

## Etymology and Pedagogy:

### Using the Etymology of STEM-Based Vocabulary as a Teaching Tool

Over 90% of the English vocabulary of the sciences and technology has Greek and Latin roots, and I have taken advantage of this fact in numerous teaching contexts. Etymology is a quick and fun way to hook the many STEM students one finds in a beginning Classics or history course that also fulfills a school's general education requirement, of which I have taught many—for example, the popular Greek and Latin Roots of English course at Hunter College of the City University of New York; and even the very general Western Tradition course I have taught in recent semesters at my current institution, a small, Jesuit university in the northeast.

STEM majors are often excited to learn the roots of words they encounter every day such as *chemistry*, *biology*, *laboratory*, and *algebra*. Learning the origins and histories of commonly used STEM words brings students closer to both their major fields of study as well as the humanities.

As an historian of science whose research is focused on the field of Greco-Arabic studies, I have found that the etymology of STEM-based words also works as an entrée into teaching the history of science. The development of scientific fields like chemistry, astronomy, and physics was a complex, global process lasting millennia, and much of that history can be traced through etymology. Thus, we use what students already know—the words they use every day in their STEM classes—as a bridge to what they do not yet know: how their fields of study came to be. There are, however, some challenges presented by the picture I have painted above. One obstacle is most undergraduates' shaky foundation of knowledge when it comes to ancient and medieval history. Teaching straight etymology—the basic origins of words, which languages they derive from—is fun, and works well in the classroom. But etymology is not simple or straightforward;

there are complex historical processes behind the development of scientific and mathematical terms. In attempting to teach the etymology of *algebra*, for example, in any meaningful way, one needs to explain the Golden Age Islamic intellectual tradition and the medieval European tradition of the translation of Arabic works into Latin. This extends beyond what most undergraduates in a Classics department know, and it certainly exceeds what the students at my current institution are familiar with in terms of premodern history. To reach that level of meaningful engagement with etymology, the development of science, and history, an introductory course is not enough—students need more time and background for that kind of work, and few universities have a dedicated department for the history of science. This means that something like Greek and Latin Roots of English at Hunter College is a terminal course of sorts—if an undergraduate wants deeper engagement with etymology and intellectual history specifically, there is nowhere to go. The university where I teach now does not have a Classics department and offers very little Latin and no ancient Greek or Arabic at all. The history department is one of the smallest at the university. I am the only premodern historian (and the only woman, though this is an issue of another kind) on the small history faculty, which comprises four people, including me.

My current institution is unlike anywhere I have taught before, and it is certainly very unlike the research institution where I earned my PhD, housed as it is in a converted mansion in Manhattan's Upper East Side, where a handful of graduate students and visiting scholars work on unique, interdisciplinary projects that span the entire Old World from the Bronze Age to the Middle Ages. The institution where I now teach is a small, urban university that serves a largely black, Latinx, and Southeast Asian demographic, reflecting its home of a city which is by some accounts the second most diverse in the United States.

But in landing at this university, I have found my home. As a female scholar of color in a field where few people look like me, I have the privilege of teaching at a school where nearly all the students look like me. While there is no Classics department at my institution, my many students of Arab and Southeast Asian descent are excited to learn about the ways in which the Islamic intellectual tradition has impacted the development of the sciences they study, a topic I'm uniquely equipped to teach. The study of etymology—knowing where words come from and how to use them—helps develop writing skills, something students at my institution often struggle with. This teaching tool has helped me offer value to my students in unexpected but meaningful ways.