Chapter 6

The Myth of the Green Autobahn

Road alignment as a subject of controversy

> Herr Alwin Seifert planted little trees from a true miracle tree./His curly head started wobbling, thus "nature" became his occupation./A mountain rose, the road it forked, with a gentle declination / Todt yelled when he beheld the marvel: "You all belong to Dachau, yes / had I to see a road like this, I'd start to rebuild it. / The curves they are much too crooked, it's not crooked, it's stupid! / The roadway is confusing, no reasonable person can drive it." / So we listened to his words and gave the line a gentle bend. / And thus the first autobahn arrived safely in Munich's hall."[1]

The grim humor of this awkward poem conveys an impression of how heated the controversies over the roads in Nazi Germany could be behind the scenes. This chapter will examine the role and extent of these controversies. The plotting of the roads in the landscape, referred to by civil engineers as alignment, had been a topic of publications on conservation and landscape issues long before the building of the *Reichsautobahnen*. The sinuous line that, as we have seen, Schultze-Naumburg preferred for roads outside the flat countryside was more difficult for landscape architects to push through than the ideological intermingling of *Heimatschutz* and National Socialism would have led one to expect.[2] In contrast to such architectural ideals, nineteenth-century straight and level railroad tracks were anchored in the awareness of the garden architects as a visible example of geometric traffic routes. William George Hoskins and Wolfgang Schivelbusch have described the routing of the railroad as a "geometrization of the landscape": cuts, tunnels, and embankments were to allow for the straightest possible lines.

Notes for this section begin on page 172.

Especially in Great Britain, pioneers of the railroad pushed for routes with few inclines so as not to overstrain the weak engines. That goal was achieved through massive excavation work. The experience of a journey in compartments moving horizontally has come to be referred to (using Schivelbusch's phrase) as "panoramic travel": the foreground of the landscape flying by at great speed became a blur, while the eye focused on the background. The other reaction was boredom, which was relieved with new kinds of travel literature.[3]

When the second modern network of long-distance routes was built in the form of the autobahnen, the railroads presented the negative design foil, as it were. "The routing has to be designed differently for the automobile than for the railroad. The railroad is a medium for mass transit (also for masses of people). The roadway is a medium for individual transport. The train is usually a foreign body in the landscape. The motor roadway is and remains a road, and the road is part and parcel of the landscape. The German landscape is full of character. The motor roadway, too, must be given German character." With these words Todt had outlined his aesthetic credo at the presentation of the autobahn network in January 1934 to Hitler. The contrast between the railroad as leveling mass transportation and the automobile as a vehicle of social separation had already marked the bourgeois auto literature at the turn of the century, which equated the individuality of transport with the individuality of the person. Todt was trying to translate the "attraction of the independent journey at a person's whim" into an attractiveness of the roadways built specifically for the car. Moreover, in a nationalized context, landscape offered itself as a nexus between the driver and the environment. Individual traffic allowed for active traveling; motorists could recapture the foreground that was lost in railroad travel. "The panoramatic experience on the train was replaced by the 'feasibility' of the experience of landscape," as one historian observed with respect to the automobilists of the early twentieth century. They praised the car as a return to a landscape individually appropriated, as a self-guided experience of nature.[4]

Some twenty years later, in the Germany of the 1930s, the relationship with the automobile was increasingly redefined. Use of a private car no longer fulfilled only purposes of luxury, adventure, and sport, but was increasingly subordinated to other purposes as a mere transportation device. The car and its use became increasingly quotidian—after all, the motorization offensive launched by the Nazi regime was aimed precisely at making private motor vehicles commonplace. The subsequent failure of this project made little difference to the perception of this profound change in those years. Concomitantly, mass use raised questions of safety. While the early phase in the appropriation of the automobile had been characterized by a preference for unpredictability and risk, automotive safety and accident avoidance became relatively more important in this decade—namely in the interplay of motor vehicle and road.[5] One observer noted how the new roads were devoid of the distractions of the old ones, thus making them safer:

> The old highway offered so much diversion: there were villages, cities, sharp curves, wild ascents, switchbacks, the alternation of good and not-so-good roads, bicyclists, horse-drawn carts, herds of sheep—all things that may have sometimes been enjoyable for the sporty, 'proper' gentleman driver, but which were and no doubt still are interfering obstacles for the professional driver.[6]

Restrictions on access to driving through driver's licenses and traffic education were intended to enhance safety, as were the separation of types of traffic in the cities and the dedication of roads exclusively to cars on the autobahnen.[7] One autobahn propagandist already articulated the functioning of the road, its availability at all times, and its potential for speeding up travel as a civic claim: "The automobile is a *means of transportation*. When I get into my compact car in Heppenheim a.[n] d.[er] B.[ergstraße] [a town near Heidelberg], I want to be in Berlin at five in the evening, and along the way I want to have breakfast in Fulda and lunch in Naumburg. That is my perfectly good right. Our German cars can accomplish that today. Germany has become *automobile-friendly*. We have an *Inspector-General* who is providing us with *good roads*. But what is the reason if I am not in Berlin on time at five in the evening? It is only *road closings* and *detours*."[8]

Individual consumption and emphasis on personal will gave rise to an attitude of entitlement vis-à-vis the state, whose duties evidently included providing an uninterrupted and safe infrastructure of roads. Certain technical parameters, such as a route that had the fewest possible curves or was "sinuous," could thus be presented in the rhetorical clashes as either promoting or detracting from safety. All these factors resonated when Todt postulated the "German character" of the roads. It was not clear, though, what kind of technical parameters this entailed; in this regard, Todt offered no definitions, only ideologically underpinned encouragement. The details of road design were a bone of contention between engineers and landscape architects, and it is to these clashes over the alignment of the roads that I will turn next.

In looking at this controversy, it is necessary to distinguish between the engineers of the Inspector-General's office and those of the regional planning offices, whose differing professional and ideological agendas were examined above. The landscape advocates, on their part, had a predilection for sinuous routes, that is, roads that ran through the landscape in sweeping curves. The basic assumption is that we are dealing with a process of negotiation between the two groups of experts, the civil engineers and the landscape architects. The arguments that were traded back and forth in the process can be separated into aesthetic and functional ones, though at the time they were often mixed together.

As we have seen, the detailed plans produced by the lobbying work of the Hafraba Association served as the basis for the initial road planning in building the *Reichsautobahnen*. Those plans envisaged straightaways four or five kilometers long, connected with circular arcs and short transition curves, following standard designs for railway tracks. As the regime was eager to show some quick successes, these sections were realized first in their existing form. After the Berlin

office had made decisions about the rough plans, these were sent to the respective regional planning offices to be transformed into construction-ready blueprints. In the process, the civil engineers of the German Railroad preferred, as a design tool, the Hafraba model of long straightaways with short transition curves. One engineer who came out of the road administration recalled in his autobiography that his colleagues rejected other forms as "interruption."[9]

In the beginning, the fast construction pace did not change these attitudes in any way. It would appear that the routing of the very first sections was drawn up without consulting the landscape advocates. In an essay about this work, the landscape advocate for the first section Frankfurt-Darmstadt, Hirsch, said nothing about having influenced the routing. Instead, he spoke of having improved the "wounded edges of the forests" with plantings, and having accommodated embankments and cuts into the landscape through gentle transitions: "And so pictures and spaces gradually took shape—time and again, the work was improved as it unfolded." His words point to occasional opportunities for improvement against a backdrop of unchangeable, fundamental parameters when it came to routing. Figure 6.1 shows an aerial view of this straight autobahn section with a short transition curve.[10]

Figure 6.1 One of the most hotly debated questions regarding the design of the autobahn was whether it should be built with long straightaways or in sinous, sweeping curves. While the propaganda claimed that the roads were integrated into the landscape following the latter pattern, most of the early autobahn stretches resembled this picture: Long straight sections were connected with short curves. The aerial view shows the autobahn from Frankfurt/Main to Darmstadt.
Otto Reismann, *Deutschlands Autobahnen—Adolf Hitlers Straßen* (Bayreuth: Gauverlag Bayerische Ostmark, 1937), 144.

Apart from the dictatorship's desire to open partial sections as quickly as possible, another factor contributed to making the succession of straightaways and circulars the predominant form that the *Reichsautobahnen* assumed in the initial phase. As a result of the institutional integration of the Inspector-General's office and the Association *Reichsautobahnen* with the German Railroad, the majority of the staff on the regional planning offices came from the personnel of the German Railroad. Of the fifteen regional planning offices that existed on the territory of the Reich in 1935, thirteen were headed by engineers with the titles *Reichsbahnoberräte* or directors with the Reich Railroad; two of the heads were *Oberbauräte*, thus indicating a non-railway career.[11]

Given their training and professional background, the railway engineers tended to design the road similar to a railroad, aiming for long, straight sections whenever topographically possible. During the first years of construction, the Reich Railroad engineers received support from Todt himself in their use of long straightaways—in spite of his rhetoric, which was generally directed against the railroad. The question of whether the roads should be laid out as straight as possible or with a sinuous line was hotly debated between landscape advocates and the Inspector-General. At stake in the issue for the consultants was their participation in the power to define the design of the autobahnen; one of them emphasized that "our most important work on the autobahn is tracing out the route, since a route that is alien to the landscape can never be corrected with plantings after the fact." Another landscape advocate seconded that view, arguing that it was absolutely necessary for the individual consultants to be able to contribute their suggestions on the routing as early as possible. Seifert had demanded in June 1934 that the landscape architects traverse the segment with the civil engineer in charge on foot, and that they decide with him where in the landscape the autobahn should be laid out, where bridges and embankments should be built, and where rest areas and gas stations should be located.[12]

In the face of the impending loss of influence, Seifert therefore worked that much harder against the long straightaway as a routing element. He considered it an abomination: in his eyes, the straight *Reichsautobahn* route was simply not appropriate to the landscape. The straightaway was not of the earth, but something from outer space. Old roads with long straightaways were either "constructed along the sightlines of that age-old cultic placement that once covered all of central Europe," or they were un-German (*volksfremd*) structures imposed from the outside. The more a road's sinuous curves were nestled into the millennia-old bends of the landscape, the more it was in tune with the landscape, and the smaller was the necessary excavating work and the required number of embankments and dams. For each technical task, and thus also for the routing of the *Reichsautobahn*, there was an "entirely perfect, indeed, an elegant solution" that was determined by laws. Those laws, however, could only be intuited "in a kind of nature perception that can express itself only as a feeling." Seifert's virulent antirationalism was clearly on display here. Since it was clear to him that the design characteristics of the roads must be derived from their surrounding

landscape, the option of straight roads was out of the question. Such roads were alien to nature, an argument whose fundamentalness was beyond challenge.

The categorical imperative of this view prompted an equally categorical response from Todt.[13] In the debate with the Inspector-General, the argument shifted to seemingly anthropological terrain. Both Seifert and Todt were competing over the "nature" of man as it expressed itself in the operation of a car. Seifert, at any rate, could claim functionality on his side when he wrote to Todt that long straightaways were not suitable to man, "for reasons having to do with human nature." Monotonousness quickly made people tired, which is why the danger of deadly accidents was great on routes with few curves. Seifert therefore proposed to build the autobahn with sweeping curves. Todt did not want to open the door to such changes in 1935 and resorted in turn to comparisons from the animal world: "After all, the motor vehicle is not a rabbit or a deer that jumps around the terrain in winding and twisting lines, but is a technological artifact that was created by man and demands a suitable driving surface," he wrote to Seifert. At nighttime and in foggy conditions, it was difficult for drivers to get their bearings on long, sweeping curves. The Inspector-General continued the nature analogies and compared the "fast motor vehicles to the water strider or other skipping insects who cover smaller partial sections in straight lines and then change their direction from point to point." Seifert responded in the context of this naturalization that "no life form" could propel itself in a straight line. This merely confirmed his view that the straight line was of cosmic origin and not of this earth.[14]

As we have seen, Seifert's passionate opposition to the straight line was based on his aesthetic preferences. In his rhetorical competition with Todt over the question of what accorded best with a road's "German character" he enlisted analogies from nature, which were evidently supposed to be applied directly to the driver of a car. His characterization of the straight line as extraterrestrial had to meet with dissent from Todt, who held a doctorate in engineering. He rejected Seifert's expansive holism and sought instead to define the "nature" of the motorist.[15]

What the two men shared, however, was general suppositions about driving that they derived from various sources: Seifert from "cosmic" ideas, Todt from no less fundamental propositions of experience that were evidently based on his own or observed driving and were covered with a mantle of general validity that was not questioned. The question of whether long straightaways were particularly safe or unsafe was controversial also among engineers. For the most part, however, safety or the lack thereof was postulated rather than proved. Seifert could thus leap into an opening when he combined design and safety into a single argument in favor of his sinuous layout. Incidentally, the effect of long straightaways on traffic safety remained a contested issue for some time: in the United States, the New Jersey Turnpike that was opened in 1951 was built as straight as possible to reduce the number of accidents. Today, however, it is precisely the straightest sections of the U.S. interstate network that are considered the most accident-prone.[16]

In the correspondence with Todt about concrete segments, Seifert transformed these fundamental arguments of *Weltanschauung* into observations about

spatial effect and safety. On the Lauterbach-Odelzhausen stretch of the autobahn connecting Munich and Augsburg, a long straightaway of up to eight kilometers "was entirely appropriate to this level landscape." However, because of the meager plantings provided for in the plans, it would take seventy to eighty years before the desired spatial impression was created. But it alone made possible a "certain feeling of security and thus good driving"; without that feeling, it would require constant attention to stay on the straight roadway. Seifert went on to transfer this level of unverifiable feeling to the only slightly more secure category of safety. What remained unmentioned in the background was the notion of a pleasurable trip on the autobahnen with little traffic. Carefree locomotion via the automobile implied here as the goal was more in the category of a bourgeois pleasure outing than purposeful transportation. If constant attention was described as something to be avoided, it meant that the density of traffic had to be simultaneously very low.[17]

The uncertainty over the "appropriate" routing thus reflected the uncertainty over the purpose of the *Reichsautobahnen*. A mixture of various elements was chosen for the autobahn as well as for its technical parameters. Characteristic for this mix of contradictions is a decree of September 1935 from the office of the Inspector-General to the Directorate *Reichsautobahnen*. While it described severely straight segments as undesirable because they were tiring, their upper limit was set at four kilometers, which was still far more than the landscape advocates deemed appropriate.[18]

On the question of straight or "sinuous" roads, the interests and the possibilities of exerting influence were thus variously distributed. Whereas the engineers of the regional planning offices sought to reduce the technical parameters to the simplest possible link of longer straightaways and short circular arcs, and wished to stick to this given the pace of construction, the attitude within the superordinated office of the Inspector-General was not uniform. While Todt initially defended straightaways against the landscape advocates, his deputy Schönleben sought to at least restrict them in official guidelines beginning in 1935, at the latest. The landscape architects, meanwhile, were interested in curvy roads, which they sought to push through with nonnegotiable aesthetic criteria. They underpinned their primarily aesthetically motivated thinking with safety arguments only when their initial attempts were thwarted by the maze of the organization.

In this quarrel, which was carried on in part via private correspondence and in part via articles and essays, Todt retained the power to define what was an appropriate road. The first sections of the *Reichsautobahnen* were built following the pattern straightaway-circular arc-straightaway, which Seifert mockingly referred to as "zigzag," and still today they stand as lapidary witnesses to the early thinking that created these roads. Although Seifert's vigorous campaign for a sinuous line was published in Todt's house organ *Die Straße*, the Inspector-General did not exert corresponding pressure on the regional planning offices. Instead, the office of the Inspector-General issued general appeals to the civil engineers to see the routing as a "creative act." The job of laying out the road was the "most won-

derful and rewarding" task for a highway engineer. In fact, civil engineers were largely given a free hand in this call for creativity: it was impossible to specify routing elements such as the radius of the curvature or of the transition curve in every case; rather, laying out the road presupposed less a knowledge of technical parameters than a feel for the landscape and respect for nature.

At first glance, such a published directive reveals the complexity of the hectic construction phase in the beginning. While Todt long felt that straightaways were appropriate to human nature, his deputy called for a less formulaic approach to the routing of the roads. However, one must bear in mind that a process of feeling nature might very well end up with a straight road. While Todt's views described a general goal, the publications in *Die Straße* explained a method that would establish design as a creative act. In reality, though, the solutions to the routing were often subject to other criteria: because the high pace of construction was maintained, engineers fell back on existing plans.[19]

That the designs for the roads were supposed to be simultaneously subjected to at least the beginnings of a standardized approach with the help of guidelines further reveals the heterogeneous nature of the methodological canon. Geometric routing principles for the *Reichsautobahnen* were published in May 1934, spring 1936, early 1937, and even as late as 1943, following the cessation of construction work. However, they did not recommend specific lengths for straightaways, but stipulated the minimum radius for circular arcs. The minimum radius of two-thousand meters in the very first plans (evidently adopted from the Hafraba blueprints) was differentiated in May 1934, depending on the topographical conditions. Up to two-thousand meters was stipulated for level segments, up to one-thousand meters for "segments that had to accommodate the terrain of the landscape or a densely built-up area," and up to one-thousand meters for mountainous roads. In this last category, the threshold was lowered further to six-hundred meters, and it could even go as low as four- hundred meters. How nonobligatory such publications were is revealed not only by construction practice, but also by Schönleben's above-quoted call for the greatest possible creativity.[20]

Very informative sources exist on the extent of the first *Reichsautobahnen*, which were planned and built with long straightaways. A publication by the German Federal Ministry of Transportation in the mid-1970s spoke of "around two-thousand kilometers of well laid-out autobahnen" prior to 1945. If we compare this to a total length of 3,625 kilometers reported by the Nazi government for Germany and Austria, it would mean that about one-thousand-six-hundred kilometers were not "well laid-out," meaning that they were built according to the *Reichsbahn* model. If we add the eight-hundred kilometers of unfinished projects left behind as construction sites in 1942, the total length of autobahnen that were aesthetically unsatisfying rises to about two-thousand-four-hundred kilometers. One could object that these figures are estimates and were made after the fact. In a contemporaneous letter to a *Gau* chief, Seifert explained in more detail that "the first sections of the *Reichsautobahn* were laid out essentially after railroad ideas."

In 1943, that is, one year after the end of construction work, he listed specifically the sections Frankfurt-Darmstadt, Berlin-Stettin, Berlin-Magdeburg, Hamburg-Bremen, Munich-Mangfall Bridge, and Breslau-Liegnitz. That would add up to merely 476 kilometers of railroad-like sections. At the same time, Seifert noted that the curvy form of the road did not become fully established until 1939. Since three-thousand kilometers of autobahn were open to traffic by the end of 1938, we can assume that somewhere between five-hundred and three-thousand kilometers of the *Reichsautobahnen* had been built contrary to the design that the landscape advocates and parts of Todt's agency had in mind.[21]

A report from the regional planning office in Berlin in 1939 reveals just how much the curvy lines were initially scorned. The report apologetically listed the reasons why a "partial curving of the route through the terrain was unavoidable" on the Reppen segment of the road from Frankfurt/Oder to Posen. In the beginning, the road builders certainly did allow approaches to a "sinuous" routing on individual road segments, but they wanted to make sure that the highway kept the upper hand over the landscape. An excessive adaptation of the gradient was inconsistent with the width of the autobahn, noted deputy Schönleben from the office of the Inspector-General in an internal directive. The 24-meter-wide roads had a "certain momentum of aesthetic inertia" that permitted only minor bends in the horizontal and vertical. If this law is ignored, the autobahn will look "crooked or bent. … The autobahn should not do violence to the landscape, but in my view, majesty cannot tolerate being subject or secondary to the landscape in all things." Tests on partial segments from Hamburg to Bremen, which had avoided a frequent change in the gradient and alleviated cuts into the landscape with flattened embankments, turned out to be also "economically very favorable."[22]

Following this turbulent phase of experimentation on the ground, the sinuous forms in the layout of the routes prevailed after 1939, at the latest. The primary reasons were the greater aesthetic landscape effect of the curves, and an unexpectedly large number of serious accidents on the *Reichsautobahnen*, which builders hoped to counteract with curves. It was only the combination of both arguments—presumed safety and a more effective staging of the landscape—that led to success from the perspective of the landscape advocates. The aesthetic argument allowed them to connect to the trend toward panoramic exploration, which the integration of the roads into the landscape would help to achieve; the second argument made their demands part of the discourse about safety.

As we have seen, the pace of construction on the *Reichsautobahnen* slowed down after the attack on Poland. In this phase, the civil engineers rethought the application of the technical parameters against the backdrop of the sections that had already been built. One staff member in the office of the Inspector-General had pointed to the "need for an aesthetic of routing" as early as 1938. Based on the geometric forms of the route, the "flow of parallel lines," the goal was to achieve a harmonious alternation of straightaways and "various, widely arched curves": "The structure of the flow of the line is harmonious when the changes

in the alternating elements take place continuously with respect to both their *form* and their *size*." The article asked engineers to weigh technical and natural considerations under the overarching perspective of continuousness. Todt was receptive to this criticism using engineering arguments. In a speech he gave at an architects' meeting on the Plassenburg in August 1940, he redefined his autobahn policy against the backdrop of the war. The Inspector-General spoke of making the flow of the roads "even more fluid":

> I still regard it as a drawback of our alignment that such a road ensemble is generally composed of straightaways, curves, and circular arcs. The more one drives on finished roads, the more one has the wish to enter more gently into the transitions, and maybe to get away after all from the previous instruments of the ruler and the circular arc, and to achieve an even greater adaptation to nature.[23]

In their postwar planning for the autobahn during the Nazi years, engineers spoke of a building style that avoided a "narrow-minded adherence" to the movement of the terrain in the routing, while at the same time seeking to accommodate itself to the landscape. One author insisted that the road should not be subordinated completely to the landscape, depicting the autobahn instead as the representative of a new aesthetic: "For all the integration into the landscape one must not forget that the autobahn always deserves to be emphasized for its own sake. It must not be hidden within the landscape, but should stamp its special mark upon the landscape. It should not fracture the landscape, but instead emphasize even more the unique character of the landscape through its skillfull alignment; only then will driving the autobahn become what it should be, the joint experience of autobahn and landscape."[24]

Evidently these qualities applied only to roads in Germany, however. Todt declared that he could not imagine "that we should make a big effort" to cultivate the "remnants of landscape beauty" in conquered Poland. There one should place "somewhat stronger" emphasis on the military character of the road. Something similar applied to Belgium: on its completely level terrain an autobahn should head toward the channel coast "in a relatively straightforward course" and the cities should be linked to it via connectors. The integration of the roads into the landscape, an attempt that was charged with nationalistic feelings, thus ended at the borders of Germany (and Austria). It was regarded as an additional effort, one that the conquered countries were not worthy of. At the same time, these demands reveal just how much the autobahn described as landscape-friendly was a prewar phenomenon that seemed increasingly obsolete in connection with the National Socialist wars of conquest.[25]

It would appear, therefore, that the change in thinking about the layout of the roads was the result of the construction-free phase after 1939 and the growing realization among some engineers, based on their own experiences, that movement with a constant change of direction offered a more pleasant driving experience than movement along a perfectly straight road.

The seemingly technical detail of whether the routing of the *Reichsautobahnen* should be straight or sinuous was the topic of heated discussions. The debate dealt with the nature of driving and of the—exclusively male—driver, as well as with the nature of the road and the landscape. Engineers from the office of the Inspector-General and the landscape advocates sought to define these elements in contrary ways; the civil engineers of the regional planning offices remained largely silent during these debates. The arguments put forth by the engineers and the landscape advocates arrived at opposite conclusions: the former that it was in the motorist's nature to prefer straight roads, the latter that he preferred curvy roads. The argument that one style or another was safer also remained on the level of mere assertion. In the meantime, a large portion of the sections was built with the use of long straightaways. As the layout of the autobahnen shows, the landscape architects were not able, because of their insecure status, to acquire early and systematic influence over the planning. In 1935, the office of the Inspector-General fixed the maximum length of a straightaway at four kilometers and tried, as the supervising agency, to regain the power to make the final determinations. In 1938, doubts about the aesthetic effect of long straightaways were voiced for the first time by engineers; however, it was only as the construction of the autobahnen was winding down that a comprehensive rethinking of this design element took place. One added aspect was that the adaptation to the contours of the terrain promised to lower construction costs. In the process, engineers and landscape architects tried to expand their specific professional oversight to encompass the relationship between road and landscape. The civil engineers were keen to emphasize the preeminence of the road and to highlight its attractiveness, not that of the landscape by itself.

Characteristic of this controversy is also the degree to which "the driver" functioned as refuge and target category. Both groups were able to avoid addressing their own professional, ideological, and hierarchical differences by invoking the presumed interests of "the" motorist. The masculinity of this rhetorical figure remained a self-evident a priori condition of this discourse. As the autobahnen became older, the driver became less amorphous: the participants in the debate seem to have condensed their own experiences on the road into the figure of the motorist.

What both groups shared, however, was that the experience of road and landscape was formulated as the goal of driving the *Reichsautobahnen*, though the emphasis was placed differently. The new view of the landscape acquired from the autobahn functioned as the ideological link connecting various justificatory contexts. The aim was a specific constitution, a visual consumption of the landscape. A closer examination of various descriptions of autobahn sections shows that the gaze upon the landscape from the moving car was singled out as the intentional product of the construction of these roadways. The technical means to make this vista possible were ascents over mountains and hills: they made it possible to open up panoramas that would have remained closed on a journey over the autobahn in the valleys.

"One drives faster than I can write": visual consumption on the Reichsautobahnen

The panoramic exploration of the Irschenberg Mountain on the road from Munich to Salzburg is a good test case for examining these questions and with them the political meaning of the gaze that was raised at the beginning of chapter five (for a contemporaneous Irschenberg scene, see figure 6.2). A route in the valley instead of over the mountain would have been easier to build, though it would not have offered a vista of the Alps. This mountain became central to the landscape conception of the *Reichsautobahn* when a picture of it won first prize in a photography contest. In an essay, Schönleben spoke about this route having "fateful significance." Todt himself, we are told, laid out the road; following a hike on the mountain "with a few engineer and skiing friends," he chose the route across the Irschenberg. The mountain was presented to the heads of the regional planning offices as an example: "No other route offered the possibility of composing the landscape experience of the route with such variety and intensification as here."[26]

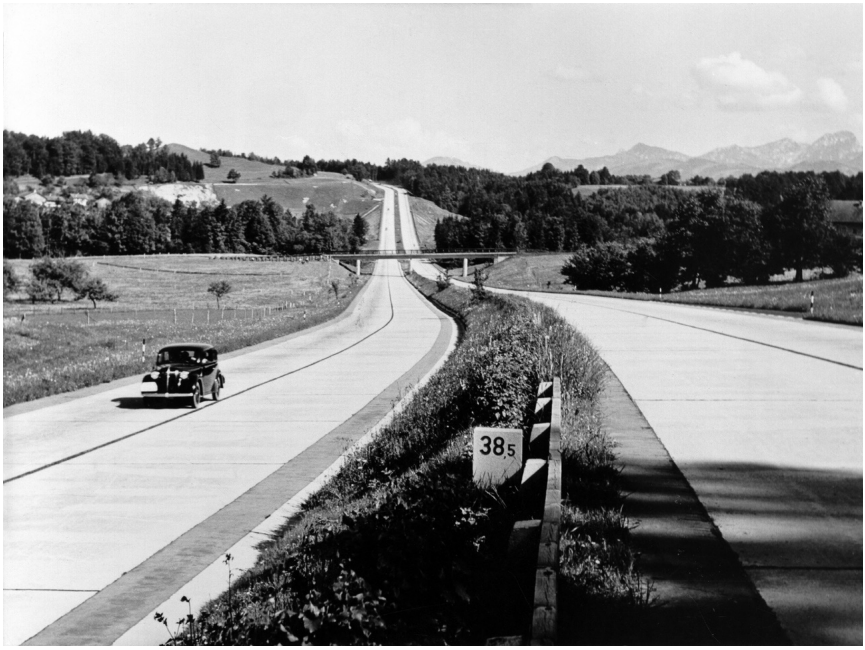

Figure 6.2. The showcase segment of the Nazi autobahn was the Irschenberg mountain on the route from Munich to Salzburg. Instead of traversing the valley, planners decided that the freeway would climb over this foothill of the Alps. A rest stop was built on top of the mountain, enabling views of the Alps towards the south. Such alignments turned landscapes into objects of visual consumption. They also necessitated relatively steep inclines, which made the roads less useful for trucks and more hazardous for every user in the winter. Today, the Irschenberg is known as a site of recurring traffic jams.
Ullsteinbild/The Granger Collection, New York

While these hints at the creative activity of a composer point to the cultural import of the road's routing, the latter becomes even clearer in a description of the segment by Todt. The 125-kilometer-long stretch from Munich to the Austrian border began with an exit avenue bordered by linden trees, at the end of which, "as the title of the entire segment, so to speak," there was a "comprehensive vista of the Upper Bavarian Alps," which "towered with imposing height above the approaching forest belt." At three to four kilometers, this segment was long enough to allow even a fast driver to take in the "magnificent vista. … Any planting that could obstruct this sweeping view has been omitted on this stretch. One drives faster than I can write."[27]

After passing through the Hofoldinger forest over a length of twenty kilometers, a forest that "received" the motorist (in Todt's words) and made him forget the walls of the big city, the road went across the Mangfall Bridge. A mere two-hundred meters later, behind the first transected moraine hill, there opened up "a splendid view of the mountains at Bayrischzell and Schliersee." The route along the Seehamer Lake was described as an "entertaining interruption," until a gradient of six percent led up to the ridge of the Irschenberg. "Over a length of three kilometers (km 42–45), one enjoys from this height an encompassing panoramic view of the mountains." Todt described the descent into the moraine landscape by talking about the topographical details along the autobahn. After the Inn Bridge, a moraine depression seemed particularly favorable for the line of the road, because it skirted a massif: "The craggy Kampenwand mountain is only six kilometers away." Thereafter, an easy ascent allowed for the "landscape surprise of the entire segment," namely the "unexpected view down to Lake Chiemsee." Todt's dramatic description was specific to the visual revelation of the *Reichsautobahnen*:

> The sudden change in vista, next to the mountains on the right the large, expansive surface of the Chiemsee ahead and to the left of the road, has surprised and captivated everyone who has come to this spot. Anyone who has a proper feel for this landscape as a motorist turns off the motor and silently glides down the three-kilometer-long slope to the southern shore of the lake, where a bathing beach, parking places, or the *Fischerwirt* [inn] invite you to stay and rest.

The routing directly along the shore of the lake was recommended as an opportunity to park the car. In 1938, the largest rest house of the Nazi autobahn was opened at this location. Hitler gave his own input on the design and made sure he had a separate bay-window corner with a view of the lake. Beginning in 1940, the fifty-three rooms were used by the Wehrmacht; after 1945, the U.S. Army turned it into part of a recreation center.[28]

A few more kilometers farther along the Alps, engineers developed an elevation of around six-hundred meters, which now offered "magnificent views away from the mountains to the north and northeast into the high plain." On clear days one could see all the way to the Bavarian Forest, Todt exaggerated. More important was for him, however, that this change in the direction of the gaze

imparted to the route "an entirely different landscape character." Eventually the road turned back toward the mountains on the way to the Austrian border.[29]

Picking up on this very point, landscape advocate Seifert, in his comments on the route, praised the fact that in designing the descent into the Salzburg plain, the engineers had, among the thirteen available options, intuitively found the one that made "the impossible possible: to resume once again the sequence of landscape beauty that becomes more intense from Munich to the Chiemsee and, in a sense, to continue it on another level, in the view from the mountains onto the endless high plain, which only the likes of Adalbert Stifter would be able to adequately depict." In relatively sober prose, the head of the regional planning office Munich described as the main criterion for the bridges of the *Reichsautobahn* that they should preserve "as much as possible the clear view for the user."[30]

With emphatic deliberateness, engineers and landscape advocates jointly sought to construct an exciting journey for the motorist along this showpiece of the *Reichsautobahn*. The authorship of the gaze thus remained clearly with the builders of such a route, though they made it so suggestive to the motorists on the autobahn that one can refer to it as a panoramic production. Although this panorama was explored by the drivers individually, the orientation of the gaze was standardized by the layout of the route. Moreover, the emphasis on the succession, surprise, and intensification of varied, non-tiring gazes from the moving vehicle characterizes the experience of the autobahn sought after by the builders as visual consumption. The presented genres, such as Alpine peaks, lakes, and more Alpine peaks, constituted landscape as a nonutilitarian gaze upon noneconomic objects. Panoramas outside the urban sphere were opened up and presented; that included landscapes as much as cultural monuments in a process whose main features Rudy Koshar has described as a growing aestheticization and consumer friendliness.[31]

The manner of presentation was especially intensified through the speed of the movement in the automobile and can be described as consumption not only metaphorically. What was at stake, after all, was an offering of mass culture that had been deliberately arranged for urban, well-to-do consumers, and which offered the user ways of presenting oneself and one's family. Delight in novelty and pleasure in variety were likewise constitutive. Small-scale vistas rushing by were not suitable for leaving behind lasting, visual, "automobilized gazes" (Burckhardt). That is why it was emphasized that the mountain ridge of the Irschenberg offered a view of the Alps over a distance of three kilometers, and that the the road ran along the southern shore of the Chiemsee for four kilometers. Only extended visualization allowed the impressions to unfold their desired effect; and only in this way could the transitions come as genuine surprises. We are dealing with something far more than the mere transfer of elements of landscape architecture in the eighteenth-century English style, in which the impression of a surprising view was described as the "ha-ha effect." The autobahn strove to stage the landscape beyond the road: that is what it was claiming to do and the effect it was hoping to achieve. At the same time, the road was understood as a

technological structure. Finally, there was the rapid locomotion of the motorist. These three factors make clear that we are dealing not with the continuation of a traditional aesthetic, but with a consumption-oriented refocusing of the gaze in the twentieth century.[32] With this visual appropriation of the landscape, the German autobahnen took on one of the technological characteristics of the parkways in the United States. These recreational roads, built only for automobile traffic and not for trucks, had realized such visualization concepts. Todt's agency had the relevant technical literature translated.[33]

The panoramic production of the *Reichsautobahnen* can be demonstrated on numerous other segments. Although the route Munich-Salzburg was the only one that could provide views of the Alps, the highlands in other parts of Germany offered enough potential for the technological appropriation of panoramas. In the process, the Alpine route was seen as a model for other segments. Even the first Nazi autobahn segment Frankfurt-Heidelberg/Mannheim, which was laid out largely in a straight line and had far fewer opportunities for a sequence of heightened landscapes, was lauded for its "varied, unimpeded views" out of the forest. In another case, the gradient that engineers accepted in return for a better vista was 7 percent. And for the climb of the autobahn Stuttgart-Munich into the Swabian Jura, the Inspector-General explicitly authorized a gradient of no less than 8 percent along with a curve radius of two-hundred meters. The construction of tunnels was discussed, but rejected because they offered much poorer options for panoramic views: "Even perfectly designed structures would have, by their size, invariably robbed the splendid landscape completely of its original character. The view of the singular scenery would have remained closed to drivers and travelers by the rapid succession of tunnels." It was understood that the steep gradients in general would make driving on the *Reichsautobahnen* at times difficult for trucks, but this critique was answered by noting that motors were expected to become more "mountain happy." One author boldly and incorrectly predicted that cars would be "insensitive to gradients."[34] During construction of the *Reichsautobahnen* in Hesse, one service area was built deliberately at the highest point of the autobahn in this region so as to make possible long-distance vistas. Near Kassel, engineers even put a freeway interchange on a hilltop; to this day, drivers have to negotiate a height difference of eighty meters to get from one autobahn to another.[35]

There was a tense relationship between this visual consumerism and the postulated safety of the roads; still today, gradients and curves impede the flow of traffic, especially during bad weather. (The Irschenberg is infamous for its traffic jams in the winter.) However, the landscape character of the roads was able to take precedence over such concerns. In planning the autobahn from Salzburg to Vienna, Todt explicitly weighed traffic safety and the enjoyment of the landscape against each other. Following a flight over the route, he noted that a close approximation of the autobahn to the mountains "greatly diminished" the transport utility of the route during the five or six months of winter. However, in the Salzkammergut region just east of Salzburg Todt accepted this trade-off

for more panoramic vistas: "We have decided to subordinate the principle of unconditional winter fitness to the desire to see as much as possible of the Salzkammergut lakes." This setting of priorities was to apply to the entire route Salzburg-Vienna, so as to convey to the motorist "the full landscape beauty of the German *Ostmark*." The opposition between aesthetics and safety, each of which demanded different design features from the autobahn, had thus been decided in favor of visual consumption. For Todt and the office of the Inspector-General, this quality of the route was, in doubtful cases and especially in southern Germany and Austria, more important than the mere transportation function of the road. The motorist who was the target of these ideas was clearly sitting behind the wheel of a car, not a truck.[36]

That Todt had a soft spot for vistas is also revealed by an anecdote outside of the autobahnen: when enormous hydropower plants and power lines were built in the Alps as part of the expansion of the electricity industry, one of the overland lines almost impaired the view from one of the Inspector-General's vacation homes. Following Todt's intervention, the power line was moved, not the house.[37]

The flora of the Nazi autobahn: contesting native plants

In contrast to the clashes over the alignment of the roads, one would have presumed that the planting of the median and the sides of the autobahn would have fallen more clearly into the task area of the landscape advocates. However, even in this area, the extent and pattern of the integration into the landscape were a bone of contention between architects and engineers. What is more, one can detect conflicts in the generation of knowledge about what, where, and how much should be planted. In what follows, I will take a closer look at this question.

At the very outset of his work, Seifert had described the furnishing of the roads with trees and shrubs as the second great task of the landscape consultants, alongside the influence on the routing. "Two options: either the landscape rules or the road rules," Seifert had noted succinctly about this issue during his introductory presentation to Todt in January 1934. Roadside trees had been, since the eighteenth century, a design tool in the planning of urban avenues and tree-flanked roads in the countryside. One example known throughout Europe was Napoleon's national roads (*routes nationales*). As we saw above, Seifert mentioned an avenue-like design when he first established contact with Todt, but he did not bring the idea up again later. With its dead-straight line and the dense, regular planting of trees, the conventional avenue possessed in the eyes of the designers of the *Reichsautobahn* an obvious artificial character, one that ran counter to their goal of a naturalized technology.[38]

In his presentation, Seifert avoided listing the aesthetic effect of a planted autobahn as a motivation. Instead, he addressed its functional importance. First off, planting was favorable for the roadbed, since it would otherwise dry out. Moreover, the planting of trees and shrubs was to be "the beginning of the

restoration of the natural balance in the cultural landscape (bird protection, protection against soil depletion, the preservation of dew and carbon dioxide in the soil, climate improvement)." Seifert evidently expected that such functional arguments would carry greater weight with the engineers. Leaving aside the purely tactical approach, we also find reflected here not only a view of the natural environment that is interested in causal contexts, but also the blending of static conceptions of ecology with nationalistic motivations into a policy of ecological restoration.

Before the work of the landscape architects on the *Reichsautobahnen* began, the planting was functionally differentiated. To be sure, in one of his essays aimed at a broader audience, Seifert had postulated that "a road must have trees if it is to be a German road."[39] However, when working with the civil engineers, the landscape architects differentiated according to the specific location of the autobahn in a forest, in well-structured agrarian landscapes, or in areas of monocultures, referred to derisively as "cultural steppe" (*Kultursteppe*). "In the *Kultursteppe*, the road must set the tone," Seifert had noted in his Berlin presentation. In the "treeless and shrubless deserts of rye, potatoes, and beets," exemplified by the agrarian regions of central and northwestern Germany, which attained the highest degrees of agricultural efficiency, it was appropriate to present the autobahnen as "master of the steppe." For Seifert this was not a concession to an aesthetically superior technological structure, but the consequence of the blandness of the landscape. Tall trees should emphasize the road artistically, and they also accomplished the practical goal of shading the roads. In this context of use, one could not dispense with "foreign" plants, that is, plants that were not native to the location. Specifically, Seifert mentioned the locust tree for dry soils, the red oak for wet east German sandy soils, and Canadian poplars for locations where not enough native black poplars could be found.[40]

Native plantings were explicitly called for, however, for autobahnen in forests. "Seen as an organism," Seifert argued, most of the forests were sick. Seifert blamed this situation on a forestry that was interested in the greatest possible yield and therefore preferred monocultures. It was therefore wrong to draw conclusions from the existing plants as to the species that were suitable for the autobahn. Instead, the landscape advocates should determine "what the composition of the forest would be if man had not been interfering in its life with an ignorant hand for a century; what is native (*bodenständig*) must be sought out and turned into the foundation of all new work." Native plantings required no care and were healthy, since they grew by themselves, after all, provided human influence did not prevent them from spreading. In his introductory presentation, Seifert had elaborated further on this functional argument and had already addressed the burden from automobile exhausts. Only "what is *bodenständig* (and not simply indigenous)" was resistant to the stress from dryness, wind gusts, wakes, and "poison gas." Instead of the monotonous fir forests on the gravel soil of the Alpine foothills, to name just one example, the goal was to restore forests of oak, linden, yoke elm, and maple.[41]

Nativeness would become the key concept for the planting of the Nazi autobahn. It became the topic of intense clashes between landscape advocates and the office of the Inspector-General. In what follows, the insistence on the use of native plants will be seen as an instrument of ideological self-assertion. This ideology was very much in flux, and Seifert and the other landscape architects employed it in various phases with different degrees of intensity and a different thrust. Examining this clash will allow us to draw inferences about the ideas of nature and landscape held by the actors involved.

To begin with, Seifert combined a personal mission with the principle of nativeness. He referred to his reflections on garden architecture he had published in the interwar period: "When I laid out the foundations of a native garden art five years ago in a larger essay, it met with virtually no resonance. The victory of the National Socialist *Weltanschauung* has strongly boosted the value of what is native and species-specific (*arteigen*); in garden design, too, nativeness is now garnering respect, and here I will leave open the question of how much should be attributed to honest conviction, and how much to clever sailing with the wind," Seifert observed in 1935 with typical self-conceit and a characteristic linkage of nativeness with elements of Nazi ideology. This ideological linkage has already been discussed in the scholarly literature. Here I will examine the question of whether—and if so, how—these bold pronouncements were realized and how the justifying rhetoric changed.[42]

To be sure, in calling for nativeness, Seifert was neither the only one nor the first to do so. However, Todt's chief landscape architect helped this principle to achieve prominence in a large-scale technological project. Since the turn of the century, garden architects had been trying to establish their emerging discipline on a scientific foundation. In the process of emancipating their discipline from building architecture and the profession of gardener, some garden and landscape architects articulated the principle of native plantings for their gardens and parks.

The form and content of this principle corresponded with a change in scientific methodology in classifying biology interested in the interrelationship of systems, that is, ecology. In studying plant communities, researchers in this field increasingly preferred a concept linked with the notions of succession and climax. The descriptive biologists studied communities of life in a given context, such as a specific piece of forest, and directed their attention at both the causal relationship between environmental conditions and plant coverage, and the relationships between individual species. The functional connection between specific plants assumed an increasingly changed character in the eyes of researchers in the last third of the nineteenth century, namely that of an inner, mutual necessity. Like the collaboration of individual members in an organism, the plant community could function only when each member was present and functioning.[43]

Added to this was the basic assumption of succession, the temporal change in vegetation in the same location. The nineteenth century saw a growing number of studies about this sequence; according to Ludwig Trepl, the "organism" established itself as the guiding metaphor. Succession was understood as the historical replace-

ment of one group of plants by a higher group. These sequences of successive living communities serve as the foundation for an order of vegetation. In this way, various plant communities could be distinguished hierarchically. The last link in such a sequence was regularly a stable community. Its stability was derived precisely from the fact that environmental conditions and vegetation were in balance if they corresponded to each other. Such "final communities" were called climax.

This perspective was radicalized by the superorganism theory of the American biologist Frederick Clement.[44] Central to this theory was the idea that the climax formation itself was now seen as an organ with a life cycle. Here is Clement's description: "The unit of vegetation, the climax vegetation is an organic entity. As an organism, the formation arises, grows, matures, and dies. […] The climax formation is the adult organism, the fully developed community, of which all initial and medial stages are but stages of development."[45]

This plant community moves inexorably toward its predetermined, automatic fate. Predetermination became implicitly the guiding image. The parallel between this approach and the view of history of a writer like Oswald Spengler is evident. Applied to nature, this view could only mean implementing the conservative utopia of the subordination of human life to life's habitat as "a purposely functioning organ from which it receives its meaning, in the first place." This organic metaphor of accommodation reverberated also in the concept of landscape integration (*landschaftliche Eingliederung*), which Seifert claimed to have coined himself.[46] This new understanding of these plant communities showed its effects especially in intensified research into so-called plant sociology (*Pflanzensoziologie*, or phytosociology). This subdiscipline of biology encompassed and described plant communities and could thus offer clues to plant ensembles that were "natural" to a given location, that is, they occurred without human influence. The first European schools for phytosociologists formed in Zurich and Montpellier in the wake of publications by the Danish biologist Eugenius Warming and his German colleague Andreas Franz Wilhelm Schimper. In 1904, English researchers established the first association with a similar orientation. In the 1920s, vegetation analysis established itself among Swedish ecologists in Uppsala. At the same time, Josias Braun-Blanquet (1884–1980), the most important phytosociologist outside the English-speaking realm, worked at the "Station internationale de Géobotanique méditerranéenne et alpine" in Montpellier. In contrast to Clement's extreme theory of the superorganism, phytosociologists of the Braun-Blanquet school were content to study the composition, environment, and structure of the plant communities. One of these students was the later collaborator on the *Reichsautobahnen*, Reinhold Tüxen (1899–1980), widely regarded as the founding person of German phytosociology. The institutional anchoring of the discipline at the universities was weak in Germany in the 1920s.[47]

The name given to phtyosociology (also referred to as vegetation science) suggested similarities with human sociology. To be sure, one certainly could not speak of a "close parallelism" between phytosociology and, for example, the sociology of Auguste Comte, wrote Braun-Blanquet. However, there were points of

contact between the two sciences: "They do not deal with the life expressions of individual organisms as such, but with groups of organisms or societies that react more or less in the same direction and are connected through the interactions of the individual members." What united the two was the overarching view with a functional orientation. Moreover, on the level of underlying ideology, both were marked by the notion of stable and healthy community. In other words, instability or "retrogression" were the result of human activity and could be recognized by phytosociologists. This doctrine of stability had profound consequences for the human image of nature. Conceptualizing nature as a constant, firmly established unity allowed for the emergence of the popular notion of the "balance of nature" that was upset by human interference. It is hard to overestimate the importance of this notion, since it was the explicit or implicit motivation for many conservationists and environmentalists and to some extent still is today. Against these pictures of stasis and the endpoints of natural "development," current ecology sets the concept of a dynamic nature characterized by constant change.[48]

For the landscape architects of the *Reichsautobahn*, the application of insights from phtyosociology amounted to an infusion of new scientific understanding. From phytosociology, with its epistemological interest in observation, classification, and collecting, they expected concrete directives for the planting of gardens and parks. What we are dealing with is a process of transfer and translation. The results of such studies were indications about which ensemble of plants was "appropriate" (*standortgerecht*) to a given location. In what follows, I will compare how a part of the landscape architects understood and used these "laws of nature" in their conventional work, and how this procedure changed during the work on the autobahnen.

In the first decade of the twentieth century, the garden architect Willy Lange (1864–1941) understood ecology as the "doctrine of the relationships between location and the household of plants," and he described it explicitly as the preforming foundation for architectural design: "From the physiognomy of plants we deduce the location appropriate to them, and we avoid combining plants in the garden that do not belong together also aesthetically, because nature, judging from their physiognomy, would never have created them at the same location. The law of nature becomes the law of art." Drawing on these widely held views, Seifert formulated his credo of nativeness in 1929 in harmony with economic efficiency for gardens. What still predominated in this article was the importance of nativeness as an optional, noncompulsory design element of a garden architecture that had a *Heimatschutz* orientation.[49]

The rhetoric justifying nativeness was that much bolder in Seifert's publications after 1933. The move from fenced gardens to open space, from garden art to landscape design, and an interval of five years were the external indications. On the ideological level, Seifert strove to coordinate his views with National Socialist core beliefs; professionally he had developed from a lecturer at the Technical University in Munich to an advisor to the new state's prestige project. Although Seifert radicalized his views as a whole, he did make a distinction

between private gardens and landscapes designed for the public. For gardens, designers had some latitude; when it came to landscapes, he denied that there was any room for discussion on matters of design. Nativeness became the determinant for the landscape and the people who lived in it. When doing plantings, the landscape advocate must "accommodate himself to the same law that has created the face of the landscape in many thousand years of growth." The absence of the "foreign plants" lilac, laburnum, jasmine, roses bred for urban parks, Douglas firs, and rhododendron was "not blind chance, but fate, inner necessity. And we know that we were not born into this harsher land by chance, but out of necessity, as fate. But no fate can be resolved any other way except by affirming it. We shall not shirk it, we will not embellish, instead we will affirm this land, just the way it was created, and we will preserve it exactly this way."[50]

Seifert placed the responsibility for this principle's ability to assert itself on powers above the individual. The time for these ideas has simply come, he wrote and described himself, with feigned modesty, as the mere herald of an idea that has attained "the dominance for which its was predestined." As already noted, the principles of nativeness that were published in 1939 differentiated rigorously between gardens and landscape. The garden was defined as a place of uncommon plants, whether native or not. In a garden, every plant that attained the full measure of its beauty and was in artistic and biological harmony with its immediate and wider environment was native. When it came to the circumscribed garden, freedom and license in design were permissible.[51]

The situation of independence and adherence to regularity was very different in the landscape. As the "eternal *Heimat* of the Germans," it had to be handed down from generation to generation "unadulterated and pure in its special characteristics in each instance." This is where the wishes and pleasure of the individual ceased to matter, "here the legacy of the *Volk* needs to be preserved. In the landscape we are even more strict than the nature protection law, which prohibits the planting of foreign plants. Not only must that which is alien to the Reich be kept out; even what is merely foreign to the landscape has lost its right here." The absoluteness of his claim corresponded to the importance of the loaded concepts of "*Volk*" and "legacy." Seifert sought to secure the relevance of the concern of nativeness by linking it with core elements of Nazi ideology. In the process, his demands became increasingly shrill:

> We like blackthorn and hawthorn, European euonymus (*Pfaffenhütchen*) and hazel shrubs, wild pears, linden trees and wild cherry along the edge of the forest better than all red oaks and Douglas firs of the world, and most of all: they are closer to our heart! With unrelenting tenacity and unshakeable optimism, we shall bring about that the forest borders along the *Reichsautobahnen* will be such genuine and rich forest borders in 30 years; alongside the greatest technological project of all times, the original landscape will once again have its home.[52]

Until such time, however, Seifert had unsheathed the rhetorical sword: "We declare picea pungens glauca [Colorado blue spruce] enemy of the state No. 1,

and we prophecy to all those nursery people who continue to support it that the nobler the blue of their plants is, the more money they will lose with them." For his chromatics went like this: "We shall leave the blue spruce to all those countries in which the landscape is gray or yellow or red, and not green, as ours is everywhere." He declared war on all garden directors and city gardeners who were planting pinus montana (mountain pine). For it was "a sin against the nobility of our mountains" to create such distorted pictures.

For Seifert, this demand contained a thrust that was directed against civilization: he was concerned with nothing less than putting an end to "a century of aberration between nature and technology." Materialistic self-interest had caused parts of the German landscape to waste away to a "cultivated steppe" (*Kultursteppe*). Foresters and garden architects had become unfaithful to their habitat through unnatural monocultures. Seifert believed that the German quality of the landscape was under assault from rapid industrialization, if it had not already been lost. The restoration of original plant ensembles thus became an attempt to return German landscape to its presumed right. In this way, the *Reichsautobahnen*, in particular, were supposed to provide a model for restoring the landscape. In the eyes of some of its builders, the most extensive construction project under National Socialism was supposed to reverse the damage caused by civilization by carrying the new mindset vividly and concretely out into the land. This contradiction between the obviously massive intervention into nature by an infrastructure project and the claim to be restoring nature could be resolved only by having propaganda transfigure the roads into the bearers of culture. Seifert's reaction was all the more furious when an intransigent regional planning office ignored suggestions from himself and the affiliated landscape advocate and built a rest place on its own with a "virtually childish dilettantism." He scolded, "the arrangement of the paths and small flower beds, the plantings and the seats at the rest place at the Drackenstein slope [on the segment Ulm-Stuttgart] corresponds more or less to what the Smoke and Savings Club Harmony might have done in 1910 on its Sunday recreational plot, but not with the obligatory stance of Adolf Hitler's Roads."[53]

These mocking attacks from the pen of the leading landscape architect of the *Reichsautobahn* exemplify how radical the rhetoric of this group became by 1939. They pointed to an inherent design and identity problem for the architects: the creative act of selecting the plants and distributing them over the space of the *Reichsautobahn* was embedded within the field of tension between artistic expression and conservative accommodation to the laws of nature. Although the planting was the task of each individual landscape advocate, what form it took was to be deduced from the landscape in question, from the timeless law "to which all artistic license has to subordinate itself." The charge of the landscape consultants lay in recognizing the original core of the landscape underneath the layer of vegetation that had grown up with civilization. A desirable possibility had thus turned into a compulsory law: Seifert presented nativeness in an increasingly radicalized form as the nonnegotiable design criterion for the planting of the *Reichsautobahn*.

For Seifert and the landscape advocates, this rhetoric took on the function of proving themselves to be necessary within the uncertain structure in charge of building the autobahn. Ideologically it was easy to connect nativeness readily with race and soil; in this sense it was to support the professional goals of the landscape architects, whose status had been, at the very least, vaguely defined. The patterns of ecological justification that Seifert had invoked when he began his work gave way to a rhetoric of exclusion that was underpinned with nationalistic sentiments. The intensity of the debate increased.

This radically revisionist eloquence collided during the actual construction process with skepticism on the part of the civil engineers—and especially Todt—about the principle of nativeness and the financial parameters of the project. No doubt this also had something to do with the fact that it would be obvious to every driver how and what had been planted. Even the unswervingly optimistic Seifert called the plantings on the *Reichsautobahnen* "a somewhat tragic chapter." This tragedy, however, lacked a dramatic turning point.[54]

Todt's general critique of his landscape advocates was that they were planting too many trees and shrubs on the roadside and in the median strip. His criticism was more than just words, for he cut back the extent of the plantings. "Time and again, Todt threatened especially my best helpers that he would cancel their contract, because they were planting more than he believed was necessary," Seifert recalled in his autobiography. Behind such discussions stood not only the issue of the amount of roadside greenery; from the outset, Todt pursued a different plant concept than the landscape advocates. He expressed his views as a reaction to plantings that were planned or had already been carried out. What becomes clear is that the agency of the Inspector-General wanted to see the experience of a trip on the autobahn heightened by the right kind of plantings. The goal was to accentuate views through and into the landscape, while the speed of the trip was another factor. Todt systematically thinned out the group of landscape advocates, because their planting proposals exceeded his budget and his idea. "The expansively planned and built *Reichsautobahn* also requires expansive planting. I have been preaching this since the first day, and over the course of the year 1938 I will get rid of those landscape advocates who can think only in allotment garden terms along the *Reichsautobahnen*," he threatened.[55]

It was against this backdrop of constant uncertainty, which was linked to the question of compensation for the landscape architects that remained unclear for a long time, that the consultants drew up planting plans for the individual segments. Crucial design criteria such as the density of planting on the median strip were initially not defined. Shrubs seemed a good choice to provide a shield against headlight glare. After Todt and Seifert visited the still unopened first *Reichsautobahn* segment Frankfurt-Darmstadt in January of 1935, the Inspector-General specified that "it was not necessary to plant remotely as much" as had been assumed. The distances between the bushes on the median strip could be between fifty and one-hundred meters. The landscape advocates had come out in favor of a denser planting. Following the inspection of other segments, Todt complained in

December 1935 that on the median strip, four times the amount "of what would be sufficient for a proper planting" was being planted. A loose planting was sufficient for driving safety; the character of a strip of grass was to predominate.[56]

In the summer of 1936, Seifert pointed out that the ratio of planted to growing plants had to be 5:1. The occasion for this observation had been a drive along the segment Berlin-Magdeburg. However, Seifert could not get the office of the Inspector-General to see it his way. This is clear from the marginal comments to Seifert's letter to Berlin by *Ministerialrat* Hans Lorenz. More than thirty years later, Seifert still remembered the "misfortune" that Lorenz had brought upon the landscape advocates. The reason behind it was evidently the competitive relationship between Lorenz and Seifert. As we have seen, Lorenz was the only civil engineer who took over the tasks of a landscape advocate for the road Nuremberg-Leipzig along the segment Lanzendorf-Bayreuth-Nuremberg.[57]

Where Seifert had written in reference to the density of plants, "Nature begins even more densely," Lorenz added dryly, "but with seeds, not nursery products." Where Seifert had written about the segments of landscape advocate Schneider that four times the amount of planting was the minimum, Lorenz added: "I told him he shouldn't plant so much." In the meantime, Todt had found other occasions to complain about excessively dense plantings. During an inspection drive with the heads of all the regional planning offices along seven segments in the fall of 1936, Todt concluded that too much planting was being done. The result of his displeasure was a circular to all landscape advocates and the regional planning offices, which Todt asked Lorenz to write with the following directive: "It would be best to compose the circular in such a way that, for all its unmistakable clarity, it does not call forth among the engineers a certain *Schadenfreude* about the landscape advocates, but raises the sense of responsibility of both groups."[58]

The letter noted the following as the primary goal of the landscape design: "During the rapid drive over the motor roadways, the impressions of the landscape are determined chiefly by the large spaces of the landscape and by the succession of these spaces." A careful examination of local conditions would almost always show that plantings were needed only on one-tenth to one-twentieth of the segment. The letter also went on to say: "The reason—apart from saving on avoidable costs—why the greatest restraint is called for with artificial planting is that even the greatest artists cannot fully succeed in creating a planting that is capable of simulating natural growth." The landscape advocates were therefore admonished not to try to create a landscape on a small scale, but to serve "the great doings of nature." Still, Todt's exhortations did not eliminate the divergent views about the plantings.

In November 1936, all landscape advocates were summoned to Berlin; the reason, in Seifert's words, was to "bring them to heel and to permit them no more than a moderate embellishment of the autobahn." According to Seifert's account, the meeting would have erupted into scandal but for the speech by the Rhineland landscape advocate Hoemann, "our white-bearded senior" and an imposing figure. With strong words he supposedly declared that he felt commit-

ted only to his *Heimat*, the Bergisches Land, a region along the east bank of the Rhine, through which "the autobahn had been chopped." His contribution to the debate was effective: the landscape advocates kept their jobs, "but the trust was gone and with it the joy."[59]

Leaving aside the anecdotal account, this meeting was indicative of the prevailing tensions. The amount of plantings had been controversial since 1934. Todt believed they were overdone by a factor of four or five. Apart from the obvious financial considerations—fewer plants meant fewer expenses for nursery goods, garden contractors, and maintenance and upkeep—Todt voiced his concerns that a densely planted autobahn would leave the motorist with a visual impression that did not support the speed and expansiveness of the drive. During his inspection visits, he often had individual plantings removed and tried to discipline the landscape advocates with admonishments and threats. When that failed, he issued new, temporary directives following the meeting in Berlin. Now the primary task of the plantings was to invigorate the motorist through a succession of views and vistas. Integrating the roads completely into the landscape through plantings was listed only as the second task. The planting was to take place over a number of years. Through plantings, a landscape-sensitive routing, and road profiles related to the landscape's form, the road as a whole would become "the crown of the landscape it opened up."[60]

As an obvious element of the integration of the roads into the landscape, the number of trees and shrubs planted was criticized by the civil engineers of the agency of the Inspector-General. Added to this was the fact that the type of plantings, that is to say, the nativeness postulated by the landscape advocates, remained controversial. Although the office of the Inspector-General gave some commissions to plant sociologists beginning in 1935, Todt remained fundamentally skeptical:

> It would be theory if the relatively sparse plantings of the median strip and the strips along the side of the road were based exclusively on what was native here in the post-glacial period, with the intention of reshaping the sylvan flora in keeping with its location.

Against the strict application of the principle of nativeness, Todt posited that the soil and groundwater conditions, and especially the soil climate, on the autobahn were substantially different from its surrounding area. Moreover, the surrounding soil had often been changed from its primeval conditions, "frequently through centuries of improper cultivation." As a result, it would often take a fairly long development until the *bodenständig* woody plants could flourish again. Hence, expert opinions based on phytosociology could be applied only "with a sensible consideration of what the landscape had actually become and with preference given to so-called pioneering species [such as fast-growing willows and birch]."[61]

While Todt thus did accept the argument of "improper cultivation" (*Fehlkultur*), in opposition to Seifert's express radicalism, he ordered a gradual introduction of *bodenständig* plants. For one, Todt saw the autobahn on a larger scale as an autonomous artifact within the environment, with its own climatic conditions and laws. For another, his pragmatic position was also based on the skepticism about cost voiced by the *Reichsautobahn* bureaucracy, which is why he recommended pioneering species as simple and cost-effective plants that were more likely to flourish. Even the nationalistic underpinning of the theory did not lead to its immediate acceptance.

The landscape advocates gradually weakened the Inspector-General's doubts about nativeness. Beginning in the third year of construction, Todt's agency gave financial support to phtyosociology studies and to studies dealing with the subsoil of the roads. However, the differences between the Inspector-General and the landscape consultants meant that each group preferred one of two different institutions. On one side was a Research Office for Bioengineering (*Ingenieurbiologie*), which the forestry director Arthur von Kruedener had set up in Munich, on orders from Todt. The bioengineers sought a reconciliation of technology and nature that was compatible with engineering; in practical terms they worked up proposals for embankments that were supposed to be more lasting than methods that were more alienated from nature. Today, bioengineering is a method of design and construction using manmade structures in combination with vegetation for erosion control and habitat restoration. As Kruedener put it: "Mobilizing the living force of nature is biological engineering."[62]

The landscape advocates, however, preferred the Hannover plant sociologist Tüxen, whose sociological experimental garden the local landscape advocate Hübotter had come to know. Since 1926, Hannover had been home to the Provincial Office for the Natural Monument Preservation; beginning in 1930, it awarded phytosociological contracts to find areas worth protecting. In 1931, the College of Veterinary Medicine in Hannover established a "Section for Theoretical and Applied Phytosociology" headed by Tüxen. Seifert wrote in his memoirs that he had overcome "strong resistance" in order to enlist Tüxen as a collaborator. At a meeting of the landscape advocates in June 1935, "the entire group knelt on the ground in a still natural, small forest of oak and yoke elm, eagerly botanizing under Tüxen's guidance; I called out to them Goethe's words after the cannonade at Valmy: 'From this place and from this day forward begins a new era in the history of world, and you can say that you were part of it!' I proved to be right in this exclamation." Pompously, Seifert wrote as his own historian with the sort of literary references used by the educated bourgeoisie.[63]

Following the historical greatness of that moment in the forest near Holzkirchen, what transpired between Tüxen and von Kruedener were quite ordinary and, as far as the climate of the autobahn construction is concerned, very revealing quarrels over competency, since the areas of activity had not been demarcated with sufficient precision. Todt continued his policy of competing institutions and individuals for similar tasks; to this were added very different levels of sup-

port: "Kruedener and his people received excellent financial support—we had to scrape by." Seifert felt that there was "virtually nothing" the landscape advocates were able to learn from von Kruedener.[64]

Tüxen established a close professional relationship with the landscape advocates of the *Reichsautobahn* and especially with Seifert. He wrote in a thank-you note: "I believe that our meeting was the kind of decisive step for my life for which I was previously indebted only twice to friends, the last of whom was Braun-Blanquet nine years ago."[65] In October 1935, Tüxen received a commission from the office of the Inspector-General to create a vegetation map for segments of the *Reichsautobahnen*. In this case, the lobbying effort by the landscape advocates had established a starting point. However, since there was an internal rivalry with von Kruedener's institute of bioengineering, the areas of work were initially divided up geographically: segments in southern Germany were taken on by von Kruedener, those in the north by Tüxen.[66] Substantively, Tüxen formulated that the vegetation maps had the purpose to determine, for the planting of the median strip and the sides of the *Reichsautobahnen*, mixtures of wood that are appropriate for a given location, that is, suitable to the climate and soil. The map was to be done "according to the methods of phytosociology …: all forests will be depicted in their *natural* condition, all other plant communities in their current condition." The landscape advocates also received lists of the species of wood that are naturally occurring in the forest communities, with regard to their relative proportions, and likewise for the grasses and types of clover that make up the meadows.[67]

Subsequently, the Inspector-General informed Tüxen and his collaborators which segments they were supposed to inspect with the landscape advocates. However, the lines of competency between Tüxen and von Kruedener were unclear; in 1938, the working areas of Tüxen and Kruedener were reallocated once again. While Tüxen was now in charge of creating maps based on phytosociology for each area touched by the autobahn, von Kruedener was responsible for providing advice on silviculture and geology.[68]

There is no question that this move broadened the argumentative basis for landscape consultation to the *Reichsautobahnen*. In conflicts with the civil engineers, the landscape advocates could now invoke expert knowledge from a third party, using it to determine the nature of the new plantings. The academically generated knowledge suited the aesthetically motivated demands of the architects and their desire to receive professional recognition. But while the architects welcomed this new impetus for their work, the office of the Inspector-General rejected the literal application of the results of Tüxen's research. This can be seen from the example of the so-called Olympic road through Forstenried Park in Munich. The road was part of the segment from Munich to Garmisch, which was expanded for the Winter Olympics 1936 and then again in 1939/40.

Here Seifert suddenly appeared as an offender against trees. An irate telegram reached Todt in January 1940 in Berlin: "Magnificent avenue of chestnuts Olympistr. Forstenried Park is being destroyed right now by Doctor Seiffert [*sic*] outrage in the population enormous urgently request countermeasure, help, and

protection for Germany's most beautiful tree-lined avenue." The breathless outcry was signed by Christian Weber, one of Hitler's closest cronies and a profiteer who was locally known as the "bigwig king" (*Bonzenkönig*). Todt responded the same day, also by telegram. The intention was not to cut down the chestnut avenue in Forstenried Park; instead, "the crippled and sick trees" were to be removed and replacement trees planted. Nevertheless, the "measure" was halted.[69]

Internally, Todt conceded that the avenue was being cut down as not native to the location and passed on the pressure. All landscape advocates and regional planning offices received a circular in which he protested against the strict application of the "Tüxen theory," that is, the views of the consulting phytosociologist:

> A chestnut in bloom delights the eye of many thousands, even if it is in the wrong place in Forstenried Park according to Tüxen's theory—in the same way that in urban parks a bed of tulips or some other bed of greenhouse plants delights many more people than a newly created, so-called native planting that, according to the Tüxen theory, is in line with the plant community of the wilderness 4,000 years ago. Every theory becomes extreme as soon as it is pushed too narrowly and one-sidedly.

Seifert responded that only dead or sick trees had been cut down. What kind they were had played no role. Quite independent of phytosociological and other theories, he had merely pursued an artistic goal: "I do believe that I have earned the kind of reputation as a protector of tree and bush that one should assume sound reasons if I myself suggest the removal of trees." Tüxen himself informed Todt that there was no "Tüxen theory," only a theory of Braun-Blanquet. In his defense he said that he himself was merely an observer, and what he wanted was not to restore some kind of old wilderness, but to establish plant communities that were "today natural or possible."

Restoration had clearly been put on the defensive on the autobahnen. The cutting of existing trees in a city park symbolized for Todt that his landscape architects were in certain ways divorced from reality. As the top manager of the autobahn project, Todt rejected the goal and extent of the ecological restoration that his consultants had in mind.

In the meantime, phytosociology was in demand not only on the autobahn: Tüxen's research office in Hannover attracted other commissions from the Nazi state and created vegetation maps for the grounds of the Nazi party congresses in Nuremberg and the site of the later extermination camp in Auschwitz.[70]

In sum, we can say that the landscape advocates saw the application of native principles as an opportunity to establish and expand the design features that were derived from garden architecture. Their professional prestige could only gain from the ecologically generated knowledge. In a process of translating the findings of phytosociology, which were the product of a different epistemological interest, they sought to articulate precise directives for concrete action. The descriptive and classificatory approach of these directives was distilled into planting plans, by means of which they were seeking to restore landscapes that were

deemed German. Since they rejected the prevailing land use as materialistic, they wanted to change the cultivation of the land by changing the landscape forms. The quest for a primal condition of natural balance in a healthy landscape, stable and untouched by human hand, drove them to engage in what the engineers at times referred to as a naïve and unrealistic revisionism.

At the same time, a chronological perspective is called for: the demands of the landscape advocates became increasingly radical in the course of the clashes over the integration of the roads into the landscape. In one sense we can see this as an attempt at establishing greater internal discipline. Given the uncertain status conditions and the external framework that had to be continuously renegotiated, the shared commitment to native plantings created a greater degree of internal homogeneity. Yet this sense of togetherness did have authoritarian qualities, in that Seifert saw himself as the leader of the landscape advocates and used these methodological questions to bind the other architects more closely to himself. Vis-à-vis the office of the Inspector-General, nativeness as linked with phytosociology promised a boost in reputation from a greater scientific character. In spite of continuing skepticism, the landscape consultants persuaded the agency to ask the plant sociologist Tüxen to draw up vegetation maps.

If we look at the actual result, the scientific accompaniment to the plantings along the *Reichsautobahn* was characterized more by arbitrariness and contingency than by systematic surveying and broad application. Moreover, it is quite apparent that the increasingly radical language about nativeness went hand in hand with the growth of status anxieties among the landscape architects. Initially, Seifert had justified foreign woody plants for the "cultivated steppe" (*Kulturs teppe*) on biological grounds, but at the end of the 1930s, he declared war on all such plants. At the same time, there was growing pressure from the office of the Inspector-General, which combined doubts about the gain in knowledge from the methods of nativeness with criticism of the volume of plantings. While I do not wish to suggest a simplistic parallelism here, it is worth noting that these two processes occurred in such chronological proximity. The growing tendency to underpin the rhetoric of nativeness with reverential invocations of "legacy" and "*Volk*" can be interpreted as an effort to reconnect a marginal theme more closely to core areas of National Socialist ideology. This development also reflects the vanished stylistic pluralism of the early years of the Nazi construction of the autobahn, when the design of the roads within the landscape was made up of and negotiated from various elements. In the background stood divergent pictures of landscape put forth by civil engineers and landscape architects. While the office of the Inspector-General understood landscape as a component of a new, speed-charged experience of a trip by motorcar and envisaged correspondingly sparse plantings, the landscape advocates tried to engage in ecological restoration under their aesthetic control. In these conflicts, "technology" had played a subliminal role as a category and an object of contention. After 1936, these conflicts grew even more intense.

An ideology disintegrates: technology in the crisis of 1937

I have already shown that the relationships between the agency of the Inspector-General, the executing officials of the regional planning offices, and the landscape advocates on the whole grew worse up to 1937 by looking at the contentious issues of routing and plantings. The greatest crisis, however, occurred in 1937, when Seifert suspended his work for the *Reichsautobahnen* for nine months. In a vivid description he attributed this to personal factors. In what follows, however, I will examine the structural problems and predetermined fracture points in the collaboration between engineers and architects by looking at the crisis of 1937.

In that year, the first thousand kilometers of autobahn were already in operation, with 1,590 kilometers under construction at the beginning of the year and 1,459 at the end. While work was pushing ahead at a rapid pace, the spokesman of the landscape advocates remained at home in Munich. During a stay in Berlin that summer, "I strolled as a free man across Paris Square [right next to Brandenburg Gate] with the beautiful daughter of an old friend from Steglitz on my arm; cheerfully we looked up to the windows of the Inspector-General for the German Roads, behind which people were working with dead seriousness."[71] The tireless worker had turned into a mocking observer. According to his autobiography, oak trees had helped Seifert to adopt the life of a flaneur. On the showpiece segment of the *Reichsautobahn* network from Munich to the Austrian border, Seifert, in the spring of 1937 as the landscape advocate in charge, had young oaks planted along the road and in the median strip close to the town of Prien and south of the Chiemsee Lake to close gaps in the existing tree cover. The oak in the median strip aroused Todt's wrath, and the Inspector-General ordered that the segment east of the town of Siegsdorf should be planted, not by Seifert, but by civil servants from the Munich construction office. Seifert, for his part, then stopped his work on the western segment. Now he was watching "as the signalman's romanticism spreads," Seifert wrote to a colleague derisively, an allusion to the railway background of the civil servants. His action was meant as a note of protest and triggered an exchange of letters, in which Todt and his advisor articulated their positions in the sharpest terms. Both men vented their accumulated anger over the form their collaboration had taken until then, and their exchange throws a spotlight on the relationship between nature and technology in German road construction at the time.[72]

The clash took place on two levels. For one, Todt took umbrage at Seifert's general remarks about technology, whose role he, Todt, wished to see enhanced in the National Socialist state. For another, what was being negotiated was the status of the landscape advocates and their leeway for action with the individual regional planning offices, and thus the integration of the roadways into the landscape as a reality. Already two years after Seifert had begun his work, Todt had reprimanded him for criticizing mistakes by engineers in public. He reminded Seifert that his was a dependent and advisory relationship: "After all, you didn't

come to me to call my attention to mistakes in technology, but I sought out a helper who would support my thinking and I found my way to you." The following lines reveal something about Todt's view of himself as a leading figure in technology and a political fighter: "Through me, technology has called upon you to be her ally. And so I would like you now to be a faithful ally and not to malign your brother-in-arms." This warning had put Seifert in his place and had made the differences in power between patron and client unmistakably clear; the substantive differences between the Inspector-General and the landscape advocate remained, however.[73]

The occasion for the scandal of 1937, when Seifert was simultaneously suspended from his work and left voluntarily in protest, was what the landscape advocates felt to be unsatisfactory collaboration with the regional planning offices. Todt, too, spoke of a "critical point" in the work of the landscape advocates, "not least because the view on planting of some landscape advocates stands in direct contradiction with the way in which the Inspector-General wants the autobahn to be planted." To be sure, Todt credited the advisors with having taught the engineers how to see, especially since the railroad people had lacked an understanding of landscape-sensitive construction. However, some of the landscape advocates had turned into "dogmatists of a rigid approach." To them, the planting itself was more important than the planting of the autobahn.[74]

By contrast, distinct from these landscape advocates were consultants like Werner Bauch in the area of the regional planning office Dresden, who had "struggled through to an expansive planting, to an embrace of these great roads." Todt praised the fact that Bauch was pushing back the edge of the forest to between twenty and forty meters beyond the road and was thus creating "the necessary space," while other landscape advocates in principle had the edge of the forest begin directly at the road (figure 6.3). Moreover, the crisis was further exacerbated by the fact that younger engineers were coming up who could decide for themselves where to plant and where not. Todt described it as "gratifying that the creative engineer does not like to hand his road over to the landscape advocate for planting, but that he likes to decide for himself where to plant." Seifert should welcome this development, for the original intent of both men had been to teach engineers to engage in landscape-sensitive construction, not to train landscape advocates. Todt was planning to "part with some gentlemen" to allow the engineers to apply their new insights themselves. The remaining landscape advocates, however, would have to reduce their planting by between a third and a half. "In fact, it will be necessary to have *de*-planting plans follow the planting plans, in order to remove what is excessive, what merely brings unrest to the swift and great line of our road." For Seifert, therefore, what was at stake in this clash was the scale and nature of the work of the landscape advocates. The lines of conflict had shifted. Initially, the landscape architects had been lined up against the local construction offices and were able to obtain sporadic, though unsystematic, help from the officials of the agency of the Inspector-General. Now, however, the head of the agency regarded them increasingly as potentially superfluous and was threatening to terminate the employment of some

of them. He didn't have to fire them, since they merely had consulting contracts. As the course of the conflict reveals, the landscape advocates, on the other hand, were indeed eager to obtain, via their function as consultants on the autobahnen, a professional position for themselves and their work.

Figure 6.3. Often, the autobahn traversed forests, which created particular design challenges for landscape architects and civil engineers. Some preferred a road that was as close to the trees as possible. Fritz Todt, however, the chief autobahn engineer, recommended more clearcutting in order to give drivers a feeling of open space on a fast journey.
Otto Reismann, *Deutschlands Autobahnen—Adolf Hitlers Straßen* (Bayreuth: Gauverlag Bayerische Ostmark, 1937), 194.

In his response, Seifert spoke of the "unclear and demeaning situation" of the landscape advocates. He reminded Todt of his own words that he, Seifert, was to be the technician's conscience, and once in a while that conscience should be allowed to trouble him. He then went on to reproach Todt: "You want to have the magnitude and splendor of the motor roadways clearly expressed, and you would rather take a one hundred meter-wide strip of land for that purpose than the 35 or 40 we have." By contrast, Seifert and his older collaborators were out to serve the landscape and to be "advocates of our *Heimat*." That is why they felt that steep roadside embankments were raw wounds in the landscape as long as they were not grown over with native shrubbery. Seifert countered Todt's embrace of expansiveness and his promotion of the driving experience by criticizing the behavior of the gentleman motorist: "The emphasis on the magnificence and size of the new roads, if translated onto thousands of kilometers, will lead to a desolateness, though it will not be experienced that way by the person who sits at the wheel of his car only as long as he enjoys it and then has his driver take over." Seifert here addressed the link between roads and car ownership. He picked up two core adjectives of Nazi rhetoric when he criticized that Todt's effort could also not be correct in "*völkisch* and social" terms. The great monuments of the "Third Reich" all had to fit into "an overarching whole." But if "the motor roadways are to be oriented chiefly to His Majesty the Motorist, this will tear open a new chasm in the *Volk* between him and the six non-motorists that will still be there even after motorization has been implemented. And the motor roadways are, after all, not being built with the gas pennies of the motorists, but with the fields of the farmer that will be lost forever." Seifert highlighted in detail the importance of the integration of the roads into the landscape and described himself as one of the top five or six German garden designers. Should the "signalman's sentimentality and the landscape distortion" of the Munich segment continue the way it has, he would like a declaration that he had nothing to do with it.

In an afterthought, Seifert admitted that he was not a pleasant or easygoing person: "But my goal is not to have an easy time with the people who are the leaders of today, instead I want to be able to justify myself in what I did and did not do to those who will come after us … It always went without saying for me to stand by you and your work. But above everything stands loyalty to the *Heimat*." With this letter, Seifert had accumulated as many ideological attributions as possible for the work of the landscape architects, which he evidently regarded as its greatest political capital. By combining an oath of loyalty to the greatness of the "Third Reich" with a profession—seemingly above politics—of *Heimat*, he removed the tasks on the roads of the political dimension they had at the time and placed them into a larger context of meaning. That context was explicitly historical: "In fifty years, nobody will ask any more who did the work, what it cost and how long it took, but only whether it is right." [75] The criticism of the limited use of the roads by a few car owners points to the rhetorical target figure of the motorist, who possessed a different profile for Seifert than he did for Todt: the notion of a motorist who is driving for pleasure with his chauffeur clashed

with Todt's implicit notion of a broadly conceived mass of motorists. This discourse was shaped by the uncertainty over mass motorization.

Todt struck a conciliatory tone in his reply. He was sorry that the conflict had arisen. The cause, however, was not that he was seeking to lay claim to the roadside whose width was antisocial. Rather, a large number of landscape advocates, in spite of his admonitions, continued to see the autobahn as an allotment garden instead of as a "large landscape space." The second reason for the quarrel was that "you have too often insulted the engineer and technology in a hurtful way." Seifert's attitude, Todt charged, was brusque and accusatory, and his criticism assumed the "tone of hurtful reproach." What was needed, Todt admonished, was not self-righteousness, but persuasion. "Truly," Todt recapitulated, "I gave the landscape advocates a rare freedom, which in about half of them led to fruitful collaboration. But one must not constantly insult the comrades in the common task." Finally, Todt, with conciliatory intent, suggested that they remember what they had in common and offered to talk things over in his Bavarian vacation house during his vacation.[76]

Seifert was not willing to take the accusation that he was maligning technology lying down. This had "long since ceased to be true." He had not voiced such general criticism in his comments and reports. At the same time, he conceded that the "gruff way" for which Todt was reproaching him had been necessary. Finally, he lamented a loss of trust. For the time being, however, no meeting came about. Seifert bided his time, once he sensed—as he later wrote—that he was slowly gaining ground by staying away. Following a talk in December 1937, Seifert resumed his work, "with more trust than before, but with hardly less friction." Seifert offered various accounts of how the reconciliation came about. In his memoirs he wrote that he had informed Todt unceremoniously that he would continue working. In a later letter he recalled that Todt "quite soundly capitulated in December, whereby I naturally offered him every possible way out."[77]

Whatever the formalities of the meeting may have been: this conflict, fought out with personal bitterness, throws a telling spotlight on the power structures between architect and engineer. The Inspector-General determined the parameters of his collaboration with Seifert and retained for himself the power to define central concepts. That this relationship was akin to feudal dependency is revealed by a remark from Todt to a third party: he was keeping Seifert "as my conscience vis-à-vis my house technicians."[78]

The differences in the concepts of Todt and his advisors became especially apparent in the question of the plantings, the most visible part of the landscape integration of the roads. While the Inspector-General shied away from high costs for shrubs and trees and did not wish to see the staged effect of the road, along with the road itself, buried beneath arboreal greenery, Seifert and the other landscape advocates sought to implement ideas about native planting on a large scale. In addition, their attitude and their desire to plant more were an expression of their skepticism toward the idea of a 24-meter-wide autobahn without green integration. One obvious way to describe this conflict is as a clash of aesthetics.

While Todt sought to heighten the experience of driving the autobahn through the alignment, and thus to embed the roads into a new relationship of space and time, the landscape architects were more interested in regionally distinct roads, which, through their plantings, would make possible a restoration of static German landscapes. Ideological points of contact could be found in the function of these roads within Nazi propaganda and in the conservatism of the landscape advocates. Where they pursued an integration into the larger totality and a subordination to nature, Todt tended to be captivated more by the dynamism of motorized travel, which permitted new possibilities of perception, and wanted to produce it as something fascinating and exciting. Visual consumption is what the road builders had to offer. In a picture book to commemorate the first anniversary of Todt's death, entitled *The Experience of the Reichsautobahnen*, breathless prose invoked this new gaze that would be cast by the masses under the impression of speed:

> Run, my car, run! Like lightning the autobahn now flashes far through the valley from this height here. It was not allowed to tune into the melody of the landscape in any other way! But how, I ask myself and cover it with my hand as I drive, would I have laid it out? Exactly like this? I am unsure to nod affirmatively. It is the visual triumph of joint human-divine creation; the spark, the thought, the idea itself has become stone here and we are whizzing along on it, we greet you, hills, we greet you, steepled city, you, villages in the green, you, stream, and you, the sky above! Germany, here it lies wonderfully laid out, only a piece of it, onward, today we don't want to enjoy it in the small and cozy, it shall fly to our heart ever larger, ever more varied, so that we shall know how rich we are and how much of it we still need to conquer for ourselves. Today we are after the melody of its togetherness, not so much the diversity of its dialects in which it becomes song and resounds as it is sung. Across the *Gaue* it carries us onward, without borders, over time itself.[79]

With descriptions like these, the architectural style of the landscape consultants, which drew on local and regional traditions, was overarched by a homogenized driving experience, one that was more akin to flying than driving. In these accounts, speed itself became the intoxicating goal; the description is reminiscent of aerial pictures and their "moment of dequalifying the existing landscape." By rendering the largely unattainable transport medium of the airplane at least a potential possibility in the form of the fast drive on the autobahn, the sought-after modernity of the roads could be doubly charged by the landscape and by its rapid disappearance.[80]

However, this new spatial sensation of driving, so lauded for its speed, was the result of a myriad of conflicts over the routing of the roads in the landscape, over their plantings, and over institutional positions during their construction. The way in which they were carried through the landscape was embedded in a contradictory mixture of stylistic elements, functional attributions, and ideological foundations. Between the architects, installed as experts for the landscape, and the civil engineers—of both the office of the Inspector-General and the

construction offices—, a conflict was fought out, one that Todt himself had triggered and in which he intervened in a moderating role. In the final analysis, though, he always retained the right to make definitions for himself by seeking to implement his own aesthetic ideas autocratically. From the perspective of the landscape advocates, work on the landscape integration of the roads had to remain unsatisfactory in the end, because they were suffering from an uncertain status assignation, had to continuously renegotiate their maneuvering room, and were able to achieve only scattered success. In the meantime, their rhetoric and their efforts to embed their concerns within the reality of Nazi rule grew increasingly radical. Before embarking on an excursus about the importance of landscape architects outside of the autobahn construction, I will conclude this section with an examination of the financing of the roads as a regulative force.

The value and cost of landscaping

Overall, criteria of profitability stood in the background in the construction of the *Reichsautobahn*, especially as far as the general decision to build it was concerned. What was at play here were less economic arguments than motives such as prestige and propaganda. Likewise, the decision not to charge motorists a toll was not motivated by profitability. However, the picture of an autobahn bureaucracy that was happily working away is not accurate. Especially as far as the work of the landscape advocates was concerned, the Directorate *Reichsautobahnen* was from the very beginning of the planning work out to lower the costs of their activities. The agency was made up of civil servants from the Reich Railroad, who intended to treat the construction of the *Reichsautobahnen* in accounting terms no differently from the construction of a railroad.[81]

I have already described the insistent and successful attempts to reduce the compensation for the landscape advocates. The cost argument came into play also in decisions by the Inspector-General concerning the building of an embankment instead of a bridge, or the plantings that were seen as too thick. In 1936, Todt stipulated explicitly:

> On the question of whether, in consideration of the landscape's appearance, a bridge or an embankment should be chosen to traverse a valley, the results of the calculations are initially decisive in drawing up a design, that is, the *cheaper* method is to be chosen, and preference shall be given to the method more favorable to the landscape only if the costs are the same or insignificantly higher.[82]

What was considered "insignificant" were additional costs of no more than 5 percent of the costs for the structure. In the same decree, Todt stipulated the following: "A perfect adaptation of the roads to the terrain, which also includes leaving out all unnecessary separating ditches, is usually tantamount to a reduction in the total movement of earth. Landscape consulting, exercised sensibly

and on time, must therefore pay for itself with a reduction in costs." This prescribed rather than described the economy of landscape integration. It was a reasonable presumption that it would result in a lower volume of earth to be moved. However, the constant attempts to save money soon created a pattern of cost-cutting that I will call the "money trap."

The reason was that the costs for building the *Reichsautobahnen* rose along with the pace of construction. The capacities of the construction industry were overextended, workers were increasingly hard to find, especially by the mid-1930s, and, most of all, the pressure of deadlines raised prices. The cost factor came into play most strongly from 1937 on, when, as part of the Four-Year Plan, bridges of natural stone were declared to be the ideal form, only to become economically unsustainable a year later. Bridges stood at the beginning of planning and were (and are) constructed as the first components of the route. In many places, as we have seen, the work of the landscape advocates was limited to the subsequent planting of nearly finished segments.[83] At that point, however, the funds were often already allocated, namely for construction of the segments and bridges. There was a tendency for actual costs to be higher than initially calculated: construction companies sent higher invoices; the terrain was less accessible than assumed, which necessitated labor-intensive excavations or the unplanned hiring of outside companies to blast marshlands; or the actual construction took longer than planned and had to be accelerated with additional personnel or through overtime right up to the inauguration date.

The budgets for planting the road shrank accordingly. In the end, these tasks were left with the least amount of money; the money trap closed. Thus, some of the planting as part of the landscape integration fell victim largely to self-created cost pressures. We are left with the question of how much the office of the Inspector-General actually intended to spend on landscape integration, and how much it did spend. In a 1934 letter to a landscape advocate, Seifert wrote that at the beginning of the construction work, Todt had reckoned 1 percent of construction expenses to pay for the work of the landscape advocates and the planting: "I don't know what it looks like today." Though there were no precise directives about how much was to be spent on the landscape advocates and their work, the expenses settled down at a relatively low level compared to the overall expenditures. An internal report from the office of the Inspector-General after three years of building activity provided a meticulous list of the added costs for the work of the landscape advocates. Based on documentation from the regional planning offices, costs were summarized for the following activities: compost preparation; topsoil storage for the plantings; planting of the median strip, the embankments, and the ramps, as well as of additionally acquired areas of terrain; procurement of grass, acquisition of meadows or sowing; purchase of land along the autobahn; and expenses for compensating the landscape designers. The report concluded that a total of 808,500 Reichsmark had been spent on this expense item by the end of 1936, which came to about 800 Reichsmark per kilometer.[84]

By way of comparison: the additional costs merely for ensuring that the segments would be completed on time for the planned opening date of 27 September 1936 came to 3.147 million Reichsmark. On that day, the first one thousand kilometers of the *Reichsautobahn* were "ceremoniously handed over" to the accompaniment of noisy propaganda. But back to the kilometer prices. The average of 900,000 Reichsmark per kilometer given in the examined sources exceeded the original estimate of 1933 three-fold. Appeals to save "by every means" could not prevent this rapid rise. If we posit that the figures by the directorate of the *Reichsautobahn* in 1937 are accurate, that the expenses for the landscape integration remained at the same level, and we ignore inflation, the numbers show that 800 of the 900,000 Reichsmark per kilometer were spent on integrating the roads into the landscape. That would amount to merely 0.09 percent of construction costs. A recent article even speaks of a price per kilometer of 1.1 million Reichsmark, which would reduce the share spent on landscape integration to 0.07 percent. Even at a price per kilometer of 750,000 at the end of 1934, the share devoted to landscape work, 0.1 percent, was still negligible.[85]

Upon closer examination, the financial support given to landscape integration leads to two conclusions. First, the propaganda about landscape integration and the willingness of the autobahn bureaucracy to spend money on it were inversely proportional: the louder the propaganda, the fewer resources were expended on landscaping. Second, on a deeper level, the interest in landscape was often limited to care and maintenance after the fact. Within the framework of this logic, the support given to landscape design was meager, especially since visual consumption on the roads could be achieved also with less elaborate and less costly landscape integration.

The landscape advocates seek power beyond the autobahn

The group formation of the landscape advocates has been seen as a response to the uncertain status they occupied in the construction of the autobahn. This section will examine the extent to which the landscape architects tried to expand their radius of professional work in the Third Reich and what strategies they pursued in the process. One important current in these efforts was aimed at replacing the established institutions of conservation with new bureaucracies that included the landscape advocates. As a result of the quarrels over competency between road builders and conservationists following passage of the Reich Nature Protection Law of 1935, the office of the Inspector-General for the German Roads had carved out for itself a preserve within the sphere of state-run conservation. The landscape advocates appointed by the Inspector-General subsequently sought, with growing self-confidence, to expand their sphere of action. In the process, they had a growing number of run-ins with the official conservationists. Their plans for a reorganization were aimed at creating a different hierarchy for landscape design alongside the state-run conservation.

The occasion for what was initially an internal discussion among the landscape advocates was a suggestion from one of their own, Max Schwarz (Worpswede), in the January circular in 1940. Schwarz criticized the conservation establishment, charging that while it did support the "preservation of the appearance of the landscape, … it is failing utterly in putting forth proposals for a landscape that is to be newly designed." Given the growing agricultural land developments, regroupings, and cultivation of wasteland, this was more important, however, than mere conservation activities. He suggested that the nature protection officials could certainly continue to work in an honorary capacity, but the "regular appointment of an experienced landscape advocate" was necessary for design work. Every planning agency would then have to inspect the prospective construction site with the landscape advocate before the project phase and then decide with him on further consultation or planning. This kind of reorganization was also important "especially for the great settlement work in the East." With the military expansion of the Nazi state into central and eastern Europe, the landscape advocates smelled a professional opportunity, which they regarded—following the example of the autobahnen—as the successor to conservation.[86]

Hirsch's demand received backing from the landscape advocate Bauch (regional planning office Dresden), who regarded the "merely museum-like" attitude of nature protection as wrong for the "continued building, deliberate and healthy, of the German cultural landscape." Bauch believed that it was necessary to consolidate the circle of the landscape advocates, to whom he referred as a "shock troop." Even nature protectors got involved in the debate: the conservation commissioner in the province of Hannover, Gert Kragh, was a student of Tüxen's and emphasized the unity of conservation and landscape design. Hermann Schurhammer, a construction official in Baden who joined the landscape advocates late and was the only engineer among them, joined Schwarz's suggestions and called for a legal basis to strip conservationists of the jurisdiction over new construction.[87]

As early as 1939, the landscape advocate Josef Leibig (Düsseldorf) had negotiated a separation of competencies with the conservation commissioner in Prussia's Rhine province. According to the terms of this agreement, the conservationist was in charge of preservation and protection, the landscape advocate for building up and shaping the landscape. "Interventions in the landscape" were to be reviewed by both men. Because the landscape advocates saw ever-new areas for their work in Reich waterways and hydrological engineering, they called for a uniform regulation "throughout the entire Reich." At a working meeting of the *Deutscher Heimatbund* at Sternberg Castle in Westphalia in July 1941, the demands of the landscape advocates openly clashed for the first time with the ideas of the conservationists. The latter, as one landscape advocate put it, did not want to saw off the branch on which they were sitting by letting go of landscape design. A suggestion by the landscape-minded architect Erich Kühn at the meeting, however, was aimed at an institutionalized landscape cultivation in the various provinces with a "Reich landscape advocate" at the top. This would have

meant the adoption of the organizational scheme of the autobahn construction. Kühn also used the terms from this area, though he said that he did so without thinking about the persons of the autobahn construction. Moreover, he headed a committee with conservationists and landscape advocates that was set up at the Sternberg meeting, but it could not agree on the organizational plans.[88]

One landscape advocate, Josef Leibig, expressed his support for the Kühn solution in the circular, as long as Seifert would join the Reich Office for Nature Protection as an advisor; Max Schwarx rejected it as excessively bureaucratic. Only one of Seifert's collaborators, Ludwig Roemer, recommended objectivity and professionalism, not the demarcation of spheres of interest. In a meeting at the Reich Forestry Office, Seifert declared his willingness to support the organization of landscape cultivation for the entire Reich, but the legal groundwork for it was subsequently never done.[89]

One participant in this muddle that led to nothing in the end was the Württemberg State Commissioner for Conservation, Schwenkel. He had been working since April 1940 in a secondary capacity as consultant for landscape cultivation in the Chief Office for Nature Protection in Berlin. In letters to the landscape advocates he affected the tone of a subordinate—at the latest after Seifert had made it clear to him how much greater his accomplishments were compared to those of Schwenkel. Seifert boasted to two confidants among the landscape advocates that there was "no reason to thank conservation for what we have worked for." The conservationists had "truly no part" in the success of the work of the landscape advocates.[90]

At the end of 1942, landscape advocate Hirsch summarized the quarrels as follows: "We are now at war. The settling of such questions at a time like this is really not acceptable." But the fact that other landscape advocates fought over them so intensively shows how eager they were to defend the territories they had begun to inhabit and to acquire new ones. In substantive terms this seems the beginning of an institutionalized break with a conservationist atttitude of nature protection. The exaggerations of the Seifert group that only they were capable of doing landscape design could be seen as professionally motivated; the thinking of the landscape advocates in terms of what was their own preserve was carried on here. A unifying effect came also from the racist underpinning of the ideas on conservation and landscape design. In 1940, Schwenkel saw a need to act, for when it came to hydrology as well as external advertising, "the new, truly German ideas of landscape design must prevail over the still very strong, liberal-American—if not to say, Jewish—forces."[91]

With statements like these the landscape advocates sought to achieve influence over the great landscape-altering projects of the Nazi regime. In spite of the substantive differences over the ideological foundation of the landscaping of the autobahnen, they were able to present themselves as being closer to the regime than the conservationists. In the background was competition with the Berlin landscape architect Wiepking-Jürgensmann, whom the SS involved as a landscape consultant for its "General Plan East," very much to Seifert's displeasure.[92]

Thanks to personal alliances with Todt, individual landscape advocates attained positions of wide-ranging power, which were evidently greater than those of the established nature protection. In 1941, when the Reich Chancellery, some of the ministries, and the Reich Office for Nature Protection deliberated about a moratorium on the draining of wetlands (which never got anywhere), it became clear that Seifert's network of informal relationships had replaced the state-organized nature protection as far as the "closer relationships to higher offices" were concerned. During hydropower projects in the Alps, Seifert presented himself as Todt's protégé and was able to influence the planning.[93]

In the present context it is not possible to take a closer look at the debate over a "steppefication" of Germany that Seifert triggered in 1936. In this debate he attacked the work of hydrological engineers: there was a danger that the groundwater level could sink from river regulations and the growing number of hydropower plants, which increased the threat of soil erosion. Typically enough, he combined these functional arguments with aesthetic ones and drew vociferous disagreement from hydraulic engineers and Minister of Agriculture Darré. The debate over "steppefication" dealt with larger ecological interconnections than was the case with the autobahnen; as an outsider, Seifert could engage in it with great vigor. In the end, however, this polemic, too, despite attracting a lot of attention, had no tangible result in the Nazi state.[94]

*

Landscaping the *Reichsautobahnen* turned out to be more problematic than it seems at first glance. Hitler's highways presented themselves as a contradictory mix of stylistic elements, functional attributions, and ideological aspects. In what follows, I will summarize and explain them.

To begin with, the claims put forth by "German Technology" were reflected in the structure and its propaganda. After 1933, the idea of the autobahnen was disconnected from its prehistory as a project floated by prominent citizens and integrated into the representation of the Nazi regime as a means of mass motorization. "German Technology," as an allegedly German *Sonderweg* into technological modernity, promised an all-encompassing industrial modernization without negative side effects including stopping the loss of traditional cultural landscapes. The *Reichsautobahnen* were to offer visible proof that the creation of such an infrastructure could be accomplished without destroying the landscape. As we have seen, the two groups in question, the landscape advocates and civil engineers, had sufficient ideological overlap for them to present "German Technology" jointly as a showpiece. However, the ideological hodgepodge of "German Technology" offered few concrete directives. The rhetoric of building and designing the project united both groups, which were clearly at odds over the meaning of even such central categories as "landscape" and "technology," as the quarrels between Seifert and Todt revealed. Landscape could be understood as a malleable background

for the driving experience, or as the starting point for a restoration of prehuman landscapes. The ideology of the roads was not fixed from the beginning; for a long time it was defined and redefined and became clearer only as construction proceeded. In addition, engineers and architects were hoping for a gain in status and improvement in their professional standing from the overarching ideology in the new regime. While civil engineers were eager to proclaim technology a cultural factor, former garden architects welcomed the opportunity to translate their notions of landscape architecture to a building project.

At the same time, the autobahn bureaucracy began to transform itself into an almost autonomous institution. It is true that in the beginning, this development was confronted by the interlocked organization of the Inspector-General's office, some leading engineers, and the *Reichsautobahn* enterprise with civil engineers from the Reich Railroad in charge of carrying out the project. But the agency of the Inspector-General clearly proved to be the most potent of these power blocks. The process of the autobahn got under way, and every year about a thousand kilometers of the superhighways were built. The landscape architects tried to use the anarchic aspects of the situation to their advantage by seeking to carve out their own position of power. Although they were successful with the help of individual personal alliances, they soon realized that their status was shaky and that they were unable to establish any continuity to their work. In this situation, their rhetoric grew harsher and was articulated with increasingly strident nationalistic and racist undertones. Clearly, this was a strategy—conscious or not—to save their own work from becoming marginalized, and to establish points of connection with the racial dogmas that were at the center of Nazi ideology. In this context, ideology and technological knowledge were not fixed and temporarily overlapping spheres, but were fluid and mutually interdependent. In this respect, the level of discourse on the roads and the history of the process of building them most definitely cannot be separated. The landscape advocates did not go to work on the autobahnen as an ideologically and professionally solidified group; instead, they constituted themselves on both levels only through their participation in the turbulent process itself.

Seifert was already unable to enforce his meritocratic ideas fully when he selected the landscape consultants, and had to tolerate candidates picked by the NSDAP to be landscape advocates. On the other hand, a potential critic of the regime like the architect Mattern was tolerated on "Adolf Hitler's Roads," provided he placed his creative potential in service to the project. He was able to accommodate himself to the new standards of landscape architecture decreed by Todt, and he went through the process of self-disciplining with a simultaneous boost in status. This pattern is in line with what happened in other cultural areas of the Nazi state.[95]

The work of the landscape advocates for the regional planning offices was marked by a precarious independence grounded in their status as consultants and by structural powerlessness. This already became clear in the issue of compensation. Even if the landscape advocates enjoyed the propaganda support of

the Third Reich, the Nazi state was reluctant to open its treasury to them. As a result, the landscape integration depended to a large extent on the personality of each individual landscape advocate, his assertiveness in a masculine climate of competition, and the contacts he cultivated with the local civil engineers. Individual consultants could bolster their position at best through Seifert and his access to Todt. This, in turn, reflected the basis of Todt's power, which was derived from the fact that he was directly subordinate to Hitler. For their part, the landscape advocates formed into a group seeking homogeneity. Outside of the *Reichsautobahn* construction they were able to expand on scattered connections to other projects. All in all, the collaboration of consultants and engineers, especially in the case of Seifert and Todt, can be described as a quasi-feudal patronage relationship defined from the top down, in which Todt decided about competing approaches at his own discretion. The discussed conflicts in a "state of collective hysteria" were built into the confusing autobahn bureaucracy from the beginning, were wanted by Todt, and were consciously directed.[96]

As for the attitude of the civil engineers, one must begin by distinguishing between the engineers doing the actual construction in the regional planning offices, and the supervising engineers in the office of the Inspector-General. For some in the latter group, the landscape advocates functioned as a conscience that was supposed to help in overcoming an outdated attitude toward nature. But when the landscape architects demanded a share of the power to define suitable road designs, even Todt himself reverted back to his autocratic status as the final expert. That applies at least to the early phase of the project, when long segments were built after the railway pattern of straightaway-circular arcs-straightaway around which the Hafraba planners had designed the roads. The *New York Times* exaggerated only slightly when, in 1937, it called the autobahn "the railroad man's idea of the way highways should be built."[97] As it is, during the first two years of construction one can note a mixture of stylistic pluralism and uncertainty over function. A gas station by Mies van der Rohe was built in the same network of roads as concrete bridges that stonemasons made to look like natural stone. Then, by the middle of the 1930s, a building style emerged that can be seen as in part a German adaptation of the American parkways. The roads were designed around the visual consumption of landscapes. With the help of modern road building techniques, the experience of the car as a domesticated adventure machine could lead to views and vistas that made possible entertaining moments of surprise and eventful outings for the sake of driving. As a result of this staging of an exciting drive, which is what Todt explicitly favored, roads were ideally routed over mountains instead of through valleys so they could fulfill this function of visual consumption. The low density of traffic and the fact that the car was still an exclusive mode of transportation were prerequisites for this visual appropriation of landscape. Fast trips through expansive space created these kinds of panoramas, which were widely celebrated in propaganda. Observers with fewer preconceptions experienced the roads as welcome escapist routes, as was the case with Victor Klemperer, the Dresden professor who became a

victim of the regime's racial politics. A British writer found them to be boring, mechanistic, and—in the final analysis—inhuman transportation routes, which reduced the driver to a cog in the machinery of modern mass production, while the pines appeared like a solid mass of verdure.[98]

These roads of visual exploration, however, were by no means a straight technology transfer of the American parkways. Unlike the parkways, which led from the cities to recreational areas, the *Reichsautobahnen* were also open to commercial traffic. But the steep ascents were not suited to trucks, and in this way the fitness of the roads for winter driving was consciously reduced. The function and design of the roads began to clash. This conflict was not resolved under National Socialism; instead, it was merely papered over, initially by propaganda and later by the obvious failure at motorizing German society.

The landscape advocates had no alternative vision to hold up to this concept. They formulated their demand for sinuous roads instead of mostly straight ones as the only concept that was close to nature; this rigid attitude encountered opposition from both the local civil engineers and the engineers in Todt's agency. A rethinking took place only after initial experiences had been made with long straightaways as a design element. They were judged to be less safe than curvy routes, an assessment that was justified with anthropological arguments and personal anecdotal experience. By the time Todt gave a speech in 1940 in which he argued for roads that adhered more strongly to the contours of the landscape, there were already mathematical reasons for why curvy segments should be part of the route, as the next chapter will show.

The push toward a more radical rhetoric on the part of the landscape advocates was most evident when it came to the planting of the *Reichsautobahnen*. The landscape consultants wanted to plant more and differently than did the civil engineers. Their plea that the plants used be native to restore the "original" landscapes following the criteria of contemporary ecology was expressed in an increasingly unyielding and racist manner. It met with indifferent acceptance if it did not interfere with the visual consumption (as in the case of the general support given to Tüxen's office in Hannover), or with rejection if—in Todt's eyes—it was too radical in regarding an existing chestnut avenue as in need of repair. As the Inspector-General saw it, the mediating approach of bioengineering was better suited at finding zones of transition between landscape and technology than was phytosociology pursued with a restorationist agenda. Added to this was that in the eyes of the officials of the Inspector-General's agency, a small number of bushes and trees were sufficient to stage the driving experience. Within the anarchic power and organizational structure of road building, the "scientification" of the work of cultivating the landscape by means of a systematic mapping of the vegetation failed to produce the potent legitimizing effect the landscape advocates had hoped for.

Some corrections to the ideas that have been articulated so far in the historical scholarship about landscape and autobahn under National Socialism are therefore called for. We are not dealing with a mere adaptation of traditional design features

of park architecture, as Schütz has maintained. Instead, the highly conflictual process was embedded within the professional self-discovery of landscape architects in the twentieth century, which included precisely the abandonment of garden and park architecture as a way of achieving an elevation in status. It is also not possible to separate the hesitant academicization of this profession from the ideology of those who pursued and sponsored it, as Rollins has done in his search for ecological successes. On the other side of the interpretive spectrum, it should be noted that, contrary to the assumptions of Gröning and Wolschke-Bulmahn, the ideological coalition between landscape architects and the Nazi system was certainly not without ruptures. In fact, the collaborative relationships were marked by constant friction; the increasing radicalization and racist underpinning of the concerns of the landscape architects must be understood within the context of structural powerlessness. Contextualizing this development promises to yield more differentiated insights into the environmental history of this regime.[99] Moreover, the attempted and halfhearted ecological restoration on the *Reichsautobahnen* is a striking example that the restoration of ecosystems is never a politically innocent process, but always serves certain interests and generates meanings.[100]

This study has also shown the need to examine in detail the respective actors and constellations of actors. Contrary to a widely accepted belief, the role of conservation was marginal in the construction of the autobahn; this was the deliberate outcome of the policy of the landscape advocates and the office of the Inspector-General, who, starting from the roads, sought to create factual and legal zones of redesigned landscape where conservation and conservationists were excluded. Against Seidler's interpretation one should note that Todt can by no means be seen as a well-meaning supporter of the landscape architects; instead, he instigated the conflicts over ideology and design with a mixture of laissez-faire and the constant threat to intervene and settled them autocratically as an expression of his position of power.[101]

The supposed ecological sensitivity of National Socialism postulated by various authors such as Schama and Prinz is thus an open question rather than an established fact—at least as far as the example of the autobahnen is concerned. The mixture of stylistic elements, functional attributions, and changing ideology is too contradictory for us to say that the Nazi autobahnen had, on balance, a clearly ecological orientation. If the contradictory parameters can be brought under one heading at all, it would be that of visual consumption, which made the roads—created with strong external and internal pressure—into signs for the consumption-focused reorientation of traffic. The question about the modernity of National Socialism, which was so intensely debated in the 1990s, would thus have to be answered with reference to the paradox of the premature roads and their simultaneous ecologization, which was both abreast of the times and timid. The mere invocation of "blood and soil" is today no longer sufficient to explain the contradictory environmental efforts of the Nazi regime. There is no need to go as far as Peter Fritzsche has, who already described the "spirit of renovation" as modern. But a part of the hectic activity surrounding the autobahnen was in

fact the attempt—which failed in the end—to renovate Germany's landscape.[102] The aestheticization of many areas of life in the Third Reich naturally included the autobahnen, yet this process did not rise above that of "lovely make-believe"; in the end, the conflicts over the proper aestheticization remained unresolved.[103] Hence, the green autobahn of the National Socialists is a myth that should be treated as such.

Notes

1. The original reads: "Herr Alwin Seifert pflanzte Bäumchen aus einem wahren Wunderbäumchen./Der Lockenkopf kam ihm ins Wackeln, so mußt er in 'Natur' nun fackeln./Ein Berg erstand, die Straße zweigte, wobei sie sich ein wenig neigte./Todt schrie, als er das Wunder sah: 'Ihr g'hört nach Dachau alle ja/müsst' eine solche Straß' ich schauen, begänne ich sie umzubauen./Die Kurven sind ja viel zu krumm, das ist nicht krumm, das ist ja dumm!/ Unübersichtlich ist die Bahn, die kein Vernünft'ger fahren kann.'/So haben wir zur Acht gezogen, die Linienführung sanft gebogen./So kam die erste Autobahn in Münchens Halle glücklich an." Farewell evening for the staff of the exhibits "The Road" and "Road Building Exhibit Munich 1934" on 24 November 1934, 8–9, SN 56. The exhibit was shown in Munich from June to September 1934.
2. Stephen Bending, "The Improvement of Arthur Young. Agricultural Technology and the Production of Landscape in Eighteenth Century England," in Nye, *Landscape*, 241–253; W[illiam] G[eorge] Hoskins, *The Making of the English Landscape. With an Introduction and Commentary by Christopher Taylor* (London, 1988), 161–62; Schiegerl and Stiegler, "Gärten Seiferts," 27; Schultze-Naumburg, *Die Gestaltung der Landschaft durch den Menschen* (Munich, 1928), 27.
3. Hoskins, *English Landscape*, 254–269; Schivelbusch, *Railway Journey*; for a more recent, relativizing view: James Winter, *Secure from Rash Assault. Sustaining the Victorian Environment* (Berkeley, 1999), 112–119. See Wolfgang Kos, *Über den Semmering. Kulturgeschichte einer künstlichen Landschaft* (Vienna, 1984).
4. Todt on 18 January 1934, BAK R 43 II/403, quoted in Christoph Hölz, "Verkehrsbauten," in *Bauen im Nationalsozialismus. Bayern 1933–1945. Ausstellung des Architekturmuseums der Technischen Universität München und des Münchner Stadtmuseums*, ed. Winfried Nerdinger (Munich, 1993), 54–97, 56; Wolfgang Sachs, *Die Liebe zum Automobil. Ein Rückblick in die Geschichte unserer Wünsche* (Reinbek, 1984), 115; Gijs Mom, "Das 'Scheitern' des frühen Elektromobils (1895–1925). Versuch einer Neubewertung," *Technikgeschichte* 64 (1997): 269–285, 275; Warren James Belasco, *Americans on the Road. From Autocamp to Motel, 1910–1945* (Baltimore and London. 1997 [orig. 1979]), 24.
5. Günter Bayerl, "Die Erfindung des Autofahrens: Technik als Repräsentation, Abenteuer und Sport," in *Sozialgeschichte der Technik. Festschrift für Ulrich Troitzsch*, ed. Günter Bayerl and Wolfhard Weber (Münster, 1998), 317–329, 328–29; Carolyn Höfig, "Engineered Like No Other. German Society and the Automobile," in *Breakdown, Breakup, Breakthrough: Germany's Difficult Passage to Modernity*, ed. Carl F. Lankowski (New York, 1999), 155–174; Harry Niemann, " Zum Interaktionsverhältnis Mensch-Technik innerhalb der Rahmenbedingungen von Schulung und Verrechtlichung in den Anfangsjahren des Automobilismus," in *Die Entwicklung der Motorisierung im Deutschen Reich und den Nachfolgestaaten*, ed. Harry Niemann and Armin Hermann (Stuttgart, 1995), 104–106; Barbara Schmucki, "'Verkehrsnot in unseren Städten!' Leitbilder in der Verkehrsplanung Ost- und Westdeutschlands (1945–1990)," *Technikgeschichte* 63 (1996): 321–342; Doßmann, "*Autobahnen;"* Möser, "World War I."
6. Oskar Weller, "Das Fahren auf den Autobahnen," *Die Straße* 2 (1935): 188–189.

7. According to Fack, until 1945 traffic education was largely reactive: Dietmar Fack, *Automobil, Verkehr und Erziehung: Motorisierung zwischen Beschleunigung und Anpassung 1885–1945* (Opladen, 2000), 463.
8. Kurt Becker and Walter Ostwald, "Was der Kraftfahrer am Straßenbau nicht versteht," *Die Straße* 2 (1935): 157–160, 157. Emphasis original.
9. Hermann H. Gläser, *Via Strata. Roman der Straße. Die durchaus persönlich gesehene Geschichte des Straßenbaus von den Anfängen bis zur Autobahn* (Wiesbaden and Berlin, 1987), 121.
10. Wilhelm Hirsch, "Die Einpassung der Strecke [Frankfurt-Darmstadt] in die Landschaft," *Die Straße* 2 (1935): 320–321, quote 320.
11. Dittrich, "Autobahn-Fahrbahndecken," 13.
12. Hübotter to Seifert, n.d. [presumably 1938], SN 51; Schwarz to Seifert, 9 October 1938, ibid.; Seifert to Todt, 27 June 1934, DM NL 133/56.
13. Alwin Seifert, "Natur und Technik im deutschen Straßenbau," in idem, *Im Zeitalter*, 9–23, 18; idem, "Die landschaftliche Eingliederung der Straße," *Die Straße* 2 (1935): 446–450, 446.
14. Seifert, *Leben*, 57; Todt to Seifert, 26 June 1935, BAK NS 26/1188; Alwin Seifert, "Schlängelung?," in idem, *Im Zeitalter*, 114–117, 114.
15. See Anne Harrington, *Reenchanted Science. Holism in German Culture from Wilhelm II to Hitler* (Princeton, 1996).
16. Conflicting opinions: Weller, "Fahren," 189; Georg Eichler, "Trassierung der Automobilstraße," *Hafraba* 1/3 (1928): 3–6 (calls long straightaways as sleep-inducing); Inspector-General for the German Roads, Guidelines for the Design Work for autobahnen, 12 December 1933, quoted in Paul Hafen, *Das Schrifttum über die deutschen Autobahnen* (Bonn, 1956), 94 (straightaways are not sleep-inducing). Looking back in 1962, Lorenz saw "the historical appreciation for the straightaway" predominate over "the curve, which was in ill-repute as being dangerous." Hans Lorenz, "Trassierung," in Bundesminister für Verkehr Abteilung Straßenbau, ed., *Hafraba. Bundesautobahn Hansestädte-Frankfurt-Basel. Rückblick auf 30 Jahre Autobahnbau* (Wiesbaden and Berlin, 1962), 174–179, here 178; Angus Kress Gillespie and Michael Aaron Rockland, *Looking for America on the New Jersey Turnpike* (New Brunswick, N.J., 1992), 104; Phil Patton, *Open Road. A Celebration of the American Highway* (New York, 1986), 132–133.
17. Seifert to Todt, 5 August 1935, DM NL 133/57.
18. Schönleben to Directorate *Reichsautobahnen*, 25 September 1935, BAK R 65I/92, fol. 138.
19. Seifert, *Leben*, 58; Lorenz, "Trassierung," 178; Klaus Schefold and Alois Neher, eds., *50 Jahre Autobahnen in Baden-Württemberg. Eine Dokumentation im Auftrage des Autobahnamtes Baden-Württemberg* (Stuttgart, n. d. [1986]), 19; Eduard Schönleben, "Linienführung und Ausgestaltung neuzeitlicher Autostraßen," *Die Straße* 2 (1935): 148–153, 148.
20. Dittrich, "Autobahn-Fahrbahndecken," 15.
21. Wilhelm Heubling, "Straße und Umwelt," in Herbert Kühn, ed., *Strassenforschung. 50 Jahre Forschungsgesellschaft für das Straßenwesen 1924–1974* (Bonn-Bad Godesberg, 1974), 253–264, 256; Seifert to the Gau chief in Lower Silesia, 24 February 1943, SN 148. The Gau chief had complained about the "poor design" of the *Reichsautobahn* in Lower Silesia, in response to which Seifert explained how the sinuous line had come about.
22. Regional planning office Berlin, Explanatory Report, 28 December 1939, BAK R 65II/22; Schönleben, Departmental Decree re. Routing, 31 January 1936, BAK R 65I/93.
23. Fritz Heller, "Gedanken zur Ästhetik der Linien- und Gradientenführung," *Die Straße* 5 (1938): 12–15, 13 (emphasis original); Speech of Reich Minister Dr. Todt at the Meeting of Architects of the Inspector-General of German Roads at the Plassenburg, 9, 31 August 1940, BAK NS 26/1188; Seifert, *Leben*, 58.
24. Hugo Koester, "Erfahrungen beim Trassieren von Reichsautobahnen," in *Trassierungsgrundlagen der Reichsautobahn*, ed. Hans Lorenz (Berlin, 1943), 18–34, 18; Alwin Seifert, "Gedanken zur Linienführung der Reichsautobahnen," in ibid., 34–36 (on the "monotonousness" of older autobahn segments).

25. Speech of Reich Minister Todt, 8–9, BAK NS 26/1188
26. Eduard Schönleben, "Der Irschenberg," *Die Baukunst.* [supplement to] *Kunst im Deutschen Reich* (January 1942): 61; Hölz, "Verkehrsbauten," 58. Given what we know from the files, the propaganda claim that Hitler himself had chosen the route over the Irschenberg must be consigned to the realm of speculation. Fritz Todt, "Adolf Hitler and His Roads," in *Adolf Hitler: Pictures from the Life of the Führer 1931–1935* (New York and London, 1978), 88–95, 93. The files that I consulted yielded no evidence for or against Hitler's involvement in this case. Hitler, however, did get involved when the autobahn approached Bayreuth, the site of the Richard Wagner opera festivals. In the spring of 1935, the dictator ordered all construction to be stopped since the road threatened to impair the landscape. Some road structures were torn down after his intervention. Hitler allegedly held a meeting at "Haus Wahnfried" on the autobahn with Bayreuth's Lord Mayor and remarked that the preservation of the landscape was more important than the driver. Todt used the opportunity to remind the engineers to be aware of their responsibility and to search for the culturally and aesthetically optimal solution. Seifert to Todt, 12 March 1935, BAK NS 26/1188; Todt to Society Reichsautobahnen for distribution to all regional planning offices, 16 March 1935, ibid.
27. Fritz Todt, "Der landschaftliche Charakter der Autobahn München-Landesgrenze," *Die Straße* 2 (1935), 67–68. The following quotes are also taken from this essay.
28. Hölz, "Verkehrsbauten"; Klaus Kratzsch, "Reichsautobahn und Denkmalpflege. Das Rasthaus am Chiemsee—ein aktueller Fall," *Deutsche Kunst und Denkmalpflege* 47/1 (1989): 23–26.
29. As an additional embellishment, Todt noted that after the expansion of the Ludwig bridge and Rosenheimer Street, the 4.5-kilometer long stretch from City Hall at Marienplatz in Munich could easily be traversed "in five minutes." Karl Fiehler, "Der Anschluß Münchens an das Reichsautobahnnetz," *Die Straße* 2 (1935): 450–454.
30. Alwin Seifert, "Die landschaftliche Eingliederung der Strecke," *Die Straße* 2 (1935): 446–450, 446–467; Friedrich Doll, "Vom Bau der Reichsautobahn München-Landesgrenze," *Die Straße* 2 (1935): 153–157, 156. In a different article he reported that "only" 4,789 meters of the segment had inclines in excess of 5 percent, and "only" 5,869 had gradients of more than 5 percent, over a total length of 125 kilometers: "Technische Aufgaben beim Bau der Reichsautobahnstrecke München-Landesgrenze," *Die Straße* 2 (1935): 432–440, 433.
31. Rudy Koshar, *Germany's Transient Paths. Preservation and National Memory in the Twentieth Century* (Chapel Hill and London, 1998), 175. On consumption and tourism see Hasso Spode, "'Der deutsche Arbeiter reist.' Massentourismus im Dritten Reich," in *Sozialgeschichte der Freizeit. Untersuchungen zum Wandel der Alltagskultur in Deutschland*, ed. Gerhard Huck (Wuppertal, 1982), 281–306; Christine Keitz, *Reisen als Leitbild. Die Entstehung des modernen Massentourismus in Deutschland* (Munich, 1997); Shelley Baranowski, *Strength Through Joy: Consumerism and Mass Tourism in the Third Reich* (Cambridge, 2004), esp. chapter 4.
32. John Brewer, "Was können wir aus der Geschichte der frühen Neuzeit für die moderne Konsumgeschichte lernen?," in *Europäische Konsumgeschichte. Zur Gesellschafts- und Kulturgeschichte des Konsums (18. bis 20. Jahrhundert)*, ed. Hannes Siegrist, Hartmut Kaelble, and Jürgen Kocka (Frankfurt and New York, 1997), 51–74, 70–73; Alon Confino and Rudy Koshar. "Régimes of Consumer Culture: New Narratives in Twentieth-Century German History," *German History* 19 (2001): 135–161; Martin Burckhardt, *Metamorphosen von Raum und Zeit. Eine Geschichte der Wahrnehmung* (Frankfurt and New York, 1994), 192; Daniel Speich, "Wissenschaftlicher und touristischer Blick. Zur Geschichte der 'Aussicht' im 19. Jahrhundert," *Traverse* 3 (1999): 83–99; Schütz and Gruber, *Mythos*, 129 (erroneously on the Ha-ha effect).
33. Franz Kögler, "Straßen, Straßenbau und Verkehr in den USA. Bericht über eine Studienreise im Juli 1936," BAK R 65II/13; Wilbur H. Simonson and R.E. Royall, *Landschaftsgestaltung an der Straße (in USA). Roadside improvement* (Berlin, 1935); Wolfgang Singer, "Parkstraßen in den Vereinigten Staaten," *Die Straße* 2 (1935): 175–177; Bruno Wehner, "Die landschaftliche Ausgestaltung der nordamerikanischen Park- und Verkehrsstraßen," *Die Straße* 3 (1936): 599–601; William Brewster Snow, ed., *The Highway and the Landscape* (New Brunswick, N.J.,

1959); Bruce Radde, *The Merritt Parkway* (New Haven, Conn., 1993); John Dixon Hunt, "Arrêts de hasard sur l'autoroute," in *Autoroute et Paysages*, ed. Christian Leyrit and Bernard Lassus (Paris, 1994), 85–99; Timothy F. Davis, "Mount Vernon Memorial Highway: Changing Conceptions of an American Commemorative Landscape," in *Places of Commemoration. Search for Identity and Landscape Design*, ed. Joachim Wolschke-Bulmahn (Washington, D.C., 2001), 123–177; David Louter, "Glaciers and Gasoline: The Making of a Windshield Wilderness, 1900–1915," in *Seeing and Being Seen: Tourism in the American West*, ed. David Wrobel (Lawrence, Kan., 2001), 240–270; Justin Reich, "Re-Creating the Wilderness: Shaping Narratives and Landscapes in Shenandoah National Park," *Environmental History* 6 (2001): 95–117; Paul Sutter, *Driven Wild: How the Fight Against Automobiles Launched the Modern Wilderness Movement* (Seattle, 2002).

34. Alfred Pückel, "Die Reichsautobahn Frankfurt a.M.-Mannheim-Heidelberg," *Die Straße* 2 (1935): 306–312, 306; Regional planning office Frankfurt/Main, Justification for the elevation of the partial segment from km 83 to 95 of the Reichsautobahn Saarbrücken-Mannheim, June 1937, BAK R 65II/110; Eugen Kern, "Der Albaufstieg im Zuge der Reichsautobahn Stuttgart-Ulm," *Die Straße* 2 (1935): 474–480, 474; *Aichelberg. A 8 Karlsruhe-München* (Stuttgart, no date [around 1988]); Walter Ostwald, "Steigung und Gefälle auf der Reichsautobahn. Praktische Auswirkungen für den Fahrbetrieb," *Die Straße* 5 (1938): 114–115; Hans Rausch, "Über den Einfluß des Geländes auf die Netzbildung und Linienführung der Reichsautobahnen in Norddeutschland," dissertation, Technical College, Danzig, 1942, 63.
35. Richard Vahrenkamp, "Der Autobahnbau 1933 bis 1939 und das hessische Autobahnnetz," *Zeitschrift des Vereins für hessische Geschichte und Landeskunde* 109 (2004): 225–266, 259–260.
36. Todt to Directorate *Reichsautobahnen* and regional planning offices Vienna, Linz, and Munich, 3 April 1939, BAK NS 26/1187; Todt to regional planning office Munich, 9 May 1939, BAK NS 26/1187; Ludwig, *Technik und Ingenieure*, 342; Fritz Todt, "Reichsautobahn Salzburg-Linz-Wien," *Die Straße* 5 (1938): 408–410, 410. With a greater emphasis on safety: Becker, "Ästhetik der Linienführung der Autobahn," *Die Autobahn* 7 (1934): 128–130.
37. Maier, "Unter Wasser," 162.
38. Presentation to Todt, Berlin, 16 January 1934, DM NL 133/56, 1; Troitzsch, *Technikgeschichtliche Entwicklung*, 130; Irene Markowitz, "Ausblicke in die Landschaft," in *'Landschaft' und Landschaften im 18. Jahrhundert*, ed. Heike Wunderlich (Heidelberg, 1995), 121–155; Uwe Müller, *Infrastrukturpolitik in der Industrialisierung. Der Chauseebau in der preußischen Provinz Sachsen und dem Herzogtum Braunschweig vom Ende des 18. Jahrhunderts bis in die siebziger Jahre des 19. Jahrhunderts* (Berlin, 2000), 318.
39. Alwin Seifert, "Natur und Technik im deutschen Straßenbau," in idem, *Im Zeitalter des Lebendigen*, 9–23, 20. Schütz and Gruber, *Mythos*, 131, draw the overly general conclusion that on the autobahnen, Germany was to be experienced by car as a "rural forest land."
40. Presentation to Todt, 2; Alwin Seifert, "Die landschaftliche Eingliederung der Reichsautobahnen" (manuscript), n.d. [1934], DM NL 133/56 (1934), quotes 8.
41. Presentation to Todt, 1; "Die landschaftliche Eingliederung," 1, 6; Heinrich Rubner, *Deutsche Forstgeschichte 1933–1945. Forstwirtschaft, Jagd und Umwelt im NS-Staat*, 2nd ed. (St. Katharinen, 1997).
42. Alwin Seifert, "Landschaftsgebundene Straßenbepflanzung—auch in England," *Die Straße* 2 (1935): 184; Gert Gröning and JoachimWolschke-Bulmahn, "Some Notes on the Mania for Native Plants in Germany," *Landscape Journal* 11 (1992): 116–126, overestimate, on the basis of published sources, the importance attached to *Bodenständigkeit*.
43. Ludwig Trepl, *Geschichte der Ökologie. Vom 17. Jahrhundert bis zur Gegenwart* (Frankfurt/Main 1987), 145–149.
44. Ronald C. Tobey, *Saving the Prairies. The Life Cycle of the Founding School of American Plant Ecology, 1895–1955* (Berkeley, 1981); Michael G. Barbour, "Ecological Fragmentation in the Fifties," in Cronon, *Uncommon Ground*, 233–255.

45. Quoted in Donald Worster, *Nature's Economy. A History of Ecological Ideas* (Cambridge, 1985), 211.
46. Trepl, *Geschichte*, 146; Sandra D. Mitchell, "The Superorganism Metaphor: Then and Now," in *Biology as Society. Society as Biology: Metaphors*, ed. Sabine Maasen, Everett Mendelsohn, and Peter Weingart (Dordrecht, 1995), 231–247.
47. Worster, *Nature's Economy*, 205; Joachim Wolschke and Gert Gröning, "Regionalistische Freiraumgestaltung als Ausdruck autoritären Gesellschaftsverständnisses? Ein historischer Versuch," *Kritische Berichte* 1/12 (1984): 5–47, 10–11; Thomas Söderqvist, *The Ecologists. From Merry Naturalists to Saviours of the Nation. A Sociologically Informed Narrative Survey of the Ecologization of Sweden 1895–1975* (Stockholm, 1986), 82; Jean-Paul Deléage, *Histoire de L'Ecologie. Une Science de L'Homme et de la Nature* (Paris, 1992), 88–91; Barbour, "Ecological Fragmentation," 512; J.J. Moore, "The Braun-Blanquet System: A Reassessment," *Journal of Ecology* 50 (1962): 761–769; Eugene Cittadino, *Nature as the Laboratory. Darwinian Plant Ecology in the German Empire, 1880–1900* (Cambridge, 1990), 146–157; Seifert, *Leben*, 71.
48. J[osias] Braun-Blanquet, *Pflanzensoziologie. Grundzüge der Vegetationskunde* (Vienna, 1951), 1; idem, "Die Pflanzensoziologie in Forschung und Lehre," *Der Biologe* 1 (1931/32): 175–180; A.G. Tansley, "The Use and Abuse of Vegetational Concepts and Terms," *Ecology* 16 (1935): 284–307; William Cronon, "Introduction: In Search of Nature," in Cronon, *Uncommon Ground*, 23–56, 24–25; Küster, *Landschaft*, 13; Thomas Potthast, *Die Evolution und der Naturschutz. Zum Verhältnis von Evolutionsbiologie, Ökologie und Naturethik* (Frankfurt/New York, 1999).
49. Wolschke and Gröning, "Freiraumgestaltung"; Willy Lange, *Gartengestaltung der Neuzeit*, 6th ed. (Leipzig, 1928, 1st ed. 1907), 12; Alwin Seifert, "Gedanken über bodenständige Gartenkunst," *Gartenkunst* 42 (1929): 118–123, 131–132, 175–178, 191–195, quotes 186, 192; Paul Schultze-Naumburg, *Kulturarbeiten*, vol. 7 (Munich, 1916). Schütz and Gruber, *Mythos*, 127, describe Seifert erroneously as a student of Lange's. On the popularity of native plants in landscape architecture in the U.S. see Wolschke-Bulmahn, "Political Landscapes," 167.
50. Alwin Seifert, "Natur und Technik im deutschen Straßenbau," in idem, *Im Zeitalter des Lebendigen*, 9–23, 22–23.
51. Alwin Seifert, *Von bodenständiger Gartenkunst, Sonderdruck aus "Die Gartenschönheit,"* no. 1–2 (1939), 1–5, 1, 5, SN 511.
52. Seifert, *Von bodenständiger Gartenkunst*, 3. There also the following quotes.
53. Seifert, "Natur und Technik;" Seifert to Allinger, 27 December 1935, SN 123; Seifert to Inspector-General, Schönleben, 24 May 1939, SN 153.
54. Seifert, *Leben*, 75.
55. Ibid., 88; Todt to Erxleben, 2 February 1938 (copy), SN 126; Erxleben to Todt, 4 February 1938, ibid.; Erxleben to Seifert, 8 February 1938, ibid.; Seifert to Erxleben, 12 February 1938, ibid.
56. Seifert to the landscape advocates, 22 January 1935, SN 116; Todt to all landscape advocates, 17 December 1935, ibid.
57. Seifert to Mrass, 9 April 1967, SN 200. Lorenz became Chief Construction Overseer (*Oberster Bauleiter*) for the so-called transit autobahn (*Durchgangsautobahn*) through the "Protectorate" with his seat in Mährisch-Trübau. Inspector-General, Schönleben to Directorate *Reichsautobahnen*, 22 February 1937, BAP 46.01/864. For Lorenz's postwar role, see the section "The postwar trust in numbers" in the following chapter.
58. Seifert to Schwarz, 28 October 1936, ibid.; Seifert to Schneider, 25 June 1936, SN 146; Seifert to Inspector-General, Lorenz, 30 June 1936, BAP 46.01/862; Lorenz, Draft, 23 October 1936, BAP 46.01/864. There also the following quotes.
59. Seifert, *Leben*, 86–87; Inspector-General, Schönleben to the landscape advocates, 6 November 1936, SN 116; Seifert to Mrass, 9 April 1967, SN 200.
60. Preliminary guidelines about the planting of the motor roadways on the basis of the meeting with the Inspector-General on 11 November 1936, SN 116.

61. Todt to all landscape advocates, 17 December 1935, SN 116. Pioneering species, as opposed to climax species, were regarded as simple, hardy plants that would eventually be outcompeted by more complex flora resulting in the climax community. Apparently, Todt was familiar enough with the phytosociological vocabulary, but did not care for the climax. His concern was fast-growing, durable groundcover.
62. Arthur Freiherr von Kruedener, *Ingenieurbiologie* (Munich and Basel, 1951), 10; idem, *Forstliche Standortanzeiger. Auslese zum Gebrauch im Walde*, 4th ed. (Radebeul/Berlin, 1955 [orig. 1940]); Wolf Begemann and Hugo Meinhard Schiechtl, *Ingenieurbiologie. Handbuch zum naturnahen Wasser- und Erdbau* (Wiesbaden and Berlin, 1986).
63. Seifert, *Leben*, 71–72. According to Kruedener, "Forstliche Standortanzeiger," 5, Tüxen was also a student of v. Kruedener's. Reinhold Tüxen, "Die Pflanzensoziologie in ihren Beziehungen zu den Nachbarwissenschaften," *Der Biologe* 1 (1931/32): 180–187; *Aus der Arbeitsstelle für theoretische und angewandte Pflanzensoziologie der Tierärztl. Hochschule Hannover. Ein Tätigkeitsbericht von Reinhold Tüxen, Sonderabdruck aus dem 92. und 93. Jahresbericht der Naturhistorischen Gesellschaft zu Hannover* (Hannover, 1942), 65–66, SN 173. On Seifert's contact with Tüxen: Seifert to Tüxen, 28 January 1935 und 21 June 1935, SN 171; Tüxen to Seifert, 6 February 1935, and 3 May 1935, ibid.
64. Seifert to Mrass, 9 April 1967, SN 200; Seifert to *Forstmeister* Graser, 31 March 1944, AGM Waldbau ab 1941.
65. Tüxen to Seifert, 28 July 1935, SN 171.
66. Inspector-General, Schönleben to Tüxen, 21 October 1935, SN 171; Todt to Seifert, 19 June 1935, ibid.
67. Tüxen, "Vorschläge zur Durchführung der Vegetationskartierung an den deutschen Reichsautobahnen," 2 July 1935, SN 171; emphasis original.
68. Seifert to Tüxen, 11 July 1936, SN 171. Conflicts: Tüxen to Seifert, 18 February 1937, SN 172; Tüxen to Seifert, 19 February 1937, ibid.; Seifert to Tüxen, 27 February 1937, ibid.; Seifert to the landscape advocates, 28 December 1938, SN 116; Tüxen to Seifert, 6 December 1938, SN 172.
69. Hölz, "Verkehrsbauten," 78; Weber to Todt, 25 January 1940, BAP 46.01/140; Reinhard Bauer and Ernst Piper, *München. Die Geschichte einer Stadt* (Munich and Zurich, 1993), 335; Todt to Weber, 25 January 1940, BAP 46.01/170.
70. Todt, Circular, 27 January 1940, BAK NS 26/1188; Seifert to Todt, 17 February 1940, SN 117; Tüxen to Todt, 6 March 1940, BAP 46.01/140; "Die Bedeutung der Pflanzensoziologie für die Landeskultur. Vortrag, gehalten auf der Konferenz der preußischen Landforstmeister in Berlin 1937 von Dozent Dr. Reinhold Tüxen, Hannover," 16, SN 172; "Arbeitsstelle Tätigkeitsbericht," 78–79, SN 173. On Auschwitz as a place of experimentation see Sybille Steinbacher, *"Musterstadt" Auschwitz. Germanisierungspolitik und Judenmord in Oberschlesien* (Munich, 2000), esp. 246–247.
71. Seifert, *Leben*, 88.
72. Ibid., 87. The precise reason is not reported. If one looks at the later controversy, it is likely that the trees bothered Todt because of their future height and the resulting impairment of the vistas. Seifert to Schneider, 2 June 1937, SN 146.
73. Todt to Seifert, 21 January 1936, DM NL 133/57, 1–2.
74. Todt to Seifert, 9 June 1937, DM NL 133/57 (copy in BAK NS 26/1188). The following quotes are also from here. Emphasis original.
75. Seifert to Todt, 19 June 1937, DM NL 133/57. Seifert circulated a carbon copy of the "crucial" letter to eight of his closest co-workers. Seifert to Hirsch, 19 June 1937, SN 116. A carbon copy of the letter can be found ibid., a copy in BAK NS 26/1188.
76. Todt to Seifert, 20 July 1937, DM NL 133/57.
77. Seifert to Todt, 31 July 1937, ibid.; Seifert, *Leben*, 88; Seifert to Mrass, 9 April 1967, SN 200. Nothing can be found to substantiate the two versions reported by Seifert.
78. Todt to Lord Mayor Kurz, Pforzheim, 16 October 1935, BAP 46.01/135.

79. Herybert Menzel, in *Das Erlebnis der Reichsautobahnen. Ein Bildwerk von Hermann Harz mit einer Einführung von Herybert Menzel*, publ. by the Reichsministerium Speer (Munich, n.d. [1943]), no pagination.
80. Christoph Asendorf, *Super Constellation—Flugzeug und Raumrevolution. Die Wirkung der Luftfahrt auf Kunst und Kultur der Moderne* (Vienna and New York, 1997), 36; Erhard Schütz, "'… Eine glückliche Zeitlosigkeit…' Zeitreise zu den 'Straßen des Führers,'" in *Reisekultur in Deutschland. Von der Weimarer Republik zum "Dritten Reich,"* ed. Peter J. Brenner (Tübingen, 1997), 73–99, 91–94; Robert Wohl, *A Passion for Wings. Aviation and the Western Imagination, 1908–1918* (New Haven and London, 1994); Peter Fritzsche, *A Nation of Fliers: German Aviation and the Popular Imagination* (Cambridge, Mass., 1992); Edward Dimendberg, "The Will to Motorisation—Cinema and the Autobahn," in *Speed-Visions of an Accelerated Age*, ed. Jeremy Millar and Michiel Schwarz (London, 1998), 56–72.
81. Seidler, *Todt*, 134; Hans Ulrich Schaefer, *Die Gesetze der Reichsautobahnen mit einschlägigen Vorschriften und Verweisungen* (Berlin, 1937), 15–16; Angela Schumacher, "'Vor uns die endlosen Straßen, vor uns die lockende, erregende Ferne…' Vom Tanken und Rasten auf Entdeckerfahrt durch neue Lande," in Stommer, *Reichsautobahn*, 81.
82. "Auszug Nr. 2 aus Erlaß des Herrn Generalinspektor vom 28. Februar 1936 betr. Wirtschaftlichkeit der Bauausführung," 19 March 1936, BAK R 65II/14 (emphasis original). There also the following quote.
83. Stommer, *Triumph*, 72.
84. Seifert to Schwarz, 26 November 1934, SN 150; Directorate *Reichsautobahn*, draft of letter to all regional planning offices, 5 December 1936, BAK R 65II/14; "Kosten der technisch nicht notwendigen Pflanzungen und Begrünungen," 16 April 1937, ibid.
85. "Zusammenstellung der Mehrkosten der Baubeschleunigung zur Eröffnung verschiedener Zivilstrecken am 27. September 1936, aufgestellt Berlin, 8.3.1937," BAK R 65II/15; Reismann, *Deutschlands Autobahnen*, 81; Hölz, "Verkehrsbauten," 56; Directorate Reichsautobahnen, Rudolphi, to all regional planning offices, 31 October 1934, BAK R 65II/16; Hartmannsgruber, "'…ungeachtet'".
86. Circular, 30 January 1940, 4–5, SN 117. Beginning in 1940, Schwarz participated in the general building plan for Hamburg as a landscape planner. Werner Durth and Niels Gutschow, *Träume in Trümmern. Planungen zum Wiederaufbau zerstörter Städte im Westen Deutschlands 1940–1950*, vol. 2: Städte, (Braunschweig and Wiesbaden, 1988), 607–608. Wilhelm Hübotter received commissions for Hamburg and Hannover, ibid., 1037.
87. Circular, 3 March 1940, fol. 3, 10–11, 13–15, SN 117.
88. Ibid., 11; Circular 8 December 1941, fol. 1, SN 119; Guido Erxleben, "Naturschutz und Landschaftsgestaltung, Anhang 7 zum Rundbrief vom September 1942," 4, SN 118; Mrass, "Organisation des staatlichen Naturschutzes," 19–20. After the war, Kühn was professor of architecture at the Technical University Aachen. *Stadt und Landschaft. Raum und Zeit. Festschrift für Erich Kühn zur Vollendung seines 65. Lebensjahres*, ed. Alfred C. Boettger et al. (Cologne, 1969.)
89. "Kritische Betrachtungen zu den Rundbriefen, Anhang 9 zum Rundbrief Dezember 1942," SN 118, S. 1–7; Mrass, "Organisation des staatlichen Naturschutzes," 20.
90. Schwenkel to Seifert, 9 July 1940, SN 208; Seifert to Schwenkel, 17 July 1940 and 22 July 1942, ibid.; Schwenkel to Hirsch, 9 November 1942, ibid.; Seifert to Hirsch und Erxleben, 23 July 1940, ibid.
91. Schwenkel to Seifert, 9 July 1940, SN 208.
92. Gröning and Wolschke-Bulmahn, *Liebe zur Landschaft III*; Klaus Fehn, "Rückblick auf die 'nationalsozialistische Kulturlandschaft' unter besonderer Berücksichtigung des völkisch-rassistischen Mißbrauchs von Kulturlandschaftspflege," *Informationen zur Raumentwicklung* 5/6 (1999): 279–290.
93. Klose to Emeis, Flensburg, B 245/232, fol. 47; Maier, "'Unter Wasser und unter die Erde,'" 139–175.

94. Details on this debate in Thomas Zeller, "Molding the Landscape of Nazi Environmentalism: Alwin Seifert and the Third Reich," *How Green Were the Nazis?*, 147–170. For sources, see *Die Versteppung Deutschlands? (Kulturwasserbau und Heimatschutz). Sonderdruck mit Aufsätzen aus der Zeitschrift "Deutsche Technik"* (Leipzig, n.d. [1938]); Darré to Todt, BAP 46.01/864; Todt to Darré, 27 February 1937, ibid.
95. John Heskett, "Design in Inter-War Germany," in *Designing Modernity. The Arts of Reform and Persuasion 1885–1945. Selections from the Wolfsonian*, ed. Wendy Kaplan (New York, 1995), 257–285, 271–272.
96. Walter Zschokke, "Technische Bauten und der gelungene Versuch ihrer Aussöhnung mit der Landschaft," in *Moderne Architektur in Deutschland 1900 bis 1950. Reform und Tradition*, ed. Vittorio Magnago and Romana Schneider (Stuttgart, 1992), 221–243, 242.
97. Albion Ross, "Super-Highways for the Reich," *The New York Times*, 14 February 1937, 173.
98. Elaine S. Hochman, *Architects of Fortune: Mies van der Rohe and the Third Reich* (New York, 1989), 226–228; Victor Klemperer, *Ich will Zeugnis ablegen bis zum letzten. Tagebücher 1933–1941* (Berlin 5th ed. 1996), 310–311, 329, 368, 370–371. British visitors who saw the autobahnen vacillated between admiration and rejection of their monotonousness: Stephen Henry Roberts, *The House that Hitler Built* (New York and London, 1938), 235–240, 240; Matless, *Landscape,* 59–61; Angela Schwarz, *Die Reise ins Dritte Reich. Britische Augenzeugen im nationalsozialistischen Deutschland (1933–39)* (Göttingen and Zurich, 1993), 219–223; idem, "Der Hitler-Mythos aus zeitgenössischer Sicht: Stephen Roberts: 'The House that Hitler Built,'" *Archiv für Kulturgeschichte* 73 (1991): 469–481.
99. Schütz and Gruber, Mythos, 122–135; Schütz, "Glückliche Zeitlosigkeit," 85–88; Rollins, "Whose Landscape"; Gröning and Wolschke-Bulmahn, *Grüne Biographien;* eidem, *Liebe zur Landschaft.*
100. Andrew Light and Eric S. Higgs, "The Politics of Ecological Restoration," *Environmental Ethics* 18 (1996): 227–47.
101. Klenke, "Autobahnbau und Naturschutz," 481; Seidler, *Todt.* For the latter point, see Klenke, "Autobahnbau und Naturschutz," note 64.
102. Schama, *Landscape and Memory,* 119; Prinz, "Soziale Funktion"; for important differentiations see Peter Fritzsche, "Nazi Modern," *Modernism/modernity* 3 (1996): 1–21; Paul Betts, "The New Fascination with Fascism: The Case of Nazi Modernism," *Journal of Contemporary History* 37 (2002): 541–558; Kaspar Maase, *Grenzenloses Vergnügen. Der Aufstieg der Massenkultur 1850–1970* (Frankfurt/Main, 1997), 201–205, 233. Oliver Geden, *Rechte Ökologie. Umweltschutz zwischen Emanzipation und Faschismus* (Berlin, 1995), 27–28. Now outdated are Marie-Luise Heuser, "Was grün begann endete blutigrot. Von der Naturromantik zu den Reagrarisierungs- und Entvölkerungsplänen der SA und SS," in *Industrialismus und Ökoromantik. Geschichte und Perspektiven der Ökologisierung,* ed. Dieter Hassenpflug (Wiesbaden, 1991), 43–64 and Janet Biehl and Peter Staudenmaier, *Ecofascism: Lessons from the German Experience* (Edinburgh and San Francisco, 1995).
103. Anson Rabinbach, "The Aesthetics of Production in the Third Reich," *Journal of Contemporary History* 11 (1976): 43–74; Peter Reichel, *Der schöne Schein des Dritten Reiches: Faszination und Gewalt des Faschismus* (Munich, 1991).