

ON BARTLETT'S CRITICISMS OF EBBINGHAUS

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In this paper, I consider two classics in the history of the psychology of learning and memory, and in that phrase the disagreements among those who follow Ebbinghaus and those who follow Bartlett may have been captured. Ebbinghaus stressed the acquisition and retention of new information, learning, and Bartlett stressed the retrieval of both new and old information, memory. There is no doubt that Bartlett disagreed with the approach taken by Ebbinghaus and by the researchers who followed in what appears to have been the Ebbinghaus tradition. Since Ebbinghaus died in 1909, he could not have disagreed with the approach taken by Bartlett in 1932; further I am not at all sure that Ebbinghaus would have disagreed. However, I am confident that he would have objected to Bartlett's characterization of the Ebbinghaus approach and would have disagreed with his criticisms of that approach.

First, let me establish that there are disagreements among the followers of the two great men by citing examples from memory and cognition textbooks. Baddeley (1976) devoted the first chapter of his book entitled *The psychology of memory* to a discussion of the Ebbinghaus tradition and the Bartlett approach. Crowder (1976) discussed extensively the contributions of Ebbinghaus but mentioned Bartlett only once and that was parenthetically (p. 95). Neisser (1976), on the other hand, does not refer to Ebbinghaus at all but discusses Bartlett in great detail. Thus, it is clear that there are supporters of each position and that the positions are usually presented as incompatible.

I will consider, now, Bartlett's criticisms of Ebbinghaus, three of which concern the stimulus side of the research. There are at least two ways of evaluating criticism. In the first, one attempts to determine the truth or falsity of the criticism. In the other, one attempts to determine whether the critic is consistent, i.e., does

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the criticism apply to the work of the critic as well as to the work of the person being criticized. I will develop each of these possibilities in the remainder of this paper.

Consider first the question of the truth of Bartlett's criticisms. "It is impossible to rid stimuli of meaning so long as they remain capable of arousing any human response" (Bartlett, 1932, p. 4). While it is certainly true as demonstrated by subsequent work that Ebbinghaus's concept of a non-sense syllable is at best idealized, it did serve the function which Ebbinghaus wished it to serve. The elimination of all meaning was not achieved, but I doubt that any researcher, past or present, would argue that the non-sense syllable in any of its variations is as replete with meaning as words. Thus, the non-sense syllable did reduce the amount of meaning in the stimuli that Ebbinghaus and subsequent investigators used.

Further, it should be noted that Hilgard (1964), in his introduction to the 1964 edition of Ebbinghaus's book, stated that Ebbinghaus's objective was to create a homogeneous pool of items rather than meaningless items (p. ix). While conceding that the advantages of his material, the nonsense syllables, occur in part because of a lack of meaning, the advantages of the material are its relative simplicity and relative homogeneity. Ebbinghaus notes that the material is not ideal, but nonetheless, it did and does have certain advantages. Further, he stated that "no greater range of distribution of the separate numerical measures" occurred with cantos from Byron's "Don Juan" than with the nonsense material (p. 23).

Bartlett also criticized Ebbinghaus for creating an "atmosphere of artificiality" (Bartlett, 1932, p. 4). In one sense, this criticism can be ignored since in all science the laboratory method is the creation of artificiality. Thus, while admitting that the criticism is true, it could carry no weight since it applies as well to all scientists, even those who perform naturalistic observations. Furthermore, Ebbinghaus recognized and defended the artificiality. "We can almost nowhere get a direct knowledge of the complicated and real, but must get at them in roundabout ways by successive combinations of experiences, each of which is obtained in artificial experimental cases, rarely or never furnished in this form by nature" (Ebbinghaus, 1966 / 1885, p. 26). Thus, Ebbinghaus recognized the artificial nature of laboratory experimentation as have a great many scientist since his day. Further, he and others have argued that the artificiality is necessary to our gaining an understanding of the complicated and real.

Bartlett's third criticism on the stimulus side is that Ebbinghaus ignored the "important conditions of response which belong to the subjective attitude and to predetermined reaction tendencies" (Bartlett, 1932, p. 4). It is this criticism which has led to Ebbinghaus being viewed as a supporter of the human as a passive transducer of stimulation. During the period dominated by the behaviorists, it was clearly the case that verbal learning researchers treated subjects as passive organisms, but the critical question concerns Ebbinghaus and his views. Consider

his justification for using non-sense material for his learning experiments. He noted that "Differences in the content of the thing to be reproduced are of great influence" (Ebbinghaus, 1964 / 1885, p. 3). Further, he stated that attention and interest which are present are important in determining retention. In another place, he lists other factors which are important in determining retention. These factors are "mental vigor, interest in the subject, concentration of attention, changes in the course of thought which have been brought about by sudden fancies and resolves" (Ebbinghaus, 1964 / 1885, p. 11). These would not seem to be the factors which would be listed by a theorist who believes that the organism is a passive creature. Thus, it can be argued that this criticism is not appropriate.

The second way in which criticisms may be evaluated is in terms of whether or not they apply to the critic as well as to the person being criticized. This might be identified as the common saying of "The pot calling the kettle black." As an example of the point being made here, note that most people would not view as legitimate a criticism by B. F. Skinner of someone's simplifying a situation. Is Bartlett free of the faults he found with Ebbinghaus? In one of his experiments, he required that subjects recall the order in which a series of faces was represented (Bartlett, 1932, p. 49). It seems rather unlike that one will be required in every day affairs to recall the order of seeing faces, but by requiring this information, Bartlett presumably gained some information about the workings of memory. In another experiment, material was chosen to allow a particular phenomenon to occur (Bartlett, 1932, p. 64). Again, this does not seem to be an approach that is particularly true to life and lacking in artificiality.

It can be argued that much of the disagreement about the appropriate view of memory concerns differences in the kind of material to be remembered. Bartlett, and those who have followed in that tradition, emphasized the retention of ideas or the gist of the material presented rather than the verbatim recall of material. It is certainly true that in many cases, we need to retain only the basic ideas or the gist of the presentation. However, there are also occasions when verbatim recall is necessary. It simply would not do to say that Hamlet raised the issue of whether he should kill himself. The gist is not sufficient, and one must quote Shakespeare who had Hamlet say "To be or not to be. That is the question." With the quotation, I have conveyed not only the gist but poetry as well. Or more immediately, if had I started this paper by indicating that I would discuss Remembering by Ebbinghaus, I would have lost your attention, which I may have anyway. Or consider, the problem that a chemist would have if only the gist of the periodic table were recalled. Or in everyday life, imagine the difficulty encountered by an individual who knows only the gist of the lists of the days of the week or the months of the year. Clearly, some of what Ebbinghaus studied, the retention of material in an exact form in an exact order, is necessary in the real world. While Bartlett's observations regarding the recall of *The War of the Ghosts* are interesting, the kind of recall that he observed simply would not have been acceptable for John Dean.

Extensive and verbatim recall is sometimes necessary. To use Neisser's term, Ebbinghaus's research and that of his followers has ecological validity. The point is, of course, that one may gain an understanding of a process underlying a phenomenon by studying much simpler situations.

RESUMEN

En este artículo se consideran las principales críticas de Bartlett a los planteamientos de Ebbinghaus; evaluándolas desde dos puntos de vista que se complementan entre si: Por una parte se intenta determinar la verdad o falsedad (¿validez?) de la crítica y por otra su consistencia y pertinencia.

SUMMARY

Bartlett's critical remarks to Ebbinghaus's ideas on memory are here evaluated, according to their contents and appropriateness. The author finds that, after all, Ebbinghaus's research has ecological validity, and is not artificial piece of laboratory research.

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