Editorial

Don’t Forget the Liberal Arts

If it were readily possible, how many people would take the opportunity to have lunch with a person actively pursuing a career in, say, geology and, across the lunch table, you could find out what questions were commanding the attention of the geologist? And why, you might ask, these particular questions? You could ask the geologist what she thought of the current controversy over the age of the Grand Canyon. It could be a very interesting lunch. Or suppose your lunch companion was an art historian. Wow, what a treat! Once again you could find out what questions the art historian was asking and again, why those particular questions; you could ask whether he thought Picasso’s cubism influenced Einstein in any way. At any good university there are scholars working in most of the major subject areas of interest and a short walk on the campus can bring interesting people to the lunch table. Unfortunately, such luncheon meetings happen only rarely.

The paucity of cross-talk between representatives from different disciplines is a loss. Imagine a physicist having lunch with a professor from the humanities. The humanities – literature, art, history, philosophy, for example – are a core part of the liberal arts and they are concerned with “big” questions, questions of human import, often questions of higher purpose. The big questions of humankind do not have definitive answers like 32 ft/sec². Great literature does not produce data points that can be presented in a log-log plot. Likewise, human values cannot be represented in a log-log plot.

The liberal arts are being squeezed out by forces determined to see education merely as a means to an end. STEM (Science, Technology, Engineering, and Math) courses are routinely identified, both implicitly and explicitly, as important because they are seen as leading more directly to a job. The governor of Florida, Rick Scott, recently appointed a task force that suggested that students with “business-friendly” majors pay a lesser tuition than those in the “traditional liberal arts.” Said the governor: “I want to spend our dollar giving people science, technology, engineering, and math degrees. That’s what our kids need to focus all their time and attention on.” (quoted in the New York Times, December 14, 2012, page 29) Notice the word “all.” “…all their time…”

Governor Scott’s suggestion was clearly motivated by his desire to see Florida students get a job upon graduation. At the same time, his suggestion was profoundly incomplete. When the governor hires a new employee for his staff, he certainly wants someone who has good communication skills. It is unlikely that any STEM course can be identified that requires students to discuss verbally or in writing what they
think of a particular scientific concept, or to write a term paper on the conservation of
momentum, or to answer an essay-type test question on the place of Newton’s
Second Law of Motion in relation to his First Law. STEM students are expected to
solve quantitative problems – problems that can be easily solved on a digital com-
puter. By contrast, courses in the humanities are characterized by in-class discussions
using ordinary words and in this process students sharpen their abilities to com-
municate to the instructor and to other students: What do you think of King Lear’s
decision to split his kingdom between two sycophantic daughters? Who is the better
novelist, William Faulkner or Ernest Hemingway? Justify your answers. What were the
French Impressionists trying to do with their paintings? What prompted the
Enlightenment in France? Can the computer answer questions like these?

We agree with Governor Scott that getting a good job is of utmost importance
for all students. However, there is so much more … so much more. First, university
graduates should be keenly aware of the potential dangers of technology in and
out of their specific jobs. The world is currently entering the Big Data era that
involves handling enormous amounts of data sets – data sets on the order of a
billion billion bytes of data; that is, $10^{18}$ bytes of data. At a conference, the director
of the MIT Center for Digital Business, Erik Brynjolfsson, said Big Data will
“replace ideas, paradigms, organizations and ways of thinking about the world.”
There is now talk about Big Data measuring people and monitoring them. Is this
what Governor Scott wants? Scott’s STEM students will be the midwives to the
maturation of the Big Data era and their training in physics and mathematical
modeling is unlikely to set off alarm bells in their minds about “measuring people.”
We suggest the digital Big Data world, driven by bits of information with no
shades of meaning between the 1s and 0s, to be a barren world. It is a world that
would jar the sensibilities of humanities students.

We also believe his advice is shortsighted as it ignores half of the world that
students will move into upon graduation. In addition to preparing students for
gainful employment, a university education should develop interests that can bring
to students fulfillment and meaning outside their eventual workplace. What
human interests are sparked in STEM courses?

Consider some numbers: there are 168 hours in the week. Suppose a person
spends 55 hours per week on job-related activities; 49 hours per week sleeping;
14 hours per week eating and miscellaneous. This sums to 118 hours and that
leaves 50 hours each week that are up for grabs.

We suggest that students’ education should prepare them to use their “up for grabs”
hours in ways that go beyond the quantitative methods and ideas they work with on
their jobs. We suggest that the human world of the humanities identify many paths, a
variety of paths, into the qualitative world that can beautifully complement the
technical workplace and, in the process, bring lifelong satisfaction and fulfillment.

John S. Rigden
Roger H. Stuewer