CHAPTER 3

IMPORTANCE OF THE DISSERTATION

Sections

3.1 Introduction

The importance of this dissertation can be viewed from two different perspectives. First, its value can be attributed to its integral association with the causal statistics project. Second, one could consider the dissertation's own inherent significance, irrespective of its relationship with the causal statistics project. Here we will take both tacks.

First let us give the argument for the importance of the dissertation based upon its relationship to the causal statistics project. Assuming that the causal statistics project can make a significant contribution to our total body of "knowledge"--as was shown in Chapter 2--then this dissertation is important because it is a necessary part of the causal statistics project. Sections 3.2 and 3.3 will show why the content of the dissertation is a necessary part of the causal statistics project.

It is not the intention of the dissertation to make contributions--as an independent, isolated entity--to the fields of philosophy, physics, or mathematics. But, as it turns out, there may be some. These potential contributions will also be noted in the following two sections.

3.2 The Importance of the Analysis of Causal Philosophy

The selection or formulation of a suitable definition for "cause" is a necessary preliminary to the development and/or understanding of causal statistics. In Chapter 4 the most significant philosophical definitions of "cause" are presented and shown to be inadequate, not only for causal statistics but also for philosophy. Then an original definition is formulated which fits the needs of causal statistics. This definition could also have philosophical significance.

Many scientists and philosophers maintain that it is ridiculous to talk about causality and they base this opinion upon Hume's two arguments. In Chapter 5 these arguments are presented and analyzed. It is shown that neither Hume nor his arguments impugn the usefulness of the concept of causality.

Mill forwarded five Canons of Induction which some people believe to be the ultimate causal inquiring system. These Canons are presented and analyzed in

Chapter 6. The analyses showed many imperfections in this system and that--without a doubt--it is not the universally optimal causal inquiring systems.

3.3 The Importance of the Derivation of Causal Statistics

Before generalized operationalization of causal statistics can occur, we must know the general form of causal statistics. The general form, called the universal model of causal statistics, is derived in Part III and finally attained in Chapter 12. The other important products of the derivation are axiom and assumption sets upon which the universal model of causal statistics can be based.

The axiom system gives us a basic model (theory) for the operation of a causal universe. This model can significantly contribute to our "understanding" of observed phenomena. It can "answer" questions in areas ranging from nuclear and quantum physics to the place of man in the universe.

For example, this basic theory implies that nuclear physicists are bound to fail in their effort to discover the fundamental particles of the universe because these particles approach a size of zero as a limit. This model also gives a causal (deterministic) explanation of the apparently random nature of quantum physics. Another implication of the theory is that man

has no free will. His future is bound and determined by the past and he is only another mechanistic object of the universe.

Of course, let me hasten to point out that these conclusions are not necessarily true; they are only consistent with observed phenomena. The conclusions are implied by the aforementioned axiom system. But this axiom system is only one of a set of possible axiom systems which are consistent with observed phenomena. Other axiom systems may lead to entirely different conclusions. The axiom system employed in the dissertation is probably the one which would be selected by the principle of Ockham's razor, but that principle has no claim to correctness, just simplicity.

The assumption set employed in the derivation of causal statistics makes it clear that the assumptions--upon which almost all applied mathematics is based--are extremely restrictive and, undoubtedly, not generally satisfied. It shows that the usually mathematical manipulations of both macrovariables and discrete variables are almost invariably not legitimate. The question which must be addressed in the future is, to what extent are the assumptions dissatisfied and what effect does this have on the accuracy of the results of our mathematical manipulations?

The axiom and assumption sets, taken together, are important for determining the applicability of causal

statistics to specific situations and the generalizability of empirical results to new situations.