

Skinner's Theory of Language Development

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Verbal Behavior

Verbal Behavior is a 1957 book by psychologist B. F. Skinner, in which he analyzes human behavior, encompassing what is traditionally called language, linguistics, or speech. For Skinner, verbal behavior is simply behavior subject to the same controlling variables as any other operant behavior, although Skinner differentiates between verbal behavior which is mediated by other people, and that which is mediated by the natural world. The book Verbal Behavior is almost entirely theoretical, involving little experimental research in the work itself. The book Verbal Behavior was an outgrowth of a series of lectures first presented at the University of Minnesota in the early 1940s and developed further in his summer lectures at Columbia and William James lectures at Harvard in the decade before the book's publication. A growing body of research and applications based on Verbal Behavior have occurred since its original publication, particularly in the past decade.

In addition a growing body of research has developed on structural topics in verbal behavior such as grammar.

Functional analysis

The context of speaker utterances is central to Skinner's perspective on language. With this as a background, Skinner developed the premise that Verbal Behavior - behavior under the control of consequences mediated by other people (who can interchangeably function as speaker and listener) - was best understood in a functional analysis. This theoretical extension was a direct product of his basic research using what he referred to as the "three term contingency model" with the basic behavioral unit being the response and its consequence in a specified situation (antecedent-behavior-consequence). This is now sometimes called the four-term contingency model with setting conditions added as a fourth term. This consists of a motivating operation (MO), discriminative stimulus (SD), response (R), and reinforcement (Srein). Skinner's Verbal Behavior also introduced the autoclitic and six elementary operants: mand, tact, audience relation, echoic, textual, and intraverbal. Skinner argued that verbal behavior is a function of the speaker's current environment and his past behavioral and genetic history. For Skinner, the proper object of study is behavior itself, analyzed without reference to hypothetical (mental) structures, but rather with reference to the functional relationships of the behavior in the environment in which it occurs. This analysis extends Ernst Mach's pragmatic inductive position in physics, and extends even further a disinclination towards hypothesis making and testing. Verbal Behavior is divided into 5 parts with 19 chapters. The first chapter sets the stage for this work, a functional analysis of verbal behavior. Skinner presents verbal behavior as a function of controlling consequences and stimuli, not as the product of a special inherent capacity. Neither does he ask us to be satisfied with simply describing the structure, or patterns, of behavior. Skinner deals with some alternative, traditional formulations, and moves on to his own functional position.

General problems

Skinner notes the problems of verbal behavior as a dependent variable. Skinner's general position favors rate of response as a dependent measure which, in Verbal Behavior is problematic since all verbal behavior does not have the same unitary quality as a lever press. In the ascertaining of the strength of a response Skinner suggests some criteria for strength(probability):emission, energy-level, speed, repetition, but notes that these are all very limited means for inferring the strength of a response as they do not always vary together as they may come under the control of other factors. Emission is a yes/no measure, however the other three -energy-level, speed, repetition - comprise possible indications of relative strength.

Emission - If a response is emitted it may tend to be interpreted as having some strength. Unusual or difficult conditions would tend to lend evidence to the inference of strength. Under typical conditions it becomes a less compelling basis for inferring strength. This is an inference that is either there or not, and has no gradation of value.

Energy-level - Unlike emission as a basis for inference, energy-level (response magnitude) provides a basis for inferring the response has a strength with a high range of varying strength. Energy level is a basis from which we can infer a high tendency to respond. An energetic and strong Chomsky!" forms the basis for inferring the strength of the response as opposed to a weak, brief Chomsky".

Speed - Speed is the speed of the response itself, or the latency from the time in which it could have occurred to the time in which it occurs. A response given quickly when prompted forms the basis for inferring a high strength.

Repetition - Chomsky! Chomsky! Chomsky!" may be emitted and used as an indication of relative strength compared to the speedy and/or energetic emission of Chomsky!". In this way repetition can be used as a way to infer strength

Limitations - Skinner notes that these are "easy to overestimate" especially in single instances. Other, extraneous variables, such as noise, special listeners, or those at a distance may induce variation in these relative indicators unrelated to their proper strength.

Overall frequency - The overall frequency of a response in a large body of responses may be used as another indicator of strength. Skinner's analysis of alliteration might be seen as one form of this analysis (Skinner, 1939).

Mands

Chapter Three of Skinner's work Verbal Behavior discusses a functional relationship called the "mand". A mand is a form of verbal behavior that is controlled by deprivation, satiation, or what is now called motivating operations (MO) as well as a controlling history. An example of this would be asking for water when one is water deprived ("thirsty"). It is tempting to say that a mand 'describes its reinforcer' which it sometimes does, but mands may have no correspondence to the reinforcer,

for example a loud knock may be a mand "open the door" and a servant may be called by a hand clap as much as a child might "ask for milk". The Lamarre & Holland (1985) study on mands would be one example of a research study in this area.

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