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Subjectivity and Social Science*

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INTRODUCTION

BRONOWSKI (1961, p. 18) has defined science as " the organisation of our knowledge in such a way that it commands more of the hidden potential in nature ". The " hidden potential in nature " is so great that scientists have found it necessary to split into various groups to " command " it. Scientists may, therefore, be either " pure " or " applied ", and " physical " or " social ". While scientists in the different groups have brought about great advances in knowledge, they have tended to lose touch with each other. It is impossible for anyone to keep abreast of development in all fields, but an effort must sometimes be made by people in different groups to share their ideas and clear up any misunderstandings. I would say that the chief misunderstanding between physical and social scientists at present concerns the use of subjectivity in scientific method. There have been many debates about the subjective and ethical obligations of those physical scientists who are engaged in atomic research, but other aspects of subjectivity have been rather ignored. In this paper I will comment upon the proper use of subjectivity in scientific research.

SUBJECTIVITY IN SCIENTIFIC METHOD

All scientists, no matter to which group they belong, subscribe to the ultimate use of objective methods of operationism in adding to the store of knowledge. Objective methods must be used so that any suitably qualified experimenter may use the same techniques and instruments as the experimenter and check his conclusions. " Operationism " is the public process in scientific research by which variables can be observed, described, measured, and experimentally manipulated (Marx, 1957, p. 28). However, objectivity is but a final process for testing theories, and there is a tendency for some scientists to gloss over the subjective

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foundations of science. Subjectivity is the term for many of the implicit factors of the scientist's personality that influence (1) his choice of field for study, (2) his formulation of some fruitful hypotheses, and (3) the manner in which he conducts his experiments. No less than three professors of physical science at Victoria University—in biochemistry, physics, and theoretical chemistry—have spoken publicly in recent weeks about the need to recognise the subjective factors of morale and motivation in scientific research. Such factors can stimulate the single research worker, or enthuse a group of research workers to the benefit of science. Some scientists might mistrust their subjective feelings when promoting research because of the spectre of the over-zealous and perhaps unprincipled research workers like Dawson, of Piltdown fame, the Bristow group of ornithologists, and the unknown Gascon of the orgueil meteorite. However, the perversion of subjectivity in a few instances must not be allowed to detract from the value of subjectivity in many instances. Clearly, the scientist has to safeguard against the subjective distortion of evidence while retaining its benefits, and he does this, not by ignoring subjectivity, but by using objectivity to check his subjectivity.

SUBJECTIVITY IN THE COLLECTION OF RAW DATA

All scientists are personally involved with their research by their selection of a topic, their method of approach, and the consequences that follow from their results, but social scientists are even more subjectively involved in their research than are physical scientists. Social scientists, unlike physical scientists, tend to deal directly with human beings, and often they cannot begin to collect their raw data without using subjective methods to reassure, to placate, and to establish their professional integrity. For example, (1) anthropologists must establish subjective relationships and become accepted in a given culture before they can obtain information about culture patterns and kinship systems; (2) sociologists must also become accepted as participant-observers in an urban community before they can discover the social structure of different groups of people; (3) psychotherapists must also establish subjective relationships with their patients if they are to diagnose and treat emotional disturbance. Furthermore, experimenters who use human beings must work within an ethical framework in which the welfare of the subjects is more important than the results of the research. Social scientists are, therefore, often obliged to take research as far as they can, when they can, and how they can, and they may be either dependent upon the occurrence of natural events such as accidents, illness, deformity, conflicts, and disaster, or experiments with animals, before they can test their hypotheses. Some progress can be made with volunteer subjects in simulated conditions, but there are still ethical limits to which one may go in such kinds of research. Of course, physical scientists have to modify their approach and methods when they come into contact with people. Some of the U.N. technological development teams found people far more stubborn than the technological problems that they were appointed to solve (Spicer, 1952).

Social scientists can sometimes use objective methods and instruments for collecting their raw data, but there are still many aspects of human personality and behaviour which cannot as yet be approached directly in this way. One could pretend to dismiss such aspects of human personality and behaviour as being scientifically unrespectable and of no significance, but to do this would be to ignore a field that is ready for exploration. Raw data that has been subjectively obtained may still be of some significance even if there are no current objective tests for establishing its reliability. A case remains open as "not proven" until it can be refuted or established "beyond reasonable doubt" by objective testing of the subjective data—providing others with similar training, experience and

orientation can obtain similar data. For example, it took twenty-three weeks to establish subjective relationships with a group of borstal girls before I could obtain data about the complex relationships that they created among themselves (Taylor, in press). I then used data from objective-reliable and valid psychological tests to discover objectively the reasons for the differential associations. In the same research situation it was possible to evaluate the effectiveness of the subjective process of group psychotherapy by objective means, using control groups, pre-therapy and post-therapy tests, a specific experimental variable, and a follow-up period (Taylor, 1965). In other research it was possible to make satisfactory objective clinical studies of those people who dress persistently as members of the opposite sex (Taylor and McLachlan, 1964). Objective clinical tests were made in an exploratory search for genetic, hormonal and anatomical determinants of cross-dressing, but the negative results led to a study of subjective psychiatric, psychological, social, and cultural determinants of the condition. The next step is to devise objective tests that will check the psycho-sexual confusion of the patients and the pathological personalities of their parents as reflected in the subjective data.

I would agree with Sargant (1961) that a clinician may be an instrument on whom impressions are registered, and "calibrated by theoretical constructs to which observations are ordered and subject then to quantitative and qualitative scientific methods for establishing reliability, validity, and predictive accuracy." In other words, "the splendid structure of science rests basically upon its subjective use by persons" (Rogers, 1961, p. 218). The problem for the social scientist is to acquire that additional training and experience that will enable him to use subjectivity in the cause of science. The additional training may be acquired either through prolonged and active association with a small group of research workers or through intensive self-analysis that is designed to increase emotional sensitivity and self-awareness in human relationships. The problem for the physical scientist is to understand the need for the additional methods of subjectivity that are essentially involved in the process of scientific research.

Summary

In this paper I have referred to the problem of subjectivity that has led to misunderstanding between physical and social scientists. All scientists use subjective methods to some extent in making a verified extension of knowledge, but social scientists have a greater use for subjectivity than have physical scientists. Social scientists must therefore be trained to use subjective as well as objective methods in their research. The quality of the training can prevent the distortion of fundamental data, and add to the knowledge of man in his world.

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