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[With compliments of the author]

Charles E. McClelland

“American and German research universities between the beginning and end of the German Reich”
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1. Introduction

Let us begin with a brief conventional sketch of the “German-American” interaction in higher education starting around the beginning of the nineteenth century. With that in mind, we can move on to the main focus of this chapter, the half-century between about 1890 and 1940, having somewhat less to do with student movement and experience and somewhat more with autochthonous institutional developments.

As several contributors to this volume – and many elsewhere – have argued, the relationship between American and German higher education from the time of the founding of the United States evolved considerably and even radically. One can identify much of the educational tradition of the new American Union as British (Geiger 2014, 25-28). But the limited scope of the traditional English college, augmented by the often poor quality of American imitators, as well as an emphasis on training clergy for the multiplying religious sects in the New World, initially left little scope for the sort of rigorous post-secondary *professional* training that was offered in special schools (e.g., the English Inns of Court for law, English and French hospitals for medicine) and in Central European universities for those fields, as well as theology. As the United States evolved from a largely rural and agricultural society into an increasingly urban and industrial one over the course of the nineteenth century, growing numbers of Americans took on the expense, inconvenience and challenge of studying abroad, at first in the Anglophone Old Country but then increasingly in France and several of the German states. Over the course of that century, thousands of Americans, almost all male, experienced exposure to post-secondary professional training, as well as to innovative scholarly, scientific and medical methods hardly available at home. In contrast to typically small, provincial, highly regimented American “colleges”, many not much more than boarding high schools, basing a narrow curriculum on rote learning, the universities of Central Europe held out the lure of unparalleled personal and academic freedom, cutting-edge methodology with encouragement for student application to research projects

using it, a chance to partake of the vibrant urban life of metropolises like Berlin, Leipzig or Vienna and access to comparatively rich libraries and well-equipped laboratories.

This stereotypical description is more or less valid at least for the first seven or eight decades of the nineteenth century and for some purposes even later; but some terminological points require a further explication. For example, not all “German universities” were the same. The five largest ones attracted half of all students while many others languished as princely state colleges for some of the smaller of the two dozen member states of Bismarck’s *Deutsches Reich* founded in 1871 (McClelland 1980, 148). The rise of technical colleges paralleled the rapid development of German industry from the last third of the century, and their growth and success justified their being raised to the same rank as the traditional universities in 1900 – often to the chagrin of the latter’s professors. The term “research university” projects backwards from recent times, although by widespread tacit agreement virtually all German and many other Central European, especially Austro-Hungarian and Swiss “universities” were expected to promote original research in at least some of their component parts. Whereas “*Applaus*” or popularity with students had still been a major advantage to professors hoping for more attractive offers from competing institutions in the eighteenth and early nineteenth centuries, recognition by colleagues as an original contributor to scholarly or natural-scientific knowledge (*Wissenschaft*) became the ticket to a more prestigious and reward-laden professorship by the second half.

German universities in particular – but other equivalent or striving-to-be equivalent higher educational institutions such as technical colleges and art academies – continued to train “learned professionals” for actual careers in the civil service, legal system, secondary schooling, churches, medical care, and other callings requiring advanced education. The ringing call of Wilhelm von Humboldt (and others) in reforming Prussia’s education system, including the founding of the University of Berlin around 1810, to combine teaching and research has sometimes been misunderstood as if *only* educating thousands of students to be independent researchers was the path to turning out competent professionals.

Undoubtedly that path did suit a minority of students, but the majority continued to rely on *Pauken* (cramming) to get through the increasingly demanding qualifying exams for many professions. By contrast, the education for many American equivalent professionals was *not* carried out in “universities” until much later, but, as in the cases of physicians, lawyers, clergymen and many teachers, in private “proprietary” institutions with little demanding public approbation of qualifications. Equally important, one can plausibly describe the German higher education arrangements loosely as a “system” insofar as its components interacted under increasingly agreed-upon rules, but keeping in mind that higher education remained a matter of quasi-sovereignty and financial support among the two dozen federal states comprising the *Reich*. Also, education remained largely a domain of the state. In

contrast, American traditions encouraged *private* and even commercial interests to open and maintain credentialing institutions, with federal states exercising a mostly nominal oversight of any examination and licensing. Even today, one can plausibly speak of “higher educational systems” in individual American states (e.g., the California or Texas “systems”) but hardly of the United States as a whole. In the American case nobody can even agree on how many “higher educational institutions” there are: as many as 4,000 or as few as 2,000 “granting” some form of degree beyond high school graduation. There is also no firm agreement on how many “research universities” there are, owing to differing definitions.

Making comparisons between *all* German and American educational experience between 1870 and the 1940s would be a difficult and book-length undertaking, not to be attempted here. Indeed, many *contrasts* must be kept in mind. Although both the German *Reich*, a political structure that formally lasted from 1871 to 1945, and the American Union were federal states with parliamentary institutions and citizen participation in political life, the contrast between Hitler’s *Reich* and Roosevelt’s contemporaneous one could hardly have been more stark. While both countries experienced a comparable rapid industrialization and urbanization at the same time – Berlin was often compared to Chicago – the effect of rapid economic change brought different outcomes for the two countries’ educational systems. The same can be said about changes in society, with America opening paths to women earlier while long limiting opportunities for racial and ethnic minorities, or Germany offering at times better opportunities to Jews, of course radically curtailed by Hitler, than the United States. American tendencies toward more open access after World War I were not matched in Germany until the last quarter of the twentieth century, although again one must bear in mind the relative incomparability of “post-secondary” educational institutions in both countries. Many American “colleges” were little more than substandard high schools. Finally, intellectual and cultural traditions diverged widely in the nineteenth century, with one country obsessed with national unity and the other long open to immigration, multilingualism, religious diversity, and geographic and social mobility. Germany was the model for many American educational reformers, at least until their own reforms had begun to take shape, and until Hitler sealed the shift in scientific and scholarly leadership to the New World by expelling many of the very people who had anchored the country’s reputation as a world leader.

In order to settle on a plane of relatively stable comparability, let us limit our investigation here to what might be called “research universities” – or their equivalents by other names, such as, increasingly over time, *Technische Hochschulen* and Agricultural and Mechanical or A&M colleges. The precise number

of these is partly a question of definition and partly of chronological development. But let us start with the status around 1900, when the American Association of Universities (AAU) was founded by some 14 institutions granting the PhD degree, among them several old private ones (Harvard, Columbia, Yale, Princeton and Pennsylvania) as well as new ones (private like Johns Hopkins, Chicago, and Stanford or a few state-funded ones like Berkeley, Michigan and Wisconsin). The membership grew by invitation to about 25 public and private universities by 1930 and five dozen today. Starting in 1970 the Carnegie Foundation has provided a less elite definition – not counting institutional wealth or professorial prestige – based on such criteria as awarding at least 20 research/scholarship doctoral degrees, and the total today of such “R1” institutions is about 115 (Carnegie Classification 2018, 9). Germany in 1900 had just under 20 universities and half again that many technical colleges that had just been raised to university status (McClelland 1980, 236). The population of the United States was over 75 million; that of Germany about 56 million, revealing that America still lagged behind proportionately in providing a “German-style” research university education to students. This would however change rapidly over the next half-century.

These baseline figures mean fairly little in themselves but may serve to establish a point of orientation for the next section, which will analyze three distinct periods in which the shape and function of “research universities” shifted and to some extent reflected transatlantic interactions.

2. Three periods of interactions

A. Transition to urbanized and industrialized societies (1865/71-1890)

Just as the American Civil War and the wars of German unification in the 1860s settled many, if not all, long-standing questions of political identity and responsibility, this decade witnessed several important commitments that altered the course of higher education on both sides of the Atlantic. Taking advantage of the secession of the “Confederate” states from the American Union, the Congress in Washington passed the first Morrill Act in 1862, opening the way for financing public higher education, especially in the “agricultural and mechanical” (A&M) branches of applied knowledge and research, using grants derived from vast land holdings by the Federal government – ironically seized in many cases from the ancestral territories of Native American tribes. The second Morrill Act of 1890 serves as a convenient marker for the temporary end of Federal aid to higher education, extending the creation of A&M colleges to new western states and African-Americans whose educational opportunities in the

Jim Crow era were limited to so-called “separate but equal” institutions in most former Confederate states. The same year the American Civil War began, Yale University conferred the first non-honorary PhDs (Rosenberg 1961, 387), followed over the next two decades by a handful of other old universities such as Princeton, Harvard and Pennsylvania. The grafting of “serious” research-oriented graduate programs onto what remained historically undergraduate colleges, however, diluted the prestige of the former and led to further attempts to create primarily graduate-education oriented institutions such as Johns Hopkins (1876) and Clark University (1887). A number of new private universities (Stanford, Chicago) and expensive public ones (e.g., Michigan, Wisconsin) also established rigorous doctoral programs and together produced about 300 PhDs by 1900. Many other schools mimicked awarding doctorates not based on rigorous graduate programs, however; and study in Germany remained attractive as long as the American PhD was suspected of being tainted – one of the stated reasons for the founding of the AAU in 1900 (Thurgood, Golladay, and Hill 2006, chap. 2).

Meanwhile, in Germany the creation of a federal German *Reich*, excluding Austria, by 1871 meant the de facto extension of Prussian hegemony over a wider territory including educational and cultural institutions. What Prussia did with its universities and technical colleges also, by competition and emulation, had consequences for those of the other federal states and for countries abroad – not only neighboring Austria-Hungary and France, but as far away as Britain, the United States and Japan. A dynamic change, driven at first by professors and later as a part of the planned expansion presided over by a single Prussian ministerial administrator and former professor, Friedrich Althoff, pursued the partial reorganization of higher education by expanding and creating “*Institute*”. What had originally been “collections” (e.g., specialized libraries or specimens) or laboratories cobbled together by individual professors, often at their own expense, were increasingly recognized as vital not only to research but to teaching as well. In two university “faculties” especially, medicine and “philosophy”, which effectively embraced cultural as well as natural science disciplines, governments increasingly recognized that prestige and even commercial gain could be expected from increased state financial support and supervision of well-equipped “institutes” – a term also embracing natural science laboratories and medical clinics – and appointing promising or proven leaders of scientific and scholarly research to head them. This bending of the traditional arrangements among faculties and individual professors altered power and financial relationships but paid off in increasingly stunning breakthroughs for German *Wissenschaft* by the 1890s.

It was this plateau of the larger and more up-to-date German universities that the many American visitors and students returning home wished to build on top of already-existing undergraduate

“colleges” or make the focus of newly-established institutions (Bonner 1963; Diehl 1978). A few such as Clark University designed to be *only* graduate schools ultimately failed, but the new and reformed American universities prospered and became magnets for private and state funding.

B. From *universitas* to *Grossbetrieb*: divergent tracks of research and learning, 1890-1910

While the United States was incorporating “lessons from Germany” into its higher-educational establishment, to little practical effect yet, American “enterprise” was giving the world new technology such as the telephone, electric light and urban transport, instantly adopted and sometimes pioneered also in Germany. German academic research, mostly from universities, had produced fundamental discoveries in chemistry, physics and medicine that transformed the everyday world. The enormous fortunes of Americans who had never attended a university (Carnegie in steel, Rockefeller in oil) nevertheless made them realize that the “genius” of a popular “seat-of-pants creator” like Edison could not be replicated without institutionalization. For reasons of cultural upbringing almost unimaginable today, many of these sudden tycoons decided to support all kinds of educational institutions, including public libraries and universities still in existence today. Many were motivated, perhaps, by a feeling of guilt that they had become so rich by so little virtue, but they left behind foundations that encouraged and subsidized “higher education” beyond the BA degree that they had no opportunity to pursue. They were not always wise. Their personal interventions were not always wise or appropriate. When Andrew Carnegie was invited to Princeton by Woodrow Wilson, who as the university’s president hoped to get funding for a Graduate School campus, and showed the elderly tycoon around, Carnegie declared “What ye need here is a LOCH!” and gave money only to dam a local creek so Princeton undergraduates could improve their competitive rowing skills.

At the same time, the “German model” was under strain. The designer of “institute-building” at Prussian universities, Friedrich Althoff, was forced into retirement in 1907. He had attempted, not always successfully, in his last years in office, to encourage and establish direct interchanges between German and American universities. Before World War I numerous American and German professors exchanged places. Meant to celebrate the annexation of half of US territory by Thomas Jefferson in 1803, the World Exhibition in Saint Louis was delayed to 1904, but dozens of German professors took part, making it a pivotal moment of American-German academic exchange (Füssl 2004, 51-52).

In his last years Althoff had also attempted to address the problem: of how to attract the best and most successful scientists to become university professors. His successors kept trying, and the results were

often embarrassing. Tourists can still visit the “Einstein Tower” designed by Erich Mendelssohn near Potsdam, one of the inducements by Althoff’s successors to bring famous scientists to Berlin. These efforts failed owing to the financial limitations imposed on the Prussian culture ministry, the discomfort of star scientists with teaching obligations and even the envious suspicions of the university professoriate.

For Germany, specifically for Prussia, the dilemma then was they could no longer afford to attract pathbreaking scientists as university professors, even at their flagship university in Berlin. The failure of Chancellor Bülow’s finance reforms and his ultimate resignation in 1909 signaled the fiscal impossibility of supporting both an international arms race and the accelerating costs of research in natural and medical science. The answer was given by a professor of theology, “imperial” court favorite, and former protégé of Bülow, Adolf von Harnack. His significance for the organization of German science and scholarship arguably transcended his considerable impact on Protestant theology. Between 1903 and 1914 he was invited almost daily to chat with the Emperor-King Wilhelm II about academic and other matters. After publishing a history of the Prussian Academy of Sciences (1900) and modernizing the Royal Prussian Library as its head (1905-1921), Harnack turned to setting up the Kaiser Wilhelm Gesellschaft (KWG), of which he became the first president (1911-1930). Ironically, he also planned the elaborate 1910 celebration of the centenary of the University of Berlin, where the Kaiser himself announced the launch of the KWG and, by implication, a shift of resources away from institutions like Berlin and toward extra-university and non-teaching research centers partly financed by corporate interests. Harnack likened “science” (*Wissenschaft*) by his time to have become a “big business” (*Großbetrieb*), implying further divisions no longer functional under the motto “unity of research and teaching”. That phrase had been revived by Harnack himself, by republishing one of Wilhelm von Humboldt’s forgotten writings of nearly a century earlier and recently discussed as part of a “Humboldt myth” (Humboldt 1810, 361-367; Ash 1999, 105-135). After initial uncertainty about the KWG, the Berlin university faculty began to fear that the new institutes would attract funding of the wrong sort (from industry), draw off talent and, if the KWG Institute heads also became full professors at the Friedrich-Wilhelm-University (FWU), water down the voting blocs in the university or the academy. Before the war, the philosophical faculty therefore managed to block creation of new full professorships for institute heads (Johnson 1990, 162-163). One of the first of nine pre-war installations of the KWG, (almost all in natural and applied sciences, was its Institute of Physical Chemistry headed by Fritz Haber from 1911 to 1933, and its utility for applied science quickly became apparent in World War I when it produced the first massively-used gas warfare agents. Despite Harnack’s having

promoted, some argue even concocted, the “Humboldt myth” linking teaching with research at universities, the effect of splitting off more and more research institutes and disconnecting them from higher education constituted a marked departure from that ideal.

Two other internationally comparative phenomena are significant. The first involved resistance from within academic circles in America and Germany to encroachments on academic freedom and autonomy. Complaints about high-handed government interference in professorial selection or bad treatment of the majority of “junior faculty” by now essential to the teaching and research activities of German universities resulted in loud public controversies and the founding of associations to defend professorial interests. In America a string of dismissals of controversial professors, often at the instigation of wealthy donors or corporations, led to the creation of the American Association of University Professors (AAUP) in 1915.

A second controversy over access to higher educational institutions reached a high point in those years – the admission of women. Germany lagged not only the United States but a few other European countries in granting women fully equal access to higher education, invoking the well-known international myths of inferiority or unsuitability of females. Prussia remained the holdout bastion among the German states but finally relented just at the time the KWG and the shift of funding away from universities was being discussed, as if the admission of women would anyway further weaken their scientific value.¹

C. Wars, revolutions, depressions (1910-1950)

German-American scholarly, educational and cultural relations could still be described as expanding and cordial until disturbed by World War I; even then the United States did not become a combatant until 1917. Academic exchange programs were already under way, and delegations of German scientists and scholars began visiting the other side of the Atlantic, such as the large one participating in the 1904 St. Louis World’s Fair. American competition, especially in the industries spawned by the late nineteenth century application of electrical and chemical discoveries, constituted one motive for breaking some advanced research loose from higher educational institutions. At the same time, when Germany was straining to pay for plunging ahead with a ruinously expensive expansion of its fleet and land forces, the United States was not regarded as a threat to Germany militarily. Significantly both countries found it necessary to resort to some form of national tax on incomes to finance their governments’ expanding operations, but with different results (McClelland 2017, 58-60). Bülow’s

attempt to tax inheritances failed over parliamentary opposition, whereas Woodrow Wilson's income tax succeeded, originally in 1913, as amended in 1917. As a direct result of the latter, the wealthy began to seek tax shelters in private foundations and tax-deductible charitable donations, including to universities (Lindsey 2002, 2061).

World War I and its aftermath further widened the capacities of America and Germany to develop their research university establishments.

First, not only were there far more potential students in America thanks to rapid population growth, but attending mostly four-year or higher educational institutions became distinctly popular. By some estimates Germany and America had sent comparable percentages of the age cohort 18-24 to higher education, but already by 1910 almost 3 percent of the American cohort attended college or university (Germany lagging behind at 1 percent) – of which nearly 40 percent were women. By 1931 – a peak year – 1.15 million young Americans (7.4 percent) went on to higher education (42 percent of them women). By contrast, German higher educational attendance hit a peak of 80,000 before the outbreak of war in 1914 (with 5 percent women), only climbing back to comparable figures with 100,000 students in 1919 (8.5 percent women) before fluctuating to never less than 87,000 during the 1920s. In another peak year, 1939, (Depression-driven) a total of 128,000 students were reported (16 percent women) before restrictive National Socialist policies drove them down to far less than half that number (and 11 percent women). These figures are of course relativized by America's outstripping Germany in population: starting with 39 million to 41 million about 1870, the American advantage grew to 92 to 62 million by 1910 and 123 to 65 million around 1930 (Ringer 1993, Tabelle 1; Snyder 1993, Table 24; Petzina, Abelshausen, and Faust 1978, 169-70).

Behind these statistics lie some important differences. Almost all German students counted here were attending universities and polytechnics; veterinary, agricultural, forestry, and philosophical-theological colleges; business schools, etc. in preparation for professional careers, but not the teachers' colleges or art and music schools counted in the American numbers. At least a tenth of the American students attended two-year institutions that Germany would not have counted, and indeed Germany discounted some years of study even at four-year and higher institutions when Americans applied for credit at German universities. One of the main self-assigned tasks of the AAU was in fact to provide an "AAU Accepted List" to assure *German* university admission officials of the sound quality of institutions that American applicants for graduate study in Germany had attended (American Association of Universities 2000, 1). If nothing else, this lengthening list of institutions *beyond* AAU's members showed the degree to which the small elite solar system of American research universities regarded its

members and a few dozen others as real equivalents of German higher educational institutions well into the period of World War II and even beyond.

Although reliable comparisons of financial support for research universities or higher education in general are virtually impossible to make for the interwar years, it is safe to say that America had profited greatly from World War I and invested enthusiastically, while Germany had to cope with ruinous inflation, fragile recovery, then devastating Depression, as well as the racially and ideologically fueled animosity of the National Socialists to much traditional higher learning and research. During the Weimar Republic German scientists and scholars at first suffered forms of international boycott for their widespread support of Germany's war aims, and populist attacks on German culture in the USA during the war had had a chilling effect on cooperation. Germany was long left to its own devices, scraping by with support for KWG institutes and other research enterprises partly with funding from emergency committees, the forerunners of today's German Research Community or DFG, and increasingly from the central *Reich* government. American research (and other) universities continued to benefit from private financial support and taxpayer contributions to individual state systems, but the interwar years did not see significant Federal financial support. Private individuals and foundations such as Carnegie and Rockefeller began to make considerable donations for various kinds of research, some of which even went to Germany (Geiger 1993, 92; Weindling 1988, 120). Both charities became more and more consolidated and professionally managed; and although their leaders did not always agree on priorities, they wielded much influence on educational and professional training reform.

The degree to which the Atlantic Ocean had become by the end of the nineteenth century more a highway than a formidable and dangerous barrier between America and Europe (including Germany) can be illustrated by the experiences of some major players in the reform of American higher education. Whereas an arduous voyage by sailing ship had taken at least six weeks, by 1877 steamships had cut the crossing to a mere two weeks. That was the year William H. Welch went to do postgraduate medical study in Germany, including in Rudolf Virchow's laboratory at the University of Berlin. When he returned to the United States, Welch opened a lab in a New York proprietary medical school – later integrated into NYU under the impact of the Flexner Report. His most lasting contribution to emulating the German models he so admired came, however, after he was appointed professor at the new Johns Hopkins University in Baltimore (1884). There he set up America's first postgraduate training program for physicians. Some of his colleagues, such as William S. Halsted and Howard Kelly, had also done postgraduate training in Vienna and Berlin, respectively. One of Welch's students, Simon Flexner, went on to become the first head of the Rockefeller Institute for Medical Research and a protégé of John D.

Rockefeller in 1901. His parents had emigrated from Austria and Germany, and his brother Abraham Flexner, also a Hopkins graduate though not in medicine, became a noted school reformer and founder of a very successful preparatory school.

Abraham continued graduate work at Harvard, where one of his most important mentors was the psychologist and protégé of William James, Hugo Münsterbergⁱⁱ, himself an émigré and former research assistant to Wilhelm Wundt. With Münsterberg's encouragement, Abraham went to Berlin to do postgraduate work in 1907-1908, cementing his lifelong admiration for the German education system. After sailing back to the United States, he published a scathing critique of American higher education. That led to his recruitment by the Carnegie Foundation for the Advancement of Teaching and subsequently to the Rockefeller Foundation, with which his brother was already deeply involved.ⁱⁱⁱ Abraham was then commissioned to research and publish a 1910 report on the inadequacies of American medical education (while advocating adoption of German standards) that revolutionized physicians' training over the next two decades (McClelland 2014, 73-85).

Later, another important result of Flexner's German experiences consisted of persuading the wealthy New Jersey Bamberger family to found the Institute for Advanced Study (IAS) in Princeton and, at a time when American universities could rarely afford to help, invite some of the most stellar academic victims of National Socialist persecution – Einstein, Gödel, and Weyl – to join its faculty. The IAS was designed along the lines of KWG institutes, originally focusing on advanced mathematics but later expanding its scholarly scope to natural sciences, history, and social sciences. Its professors and visiting scholars were liberated from teaching as well as from the kind of outside interference that even distinguished universities like its neighbor a mile away in Princeton had to expect from outside sources (donors, alumni, and – in the case of public institutions – politicians). It awarded no degrees. Ironically Flexner, the man who had done perhaps more than any other individual to promote the consolidation of postgraduate and professional higher education in America invoking German models, ended up emulating during the Great Depression of the 1930s the 1910 German response to financial drought (founding strictly research institutes with no teaching function and independent of outside pressures because financed by private means). Part of the motive lay in frustration with the cumbersomeness of integrating “pure” research into even high-quality institutions with pedagogical (especially undergraduate) missions.

It is useful to recall that the Atlantic “bridge” and easier travel and general communications (telegraph, mail and printed matter crossing in as little as a week) was not all that bound Germany and American closer together. By the end of the nineteenth century immigrants from German-speaking Europe

constituted one of the largest ethnic groups, German was a popular foreign language to study, partly as the major language of modern science, and nearly a thousand newspapers in German were being published in America in the 1890s. American presidents around the turn of the century could speak German, e.g. Theodore Roosevelt and Woodrow Wilson. The animosities generated by the United States' entering World War I, postwar restrictions of immigration and other factors cooled the increasingly close relationship.

The fortunes of research universities in Germany and America diverged further and faster as a result of World War II. While the final six years of National Socialist rule practically emptied and often physically destroyed Germany's, America's economic recovery and government encouragement of "big science" to help America win infused new life into universities for the indefinite future. Although too complex a subject to be regarded as typical of the difference, the success of American and failure of German wartime atomic weapons research projects illustrate vastly differing approaches toward sustaining and protecting scholarly and scientific research (Walker 2005, 37). Despite some postwar American and other Allied occupying powers' intentions of remaking the German higher education system, fundamental change faded with the onset of the Cold War occurred in what became West Germany, and those carried out with Soviet encouragement in the zone under their control tended to diminish the research role of universities (McClelland 1997, 265-275).

The further developments of American and German research universities, particularly over the past half-century, deserve separate attention. Suffice it to point out that the postwar American "system" developed many features making it unique even compared to those of other economically-advanced societies. As one astute observer summarized:

"They conduct about half of the basic research in the United States, train almost all the PhDs and medical doctors, and also graduate about 30 percent of the country's bachelors. They have been heralded as central institutions of post-industrial societies, although other advanced countries have nothing that equals them. Some countries confine basic research to non-teaching academies. Education for the learned professions or even scientific careers can take place under apprentice-like arrangements or in specialized institutions that make no pretense to encompass all knowledge. And the career aspirations of post-adolescents are satisfied in most societies without recourse to higher learning, let alone to teachers who engage in research. The American research universities are by no means unique in combining these multiple tasks; however, they stand alone in the world in terms of their abundant numbers, the variety of their forms, and the extent to which they derive their sustenance from numerous sources" (Geiger 1993, 7).

3. Changing the Subject: The Evolution of German-American Dialogue about Higher Education

The past two centuries have witnessed so many different topics of dialogue about education internationally that they could not even be listed adequately in a short contribution such as this one. It should still be quietly admitted, perhaps today more than a half-century ago, that American high school graduates, let alone holders of a “high school equivalence” certificate, cannot be compared in educational achievement to a recipient of a traditional German *Abitur* – and that these have rarely functioned identically as a precondition to admission to higher education. At the top of the higher-education tree, advanced professional education such as for physicians, one could discuss at book length the reasons Americans flocked to German university medical faculties until at least the 1930s, why German universities long encouraged and welcomed “foreign” students, and why German professional organizations – often tied to universities – regularly denounced the “quackery” of American professional certificates, e.g. in dentistry (McClelland 1991, 78-79). One could mention the long and ongoing history of organized academic exchanges, such as Fulbright and DAAD, on top of the individual student decisions already mentioned – by Americans to Germany and more recently the other way around.

But our scope remains more limited. Concentrating on the most comparable parts of American and German higher educational institutions in perhaps the most intense period of interaction, 1860-1940, we can focus on the following aspects:

A. Defining “university”

The ups and downs in popularity of the very term signal that the difficulty of comparing two “systems” lies in terminological confusion. Not only did most American forerunners of today’s “oldest” universities eschew the name until sometime in the nineteenth century; German and other European “universities” had come into such bad repute by the end of the eighteenth century that there was a serious and partly effective movement to abolish them as outworn remnants of the Middle Ages. In a backlash against the forced Napoleonic abolition of numerous “German” universities, many newly-nationalistic students and some professors relished the old name for even newly-opened “anti-French” institutions such as Berlin, Bonn, and Munich, all the way down to more modern and urban institutions after 1900 such as Frankfurt, Cologne, and Hamburg.

If most – certainly not all – German “universities” could demonstrate some combination of competent, even excellent teaching in their “philosophical” and professional (theological, legal, and medical) faculties by 1900, many fell far short of being renowned centers of cutting-edge “research”. Nor could many of them even present unambiguous evidence of the realization of some of Wilhelm von Humboldt’s (only recently discovered) phrased hopes of a century before – such as the ideals of the “unity of teaching and research” (*Einheit der Lehre und Forschung*), the primacy of ‘pure’ scientific research as a learning method (*Bildung durch Wissenschaft*) over mere professional training (*Ausbildung*) and even freedom of teaching and learning (*Lehr- und Lernfreiheit*) loudly celebrated in student drinking songs. It is safe to assume that most students – American as well as German – attended university with their future professional careers in mind, and that very few of them got close enough to the world-famous professors (Virchow in medicine, for example, or Mommsen in history) to observe, let alone tinker with, original “discovery”. Nor did most aspire to, since it was primarily academic and higher school-teaching careers that could benefit from original student work. From this point of view, one should best compare the emerging American research universities from the end of the nineteenth century on to the larger and better-financed German universities that turned out the majority of graduates. But no matter what one counts – doctoral degrees, for example – one is often comparing apples and strawberries. Even though standards were overall higher in Germany, there were scandals about “easy” degrees even there.

The differing economic, social and cultural experiences of Germany and America in the interwar period shifted a balance from “emulation” by the second to some aid and above all acceptance for the unanticipated gift of German and other European refugees from fascist populist nationalistic and *völkisch* persecution, not only on racial or political grounds, but for the fundamental reason that such regimes, based on resentments in poorly-functioning new democracies, had and today still have little understanding of how scholars and scientists work. At the same time, however, America’s unprecedented prosperity promoted a vast expansion of high-education enrollments, doubling in the 1920s and tripling by the eve of World War II (Snyder 1993, Table 23), while Germany’s were slashed by two-thirds between 1919 and 1939 (Petzina et al. 1978, 169-70). American growth did not, however, always signal a rise in quality. Already in 1929 the Carnegie Foundation lamented the trivialization of university life by what was already then recognized as professional and commercialized sport. It recognized the “university [...] [as] doubtless still an intellectual agency. But it is also a social, a commercial, and an athletic agency, and these activities have in recent years appreciably overshadowed the intellectual life for which the university is assumed to exist” (Savage, Bentley, McGovern, and

Smiley 1929, viii). As indicated by the AAU's "lists of approved colleges" meant to guide European admissions offices, the self-appointed role of "accreditation" merely preceded the more recent fashion of university "rankings", none of which proved anything definitive *except* a lack of a standard definition of what a university is. As a final irony, since membership in the AAU itself is based to a large degree on measures of research funding, and the largest growth area there has been medical schools that were still to the 1920s mostly inadequate private enterprises, the criterion of high quality came to depend a lot on whether a "university" had a medical faculty.

B. Where does "research" belong?

The German "model" of the research university had evidently reached its limits for further development a mere century after the founding of the University of Berlin. Its own centenary celebration included the announcement by Wilhelm II of a solution to the growing conundrum of financing guns and the butter of basic research – the KWG. Nevertheless, the United States continued to develop that model in its own way. Private American corporations interested in technological advancement did begin to set up their own research laboratories by the turn of the twentieth century, but nothing comparable to the KWG – a part-private, part-public financed but nominally independent purely-for-research set of labor-dividing institutes – emerged. Part of the difference between the two countries' interwar experience derived from differing economic and financial backgrounds. While much of the expansion of American higher education, including its research components, was borne by private donations or state and local governments, it would not be until World War II and after that the Federal government launched what has continued to be a massive investment in research grants to universities. In contrast, the German states during the Weimar era were in no financial condition to expand research aid, and what help did arrive came largely from the central government funneling aid through to research organizations like the KWG. The Hitler regime only selectively funded academic research, often tainted by ideological and militaristic presuppositions.

C. Where do "teaching and learning" belong?

One of the central questions in defining a modern university, at least in America and Germany since the end of the eighteenth century, is this: since "teaching and learning" patently have gone on in all human societies for all recorded history, it is impossible to argue that they *must* take place at a "research university" past the secondary schooling level. Yet the marginal extra benefits to society and to students

headed for rapidly professionalizing learned occupations provided by such institutions in Germany after about 1860 made them seem a wise investment at the time. By 1900 American attempts to graft (hardly “copy”) some of the most modern elements of German research universities onto existing colleges were well underway. The following two decades accelerated a process toward both an enrollment expansion in all American higher education as well as the emergence of ever more American research universities. This process was aided by conscious intercession by new foundations and tax laws encouraging the wealthy to make deductible donations to educational institutions, including of course also traditional schools and colleges. From the end of World War I the radically differing economic and demographic paths of America and Germany largely ended the era of emulation by the former. American research universities gradually became an internationally adaptable “model” over later decades, even as a diverse congeries of other “tertiary” educational institutions of greatly differing quality continued to attract high-school graduates.

Whether research universities were or remain a suitable organization for mass higher education as increasingly demanded in both countries is a very different issue. Explaining their origins, successes and shortcomings is a task historians have only recently begun to disaggregate from “essentialist” arguments serving to protect or attack the continued privileging of these relatively recent structures.

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- i Space does not permit a full exploration of this important topic, which however has received considerable deserved attention in recent literature. See for example McClelland, C. E. (2011). “American Examples for German Universities: Admitting Women before World War I,” *Metamorphosen der Bildung. Historie – Empirie – Theorie*, eds. E. Keiner et al., Bad Heilbrunn: Klinkhardt, 323-335 and Vogt, A. (2007). *Vom Hintereingang zum Hauptportal?: Lise Meitner und ihre Kolleginnen an der Berliner Universität und in der Kaiser-Wilhelm-Gesellschaft*. Stuttgart: Steiner, esp. 33-64.
 - ii Münsterberg also became one of the first exchange professors between Harvard and the University of Berlin and was the chief organizer of the International Congress of Arts and Sciences at the Saint Louis World's Fair of 1904, with its large German academic contingent and an influential advocate of women’s university admission in Germany.
 - iii Flexner, A. (1908). *The American college: a criticism*. New York: The Century Co. Flexner was commissioned on the basis of this book to join the Carnegie foundation and undertake research that resulted in its massively influential *Report No. 4, Medical Education in the United States and Canada* (New York: Carnegie Foundation for the Advancement of Teaching, 1910). Later appointed secretary to the Rockefeller Foundation’s General Education Board (1913-28), he encouraged private donations from Rockefeller and others valued amounting to at least \$14 billion (2018 dollars) to overhaul American medical education. Among other innovations he created Rockefeller fellowships to support of American postdoctoral study abroad, including in Germany.

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