

The Canon of Statistical Residues.

6.0 Sixthly, there is a canon of statistical residues. While it may be set forth rather briefly, the long dominance of a mechanist determinism in scientific circles make it advisable to complement the bare bones of this canon with a series of explanatory notes.

6.1 Data, in so far as they are apprehended, are determinate. No doubt, our apprehensions could be fuller and more accurate. Again, no doubt, the advance of techniques and the improvement of instruments add ~~to~~ new information and a greater precision. But at every stage of development, data, as apprehended, are determinate; and within the limits of any given stage, we cannot distinguish between an indeterminate datum and, on the other hand, a failure to observe determinately.

Again, in so far as data are determinate, the relations between them are determinate. This is necessary inasmuch as relations are not further entities over and above related contents.

But the determinate relations between determinate data may be systematic or non-systematic. Such is the fundamental dichotomy of empirical method. Because it is a dichotomy, it has no suppositions apart from the principle of excluded middle. Because only trial and error will settle whether or not data are reducible to system, the dichotomy is fundamental to empirical method.

Now classical heuristic procedure stands on the alternative that data are reducible to system. It follows that if we suppose the attainment of complete and exact knowledge of all classical ~~systems and laws~~ principles and laws, then necessarily we suppose complete and exact knowledge of the totality of systematic relations that are verifiable in data. In other words, there are no systematic relations, verifiable in data, over and above those included in complete and exact knowledge of classical laws.

However, classical principles and laws, even when completely and exactly known, will be abstract. For they will be principles and laws precisely because they are general and can be applied to a number and variety of distinct instances. Moreover, such application involves the addition of further determinations to the principles and laws: general terms have to be replaced by particular terms; algebraic symbols have to be replaced by numerical values; and the further determinations, constitutive of the particular terms and the numerical values, have to be derived not from the principles and laws but from the concrete instances to which they are being applied.

Accordingly, while classical principles and laws are completely and exactly determinate in their own abstract order, still their very abstractness is an indeterminacy that admits further determinations and must receive ~~them~~ further determinations in the transition from the abstract to the concrete.

Now put two and two together. On the one hand, the totality of systematic relations is included in exact and complete knowledge of classical laws. On the other hand, the application of the laws calls for a manifold of further determinations. It follows that the further determinations cannot be related to one another systematically.

There exists, then, a manifold of non-systematically related determinations. It is the proper field of statistical inquiry. It is distinct from the field of classical inquiry. Finally, it is relevant to the transition from abstract classical laws to their applications in concrete instances.

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