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DESCRIBING THE PROBABILISTIC NATURE OF HUMAN BEHAVIOR IN INTERSTELLAR MESSAGES

Abstract

With the advent of psychology as a scientific discipline in the nineteenth century, in reaction to what some perceived as the overly speculative nature of philosophy, a new approach was developed to explain and describe human behavior. From the outset, psychology was coupled with statistics, which took its modern form beginning in the nineteenth century, with significant elaborations in the early twentieth century arising from applications in biological and agricultural research. The result of these developments in both psychology and statistics was the formulation of a set of procedures for experimentally examining the causes of human behavior, both as reflections of inherent characteristics of the human organism and as culturally and socially influenced. For most contemporary psychologists, it seems overly ambitious to predict with complete accuracy the behavior of any given individual. Rather, the emphasis of most mainstream psychological research is on detecting patterns within groups of individuals sharing some characteristic or subjected to some common external situation.

Mathematically-based interstellar messages lend themselves well to communicating such statistically-based descriptions of human behavior. Basic concepts of central tendency, variability, and experimental design can be used to construct scenarios showing individuals interacting. Rather than attempting to provide an exhaustive account of how individuals will behave under various circumstances with absolute certainty, the partial unpredictability of such accounts is brought to the fore and quantified. Through such a statistical description of human behavior, one can provide a more comprehensive account of human behavior than Freudenthal's vignettes in his book *Lingua Cosmica* allow, by extending beyond the actions of specific individuals to describing groups of individuals.