It is an axiom of modern higher education that universities must not only teach what is already known, but also push back the frontiers of knowledge by investing in pure research. Vannevar Bush, the architect of America’s post-World War II science policy, helped make this case in *Science: The Endless Frontier*. Writing in 1945, Bush argued that the immediate, practical payoff of basic research can never be seen in advance, but that life-saving and life-enhancing discoveries quite often result when scientists are free to indulge their intellectual passions.

Since that time, government, universities, and the American people have repeatedly demonstrated their commitment to the pursuit of pure knowledge. But in the 1990s, when federal funding was slashed for the Superconducting Supercollider, cutting off billions of dollars earmarked for probing the deep structure of matter, many observers began to fear that the heyday of big-budget “big science” was over. Meanwhile, the phenomenal takeoff of profit-driven corporate research has only fueled apprehensions that universities’ research missions might be in peril. Today, professors in fields like computer science and biotechnology routinely leave academia for the private sector to escape teaching obligations while continuing to enjoy intellectual freedom.

All this would have perplexed Wilhelm von Humboldt, the founder of the modern research university, who saw cutting-edge research as inseparable from, and in fact identical to, good teaching. Humboldt (1767–1835) was a German aristocrat, a formidable scholar of classical and modern languages, a close personal friend of the literary giants Johann Wolfgang von Goethe and Friedrich Schiller, and the brother of a famous, globetrotting natural scientist, Alexander. In 1810, as part of a top-to-bottom program of educational reform in his native Prussia, Humboldt shepherded a new university into existence in Berlin. It soon attracted professors like G. W. F. Hegel and Arthur Schopenhauer; its diverse crop of alumni counted both Karl Marx and, much later, the African-American scholar W. E. B. DuBois. The center of German intellectual life throughout the nineteenth century, Berlin provided the model on which virtually all research universities, from Johns Hopkins to

*Quotes by Humboldt used in this essay are from Wilhelm und Caroline von Humboldt in ihren Briefen, edited by Anna von Sydow, and Gesammelte Schriften.*
Harvard in the United States, were either founded
or reformed.

Before Humboldt, it was by no means clear that
the university, a medieval institution dedicated mainly
to training preachers, doctors, and lawyers, would be-
come a sponsor of research at all. The most prestigious
universities, like Oxford and Cambridge in England,
were best known for refining the manners of young
gentlemen, and Göttingen in northern Germany
even offered classes in fencing and horseback riding.
Magnets for student revelry then as now, many uni-
versities failed even at this task and came to be seen
as cesspools of alcoholic indiscretion.

Thinkers of the Enlightenment, many of whom
scorned the university as a relic of the Dark Ages,
placed higher hopes in aggressively modern academies
of science founded to support the investigations of
gentleman scholars. London's Royal Society, the ar-
chetype of the scientific academy, was presided over
by no less a luminary than Isaac Newton, and the
academy in Berlin was founded in 1700 by Gottfried
Wilhelm Leibniz, who shares credit with Newton for
inventing calculus.

Looking back a century later, however, Humboldt
found that academies had produced little significant
research, whereas many of Germany's brightest think-
ers taught in its universities. This recognition helped
convince Humboldt to combine academic research
with the university's historic teaching mission. Syn-
thesizing the best of both modernity and tradition,
he forged the world's most dynamic and influential
intellectual institution.

Humboldt was an accidental revolutionary.
Stationed in Rome as ambassador to the Pope before
being summoned to Berlin in 1808 as chief of Prussia's
Department of Culture and Education, he was reluc-
tant to leave the Eternal City. His light ambassadorial
duties had left him ample time for scholarship and
personal cultivation, both centered on the study of the
ancient world. In addition, his wife was pregnant, and
she and their children would have to stay behind for
what was to be a two-year separation. But Prussia had
recently suffered a humiliating defeat at Napoleon's
hands, and Humboldt felt the call of patriotism and
the pangs of ambition. So he set off across the Alps
to a homeland ravaged by war.

Prussia's king had lost a great deal of land, money,
and power to Napoleon, and resolved (famously but
perhaps apocryphally) to “replace in spiritual powers
what we have lost in material strength.” Humboldt,
having consecrated his life to the values of classi-
cal humanism, was a natural choice to superintend
Germany's cultural renewal. A personal favorite of
the king, Humboldt found an extraordinarily warm
reception back in Germany and was granted an open
mandate by his ministers. Bemused, he wrote to his
wife that "people act as if, without me, no one in
Prussia could learn to read." Taking advantage of his
happy situation, he determined to make the benefits
of his own learning and intellectual well-roundedness
widely available to others.

Embarking on a massive overhaul of Prussian
schooling, Humboldt constructed the world's first
integrated system of education by linking primary,
secondary, and post-secondary schools together. At
all levels, he emphasized individual cultivation, not
the mere mastery of useful skills, as the ultimate end
of all pedagogy. The thirty thousand primary schools
opened or refurbished in the first half of the nineteenth
century helped secure universal access to education
as a public responsibility of the state. His elite high
schools, the Gymnasia, championed study of the
classics in an age dominated by utilitarian ideolo-
gies of scientific practicality. But the vindication of
the university formed the crowning achievement of
Humboldt's educational revolution: by solidifying the
foundations of schooling through careful, structured
design, he could then envision the university as a
haven of absolute intellectual freedom.

Humboldt's own university experience had, to be
sure, been brief and decidedly mixed. A stimulating
year spent studying the classics at Göttingen, at that
time perhaps the best institution of higher education
in Europe, had followed a disappointing stint at a
provincial eastern German university in 1787. There,
the teachers were numbingly pedantic, dispensing
predigested information in long lists of citations by
page and paragraph number and lamely spicing up
their presentations with “stiff professor-like jokes.”
Students became bored and lazy and talked through-
out the lectures, and one of them habitually brought
a large, noisy dog to class.

Humboldt favored a much freer, more intellectu-
ally intense lecture style in the plans he drew up for
Berlin's university. A good professor, to him, did not
collect and regurgitate dead facts, nor even wrap them
in an enthralling, entertaining, amusing presentation. Better that the scholar should be seen thinking on his feet, clumsily, haltingly if need be, and invite students to think along and come to their own conclusions. Humboldt’s ideal learning environment, in fact, was much closer to the seminar, and in his university the word “seminar(y)” ceased to denote a place to train clergymen and came to refer to a group of scholars engaged in active, collaborative research, usually in preparation for high-school or college teaching careers themselves. But the seminar’s underlying purpose remained the same: to train the next generation of educators to teach through the spoken word—in the classroom, rather than the pulpit.

It is hard for us today to appreciate the novelty and boldness of Humboldt’s redemption of face-to-face learning. Because the eighteenth century had been the golden age of the printed book, its most advanced thinkers had put their faith in the written, not the spoken word. The gigantic (twenty-eight-volume) Encyclopédie of Diderot and D’Alembert was the Enlightenment’s most celebrated effort to systematize all human knowledge, and its backers honestly envisioned it as a complete, ultra-modern resource for self-education that would fit comfortably on one shelf. That today’s high school graduates, rather than procuring a set of quality encyclopedias and setting off into the world, spend far more money and time in college, is a testament to Humboldt’s vision.

Spontaneous, ongoing, research-oriented oral interaction between teachers and students not only made more pedagogical sense than codified, objectified book-learning; it also better suited the inherently provisional, incomplete nature of all human knowledge. Among Humboldt’s guiding principles was a belief in knowledge as “something still not completely discovered, and never completely discoverable.” This appealed to an age when the very success of academic research had made the encyclopedists’ passion to systematize and codify all knowledge infeasible. Assembling “mere masses of dead facts” must give way to the much more important pedagogical task of emboldening the “spirit to command an entire field.” However faint its echo in today’s dry academic writing, Humboldt’s fundamentally Romantic conception of scholarship as an endless, Byronic quest lives on in the institution he created.

First-hand experience with the joys and frustrations of what was not yet known was the crux of the learning experience at the university level. Nothing, to Humboldt, contributed more to the development, not just of intellectual prowess, but individual moral character. Research taught newly minted Gymnasia students the virtues of “loneliness and freedom,” the ability to stand on their own feet. At the same time, the emancipation from schoolmasterly oversight oriented students toward a higher communal purpose: “The teacher no longer exists for the sake of the student; both exist for the sake of knowledge.”

United by the common bond of research, teachers and students would coalesce in “unforced and open-ended togetherness” without any further prompting. All this left state authorities to pay the bills and keep their distance; well-formed citizens would then naturally result, “because only knowledge that comes from the inner person and that takes root in the inner person transforms character, and the state, like humanity itself, is less concerned with knowledge and talk than with character and action.”

Such idealism made Humboldt’s university much freer than any of its modern counterparts. There were no exams, no grades, no prescribed curricula, and no majors, though students did formally register in one of four faculties—medicine, law, theology, or the research university’s new centerpiece, philosophy, where the newly instituted Ph.D. degree, awarded in all the arts and sciences, certified the student’s originality within a field, rather than mastery over it.

Freedom of learning was complemented by freedom of teaching. Instructors were allowed to teach whatever they wished. Full professors, salaried by the state, offered public lectures absolutely free of charge. Junior scholars, by contrast, lived from lecture fees paid by students, which made them responsive to student demand and encouraged healthy competition to fill seats. Berlin also lured prestigious scholars from other universities, giving rise to a nationwide scramble for talent that ultimately spurred the rest of Germany’s universities to catch up. All the ingredients, in short, were in place for a true marketplace of ideas, and Germany became a mecca for scholars from around the globe in the nineteenth century.

Indeed, in assessing the nineteenth-century origins of modern culture, it is not an exaggeration to say that Germany’s educational revolution was to intellectual freedom what the French and American
Revolutions were to political freedom and the Industrial Revolution was to economic freedom. All three transformations promoted a distinctly modern form of liberty centered on the emancipation of the individual. What democracy provided in the political sphere, and capitalism in the economic sphere, Humboldt’s revolution provided the realm of what Germans of his generation called “spirit”—a moral character formed independently of any established church or religion, yet linking the individual to the rest of humanity.

Humboldt’s university was a temple of secular humanism perched at the very top of the educational system. True, it offered its character education only to the brightest and best-prepared students, and clearly reflected the elitism of Humboldt’s own mandarin circle. The distinctively American contribution to higher education, by contrast, has been to couple the traditional mission of the university with democratic inclusiveness. Still, even in this country, the hierarchy of academic merit remains the one form of elitism our egalitarian society actively promotes.

America’s democratic commitment to higher education is, in fact, fraught with its own special dangers. In particular, we hear a lot about the difficulties universities face in balancing their research and teaching obligations, with professors being enjoined to cater their teaching to the masses while pursuing ever more arcane avenues to truth in highly specialized research. Yet what many contributors to this debate see as an unresolvable tension, Humboldt would have viewed as a false dichotomy. This suggests that while we continue to insist that the university serve both functions, we have lost sight of what truly unites them in a common educational vision.

The forgotten lesson of Humboldt’s revolution, then, is that the modern research university was originally designed to serve humanistic rather than scientific goals. Research in Humboldt’s sense does not depend on big budgets, fancy equipment, or a steady stream of technological breakthroughs making us healthier, wealthier, and (possibly) wiser. But it does depend on making specialized academic inquiry serve a greater pedagogical end.

The research university’s highest aim is the cultivation of character, not the ascertainment of truth. Or rather: the uncompromising commitment to seek the truth, a quest that in principle can never be completed, is the distinctively modern twist that Humboldt added to the ancient and medieval conceptions of character education. Teaching through research is one of the few forms of overt moral tutelage compatible with the openness, freedom, and religious diversity of modern society. Its unity at the university level simply forms the highest part of a mission ultimately belonging to the entirety of humanity:

Forming the human being is not merely a task for the educator, the religious teacher, or the lawgiver. Just as every human being, in addition to whatever else he can be, always remains a human being, so it is his duty, along with all the other business he may conduct, always to take practical consideration of the intellectual and moral cultivation of himself and of others.

Ian F. McNeely is assistant professor of history at the University of Oregon and the recipient of a 2002 Oregon Council for the Humanities Research Grant. He has authored books on the role of writing in German political culture and on the nineteenth-century medical reformer Rudolf Virchow. His current project centers on the modern research university and its historical alternatives.