



A biology class at Johns Hopkins University in 1920.

HIGHER EDUCATION

The making of US academia

Rogers Hollingsworth traces the European influence on US research universities that began some 150 years ago.

Fast technological, economic and political shifts are putting pressure on research universities, prompting heated debate over the nature, goals and value of these institutions. More than a century ago, there were similar debates in both Germany and the United States, where the German model was widely admired. Scholars argued over issues such as local autonomy versus central control, scientific breadth versus depth and emphasis on teaching over research. From around 1870 to 1920, the US research university took shape in new institutions including Johns Hopkins University in Baltimore, Maryland, and the University of Chicago in Illinois, and through reform at established universities such as Harvard University in Cambridge, Massachusetts.

The Rise of the Research University — edited by Louis Menand, Paul Reitter and Chad

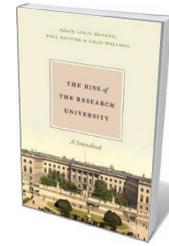
Wellmon — brings together 30 historical essays to shine a light on the evolution of German and US research universities during those years. Pieces by the likes of philosophers Friedrich Schiller, Johann Fichte and Wilhelm von Humboldt, founder of the Humboldt University of Berlin, are newly translated from German. The US offerings include essays by noted educators such as Henry Tappan, first president of the University of Michigan and a strong proponent of the German model; Charles William Eliot of Harvard; William Rainey Harper and Robert Maynard Hutchins, both of the University of Chicago; and Noah Porter of Yale University in New Haven, Connecticut. The editors have also written valuable commentaries.

The essays range

► [NATURE.COM](https://www.nature.com)

For more on science in culture see:

[nature.com/booksandarts](https://www.nature.com/booksandarts)



The Rise of the Research University: A Sourcebook

EDITED BY LOUIS MENAND, PAUL REITTER & CHAD WELLMON

University of Chicago Press: 2017.

broadly. Some describe German research universities in the late nineteenth century. Others are reflections by US educators on the influence of German universities, or — like ‘The Utility of Universities’ (1885) by Johns Hopkins’ first president, Daniel Coit Gilman — discuss the value of universities to society. There are essays on the emergence of higher education for women in Germany,

and undergraduate education in the United States. Considerable attention is paid to the impact of US culture on its universities (as in Eliot’s ‘The New Education’; 1869) and on these institutions’ important role in promoting and maintaining democratic society.

The Rise of the Research University delves into telling dissimilarities between the US and German models. The nineteenth-century German university tended to emphasize pure rather than applied research, and expected professors to be exemplary in both research and teaching. In time, the emphasis shifted to breadth over depth. Germany also has had many fewer professors per university than the United States — in part because of the common requirement for a habilitation (a degree beyond the PhD) to obtain a professorship. In the United States, expectations that professors should become specialized in teaching and research mean that universities have needed more of them. German federal state ministers have also occasionally influenced university appointments and approved curricula; US research universities have had much more autonomy.

By the early twentieth century, some of Germany’s most distinguished professors began to demand better opportunities for specialized research, and to take on fewer students. They found those opportunities at the Kaiser Wilhelm Institutes, created in 1911 and renamed the Max Planck Institutes after the Second World War. Many leading scientists emerged from these institutes — Nobel laureates such as Richard Willstätter, Fritz Haber, Otto Meyerhoff and Otto Warburg. (In fact, universities have protested that the institutes have co-opted the most talented scientists.)

As this volume shows, the US trajectory was very different, despite the efforts of academics trained in or influenced by the German model. Graduate programmes began to emerge largely from undergraduate instruction (particularly in northeastern institutions such as Harvard and Yale, where they were grafted on to the collegiate system). With ►

► the exception of the Morrill Land-Grant Act of 1862 — which gave land to states, enabling them to finance public agricultural and technical colleges — the US government was relatively uninvolved in research universities until after the Second World War. Public universities have dominated in the US Midwest, West and South, although these regions also have exceptional private research universities. Public universities have been more democratic about admissions, have had more students (graduate and undergraduate) and have been more vocationally oriented. To a greater extent than in Germany, many US professors have become academic entrepreneurs — teaching what they wish, developing their own research programmes, moving from discipline to discipline, obtaining large research grants that permit establishment of small firms and securing patents.

After the Second World War, the US federal government became a major source of research funding, through the National Institutes of Health, the National Science Foundation and the departments of defence, energy, agriculture and education. This influenced the research agendas of universities — facilitating both basic and applied research — and the number of researchers. US universities have also long had more funding from private foundations than have German institutions.

By the end of the twentieth century, many US public research universities had, unlike Germany's, become huge, bureaucratic, self-organizing and vastly complex. Some have numerous vice-chancellors, provosts and vice-provosts; more than half a dozen colleges (each with deans, associate deans and assistant deans); colleges with multiple departments (some with as many as 90 highly specialized faculty members); sprawling hospitals; and huge athletic programmes. Some have also managed large federal laboratories. And today, US universities seem to be in existential flux, questioning their size, function, structure, nature, philosophical bases and monumental student fees.

The Rise of the Research University charts how unpredictable and unstable university systems have been on both sides of the Atlantic Ocean. It reveals that academic soul-searching about the role of research universities is as prevalent now as it was 150 years ago. But it also shows how important these bodies remain, in both the United States and Europe, in advancing understanding of the world. ■

Rogers Hollingsworth is emeritus professor of history and sociology at the University of Wisconsin–Madison. e-mail: hollingsjr@aol.com

BIOETHICS

Democracy *in vitro*

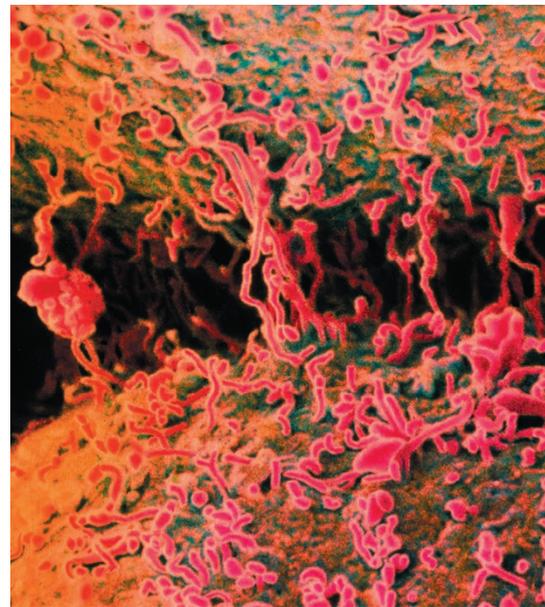
Insoo Hyun weighs up a treatise exploring the ethical deliberations surrounding embryo research.

One of the most celebrated paintings in Ohio's Cleveland Museum of Art is *Twilight in the Wilderness*. Frederic Edwin Church's panorama depicts a blazing sunset over shadowy mountains and a crimson lake. It signals a reverence for nature, but the blood reds hint at something darker. Church completed his landscape in 1860, on the eve of the American Civil War, and many believe that the fiery sky symbolizes the nation's expected conflagration.

Experiments in Democracy reminds me of this painting, in both its ambitious scope and its sense of unease. Science historian Benjamin Hurlbut offers a wide-angle history of US attempts at democratic deliberation on the ethics of human-embryo research. Pains-takenly researched and spanning more than four decades — from the advent of *in vitro* fertilization in the 1970s to contemporary developments such as germline editing — the book draws attention to an intricate interplay between science and democracy.

Mediating this interplay are government-sponsored bioethics bodies such as the Ethics Advisory Board of the US Department of Health, Education, and Welfare in the 1970s and the National Institutes of Health Human Embryo Research Panel in the 1990s. These serve as “experiments in democracy” wherein social imaginings of science, democracy, and the correct relationship between them are ‘co-produced’. Building on the terminology and work of other scholars at the nexus of science, technology and society, notably Sheila Jasanoff, Hurlbut laments that ethical deliberation around embryo research has always been too focused on the moral status of the embryo, with science supplying ‘facts’ and bioethics bodies providing ‘correct’ reasoning.

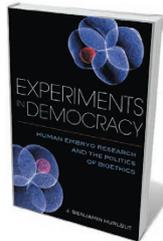
Standing in for the public, these bioethics bodies uncritically accepted science as an extra-political authority and used it to delimit the range of appropriate public reasons. That crowded out other legitimate perspectives, such as social-justice



More than 40 years of controversy surrounds research on human-embryo cells such as these.

considerations. Although these institutions helped to pave the way for human embryonic stem-cell research and widespread acceptance of *in vitro* fertilization, Hurlbut argues that they also narrowed the “repertoire of democratic imagination” necessary to guide our march towards a shared technological future.

Regret and lost opportunities are a leit-motif in the book. Yet, like Church's hidden brushstrokes — which lessen the painter's presence in his luminist landscape — Hurlbut's repeated use of the passive voice at key moments makes it difficult to discern who the agents were for these historical developments. In writing about scientific knowledge, for example, Hurlbut says that scientists' claims are privileged because they “are treated as de facto reasonable”. But, he notes, “those views that are marked as depending upon moral pictures of the world that are not accessible to others are de facto excluded as nonpublic reasons” — that is, as too doctrinaire and subjective to ground public policy. But who is doing this treating, marking, excluding and privileging? Is it the secular members of bioethics bodies? Is it the government sponsors who draft committee agendas and statements of task? Hurlbut obscures responsibility for these outcomes and offers no clear alternative account of how the social imaginings of science and



Experiments in Democracy: Human Embryo Research and the Politics of Bioethics
J. BENJAMIN HURLBUT
Columbia University Press: 2017.

YORGOS NIKAS/BOL.REPROD./SPL