Classical Blunders

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Don’t believe everything you read, not even in the classics, cautions Linda Bartoshuk of Yale.

“The books aren’t always right,” says the APS Board Member. “I don’t think I learned that until graduate school.” At Brown University, when Harold Schlossberg, himself a co-author of a classic textbook, assigned her to report on a paper, “I had to admit to the class that I thought it was nonsense. He just smiled and said he’d never said he assigned only good papers. That was the first time I realized that not every paper published was correct.”

When it comes to questions of taste, Bartoshuk should know, because her research is all about the sense of taste – our whole concept of which is itself a classic blunder, she says.

You can’t get more classical than Aristotle. In the fourth century BC, he categorized our five senses: sight, smell, hearing, touch, and taste. About taste, he was wrong. Properly speaking, we don’t have a single sense of taste, Bartoshuk says, but several: a sense of sweetness, a sense of bitterness, a sense of saltiness, and so on.

Fast forward to late 19th-century Leipzig: Federico Kiesow (1858-1940), one of Wilhelm Wundt’s students in his experimental psychology lab, looked for phenomena on taste analogous to color. “Not surprisingly, he ended up doing studies that talked about the different taste qualities that were analogous to color, so we had sweet, salty, sour and bitter all as one sense – taste.” In Sweden, Hjalmar Öhrwall was examining taste quite differently, with each taste a separate sense. Colors mix and blend, he said; tastes are discrete.

“It turns out that if you look at all of the studies that were done, Öhrwall was correct,” says Bartoshuk. “The qualities were essentially independent of each other.” Bartoshuk notes that if we had all been students of Öhrwall, we’d all have been talking about that.

But we weren’t. “Despite Öhrwall’s sage remarks, Kiesow’s views prevailed,” Bartoshuk reported in her 1978 *History of Taste Research*. She suggests that part of Kiesow’s influence probably had to do with Wundt’s central position as a teacher of experimental psychology. Many of Wundt’s American students (or their students) went on to write influential textbooks in which Kiesow’s views were reflected, if not explicitly cited.

Indeed, when Bartoshuk was researching that history, “I was amazed to find how many books quoted the Wundt lab’s party line on taste without attributing the work to Kiesow.” In fact, Bartoshuk says, “I was stunned at the amount of purloining that textbook authors were doing that wasn’t being attributed.”

An even more egregious blunder, she says, is the so-called “tongue map,” which purports to plot the location of specific taste buds – saltiness and sweetness buds concentrated at the tip, sourness at the

edges, bitterness at the base.

“So many kids grow up learning it,” says Bartoshuk, who occasionally lectures in schools. Often the schoolchildren will have prepared for her lecture by doing a lab project in which they are supposed to map the tongue’s tastes. “When I ask them if they got the answer that was in the book, they tell me they didn’t. And when I ask why they think they didn’t, they say it’s because they must have done something wrong. They assume the book was right!”

But the book is wrong, and Bartoshuk blames the error on yet another literary icon, Harvard’s eminent psychological historian, Edwin G. Boring (1886-1968). His *Sensation and Perception in the History of Experimental Psychology* (1942) described work by another of Wundt’s students, D. P. Hanig. “I took a look at the original Hanig paper,” Bartoshuk says. “I translated some parts of it to see what he originally said and realized that Boring had gotten it wrong. When someone that illustrious can make mistakes, it really opens up possibilities!”

In fact, she says, none of the modern textbooks attribute the tongue map to a source at all, “because there isn’t any source, it’s a misinterpretation of Hanig’s work. I think Boring didn’t understand the German so he misinterpreted the findings. Being at Yale, when I mention this in my lectures, I always stress the fact that he was a Harvard professor.”

Subsequent authors simply repeated the bogus finding, again without attribution, she says.