

Expert Cultures and Social Engineering in the Nineteenth Century: Scientists, Scholars, and Institutional Politics Between Germany and the United States

Conference at the German Historical Institute in Washington, D.C., April 26-27, 2002

Conveners: Philipp Loeser (GHI/AICGS), Christoph Strupp (GHI). Participants: David Cahan (University of Nebraska), Eckhardt Fuchs (University of Mannheim), Christie C. Hanzlik-Green (University of Wisconsin), Thomas A. Howard (Gordon College), Jochen Kirchhoff (German Museum Munich), Gabriele Lingelbach (University of Trier), Dorothy Ross (Johns Hopkins University), Jeffrey Sklansky (Oregon State University), Frank Trommler (University of Pennsylvania), Andreas Westerwinter (University of Leipzig/ University Paris IV).

The development of nineteenth-century scholarly research was characterized by expansion, specialization, and increasingly self-referential modes of operation. The rise of research universities, first in Europe and with some delay in the United States, had a tremendous impact. A new professional apparatus with a seminar system, laboratories, reference tools, and scientific journals shaped professional activities. Distinct sets of methodologies and legitimation strategies developed within each discipline. As a result, the overall focus shifted from the universal orientation of humanist education to specialized professional training. The ideals of *Bildung* and cosmopolitan scholarship were still held in high esteem, but they were at odds with the development of relatively autonomous expert cultures. Many of the new forms of knowledge were difficult to integrate into the general education of the individual. At the same time, the influence of academics on culture and society seemed to decline; they had increasing difficulty in making themselves heard outside their own fields of study. The success story of the research university can also be read as the story of the alienation of many of the individuals involved. Professional careers at universities drifted apart from those in politics, law, or the business world. Interests beyond the field of academics could no longer be articulated directly and with immediate results.

The conference at the GHI explored how individuals sought to participate in the engineering of culture and society and how they established themselves as authorities beyond their scholarly disciplines, even as the drift towards formal expertise counteracted this goal. Within this general perspective, the conference focused on two sets of questions. First and foremost, the participants from Germany and the United States looked at the rise of expert cultures in the second half of the nineteenth century and discussed this phenomenon from different angles. The expert as a new social type enabled individuals to define their personalities solely with respect to a self-referential, methodologically self-sustained system of disciplinary thinking and experimentation. This development challenged previous notions such as the participation in the public sphere or the classical type of *Bildung*. Wherever the participants in this conference probed their material in this regard, a turbulent if inconclusive struggle of different sets of values emerged - the old gentleman ideal, a utilitarian focus on professional training, obligations with regard to the functioning of public life, and the idealist, self-referential concepts of German *Wissenschaft* or modern science. The second set of questions concerned a transatlantic differential: The migration of German concepts and educational frameworks to the U.S., studied through a comparative approach that everyone felt was necessary. In the second half of the nineteenth century, German professors appointed to American universities and Americans trained in Germany found themselves in the middle of a dynamics of changing institutions, curricula, and individual roles inside and outside the university system. They had to redefine their work's relation to society and this process invariably impacted the latter. The participants sought to address relevant processes of transfer and mediation as complex, contingent adaptations, appropriations, and interpretations involving a source culture and a target culture (the U.S.). The aspect of social engineering, that is the preoccupation with questions of how a society should function and how related goals could best be achieved with the educational instruments at hand, played an important part in many instances of cultural transfer.

New institutional developments in the educational system of the United States between 1860 and 1900 were often related to German models. This is obviously true for the research university as the dominant innovation of the time, but it also applies to smaller institutional changes and elements of scientific professionalization in general. **Gabriele Lingelbach** discussed several unsuccessful attempts to establish "Schools of Political Science" within the research university of the late nineteenth century. The intention of historians such as Andrew D. White, Charles K. Adams, and Herbert B. Adams at Cornell, Michigan, and Johns Hopkins was to provide university-level training for future politicians, journalists, and other key figures of public life. The projects revealed a desire for social relevance, but never lasted long, presumably because of their contested utilitarian outlook. The inherent processes of specialization marginalized the impact of the humanities on politics and ethics, and a new discipline such as political science seemed to be an obvious place for those interested in public service careers. But despite the American civil service reform of the 1880s, politics was not yet considered a profession and thus not linked to a need for professional training. At least until after the turn of the century, the idea of professionally trained politicians was at odds with the self-image of the U.S. as a democratic, open and meritocratic society.

Jochen Kirchhoff analyzed transfer processes with regard to the discipline of agricultural chemistry. He pointed out that national particularities that were contingent upon historical context shaped the formation of different expert cultures in Germany and the United States. Although the initiation to German *Wissenschaft* played an important role for individual American researchers studying abroad (mainly in Göttingen with F. Wöhler), the introduction of agricultural chemistry as a scientific discipline in the United States from the 1840s on had much more to do with practical reasoning. Quality control of fertilizing substances was a major issue, and it took more than twenty years before a system of state experimental stations was finally complemented by scientific research at universities. The early German and subsequently American agricultural chemists drew their prestige as experts not so much from abstract research but from their role in the examination procedures and the practical value of their knowledge. **Christie C. Hanzlik-Green** made a strong case for the indebtedness of the system of University Extension in Wisconsin between 1890 and 1920 to German concepts of the university. What started out as a progressive educational instrument, aimed at the workforce and heavily dependent on the skill of its few popular orators, entered into a crisis in the late 1890s and was revived only when Louis Reber, a German-trained engineer, took charge. He installed a centralized, bureaucratic structure, drawing heavily on German ideals of the state universities as central authorities in the production of knowledge. The concept proved to be viable and was adopted by numerous other American states. **Andreas Westerwinter** recounted the complex makings of American "New Psychology" between 1870 and 1910. A slow shift from German to French paradigms of research and educational institutionalization corresponded to generational differences among American psychologists and, notably, generational differences in interests and outlooks among American graduate students at Wilhelm Wundt's famous laboratory in Leipzig. The faithful transfer and even the acceptance of German-style research could by no means be taken for granted. On the contrary, a selective and idiosyncratic reception enabled American universities to generate considerable creative potentials of their own.

Individuals often faced epistemological and ethical conundrums. Should a search for truth be displaced by a focus on the coherence and consistency of scientific research? Could the public duties of an American citizen be reconciled with the self-referentiality of modern science? **Christoph Strupp** took a close look at the career of Andrew D. White, the founding president of Cornell University since 1868. A number of crucial problems of the time are epitomized in this case. The moral duties of the cultivated gentleman had to be aligned with a focus on the practical value of education and a tendency of expert cultures to withdraw into secluded niches of specialization. During an extended stay in Europe (1853-56), White had discovered his love for historical scholarship, but his lack of formal training and his energetic personality prevented him from becoming a specialist in a narrow sub-field of the discipline. Until his death in 1917, he was a wanderer between the worlds of scholarship, university administration, politics, business, and the American diplomatic service. His progressive and present-minded concept of history, his interest in educating future public leaders, and his anti-sectarian position with regard to higher education all heavily influenced the educational program of Cornell University. Even though not completely

untouched by European influences, it became a university with a specifically American character that tried to respond to the problems of American higher education and the demands of a changing American society.

David Cahan investigated the eminent German physicist Hermann von Helmholtz and his influence on American graduate students and scholars studying and doing research with him at his prestigious physics institutes in Heidelberg (1863-71) and Berlin (1878-94). With inspirational force – and a remarkable command of English, which was superior to his American students' command of German – Helmholtz managed to combine the expertise of the specialist and a drive towards intellectual unity. Helmholtz's name gained fame beyond Germany early on, through translations of his popular public lectures and his membership of the American Academy of Science (1868). Even though his qualities as a teacher are disputed, his institutes were "networking arenas" of crucial importance for foreign students and scientists. Here they could pursue their research in total academic freedom. Cahan showed in detail how most of Helmholtz's American students, among them Henry Rowland (later a physicist at Johns Hopkins University), Dewitt Bristol Brace (University of Nebraska), and Michael Pupin (Columbia University), pursued distinguished careers in the United States.

In his presentation on Henry Adams, **Philipp Loeser** argued that despite Adams's key position in the formation of history as an academic discipline in the United States (Adams conducted the first graduate seminar in medieval history in the early 1870s and was a pioneer in archival studies), he was not the founding father of American history departments that some historical accounts have claimed him to be. Adams took modernist uncertainties very seriously and underwent a shift from scientific to aesthetically based thinking, most profoundly expressed in his well-known autobiography *The Education of Henry Adams*. Adams admired and benefitted from the German model of scholarship, but he could not fully appreciate the drive toward specialization and lack of general inspiration in the individual disciplines.

Jeffrey Sklansky examined G. Stanley Hall, the founder of child and educational psychology in the United States, and his recasting of pertinent problems of modernization in terms of educational reform. Hall reevaluated social conflicts, such as the diminishing of the eighteenth-century ideal of the masterful self, the deepening divide between mental and manual labor through processes of specialization, and the abstention of the researcher from political and moral problems, as the "growing pains of a nation coming of age." He viewed this dualistically as a development from childhood to adulthood and from savagery to civilization. His studies in Berlin and Leipzig in the late 1860s and 1870s convinced him that German "scientific philosophy" and the educational system of the Bismarck state – with its research universities and its compulsory primary schools – might prove valuable for the development of an American people still immature in its reaction towards modernity. He hoped for a reconciliation of intellect and willpower, empirical learning and spiritual growth with recourse to German moral responsibility and totalizing world views.

Significantly, most case studies dealt with Americans who had gained academic experience in Germany and then returned to the United States. This certainly reflects on the United States' lack of appeal for educated Europeans. But nevertheless some German academics went to the U.S. **Thomas A. Howard's** presentation on "German Theological *Wissenschaft* in America" argued persuasively that several cultural mediators of the nineteenth century brought a significant amount of German theology to the United States and successfully complemented the transfer of secularized German *Wissenschaft* with religious impulses, however controversial at the time. In Germany itself, theologians easily managed to integrate new scientific approaches and remained culturally influential throughout the entire nineteenth century. In America, next to Edward Robinson, who spent four years at German universities in the late 1820s, it was primarily the theologian Philip Schaff who acted as driving force and self-proclaimed "missionary of science." Schaff had been born in Switzerland but was educated at German universities. In 1844 he took up a teaching position at the seminary of the German Reformed Church in Mercersburg, Pennsylvania, and moved to the Union Theological Seminary in New York in 1870. He saw himself as a mediator between German academic culture and the American tradition of political liberty and religious voluntarism. Although he was a leading exponent of modern scientific church and

religious history at American universities, he remained equally committed to orthodox protestantism and Christian values and attempted to harmonize science and belief.

Eckhardt Fuchs chose the 1904 Universal Exposition at St. Louis as the starting point for observations on contemporary theories of knowledge transfer and practices of intercultural exchange. A "Congress of Arts and Science" that included German professors from a variety of disciplines had been structurally outlined by the Harvard psychology professor Hugo Münsterberg. It turned out to suffer heavily from translation problems and inabilities to enter into a dialogue on both the German and the American side. Münsterberg's notion of a "double entry" into both cultures at the same time did not pay off, nor did the fiction of the "impartial observer" prove productive in a communicative context that depended on stereotypical complexity reductions.

All the papers inspired lively discussions, further stimulated by insightful commentaries on the presentations of Sklansky, Howard, and Loeser by **Dorothy Ross** and **Frank Trommler**. The conference benefitted greatly from the broad spectrum of disciplines from the humanities and the natural and social sciences that were discussed. Comparisons could be drawn and connections became visible that are otherwise easily overlooked. The final discussion revolved around questions of terminology, periodization, and the driving forces behind processes of cultural transfer and institutional change. The expert clearly is a social type that developed in the late nineteenth century, but he is difficult to distinguish from the specialist and the professional and needs further terminological clarification. Everybody also agreed that the beginning of the German influence in American culture and its intensity varies from discipline to discipline. Whether influential individuals managed to introduce new subjects and methodologies on their own or whether they acted as agents of larger cultural trends needs further in-depth research. The biographical approach of the conference helped to keep the papers focused, but it is certainly not the only possible approach. It is equally difficult to measure the results of processes of cultural transfer in terms of success or failure. Sidelines and dead ends must be taken into consideration. It was not the goal of the conference to come to conclusive results at this point, but rather to contribute through a fresh perspective to an on-going debate in one of the most interesting subfields of the history of science. This was certainly achieved and the conveners are looking forward to further exploration in follow-up projects. A publication of the papers of the conference is intended.

Philipp Loeser and Christoph Strupp

Contact:

German Historical Institute
1607 New Hampshire Ave., NW, Washington, D.C. 20009, USA
Tel.: (202) 387 3355, Fax: (202) 483 3430
E-mail: ploeser@web.de strupp@ghi-dc.org

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