

THE UNIVERSITY AND OUR SCIENCE-ALIENATED AMERICAN PUBLIC

*an open letter to University of Chicago President HANNA HOLBORN GRAY
from WILLIS ELLIOTT, PhD '54
via the UNIVERSITY OF CHICAGO MAGAZINE
re the opening concern in your current presidential letter*

My dear Dr. Gray:

An avid reader of your informative, thoughtful presidential letters, and an ever-enthusiastic booster of our university, I am writing you--my first letter ever to you--out of a dual concern. I'm concerned about America's tragic scientific illiteracy and about what strikes me as the narrow-minded and shallow way our school is going about trying to do something about it. From your text, I pick up on particulars:

1. "Our Natural World: How Science Works and What Science Finds"--would have been motivationally superior. (I would be struck by this: my dissertation was on motivation.) Instead, what we have is in-house scientific jargon: "Evolution of the Natural World." Why in-house? Instead of being interdisciplinary, the design team was drawn only from the Physical Sciences and Biological Sciences faculty. Any Division develops jargon and, without interdisciplinary intercourse, is as unaware of it as a primitive tribe is of another language till hearing a foreigner talk funny. Why scientific? That's the word for the overreaching, overclaiming that occurs when inmates of the physical and biological sciences talk only among themselves. "Science," meaning their disciplines, is omniscient, explaining everything as yet explainable. (Yes, this provincial arrogance is true of all primitives living surrounded by terrae incognitae. It's especially tragic to see how the social "sciences"--psychology, sociology, and even history--have, in their struggle for respectability, aped this false and self-defeating attitude that encourages internal sectarianism and militates against the disciplines' and the university's communication with the general public.)

2. A story before I proceed, lest I be thought antiscientific. In 1934 I heard a lecture easy for me to remember because, while conflicting with my prejudices, it confirmed my suspicions. (As president of our highschool's science club, I'd secured this scientist for an evening, in connection with our visiting a famous scientific institution.) "Young gentlemen," he began. (Girls weren't yet into science, and we highschool boys were generally, most of the time, gentlemen.) "How many of you are technocrats?" Almost every hand went up. On both sides of the Atlantic, in the depths of the Great Depression bright young people were hoping for salvation by science. (It was an organ-stop Hitler was just learning to master, and its tentacles reached in many directions, eventually technological mass-death in the concentrationcamps.) "I am worried," he continued, "lest you overbelieve. If science is permitted to hypertrophy, to play God, what is to hold it in bounds? And what will it do if unbounded, unlimited? It will destroy humanity and the earth. The Greeks called it hubris, the Bible calls it sin. Science is a great good. If we did not believe that, we'd not be in this room tonight. But any good driven by overclaims becomes arrogant, and arrogance is anti-life, evil." The lecturer was warning, not prophesying.

3. But the more I struggled with what he'd said, the more it felt like prophecy. As I continued to prepare for a career in science, doing some college science while still in highschool, I found I was studying with new critical eyes, with what in these latter days some have come to call the hermeneutics of suspicion. The conclusion seemed to force itself upon me that science, which I'd seen only as friend, would quite possibly prove more enemy than friend. (That was long before holocaust, the bomb, the irreversible rape and pollution of the earth. And it was a decade before R.M.Hutchins, then your predecessor, coined "the good news of damnation" for the bomb.) Finis: I flipped out of science and into religion, which had done its own share of helping mess up the world, but whose prospects seemed to me, on balance,

to threaten less harm, and promise more good, to humanity and the earth. I have just come from the hospital: thank God for science! I have just completed my daily devotion: thank God for God! and may their present alienation be transcended.

4. True science, true religion, authentic humanity, is **modest**. Yet the devilish temptation to speak with a loud voice afflicts all God's children! I need only glance at the offenses of religion here, all the way down to Jim and Tammy Bakker. My present concern is science's present offenses against modesty. (Historically, they're neatly displayed as science's paradigm shifts in A.Helleman and B.Bunch's *THE TIMETABLES OF SCIENCE: A CHRONOLOGY OF THE MOST IMPORTANT PEOPLE AND EVENTS IN THE HISTORY OF SCIENCE* (NY: Simon & Schuster/88). Consider: "The six-quarter sequence for non-scientists" you describe as "designed as much to teach students how science works as to convey specific information." Modesty, as well as accuracy, would suggest that such a goal should be labeled something like, as I have already suggested, "Our Natural World: How Science Works and What Science Finds." Or "Our Natural World: How We Study It and What We Learn from It." Or "Knowledge of the Natural World." Or "Science as Method and as Knowledge." Or "How Nature Works, and Why We Need to Know It."

5. What are my **objections** to the sequence as you describe it?

(1) Immodestly, it assumes that nonscientists will learn in the sequence what they need to know to be literate science-laity. "The course is designed to teach how science works....[to teach them] to formulate hypotheses inductively, or to test them experimentally....to give the students an experience analogous to that of the scientist, to help them understand scientific concepts and methodology." All laudable objectives, but look what's left out: What is science's proper humane functioning vis-a-vis other human activities, experiences, adventures (eg religion, philosophy, art, government)? Of the ways of knowing, how is scientific knowing (as purpose-process-results) related (dialectically and integrationally) to other ways? Does scientific method have any inherent human value, or is it values-neutral (self-directing, letting other sectors of society worry about the consequences)? Should scientists attend to their actual and potential influence on religion, morals, ethics, government? If so, how? (Were Hitler's scientists good scientists qua scientists? If not, how not?) How can science contribute to a more truly human future, cooperating both with other academic disciplines and with nonacademic cohorts in society?

(2) It's "process" topheavy, "process" infatuated: "The course is designed to teach how science works by exploring the processes...." It took three generations to overcome the "progress" infatuation of earlier modern science: will it take three more to get over this "process" infatuation? Surely there's more that science laity should learn about science than its current dynamic paradigm, which the next paradigm shift will add to the compost pile of "the timetables of science." (Stay tuned to the philosophy of science. Surprises are peeping up on the horizon.)

(3) Immodestly, it speaks of "evolution" instead of "development." What difference would it make if the sentence read "The course is designed to teach how science works by exploring the processes of cosmological and biological development"? Aren't the two words synonyms? To the Japanese, yes; to the Americans you want to help make scientifically literate, no. The Japanese never experienced the evolution/development debate that was touched off when the third edition of *THE ORIGIN OF SPECIES* dropped the second edition's final tribute to God as the creator of evolution. By contrast, the Western world is still in the throes of that debate, a fact the religiously illiterate erroneously assume was settled by the 1925 "monkey trial." Scientists offend no one when they speak of "development," which is what is available to scientific method to study. But when they say "evolution" and include how nature came to be "spontaneously," i.e. without God, they (1) have put too much on their plate, claiming as science what must remain in the realm of myth, and (2) have given unnecessary offense to the God-believing public, 96% (says Gallup) of us Americans.

6. All the early presidents of our university were preachers, clergy interested in what you well call "the integration of research and teaching." That "sequence for nonscientists" is a bad sermon, and needn't be.