

THE INTRODUCTION OF TESTS OF SIGNIFICANCE INTO SOCIOLOGY

by

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Some initial notes on a paper for the forthcoming 'Demystifying Social Statistics' book.

The use of quantification and statistical methods of inference in social science has been the subject of controversy within the discipline lately and since its introduction. The use of tests of significance, developed at the turn of the century, took very little time to appear in journals of sociology and gradually became almost mandatory in empirical research, yet a considerable section of the discipline resisted their introduction. As an example of a struggle within a discipline for ideological dominance the case of tests of significance in sociology seemed worth examining.

I wanted to collect evidence on the various explanations which seemed to me to contribute to an understanding of this development. Looking at the origins of sociology and its objectives, according to its practitioners, to see whether these already oriented sociologists towards quantification and automated scientific inferences, one can see a strong strain of positivism, social engineering and attempts to remove political action and replace it with 'rational' decision making based on 'social facts'. This objective appeared to develop in direct response to the social upheavals and revolutions to the nineteenth century and the claims of sociologists to a scientific method of understanding social and political movements would obviously make them powerful advisors of besieged governments.

One can find clear evidence of this role for sociologists in the early developments of social surveys.

The introduction of tests of significance, contrary to my expectations, seems to have proceeded gradually without violent opposition perhaps because the basic idea of an ultimate scientific method to solve social problems was already current. The advocates of statistical methods certainly presented them as the 'great white hope' of social science, the cookbook approach of a set of rules for inference was presented as the means of raising sociology to a science on the level of natural sciences.

Criticisms of the automatic approach to scientific inference appeared quite soon after these prescriptions, but seem to have stopped short of a fundamental philosophical critique and concentrated instead on certain technical misdemeanours and the rigid use of fixed significance levels.

The level of use as represented by articles in the American Journal of Sociology was quite low in the period 1895-1921 being about 2% of published articles. The real expansion took place in the following 30 years so that by the late forties and early 50's sociologists of the Bureau of Applied Statistics felt obliged to write an extended defense of their omission of the tests from their survey reports.

The use of tests obviously gave sociological work an appearance of scientific status which helped to convince governments as well as the public of the validity of their conclusions. As such, they enabled sociology to establish itself as a legitimate academic discipline and as a powerful ally of government, industry and the military.

Evidence for the ideological role of tests outweighing any philosophical or methodological criticism can be found both in the comments of sociologists themselves, e.g. Carl C. Taylor in 1920.

'It is imperative that the social sciences win for themselves the acceptance of their generalisations as trustworthy. A faith in such trustworthiness has almost as great a part to play in converting a body of knowledge into "science" as has the established method of analysing phenomena or an adequate set of working tools.'

and also in the fact that even after the philosophical and scientific weaknesses of this method were clearly demonstrated, rather than their use diminishing, it continued to grow.

In order to set this into its historical and social context one needs to link this development to the wider economic and political background. Sociology as a discipline clearly based its case for academic acceptance on its use as a means of social control.

One would expect statistical methods to be of crucial value in the legitimations of these claims, and by examining the types of problems which were studied using these techniques I hope to be able to demonstrate this ideological role.

As a statistician with a very recent interest and limited knowledge of sociology I'd be grateful for any suggestions for approaching and developing this analysis from others in the group.