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