

# INTRODUCTION



In the first decades of the twentieth century the idea that the United States and Germany were rivals gained currency. People spoke of the rising nations as though they had just emerged from the mists of history and were now suddenly in competition with each other. They were vying not so much for colonies on the world map, as the European powers had regularly done in the preceding decades, but for something much less tangible. What exactly that was was hard to define. Political observers pointed to both nations' ambitions for global dominance. But those who were less political believed they were competing for the future, that is, to forge modernity in a distinct and different spirit. Modernity—in German *Moderne*—was a buzzword at the turn of the twentieth century, but one that packed a punch, because it promised a new era of sorts, although it was as slippery as a fish to grasp.

Most claims about the competitive situation in which the German Empire found itself involved, however, pointed to Great Britain, or England, as Germans referred to it at that time, the creator and paragon of the Industrial Revolution. And there were good reasons for this, since both nations were economically and culturally much more closely intertwined, observed each other more keenly, and commented on each other more knowledgeably than did Germany and the United States. But, as a consequence, they grew increasingly uncomfortable with each other's strengths. Although commerce between both countries was brisk and mutually advantageous, and they were each other's most important European trading partners, the conviction grew around the turn of the century that each posed more threats than advantages to the other's position in the world.<sup>1</sup> What is more, Germany developed industrial and geopolitical ambitions with regard to the pioneer of industrial modernity, and it began to express its potential for catch-up with increasing aggression. Germans also tried to compensate for a residual sense of inferiority vis-à-vis the rulers of the world's oceans and

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international trade relations by speaking of the “trade envy” (*Handelsneid*) of the British. While the Prussian-German victory over France in 1871 had shifted competition with the French more to the cultural sphere, growing worldwide recognition of Germany’s industrial production spawned the belief that Germany should be taken seriously as a global competitor of Britain, although this belief was more in evidence in Berlin than elsewhere.

Competition with the United States at the end of the nineteenth century gained significance primarily among the German industrial middle class and related mainly to a capability in a relatively limited sphere in which Britain was less distinguished as the leading economic power, but which assumed increasing significance in the burgeoning discourse about modernity: technology. In the United States’ rapid rise to becoming the leading power technologically—through the invention and development of the telephone, lightbulb, airplane, radio, record, and, for a long time already, also in the area of machine tools—a new form of international leadership manifested itself, in which diplomats and politicians had little competence, and which also went beyond the established hierarchies of trade and commerce.

Ever since the Berlin Professor Franz Reuleaux brutally condemned German industrial production compared to that of America in his report on the Centennial International Exhibition of 1876 in Philadelphia, engineers and producers in the German Empire had turned their gaze to America. The United States, this vast land mass, which had been regarded as the country of emigration par excellence for Germans for centuries, had acquired the aura of a technological pioneer. And with this growing prestige—most impressively with the electrification of the Chicago World’s Fair in 1893—came a new kind of prestige as a country not only of technological invention, but of the future itself.

Since the end of the nineteenth century at the latest, viewing America as a rival, albeit primarily in technology, gained relevance in public discourse and began to influence national self-perception. The concept of Americanism, coined at that time and used ever increasingly, illustrated the perceived threat to Europe’s self-image as the center of the world, a threat that had previously been expected to come from the east or Orient. Among those who were able to condense several decades into a few key points, the internationally renowned Dutch theologian Visser ’t Hooft stands out. In 1931, in an article entitled “Europe looks at America,” he examined the myth of America cultivated by Europeans that had acquired a much larger psychological reality than the truth about America. For Europe, Visser’t Hooft wrote, “will be more influenced by its own picture of America than by America itself.”<sup>22</sup> In the intervening decades, alongside this claim, people have come to realize that America, through modern communication media such as film and TV, as well as its physical, mostly military presence, is more

real and tangible as never before for Europeans. However, the distinction Visser 't Hooft made between “technological” and “cultural” perspectives on America still holds true. In fact, this distinction encapsulates most of the claims that were made about the United States in the twentieth century:

There are then two different European reactions to America; they come from two different types of mind: on the one hand, the technical and economic, represented by employers and employed alike who study the American methods and who advocate rationalisation; and on the other hand the cultural, represented by those who would resist Americanisation because they see in it an attack upon the elements of European life which they value most.<sup>3</sup>

This comparison has meanwhile lost some of its sheen, but it remains illuminating for countless, often academically underpinned, tracts and commentaries of European observers. In any event, Visser 't Hooft was entirely correct when he declared: “The tragic paradox of European–American relations is that the nearer we get together in superficial ways, the further we seem to get away from each other in the deeper things of life.” So near and yet so far. That has remained the case, and it still produces sparks.

This is what happened several years ago when a German–American project was conceived and attracted funding. In this project, German and American historians came together to explore the abundant literature on America and reached agreement on an approach that was frequently called for but rarely implemented: the comparison of various key aspects of society. The German and American historians worked in pairs, with each pair addressing one of the following areas: empire, religion, the environment, immigration, law, the market, discipline, gender, masses, entertainment, the welfare state, science, and the media. This collection of key themes, which was hard to beat, served as a vehicle for comparing and assessing the two countries in their “Race to Modernity” since the late nineteenth century, the project’s overarching title. The project, whose findings are still valid for the earlier twentieth century, was led by the historian Christof Mauch, then director of the German Historical Institute in Washington, DC, who became Professor of American History at the University of Munich, and Kiran Klaus Patel, who was Professor of European History in Florence and Maastricht, and since 2020 has also been based at the University of Munich as Professor of European History. Alongside the renowned experts from various fields, this constituted an impressive representation of the historical profession, whose comparisons opened up a plethora of new insights into parallels, contrasts, and mutual influences, and, at the same time, produced important arguments relating to the definition of modernity.

The race to modernity, formulated and deployed metaphorically by the editors, does indeed call forth sparks, in as much as respective traditions and innovations are juxtaposed with one another, illuminate each other, and promote novel conclusions about developments in the twentieth century—novel, for instance, in the comparison of areas such as social discipline, the foundations of social policy, and mechanisms for controlling the masses and channeling consumption. Through this project, Mauch and Patel claimed to have extensively captured the race to modernity in historiographic terms, and they concluded: “After decades of detailed research, it is now time to reflect on the big picture. For too long, historians have left this to other disciplines, above all sociology and political science, and then complained about their lack of detailed empirical evidence.”<sup>4</sup>

A good example of this was the volume *Transatlantic Divide: Comparing American and European Society* (2007), edited by the political scientist and sociologist Alberto Martinelli from the University of Milan, which had appeared a short time before the Mauch and Patel collection.<sup>5</sup> Martinelli’s collection compares American and European developments in the second half of the twentieth century in the areas of the economy, inequality, family, political institutions, social policy, changing values, religion, and cities, and concludes its comparison of American and European models of society with the claim that, all in all, they are not so very different from one another. It is obvious that sociologists shine here through their main instrument, comparison, in long and informative chapters that transcend national borders. However, they remain open to the criticism of historians, who find “detailed empirical evidence” missing, above all in the analysis of historical, regional, and intellectual factors.

Comparison has produced certain narratives, which have afforded new insights. This applies to both volumes with regard to industrialization, immigration, and social policy in earlier decades, when they anchor their insights in the interwar period of the twentieth century, and then make space for the massively enlarged presence of the Americans after World War II.

While these volumes were thought-provoking, capturing the (not always) divergent processes, one cannot, however, avoid asking how the race to modernity can be definitively compared if central areas in which the modern was articulated are not included: in particular, technology and culture, that is precisely those areas that Visser ’t Hooft specified as significant for Europeans’ perspectives on America. How different, for instance, was the approach to technology, which rendered the United States a world power from the second half of the nineteenth century onward and, in particular, in the first half of the twentieth century, even though the United States was positioned politically as well as culturally behind the European nations? What made the German approach to technology so

different that the German Reich was able to achieve considerable renown, which, although accompanied by much criticism, was not only based on the world-leading position of its chemical industry but also on a “reform culture” (*Reformkultur*) that altered the design of everyday life? What differentiated American and European attitudes to culture and progress, when in Europe, led by France, the formation of the future was projected onto the concept known variously as *modernité*, *Moderne*, modernism, which included aesthetic components that seemed alien to the Americans, whose understanding of progress, even modernity, was based primarily on technology?

It was especially disconcerting when European elites—who had established a higher level of cultural identity formation through palaces, opera houses, museums, and the veneration of painters, musicians, and poets—turned during the reforms and revolts of the turn of the century to the construction of a modernity that, to Americans, looked more like a disfigurement of that very culture that they had reluctantly learned to accept and internalize as ‘higher’. This occurred in the period between the 1880s and about 1930, the time of the slump occasioned by the Great Depression, and it defined the American debates on the extent to which Europe, alongside technology, was critical for the development of a genuine American culture.

This period from the 1880s to around 1930 is the focus of this study. It gains particular impetus from the fact that, since the 1940s, the period has been vastly overshadowed by the focus on America’s dominant position in the areas of politics, the economy, and increasingly also culture. This has resulted in the downplaying of the earlier techno-cultural rivalry that, for the most part, is more informative for understanding the various expressions of transatlantic modernity than views that became entrenched during the Cold War at the latest, focusing strongly on the United States.

Above all else, this has led to an underexposure of the momentum of cultural and technological developments, which, for some time, were quite different in Europe and America, and, precisely for this reason, provided mutual challenges and stimuli. This study focuses on this dynamic, which was missing in the comparative projects referred to above. This study is also comparative in nature, but it brings out of the shadows other, hitherto neglected narratives of various processes of modernization that were constantly in dialogue with one another. Being comparative, it does not, of course, avoid generalizations, but, hopefully, it provides plausible explanations for how, during this period, the American approach to technology and culture differed from that of the Germans, and, beyond this, for how, amid the increasing cultural interconnections, these differences were perceived, creatively deployed, and rendered fruitful by both sides in the formation of modernity. One reason for this is not least the fact that, during this period,

rivalry was under constant discussion on both sides—much more so than after World War II, when the United States became the leading Western power and its rivalry with the Soviet Union was foregrounded.

This study of transatlantic rivalries addresses the German and American ways of thinking about culture, technology, and science during the initial decades of the twentieth century, when transfer and interaction between the two countries was characterized by comparative, and frequently also competitive motivations. In this context, it was the rather narrow concept of “technology” that dominated the discourse about modernity in America, while the German discourse on modernity was built on the broader term *Technik* alongside—and often along with—cultural and aesthetic factors.

It should be noted in advance that, in light of the plethora of inventions, discoveries, prognoses, futuristic compositions, and clever imitations, which brought both of these countries international attention during this period, this book, somewhat essayistically structured, aims to produce novel insights into the cultural dimensions of technology rather than provide a survey of the history of technology per se. The thematically organized chapters illuminate through comparison the significance of technology, science, art, and culture for the development of Americans’ and Germans’ consciousness of modernity and identity. Through this, aspects that historians, especially those engaged in political, economic, and social history, have overlooked are foregrounded.

In the process, this investigation draws on research on technology, culture, and habitus that acquired a distinctly different critical quality in the 1980s, when not only the Modernism–Postmodernism debate ignited new interest, but the history of technology was freshly conceived as an intellectual challenge to the discipline of history. Most of the ideas came from American researchers, with the historian of technology Thomas Parke Hughes determining the central discourse with his concept of the social construction of technology.<sup>6</sup> Since then, scholars of various disciplines have broadened the conceptualization of the relationship of technology and culture, moving it more toward the center of current thinking concerning modernity and enriching it through critical reflection derived from feminist approaches as well as environmental studies.<sup>7</sup>

A consensus has since emerged that technology, defined as a product of culture, must also be understood as a co-creator of culture. Among the key works, *Leonardo to the Internet* stands out (published in 2004 with newer editions in 2011 and 2022), in which the American scholar Thomas J. Misa outlines the astounding influence of technology on social, economic, and cultural change over the past five hundred years, with echoes of Lewis Mumford’s pathbreaking *Technics and Civilization*, which will be discussed at the end of this book. Misa also co-edited the essay collection *Modernity*

*and Technology* (2003), which provides the theoretical underpinnings for this broader discourse on technology and culture.

In view of American elites' long-standing aversion to attributing cultural importance to technology, which will be explored in the following chapters, it is significant, and somewhat ironic, that the discourse about culture and technology since the late twentieth century has been defined by Americans. Subsequently, certain distinctive differences between the American concept of technology and the German *Technik*—far apart in their associative range—have fallen by the wayside.

Another ironic twist might be worth mentioning with reference to more recent German scholarship on the relationship between modernity and technology. While this scholarship rests on a strong tradition in this field, as this book confirms, it has not been particularly influential in the emerging international discourse. Another German tradition might have been more useful intellectually for defining modernity: the philosophical tradition and the influence of Max Weber's definition of modernity, which is based on rationalization. While the social philosopher Jürgen Habermas is rightly credited with shaping an amazingly far-reaching activation of the concept of modernity on philosophical grounds through his "project of Enlightenment," he neglected technology in the context of his *Philosophical Theory of Modernity* (1985, English 1987). The observation of the American philosopher of technology Andrew Feenberg highlights the limits of this unquestionably fruitful concept:

[Habermas's] influence is widespread and the rigor of his thought admirable. Yet he has elaborated the architectonically most sophisticated theory of modernity without any reference at all to technology. This blissful indifference to what should surely be a focal concern of any adequate theory of modernity requires explanation, especially since Habermas is strongly influenced by Marx, for whom technology is of central importance.<sup>8</sup>

That said, this book's arguments concerning techno-cultural rivalry are based on German as well as American sources and experiences, and technology is given appropriate weight in the pursuit of transatlantic modernity. The conceptual breakthrough brought about by Thomas Hughes' research on the social construction of technology at the University of Pennsylvania also turned out to be an inspiration for my exploration of modernity through literature and the visual arts. Having had the opportunity to engage early on in American discussions with Hughes and other colleagues on a culturally informed understanding of technology, I was inspired to revise my definitions of modernity to fully include the material world. The fact that the debates that occurred during the 1980s and 1990s have themselves meanwhile become history in no way alters their relevance to

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critical research into the early twentieth century. Rather, this strengthens my endeavor to use the sparks from these debates at the century's end to capture the sparks of the race to modernity at the beginning of the last century.

## Notes

1. Berghoff, "Großbritannien und Deutschland 1880–1914."
2. Cited in Spoerri, *The Old World and the New*, 231.
3. Cited in Spoerri, *The Old World and the New*, 232. For an overview, see Woodward, *The Old World's New World*.
4. Mauch and Patel, *Wettlauf um die Moderne*, 24 f.
5. Martinelli, *Transatlantic Divide*.
6. Hughes, *Networks of Power*, 461–465; Bijker, Hughes and Pinch, *The Social Construction of Technological Systems*; Hughes, *American Genesis*. On Hughes, see *Technologies of Power*.
7. Odenziel, *Making Technology Masculine*; Oldenziel, *Consumers, Tinkerers, Rebels*; Hulley, *Environment and Technology*; Hård, *Microhistories of Technology*.
8. Feenberg, "Modernity Theory and Technology Studies," 80.