

The Final Tribute of E. G. Boring to G. T. Fechner

Concerning the Date October 22, 1850

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ABSTRACT: *E. G. Boring, the preeminent historian of experimental psychology, wrote a letter shortly before his death in 1968 concerning G. T. Fechner's first insight into the fundamental principle of psychophysics on October 22, 1850. The celebration of that date at Harvard, more or less annually, and the establishment there of the first chair of psychophysics are recounted in the letter and interwoven with Boring's own birthday (October 23). The letter is published here as a minor contribution to the centennial of Fechner's death (November 18, 1887). That event was scheduled for celebration at Leipzig University by a three-day symposium in June devoted to Fechner's founding of psychophysics and, hence, of experimental psychology. Boring's later skepticism about the validity of certain landmark dates in scientific history was meant to deemphasize the contribution of the individual and to strengthen the role of the impersonal Zeitgeist. But it appears that this skepticism may have arisen, in part, from Boring's recognition of his subjectivity in playfully confounding Fechner's date of insight with his own birthday. Overgeneralization may have followed the fun.*

E. G. Boring is, by common consensus, the preeminent historian of experimental psychology, the pristine roots of which he attributed to psychophysics. Of the latter specialty, Fechner became the father a generation before Boring's birth. One year after Boring's arrival, Fechner departed (November 18, 1887).

By a happy accident there recently came to light a forgotten letter written to me by Boring with his characteristic liveliness shortly before his death in 1968. Its striking relevance to the current centennial of G. T. Fechner's death brought back Boring's daimon as well. It is unlikely that a reader who did not know Boring in person will vibrate with equal zest to the letter's manner and content, but there is certainly more here than an echo of personal nostalgia. For what it is worth, it is submitted for publication as a dual memorial.

When in 1969, as a former student of Boring, I responded to an invitation to contribute to a symposium in his honor, I composed a tribute under the title "E. G. Boring and the *Zeitgeist*" (Rosenzweig, 1970). It opened with the following paragraph:

On July 1, 1968, in the 82nd year of his life, Edwin Garrigues Boring passed into history. He was born on October 23, the day of the month after the day that was called Fechner Day at his Harvard Laboratory. For on the morning of October 22, 1850 the father of psychophysics, still in bed and passing from the realm of dreams to that of waking consciousness, was inspired with the insight that developed into the Weber-Fechner Law. Boring and his confreres of the Laboratory informally commemorated Fechner Day . . . , and one may safely speculate that the birthday of the celebrated historian of experimental psychology could not have been far below the collective threshold of those occasions.¹

When these lines were written the letter reproduced below must have been more fresh in my awareness than I subsequently recalled. Otherwise the letter could not so fully evoke the character of a gloss. I also had the advantage of having been a student of Professor Boring in my senior year at Harvard, the same year in which his monumental *A History of Experimental Psychology* first appeared (Boring, 1929). The lectures that he delivered in the history course that I took under him exuded the freshness of that accomplishment and, in some measure, that quality must have contributed to the awakening in me of a kindred sense of historical continuity. Some recognition of this resonance may have led Boring to write me as he did.

Before letting the letter speak for itself, it should be explained that it was written in response to a note I had sent Boring on February 17, 1968. In it I asked for some information about the celebration of Fechner Day at Harvard. You mentioned this (more or less) annual event during

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¹ Previously, Boring's (1929) chapter 13 in his classic *History* (chapter 14 in the second edition, 1950) was devoted to the contribution of G. T. Fechner. It sparkles as a gem of historical biography. The author supplemented it with a shorter (biographical) Editor's Introduction (Boring, 1966, pp. ix-xvii) to the translation of Fechner's *Elemente* (1860). In the two earlier discussions, Boring cited the date October 22, 1850 for Fechner's psychophysical insight (Boring, 1929, p. 210; Boring, 1950, p. 280) without questioning the validity of Fechner's recollection of the date. But toward the end of his life (Boring, 1966, p. x, and the letter reproduced here), he had begun thinking of such landmark dates as largely mythical.

your speech at APA in St. Louis several years ago. . . . I should also appreciate knowing anything you can tell me about the observance of Fechner Day in European laboratories . . . in years gone by. . . . Did the Harvard practice by any chance originate via the European precedent, possibly through Titchener?

I knew while writing that Boring was seriously ill; I had visited him at a hospital in Cambridge 10 months earlier. Hence I also inquired about his health.

Boring's letter, typed on his personal letterhead, imprinted with the address of William James Hall, Harvard University, read as follow:

23 February 1968

Dear Saul:

The importance of 22 October as Fechner Day is due, when it has any importance at all, presumably to my tongue-in-cheek advertisement of it. I have always taken great interest in these flashes of insight that have important consequences: Fechner's insight in bed, Descartes' dream which started analytic geometry, Newton and the apple, Wertheimer getting off the train in Frankfurt because he had the Gestalt idea, and so on. I think there is little doubt that the "great originators" themselves would have liked to promote these artifacts of the historical process because they seem to attest originality, denying priority elsewhere, and they give convenient emphasis to an event that might otherwise, undated, seem unimportant. Probably none of them is all it intends to be. I enclose a reprint of Wundt's fixing on 1879 as the beginning of the first psychological laboratory, a reprint that mentions at the end some of the other priorities that have been claimed. They are good fun, and they are good in pedagogy too if you don't take them too seriously. Otherwise they block the more profound truths of the gradualness of originality.

The original reference is: G. T. Fechner, *Elemente der Psychophysik*, 1860, 1te Aufl., Bd. II, 554, or a slightly different page in the 2te or 3te Auflagen, which weren't new editions at all but resettings of the original one with slightly changed pagination, of which one has to beware.

"Das Schema der geometrischen Reihen führte mich nun (22. Oct. 1850 Morgens im Bette) durch einen etwas unbestimmten Gedankengang darauf, den *verhältnissmässigen* Zuwachs der körperlichen lebendigen Kraft, oder $\frac{\delta\beta}{\beta}$, wenn β die lebendige Kraft [kinetic energy] bedeutet, zum Masse des *Zuwachses* der zugehörigen geistigen Intensität zu machen."²

Fechner himself referred in this connection to his *Zend-Avesta*, 1851, II, 334, but I, finding that my second volume has disappeared, am unable to check this for you easily. It's been a discussion as to Fechner's historical account of his own thinking in the decade 1850–1860. Titchener mentions the incident and gives also the date of the insight: E. B. Titchener, *Experimental Psychology*, II, ii, p. xx, where he discusses the matter and gives several places in Fechner's *Zend-Avesta* where the principle is discussed, but not necessarily the anecdote of thinking

of it in bed before he got up.³ I don't know of any other place that this is mentioned in print except what has been my doing, which I have already said was tongue-in-cheek.⁴

I don't believe there was any celebration of the day

² There is no English translation of Volume 2 of *Elemente der Psychophysik* (Fechner, 1860) from which Boring copied this passage. A translation of the passage quoted by Boring made by the present writer is as follows: "The model of a geometric series happened to come to mind (22. Oct. 1850 in the morning while I was still in bed). The vague idea was that a proportional [logarithmic] increase in a physical force [stimulus] is related to the magnitude of increase of a given psychic intensity [sensation], or $\frac{\delta\beta}{\beta}$, when β signifies the acting force [kinetic energy]."

³ *Zend-Avesta* (Fechner, 1851) appeared the year after the October 22, 1850 insight. This long (three-volume) work was surely on Fechner's mind when he awoke on that eventful morning. Four subsequent editions appeared in German, essentially unchanged. There is no English translation. Excerpts in English are available in a book by Lowrie (1946) that contains a biographical first section, followed by discussions of Fechner's religious philosophy and his publications with selections (in English translation) from the various books. The title of Lowrie's volume, *Religion of a Scientist*, plainly indicates the religious provenance out of which Fechner developed his psychophysical science for the purpose of providing a scientific foundation for his belief in the survival of the human spirit or soul. It was in that context that the relationship of mind and body (the spiritual and the physical) needed to be understood and centered in the nature of consciousness. For Fechner the quest began with human sensory awareness above a so-called "threshold." Below that threshold (unconscious), spirit still existed, independently of bodily mediation. As he phrased it in his later writings, just as birth is an emergence from an earlier life into a temporary earthly existence with awareness (during waking life), death can be viewed as a transition to a post-mortem life, that is, a kind of rebirth. The *Zend-Avesta* first developed this point of view. Hence, as Boring stated in his letter, it was in that book that Fechner referred back to his earlier recognition of psychophysics that followed the insight of October 22, 1850. However, Fechner's landmark *Elemente der Psychophysik* did not appear until 10 years later. It is intriguing that William James who, in a now-famous passage of his *Principles of Psychology* (1890, Vol. 1, p. 549), first lampooned the "patient whimsies" of Fechner's psychophysics as an "idol of the den" (quoted by Boring, 1929, 265n.), in his last published book (James, 1909, Lecture IV) embraced Fechner's panpsychism with only minor doctrinal differences. Both men regarded the world as an Earth-Soul or cosmic consciousness, the ultimate, enduring reality. However, James envisioned the godhead as a pluralistic or multiple personality in which individual human minds somehow participated. To bolster that final position James, like Fechner, had spent a major part of his later professional life in empirical studies, that is, psychical research with mediums. (Fechner was also interested in such mediums in his later years.) The Fechner centennial thus recalls to us that the science of modern psychology was anchored in religion and philosophy. Can the "behavioral sciences" ever regain that earlier solidarity? To attain such stability, a schema similar to Fechner's will be required, but the schema will have to be more comprehensive and more sophisticated. Yet, as with Fechner and James, the individual person will need to be kept in focus.

⁴ Boring apparently did not know (or, more likely, did not recall) that at least G. Stanley Hall (1912) in his *Founders of Modern Psychology* quite pointedly and at some length called attention to the morning of October 22, 1850 as the time when Fechner "hit upon the thought" that became the foundation principle of psychophysics: "that there might be two series, the psychic [the sensory experience] increasing arithmetically or by a constant difference, and the physical [the stimulus] increasing geometrically or by a constant multiple" (p. 151). The entire essay, extending to over 50 pages (pp. 123–177), is one of the best accounts of Fechner's life and work in the literature. It doubtless owes its merit, in part, to Hall's personal acquaintance with Fechner while Hall was a student of the burgeoning science in Germany and Fechner was an aging seer. In fact, Hall and his new wife kept house in Leipzig next door to Fechner in 1879–1880, when Hall was 34 and Fechner was 79.

or memory about it in Europe, although anything is possible.⁵ Freud talked about having a tablet in the restaurant where he had his great insight. I'm not sure that I ever heard Titchener mention the day, nor was it much talked about at Cornell. I talked about it at Clark and then at Harvard, and I made enough impression for old students once in a while to send back a postcard of celebration intended to arrive on 22 October.

Smitty Stevens was especially anxious to get the word *psychophysics* into more respectable use, and into much broader use than what Fechner had limited it to, and we used to talk about his Psychoacoustic Laboratory being properly called the Psychophysical Laboratory. With the fuss about moving at Harvard from Memorial Hall to the new William James Hall, which Smitty disliked intensely because it wasn't built to be a laboratory building (architecturally it was sociotropic), it finally fell to me, as emissary between President Pusey and Smitty, to advise Smitty to retire from the directorship of the Harvard Psychological Laboratory and get the title of his laboratory changed to Laboratory of Psychophysics. So that was done, with a little party given in Memorial Hall to recognize the new laboratory, presumably the first laboratory of psychophysics in the world. I even tried to get Pusey to drop in on this, but it didn't work. At the same time Smitty's title was changed to Professor of Psychophysics, and it is quite possible that each of us felt that this was an original thought with him. So he was probably also the first Professor of Psychophysics anywhere. Now two or three of his junior associates (graduate students or instructors) who are scattered elsewhere now in the United States, have this title, which is a matter of pride to Smitty. When Fred Skinner retires to be Edgar Pierce Professor of Psychology Emeritus, which is also my title now, can it go to Smitty as it naturally would, or will he want to hang onto Psychophysics? Dick Herrnstein's almost too young for a named chair, but of course he'll be older after a while.⁶

Back in the 1930s I was determined that we should have some kind of a grand celebration on the centennial Fechner Day, 22 October 1950, but we didn't. It was too early in the year to invite people here to read papers which would somehow get published afterwards. It came on Sunday, a matter that I had not looked up when I first planned it twenty years earlier. And so, quite conscious of the significance of the day, we let it slide without any kind of celebration, unless it was that I reminded Smitty not to forget it.

Sixteen years later my 80th birthday turned up, ten years after I had become emeritus but while I was still going to the Laboratory for from five to seven hours on seven days a week, and Harvard was still giving me office space and in various ways I was managing to keep hold of Edith Annin, who is still with me after fifteen years, although now (alas!) she has to be on half-time for another department because my pocketbook does not stretch so far and the University has been maximally generous in letting me have space (or perhaps it's Psychophysics that lets me have space).

But then in 1966 came an invitation to a celebration of Fechner Day on 22 October at the Stevens house,⁷ and this turned out really to be a celebration a day in advance for my 80th birthday, planned better for a Saturday than a Sunday and leaving the actual birthday to whatever family rites would be in order. It was a wonderful occasion for me: twenty-six of my friends at dinner, at little tables under a marquee set up beside the house in the Stevenses' garden, a marquee with plastic sides so that you could see the fall coloring outside under floodlights, and speeches, and a brass plaque, and lots of goodwill. So Fechner and I had it together.⁸

⁵ Again Boring may be in error. I have elsewhere (Rosenzweig, 1986, pp. 2-4) raised the question of Freud's sensitivity to Fechner Day as a reflection of that awareness at the Brücke Institute while he worked there from 1876 to 1882, all of which may have figured as latent stimulation from his *non vixit* dream. In that discussion (p. 4n.), I recalled Boring's commemoration of Fechner Day as "regularly celebrated" at Harvard University—an overstatement in the light of Boring's own comment in the letter here reproduced that the date was celebrated or remembered only on occasion.

⁶ The last two sentences illustrate the low average accuracy (approximately 33%) of even the best of historians when they attempt to predict the future—as Boring himself often warned. As he predicted, B. F. Skinner did become Edgar Pierce Professor Emeritus, the title that Skinner continues to hold. Smitty (S. Smith Stevens) died at age 67 (in 1973) and hence did not live long enough to acquire the emeritus status. His title at the time of his death was Professor of Psychophysics. R. J. Herrnstein, still young, is an Edgar Pierce Professor of Psychology (not emeritus) because of a change in Harvard policy and budgeting that, since Boring's time, permits the appointment of more than one Edgar Pierce professor. I am indebted to Sheldon H. White, the present chair of the Psychology Department at Harvard, for most of the foregoing information.

⁷ The close relationship between Boring and Smith Stevens is evident from the entire letter, especially on the occasion of the 80th birthday celebration. Momentarily I impinged on that relationship when, in response to an article by Stevens and Stone (1974a), I published an appreciative analysis of Boring's writing style (Rosenzweig, 1947) to which Stevens and Stone (1947b) further responded. Stevens then more fully took cognizance of Boring's consistent style and qualified his earlier praise of the readability formula of Rudolf Flesch (1946). The concessions made then by Stevens, an acknowledged expert on psychological measurement, reinforced the appraisal of Boring's merit that I had made.

⁸ In this context it is noteworthy that Boring's emphasis on the *Zeitgeist* acquired a certain attenuation in the last years of his life when he started to stress the subjectivity of selected historical dates (Boring, 1965), explicitly in the article of which he sent me a reprint with his letter. He went further in his briefer life of Fechner (Boring, 1966). There he wrote:

Great men and their unexpected insights are for the most part created *ex post facto* as mnemonic aids for the student of history. In this same manner Fechner himself, ten years after the event, looked back on his own thinking as he had lain in bed on the morning of October 22, 1850, and chose that moment for the insight that created psychophysics. Great men and crucial dates are useful as they affect an analysis of history, for history, being descriptive, is necessarily analytical. (p. x)

The fact that Boring's usual care in supporting interpretations of this kind by documentation was not exercised on this occasion excites surprise. Was he not implicitly thus admitting (and possibly overgeneralizing) his own subjectivity in the celebration of Fechner Day at Harvard—a point that Stevens recognized by the ambiguous birthday party arrangements? It is instructive that, unlike Boring or possibly because of Boring's successful legend building, Stevens regarded October 22 as a serious occasion for celebration. In his posthumously published book *Psychophysics* (Stevens, 1975/1986), he recounted the incident of the insight on October 22, 1850 (p. 7), then alluded briefly to the caricature of

And that's all. It's just a date that we talk about in good fun, but it represents keeping alive a branch of science that the psychologists would otherwise [have] deserted a little bit more than they have.

Oh, I forgot to say that the precious date was also given by Titchener—no, I have that in above. So that's all right.

Just now I'm spending long hours working over translation into English of the second volume of the Fechner *Elemente*, because put literally into English it is about as dull and confusing and sometimes uninterpretable as it always was in the German. Holt, Rinehart and Winston published the first volume and someday we will get this second half done, but we do not have much help after NIH stopped supporting translation. We have to get it done by little bits.

The magic drug Alkeran conquered my myeloma, which was discovered in December 1966 and more or less conquered by June 1967, although I was still unable to walk without a walker. Nevertheless, I could then walk around the block once or even twice. I had to be careful because the myeloma cells invade the bones and make them fragile, and this was proved on 11 August when I fractured my hip. These last six months, therefore, I have been confined either to the hospital (four of them) or to the first floor of my home, not even being allowed to go down the four steps from the portico to the ground to take a car or taxi somewhere. The doctors say I am making a marvellous recovery, although the 35-foot trip with the walker to the bathroom tires me. Still I can now stand alone with no walker for 15–20 seconds, and I look forward to getting back to William James Hall, at least in a wheelchair, by summer. In all this there is nothing to be surprised at. I'm now 81+ and nearly everybody dies at 81.

Yours,
(Signed) Garry
Edwin G. Boring

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Fechner's scientific work by James (1890), but concluded: "Fechner had his defenders, however, and his form of the psychophysical law became the standard version expounded in nearly all the textbooks. And October 22nd is celebrated by psychophysicists as Fechner Day" (p. 10).

This document inimitably conveys Boring's strong identification with Fechner, transmitted through Titchener. Four weeks after composing it, he joined them in the continuity of history. With his passing, an era in American psychology came to a close—an era in which the dedication of psychology to pure experimental method and to historical scholarship had reached its acme. In the ensuing 20 years, the profession may have made other gains—in public recognition, possibly in useful social application, and certainly in head count. But can these advantages truly compensate for the vitality of the earlier period? In a further stage of evolution will psychology again achieve its pristine solidarity?

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