

# Conclusion



## Enlarging the Spectrum: Italy, Europe, and the United States

Looking at the 1920s Italian motorway programs in a broader picture, we can see how they were envisioned as part of a paradigmatic shift. As seen in the wider debate, better shaped in the past two decades, and very recently addressed under the label of “Atlantic automobilism,”<sup>1</sup> motor vehicles in 1920s Italy were no longer seen as rich people’s toys, but as daily devices. While the motorway’s value was embedded in a vision of efficiency and speed, it crucially positioned the masses as a part of automobilism. 1920s motorway users probably still played around with (and dreamed about) motor vehicles, but in Puricelli’s vision, motorways did not have direct pleasure purposes, and surely were not speed test circuits. His artifact was intended for the Italian middle class, even encompassing the highest earners of the working class. This approach was even more relevant in the turbulent years after World War I, in which social unrest pressured the European ruling classes to create new forms of political control and forge innovative compromises.<sup>2</sup> Motor vehicles fit those needs, both in terms of their claimed efficiency for the economy and their political significance. More or less openly, Puricelli saw driving a car and using the motorway as having a wider relevance, offering drivers comfortable travel, a better life, and a status symbol. In other words, those blessed enough to own a motor vehicle could climb a rung on the social ladder.

In this respect, as we have seen in the introduction, Puricelli’s vision was part of a larger, global process, in which, to use Gijs Mom’s words, “Atlantic automobilism” was shifting from a stage of *emergence* to one of *persistence*. Despite the global nature of the process, the democratization (or massification if we want to use another term) of the motor vehicle had a precocious and massive development in the United States, while Europe had a thirty-to-forty-year lag, arriving at mass motorization in the 1960s. This has led to the definition of a sort of American exceptionalism also in the transport field.<sup>3</sup> However, the Europeans saw the United States as the model to copy, both at an expert and popular

level,<sup>4</sup> giving full right of way to a diffusionist model.<sup>5</sup> For decades, this approach locked historiography into (obsessively) focusing on the European “delay” and on the European difficulties in matching the model, a model that was taken for granted as the only way to achieve true transport modernity.

Following the more recent debate, we should indeed temper the monolithic concept of a one-way technological transfer, that of *adoption*, and move toward the concept of perennial reinvention of technologies (and their uses) according to local, regional, or national tastes, needs, and attitudes. This is even more evident once we frame large sociotechnical systems, which do not have linear developments according to an ideal type, but are bent to (social and cultural) regional characteristics, exactly because those are the key factors in “producing” real technologies in the real world.<sup>6</sup>

It is within this framework that I have addressed the 1920s Italian *autostrade* projects, precisely because their conception and implementation challenge the concept of technology as a universal unchanged feature and push us to address how producers, users, and regional attitudes shape, reshape, and twist artifacts, even against the “original” model (if the latter—as such—really existed). In other words, how much were 1920s Italian motorways entangled with the United States model of mass motorization? Did Puricelli and his fervent followers, including Nazi engineers, regard the United States as an example? Was there a different European homemade trajectory that addressed the same quest in an original way? To what extent were the 1920s Italian motorways an original program? This question is important beyond reasons of pure historical scrutiny, because it opens additional lines of investigation.

First, it requires a critical assessment of the traditional concept of Europe lagging behind the United States in accommodating motor vehicles and favoring mass motorization (and therefore, in an escalation self-evident for contemporaries, lagging behind in terms of innovation and modernity).

Second, we should be aware of the chauvinist use of the motorway concept made by the Italian government and, in a broader perspective, by thousands of European experts. The invention of the motorways was, contradictorily enough, both a way of developing an (Italian and European) indigenous model of modernization and a way of dealing with the American model as an emerging global power (thus aiming to preserve European international primacy).

Third, Europe and European are overly vague concepts, even less manageable in the fateful interbellum years. If the Italian motorways caused a European fever, and very precocious drafts of European

networks were planned, that does not mean in itself that we can speak of truly European initiatives. In other words, I believe those attempts at a European network must be framed as a patchwork of national initiatives, merely assembled for very special occasions. Actually, the late 1930s and early 1940s European plans, usually overlooked by the historiography, clearly show the lack of any European aim beyond that of the Nazi and fascist desire for domination.

### Which Models?

The main surprise for Italian experts visiting the United States after World War I was seeing how motor vehicles were colonizing every space, both public and private. In his 1919 travel report, Fiat engineer Bernardino Maraini, a man well accustomed to cars, noted with surprise and astonishment that “the foreign visitor sees motor vehicles everywhere, in the streets, in the square, in the courtyard, in the countryside.”<sup>7</sup> Likewise, a few years later, Italian experts were surprised by how horse-drawn carts simply disappeared from the urban North American traffic landscape.<sup>8</sup>

To what extent was the United States a model for Puricelli and his motorways? His relationship with the United States can be traced to before World War I, according to Annabella Galleni’s research, when the Milanese entrepreneur visited the United States and England to study road construction machinery and procedures.<sup>9</sup> Puricelli and his top managers visited again after World War I. A careful reading of the books and brochures prepared by Puricelli between 1922 and 1925 to present the Milan–Lakes motorway confirms a great familiarity with the road conditions in the Anglo-Saxon countries. The description of the traffic in those nations lies between astonishment and a desire to imitate it: “Those who have traveled in England and in the United States know that [practically] no carts are met, and those met with have a leisure purpose.” From the United States, the main surprise was the amazing car diffusion: “If we consider the United States, we find there more than 10 million motor vehicles, that is, one hundred car owners for every one thousand inhabitants.”<sup>10</sup> This was the origin of the 1920s Italian motorway, at least according to the memoirs of his engineers, written in the 1970s and 1980s. “During one of his business trip to the States, he had the opportunity to appreciate the new road construction management, and was fascinated by the use of a concrete final coat on the top of the road, laid down at an astonishing pace by self-propelled steam pavers, carrying concrete mixers. He probably also visited the Bronx–River Parking [Parkway], which had overpasses at its main crossings.”<sup>11</sup>

Ornati and Pellis, top managers of Puricelli's companies in the 1920s and 1930s, went further, openly claiming in their memoirs that the Italian motorways originated from the United States parkways: "It is possible that Puricelli, having in mind the images of roads in the United States, conceived a special road with a concrete final coat, no crossing traffic, devoted to motor vehicles only, calling it an '*autostrada*.'"<sup>12</sup> Indeed, Puricelli, in building his motorways, faced uncharted magnitude and technical issues: the innovative nature of the Milan–Lakes motorways, and before it of the Monza racetrack, required novel machinery and new management models. The Milanese entrepreneur, proud of the solutions he found, recalled the lack of models and examples available in Europe. "Another issue that was not so easy to address was the final coat [of the motorway], given the meager experiences in Italy and in Europe. We had to revise the systems used in the United States, adopting the one that better fit the motorway's purpose. We scouted American know-how because there the roads have . . . *motor vehicle-only traffic*."<sup>13</sup>

The United States represented a model for road-building procedures and industrialization, which explains why, in winter 1922, when the motorway project was nearly approved by Mussolini's government, Arturo Sansoni, consultant for TCI and Puricelli, was in the United States, a country in which the pavement and earthmover industry was in rapid development.<sup>14</sup> He was there in order to better "understand road practices that could be interesting for Puricelli's company," sent by the Milanese entrepreneur to collect ideas, contacts, and detailed technical information.<sup>15</sup> His visit's legacy was the purchase of "five concrete mixers by Koehring, mounted on paver machines."<sup>16</sup>

I have no doubts about the strength of the North American example in shaping the 1922 first Italian motorway project. However, we should also keep in mind that "World War I was the most important factor in the development of limited-use roads."<sup>17</sup> Puricelli and his peers had in mind the example of the French "60-kilometer 'Holy Road' (Voie Sacrée) between Bar-le-Duc and Verdun; 4 to 7.5 meters wide, it carried one truck per second (horse-drawn transport had to use parallel roads). Each kilometer was maintained by some twenty soldiers. During the Somme Offensive, the British commanded 14,000 officers and 45,000 soldiers and prisoners of war who paved a road 8 meters wide with tar or asphalt to reduce 'the extreme dust and mud plague.' A group of workers with a cylinder roller was stationed every 2 kilometers to repair defects in the road surface."<sup>18</sup> Even more, we know that Puricelli's role during World War I was as a contractor for the Italian army, building *ex novo* roads in the impervious Alpine area in order to feed the trenches.<sup>19</sup> World War I emerges thus as a turning point in terms of

transport mindset, allowing visionaries like Puricelli to “transfer” those war examples to other conditions and other circumstances. In other words, building military roads just for motorized traffic under the exceptional circumstances of the conflict left a patrimony of knowledge and vision that could also be used for “normal” times.

This helps us to understand why the European continental road debate focused on the English model, the “motor vehicle paradise.”<sup>20</sup> In an era marked by a collective feeling of continental decay,<sup>21</sup> I am not surprised that England was seen as an inspiring model in road management: a successful, well-known, and stimulating example, depicted by the Italian experts and politicians as fully European. The United States seemed, in contrast, to be too distant (economically, politically, and culturally) to be a suitable model.<sup>22</sup> We should therefore reframe the narrative of what we today call the automobile sociotechnical system as having developed in the Italian sauce, so to speak. Targeting English automobilism allowed Puricelli to better assess the political value of his proposals on motorways and the massification of motor vehicles as a (mainly rhetorical) European discourse, with European goals and European roots.

### Seeking European Modernity

Taken individually, none of the characteristics of Puricelli’s motorway was an absolute novelty. It was not new to impose a toll for using roads. Nor was the exclusion of carts and bicycles: the World War I military routes and the race and test tracks built in the United States and Germany are among the most relevant examples, along with the Monza racetrack, built in 1922 before the motorways. America’s Long Island Motor Parkway, opened in 1908, with access reserved for motor vehicles, with a toll, and operated by a private company, was another example.<sup>23</sup> The Milan–Lakes motorway was not even a novelty in avoiding intersections and railway crossings: again, the Long Island Motor Parkway had overpasses.

Puricelli’s insight was the ability to assemble these elements together, and to do so in a specific way, building a special road 84 kilometers long. The first Italian motorway was also conceived as a network, with different legs. Finally, and this is a central point, different from the Long Island Motor Parkway and Berlin’s AVUS, the Milan–Lakes motorway was *not* proposed as a road for upper-class pleasures or as a week-end racetrack, but as an everyday road. Puricelli’s motorway openly aimed

at commercial and industrial goals, made explicit from the very first moment in 1922.

So Puricelli did not “invent” so much: his sound intuition was to use previous models and to assemble them, forging a new sociotechnical system; in my eyes, this is linked—more than so far claimed by the historical research—to the battlefields of World War I. For that reason, his proposal and his outcomes were understood as radically innovative, and are still reported as such today, not only in Italy.<sup>24</sup> Lando Bortolotti was right to claim that Puricelli plagiarized technical solutions and systems, “which reshaped his presumptions, as well as the legend he carefully built on his primacy.”<sup>25</sup> But putting aside the exaggerated claims and the propaganda, Puricelli did indeed make something new: he was the first to build a tolled, extra-urban motorway in modern times.

However, the 1920s Italian motorways were also minuscule in their scale and achievement when compared to the United States’ mass motorization regime. Therefore, questions immediately leap out: why did the Chinese, South American, German, French, Yugoslavian, Finnish, Egyptian, Lithuanian (etc., etc.) experts place such relevance on the modest and simple Italian experiment? Why did South American engineers and policy makers embark on a long trip to visit Milan, instead of being satisfied with training visits to New York and Detroit? Why were French and German technicians, but also English and U.S. experts, so fascinated by Puricelli’s adventure that they started to imagine similar projects in their own countries? And why were Europe’s top politicians so impressed by motorways that an International Motorway Association was founded in the very early 1930s? Why was Puricelli considered an icon, and a reference as an entrepreneur and technician from the Baltic Sea countries to China, so that he even founded a company especially devoted to dealing with the international market, called *Puriester*?<sup>26</sup>

The Milan–Lakes merely as a road structure should have been insufficient for such passionate involvement. It was mainly the perception of the motorway as a radically innovative concept, a sort of manifesto about comfort, innovation, and efficiency. On top of that, the 1920s motorway projects reaffirmed both the centrality of technological efficiency and political control, as defined by the war experiences, and at the same time confirmed the superiority of top-down action. Puricelli was able to seduce a shocked European middle class with the political implications of his project. And those projects, last but not least, relegitimized—after the growing role played during World War I—legions of technocrats, offering them a technological system with high political impact and also making them players in the social engineering.

The strength of that 1922 motorway project lasted for decades, even to the extent of being largely replicated in Nazi Germany just ten years later. It was part of a new social compromise, which was fully developed only after World War II, and included private ownership of a motor vehicle and paid holidays. By the interbellum, this vision had already reached a European scale. This happened along with traditional forms of transnational exchange, like PIARC's congresses, and via institutionalized agencies like the International Labor Organization. Puricelli did not spare himself as a globetrotter, spreading the gospel of the *autostrade* globally, making direct and bilateral knowledge transfers possible. The 1931 and 1932 international (but, at the end of the day, European) motorway congresses and the related plans (mainly developed by private actors) were the playground for technocratic entrepreneurs with political goals, including the preservation and reinvention of a European international primacy. The electric grid and motor vehicles were the icons of progress and development, driving Europe in a new season of peace, prosperity, and self-confidence.

Electric power networks promising universal and abundant power supplies, based on hydropower and later nuclear power, and universal (auto) mobility became the new symbols of hope and progress. By the 1930s, ideas of a technological unification of Europe were gaining momentum. There was a wave of trans-continental power supply plans that would tie European nations together in a pan-continental electricity network fed by the hydropower sources of Norway, Switzerland and Austria, or dams to be built in the Straits of Gibraltar or across the English Channel. Simultaneously, the first plans of pan-European highway networks emerged.<sup>27</sup>

The continental scale of the discussion was also a move—explicitly or implicitly—to seek a cohesive European alternative to the U.S. model and one able to confront the Soviet Union: “Two rationales underpinned such projects. First, the First World War had scattered the unbridled European optimism of the Belle Époque (1890–1914). Social Darwinist thought spread among intellectuals and emphasized European decadence vis-à-vis the Communist Soviet Union and the increasingly assertive United States.”<sup>28</sup>

But, in the face of the strength of those elements, how can we explain the failure of those early 1930s European motorway networks? We can claim that the gap between vision and realization was too deep. The motorway dream was charming, but 1920s and 1930s Europe lacked the necessary resources and critical mass for achieving a continental network, let alone a new social compromise that encompassed mass motorization. Indeed, during the 1920s the implementation of the

Italian motorways was left in the hands of a (little) group of enthusiasts. The decade also witnessed a growing interest in motorway programs, which perhaps lost that new innovative force but developed a wide recognizability. The Italian network was, at the end of the 1920s, certainly modest, and—to be fair—not even a proper network, but there was something happening.

The end of the 1920s was therefore a turning point in which the motorway projects gained maturity and scaled up to the national and, soon after, European level. We should nevertheless note that the 1931 and 1932 European motorway network proposals were rather ephemeral, being the result of an unexpected constellation of coincidences. Like in the European Union today, in the early 1930s Europe there was *not* a supranational agency capable of planning, financing, and managing any infrastructural system, particularly not one as expensive and massive as the motorway network. The European motorway congresses of those years can be easily classified as “soft” tools, with the aim of nudging the participants toward volunteer agreements. We should also add that those participants were not national governments, or public agencies, but a variegated spontaneous aggregation of contractors and lobbyists, well acquainted with one another, who found a roof at the International Labor Organization. Here the (emphasized) role of Albert Thomas was crucial, but also “problematic, because Thomas considered the roads a lesser component of the overall plan. In his private correspondence Thomas declared that he was not a ‘fanatique des autoroutes,’ holding that the construction of a European power grid was much more important. The main reason why he had kept roads in his program was due to the enthusiasm he had encountered among road builders.”<sup>29</sup>

The lack of results for those initiatives had one root cause: those proposals were no more than the visions, maybe fascinating, maybe intriguing, of a gang of road lobbyists operating (with the exception of Puricelli) on a national scale, well known to one another and occasionally gathering together. There was no nudging action available to encourage transnational cooperation, because those meetings were little more than a motorway fan club reunion: far from being a hidden integration of Europe, the European motorway congresses were ephemeral in their background and in their outcomes.

On the other hand, not all the ado was for nothing. Leveraging the decade-long motorway projects and debate, and fully aware of the symbolic value of large-scale initiatives, the 1933 Nazi motorway plan seems to have been a natural outcome of this long incubation. I am of course well aware that this statement needs more archival research, which I would welcome. This would also help us to distinguish better between



the national and the European levels. Today we can drive on a European network of motorways, yet we still face so many differences in terms of signage, tolling, practices, and physical and symbolic layouts. The planning stage as well as the implementation of that network had very little European coordination, being based on national resources, priorities, and timing. Like the railways before them, European motorways are little more than a combination of national systems. We have here a tension between the two levels, which cannot be easily labeled either European or national in scale and scope. We should be aware of such a complex "interplay between national and international sources of expert authority. While experts mostly defined their authority in a national framework, highlighting the universal grounding of their expertise was crucial to the experts' claims for influence. Moreover, international contacts were an important criterion in attaining expert status. This tension often resulted in structural conflict between national loyalties and a universalistic self-understanding, which was typical of European experts, particularly in the twentieth century."<sup>30</sup>

This forces us to reframe the European interbellum motorway projects by combining their visions and their real purposes. In the 1930s there were already formal and (predominantly) informal "European" meetings and expert discussions, which ultimately led to a "European" network. However, if the experts and the lobbyists excited the public opinion with those futuristic plans, it was the political (national) systems that were in charge of making decisions (and paying). Much like the interbellum European political projects that lay between Americanism and communism, the motorway proponents also "saw themselves as part of an international development and regarded the transnational exchange of knowledge as an essential contribution to the search for the best solution in their respective national frameworks."<sup>31</sup> Therefore, in my eyes and despite the road lobby's attempts in the early 1930s, there was not any "denial of the dichotomy between national and international interests,"<sup>32</sup> but, rather, "Europe worked as a 'space of compensation' for processes of collective self-reassurance,"<sup>33</sup> with the national level as the proper and truly accepted legitimating arena.

The case of the (failed) London–Istanbul road as envisioned in the early 1930s fits in this framework: "A series of mostly national undertakings which acquired an aura of international significance through their symbolic construction."<sup>34</sup> I am naturally aware of the fictional values of those "international" projects, as Badenoch correctly reminds us, and, moving to the stage of the European motorway networks in the interbellum, "fictions are not of themselves real or unreal; their reality depends upon the contexts in which they are set. When the larger con-

texts of internationality upon which it was based broke down, the road's national stories grew dominant and the international fiction moved quickly from reality into memory and dream."<sup>35</sup> Once Europe moved back to nationalism, partly, but not exclusively, because of the 1929 crisis, the context changed, and so did the motorway's *raison d'être*.

The 1929 crisis added another (crucial) element to the equation of governance, having a centripetal effect on the decision-making process, thereby reducing the maneuvering space for the road lobby in any of its national declinations. This shift likewise reduced Puricelli's chances to be actively engaged, beyond mere consultancy, in any projects: the 1929 crisis left the initiative and the political legitimacy in the hands of the national governments. We can therefore say that "the most important influence of the BIAR and OIAR initiatives was indirect: it convinced certain engineering factions in the *national* ministries of the rationality of the freeway concept."<sup>36</sup>

From the technocrats' point of view, efficiency and coordination were central factors in legitimizing motorway programs, but efficiency and coordination should be understood as "fictional" elements of the technical and political discourse, and we have also seen the extent to which the debate in Fascist Italy and Nazi Germany transcended "function and technical characteristics." As recalled in the introduction of this book, technology was presented and represented, at least regarding 1920s Italian motorways, as a compromise between hypermodernity and tradition, in which the form *did not* follow the function. Finally, and crucially, in contrast to the suggestions of Johan Schot and Vincent Legendijk, 1920s Italian motorway proponents did not prefer "a working method for international cooperation which separated the technical from the political."<sup>37</sup>

Puricelli aimed to create a political artifact, with political values and outcomes, including a near future in which every cook had a car. This was forecasted in order to implement social changes (and avoid social revolution) but also, *at the same time*, to restore social hierarchies. In doing so, he was acting as a social engineer, but this action was undertaken in full alliance and cooperation with the political power, namely, fascism. He was bringing "rationalization and planning methods to social problems in a manner that 'mere' politicians were incapable of doing," and surely he would have defined himself as "ideologically neutral."<sup>38</sup> But he was not acting in substitution or on behalf of the political level, he was acting *together* with it.

The short (and fruitless) life of the European motorway network came to an end once the national level was no longer hidden behind the European "unification" debate of the late 1920s. Although still porous to

the European rhetoric, in 1934, Puricelli's European network plan already had the ambiguous rallying cry of "la Conquista del continente" (conquering the continent).<sup>39</sup> In 1936, Kurt Kaftan prepared, under Fritz Todt's instructions, a new European plan, in which we can still find traces of the international debate. Kaftan "argued that his basic method had been to design optimal national road networks for each country based on economic and traffic criteria," which is to say that the national level was the dominant one. However, behind the rhetoric, he also "argues at some length that Germany's network should be the starting point for the design of the European network, as it took the lead in motorway building. This implies that when other national plans did not fit, the planned German network had to be adjusted."<sup>40</sup>

For Hitler's Germany, the welfare state and public works engagements functioned in service of (and were paid for by) a policy of conquest and domestic and international robbery,<sup>41</sup> while Kaftan's 1936 European motorway plan served the foreseen dominance of the continent. On a smaller scale, the same can be said about the last-minute 1942 Italian attempts to build motorways, with the victory of the axis powers on the horizon, as an attempt to enforce control on the Balkans.

This once again shows how the history of Italian motorways is political, how Italy's route to modernity was driven by technology and experts, and how transportation infrastructures were used for nationalistic and even imperialist purposes.

## Notes

1. Gijs Mom, *Atlantic Automobilmism*.
2. Maier, *Recasting Bourgeois Europe*.
3. For a review of John Rae's works, see David N. Lucsko, "John Bell Rae and the Automobile 1959, 1965, 1971, 1984," *Technology and Culture* 50, no. 4 (2009), 894–914. See also the classical works of James J. Flink, namely, *America Adopts Automobile, 1895–1910* (Cambridge, MA: MIT Press, 1970) and *The Automobile Age*.
4. Mom, *Atlantic Automobilmism*, in particular 578ff.
5. George Basalla, "The Spread of Western Science," *Science* 156, no. 3775 (1967), 611–622, and George Basalla, *The Evolution of Technology* (Cambridge: Cambridge University Press, 1989); see also Raina Dhruv, "From West to Non-West? Basalla's Three-stage Model Revisited," *Science as Culture* 8, no. 4 (1999), 497–516.
6. About the role of European "peripheries," see Kostas Gavroglu, Manolis Patiniotis, Faidra Papanelopoulou, Ana Simões, Ana Carneiro, Maria Paula Diogo, José Ramón Bertomeu Sánchez, Antonio Garcia Belmar, and Agusti Nieto-Galan, "Science and Technology in the European Periphery: Some Historiographical Reflections," *History of Science* 46, no. 152 (2008), 153–175.

7. As quoted in Pier Luigi Bassignana, ed., *Taylorismo e fordismo alla Fiat nelle relazioni di viaggio di tecnici e ingegneri (1919–1955)* (Torino: Archivio storico Amma, 1998), 168.
8. See *La partecipazione italiana al sesto congresso internazionale della strada, Washington, ottobre 1930* (Roma: Genio Civile, 1931).
9. See Annabella Galleni, "Strade, autostrade e fascismo," 54.
10. *Le autostrade da Milano ai Laghi*, 13.
11. Lucillo Ornati, "Lo 'Studio Tecnico Puricelli,'" 173.
12. *Ibid.*
13. Piero Puricelli, *Le autostrade e la Milano–Laghi*, 24–25. Italics in original.
14. Bruce E. Seely, "Inventing the American Road: Innovation Shaping the American Freeway," in *From Rails to Roads and Back Again? A Century of Transport Competition and Interdependency*, ed. Colin Divall and Ralf Roth (Surrey: Ashgate, 2015), 233–274, here 240–246.
15. See Arturo Sansoni, "Notizie ed impressioni sulle strade degli Stati Uniti d'America," *Le strade* 5 (1923), 137–142, here 137.
16. Ornati, "Lo 'Studio Tecnico Puricelli,'" 175.
17. Mom, "Roads without Rails," 755.
18. *Ibid.*
19. Galleni, "Strade, autostrade e fascismo."
20. P. Borracci, "Ancora sul problema stradale," *L'Auto Italiana*, 15 May 1926, as quoted in Bortolotti, "I congressi autostradali internazionali," 8.
21. Frank Schipper, *Driving Europe*.
22. See more detailed notes in Moraglio, "European Models, Domestic Hesitance."
23. Long Island Motor Parkway, with a length of 45 miles (about 72 kilometers) was "the first limited-access highway exclusively for automobiles"; Flink, *The Automobile Age*, 170. See also Peter J. Hugill, "Good Roads and the Automobile in the United States, 1880–1929," *Geographical Review* 72, no. 3 (1982), 327–349, here 343, and Michael L. Berger, *The Automobile in American History and Culture: A Reference Guide* (Westport London: Greenwood Press, 2001), 412.
24. On the relevance of 1920s Italian motorways see "Public Works, The Automobile Road," in *The New Encyclopædia Britannica, volume 26, Macropædia* (Chicago: Encyclopædia Britannica Inc., 1994), 325–326.
25. Bortolotti, De Luca, *Fascismo e autostrade*, 19.
26. About *Puriester* [Puricelli+Estero, that is, Puricelli+International] see Bortolotti, "I congressi autostradali internazionali," 9, and Bortolotti, "Italia, Europa e oltre," 134.
27. Bruce E. Seely, "An Overview Essay," 20.
28. Schipper, *Driving Europe*, 84–85.
29. *Ibid.*, 103.
30. Martin Kohlrausch, "The Hour of the Experts?," 71.
31. Kiran Klaus Patel and Sven Reichardt, "The Dark Side of Transnationalism Social Engineering and Nazism, 1930s–40s," *Journal of Contemporary History* 51, no. 1 (2016), 3–21, here 1.
32. Johan Schot and Vincent Lagendijk, "Technocratic Internationalism in the Interwar Years: Building Europe on Motorways and Electricity Networks," *Journal of Modern European History* 6, no. 2 (2008), 196–217, here 198.
33. Alexander Badenoch and Andreas Fickers, "Introduction: Europe Materializing? Toward a Transnational History of European Infrastructures," in *Materializing Europe: Transnational Infrastructures and the Project of Europe*, ed. Alexander

- Badenoch and Andreas Fickers (Basingstoke: Palgrave Macmillan, 2010), 1–26, here 9.
34. Badenoch, "Touring between War and Peace," 207.
  35. Ibid.
  36. Mom, *Atlantic Automobilmism*, 581. Italics added.
  37. Schot and Lagendijk, "Technocratic Internationalism in the Interwar Years," 198.
  38. Ibid.
  39. Schipper *Driving Europe*, 107.
  40. Schot and Lagendijk, "Technocratic Internationalism in the Interwar Years," 207.
  41. See Götz Aly, *Hitler's Beneficiaries: Plunder, Racial War, and the Nazi Welfare* (Saint Paul, MN: State Metropolitan Books, 2007).