicate *unobservable* (its cognates and related terminology) to latent variates, the concept *latent variate to* ***X***, or members of the class of referents of this concept (which happen to be constructed random variates). Not surprisingly, little in the way of argument has ever been offered to sustain the theses of the CA. Instead, as was previously described, these theses have flourished because they form a pretty picture, and because their infelicities are obscured by a thick tangle of conceptual confusions endemic to the practice of latent variable modeling. Some of these confusions will be documented and analyzed.