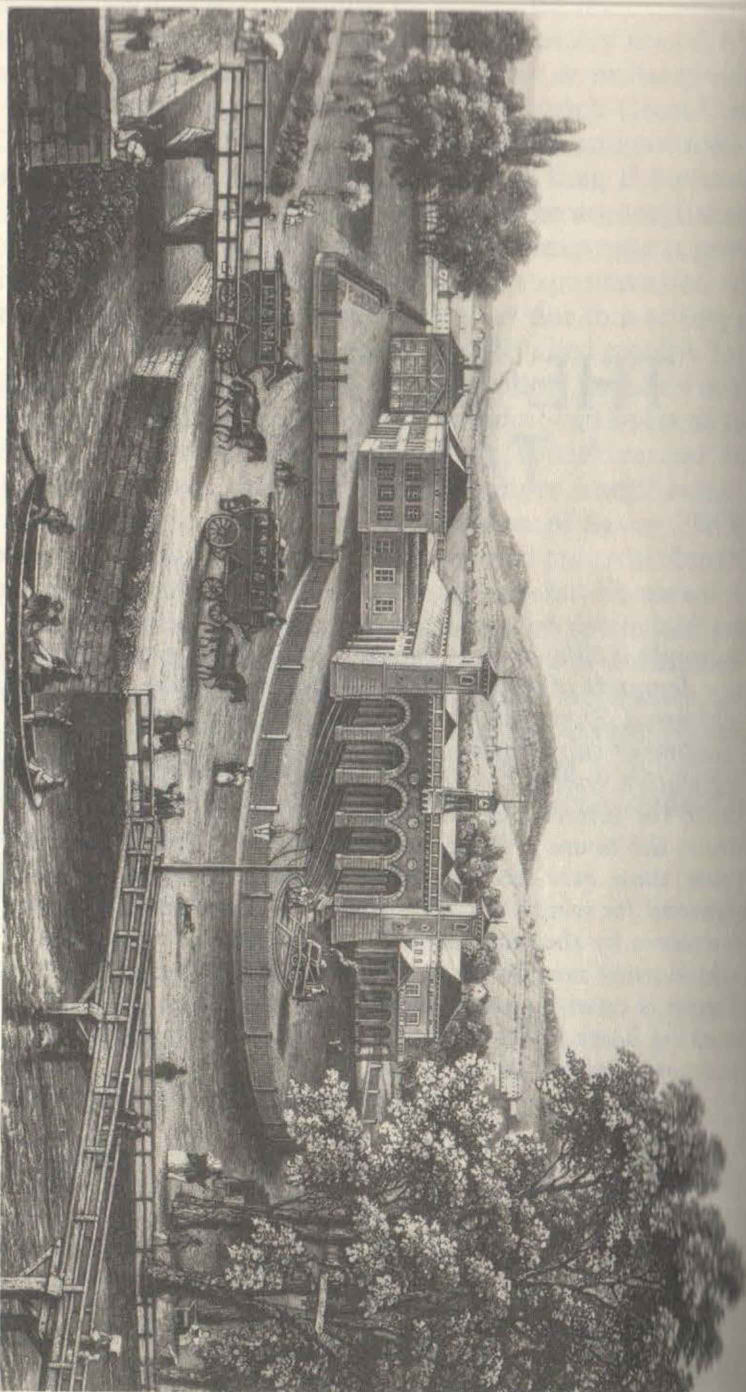

Zurich's first railway station

If the center of political gravity in Switzerland was from 1848 onward to be found in Bern, Zürich in the same years became the economic capital of the new nation. This was partly due to the fact that, as early as the eighteenth century, it had outpaced all potential rivals except Basel and Geneva as a manufacturing and trading center and had a geographical position more suitable than theirs for the extension of influence over the whole nation and a stronger preindustrial base to build on. But it was surely not accidental that its rapid progress toward national dominance took place during the years of liberal ascendancy in Zürich's politics and particularly in the second phase of that ascendancy, the period after 1848. In the first years after 1830 the triumphant liberals worked effectively to remove incumbrances upon freedom of trade and occupation, and their programs of public works were certainly beneficial to the economy. But the radical ideologues who led the liberal movement in its first years had too long an agenda to permit systematic concentration upon economic goals, and it was only after the shock of 1839 had unseated them that greater influence in party councils fell to the kind of people whom Charles Morazé has called *"les bourgeois conquérants,"* apostles of growth who believed, with an almost religious intensity, in the development of productive forces.

Chief among them was Alfred Escher, to whose vision and energy Zürich owed both its leading role in the development of a Swiss railroad system but the establishment of the kind of credit facilities that made this possible. It was not for nothing that people spoke of the years after 1848 as the Age of Escher, and that Theodor Mommsen, who lived and worked in Zürich in the early fifties, could say, "He stands as the compleat sovereign, all the more so because he doesn't have the title." It should be remembered, however, that Escher's dominance was due not only to his economic accomplishments but in equal measure to his leadership of the liberal party, and that this was distinguished by important services to the common welfare. In Zürich liberal humanitarianism was the concomitant of economic growth, and that was the reason why it was spared much

of the social dislocation and suffering that accompanied the rapid advance of industrialism in other parts of Europe.

I

It was characteristic of the general economic history of Switzerland that the limited supplies of rich agricultural land, the lack of natural resources, and limitations upon possible territorial expansion forced its subjects to find alternative methods of making and enlarging their livelihoods. In the Middle Ages the favored method was the selling abroad of military skills; at a later time this was supplemented and then supplanted by the export of products that Switzerland's neighbors could not themselves produce economically, clocks and watches, for example, and silks and linens of such fine quality that "Swiss cloth" enjoyed an international reputation.

From an early time Zürich's economic development was bound up with the production of textiles: since the sixteenth century, silks and woolens; since the beginning of the eighteenth, and in ever greater volume, cotton yarn and fabrics. Except in the case of silk, the process of production was concentrated not in the city but in the countryside, where farmers with modest holdings who wished to increase their income and escape the drudgery of an exclusively agricultural life set themselves up as producer-merchants on a small scale. Ulrich Bräker, who was not a Zürcher but lived not far away in Zwingli's birthplace, Toggenburg, was describing a common experience when he told, in his widely read memoirs, *Lebensgeschichte und natürliche Ebentheuer des Armen Mannes im Tockenburg*, of how, in April 1759, because his fiancée didn't want to marry a mere peasant and boiler of saltpeter, he bought forty-six pounds of raw cotton, at two gulden the pound, and went into the yarn business, later teaching himself to weave it into cloth. Bräker sold his product to a merchant in Glarus; the peasants of the Zürich Oberland who followed his example sent their cloth, either individually or through local brokers or *Landfabrikanten*, to merchant houses in the city on the Limmat, which controlled the export trade.

Heinrich Pestalozzi once praised this combination of industry and agriculture—which was concentrated for the most

part in the Tösstal, the right shore of the Zürich Lake between Küsnacht and the cantonal border near Rapperswyl, the left shore between Richterswil and Horgen, and the vicinity of Winterthur—as an ideal arrangement, one that represented "the *non plus ultra* of the economic welfare of a people." Yet it is clear that the 34,100 spinners and 6,400 weavers who were engaged in this kind of home industry in 1787 had become dependent upon an occupation that was highly vulnerable to disruptions caused by competition and the introduction of new techniques. How true this was became clear when the Helvetic Republic, by doing away with the power of the guilds to restrain industrial expansion and by establishing the freedom to create new establishments, encouraged the first experiments in mechanization. In 1801, Marc-Antoine Pellis, a citizen of Vaud who had served as the Helvetic Republic's commercial attaché in Bordeaux, established the first mechanized spinning establishment in Switzerland when he installed in a cloister building in St. Gall twenty-six spinning mules with 206 spindles that he acquired through his contacts in France. This pioneer venture was badly managed and continually in deficit, finally collapsing in 1819, but it inspired imitation. In 1802, at Wülflingen, members of the Winterthur families Sulzer, Ziegler, and Haggenmacher, which had long been active in the cotton trade, established the first mechanical spinning concern in the canton of Zürich by importing and installing forty-four Arkwright machines with 8,000 spindles from France, and a year later Christian Naef of Toggenburg founded a mechanical spinning establishment at Rapperswyl, an event that caused outrage and rioting in the Oberland. Once it had gotten this far, however, the tendency was irreversible. The spinning concern Neumühle, founded by the Zürcher Kaspar Escher in 1805, developed rapidly into the Escher, Wyss and Company machine works, which manufactured, among other things, spinning machines, and in 1826 the Winterthur firm of J. J. Rieter and Company began to do the same. As early as 1813 there were sixty mechanical spinning establishments in the canton; in 1827 there were 106, with 180,000 to 200,000 spindles.

The introduction and spread of mechanical spinning caused widespread distress and disruption of life in the mountain districts. Cottage spinning had been a not unpleasant occupation in which all members of the family, young and old, could par-

ticipate, around the hearth or in the open, to the accompaniment of music or the telling of tales. Now, unable to support themselves by agriculture alone, many families left the land to seek employment in the new factories, in environments uncongenial to them and under conditions that were destructive of family ties and injurious to the health of the children, who were often in view of the lowness of wages, forced to supplement the family income by going into the workshops themselves. The social problem came into existence at the same time as the machine. As early as 1815 the government felt compelled to address the problem of child labor and passed legislation forbidding the employment of children under ten, and in the 1820s the Swiss Society for the Common Good, whose purpose was to relieve indigence and social distress, was encouraged by Paul Usteri to begin an investigation of their possible causes, among which he listed the impact of factories and mechanization.

Even so, after the first shock had passed, the home cotton industry survived. By driving down the price of yarn, the spinning machine increased the profits to be made from the production of cloth and served as an inducement for former hand spinners to turn to weaving or to go into business as *Verleger* or small village entrepreneurs, who hired their neighbors to weave for them. This development was encouraged when the breakdown of Napoleon's Continental System caused an economic boom in the years 1813–16. Between then and 1827 the number of looms in use in the Zürich Oberland doubled and profits were high. These were years in which the weavers themselves—uneducated people who were often barely literate, who were ignorant of politics, wholly provincial in outlook, and without any inkling of understanding of how their own condition was affected by external forces—lived, ate, and dressed not only well but luxuriously, leading Johann Hirzel, the pastor of Wildberg, to complain about their falling off from the piety and industry that marked the life of the average peasant, their proneness to the pleasures of the flesh, and their unresponsiveness to the warnings of the church.

The retribution that he hinted would come to them was, in fact, on the way. At the end of the decade British cotton firms increased their production sharply and, thanks to the lower prices that cheaper labor costs made possible, began to invade Swiss markets. In 1831–32, Zürich exports of cotton cloth [illegible]

by 60 percent, and all of a sudden there was much talk of the necessity of mechanizing cotton weaving. A few mechanical looms had already been installed in other parts of Switzerland, with ambiguous results, and in 1829 the Zürich commercial house Trümpler and Gysi had begun to experiment with mechanized weaving in its spinning establishment, Corrodi and Pfister, at Uster. But it was only in 1832, when machine-made cloth of foreign origin began to reach Zürich in considerable volume, that Corrodi and Pfister, with new mechanical looms imported from Alsace, went into production, and it became known that other Oberland entrepreneurs were making plans to follow suit.

To the thousands of handweavers in the canton (in 1827, 11,000 hand looms were in use, two-thirds of them in the Oberland), and to the *Verleger*, who served as middlemen between them and the commercial houses of Zürich and Winterthur, this news seemed to promise poverty and ruin. Among some of them the coincidence in time between the announcement of Corrodi and Pfister's intentions and the second anniversary of the day of Uster on 22 November 1832 aroused muddled expectations surely the government that had profited from the common people's revolt against the aristocrats two years earlier would protect the people now from threat of the new machines?—which turned to blind rage when it became apparent that they would not be fulfilled. The result was that during the anniversary day at Uster the crowd got out of hand, stormed the Corrodi and Pfister *Spinnerei*, smashed the new looms with iron staves, and put the building to the torch.

For this collective breach of peace and destruction of property, both unusual in Switzerland, public authorities arrested and tried twenty-nine persons, of whom it turned out only seven were full- or part-time weavers and only one a *Verleger*, the others being involved because of private resentments or surrender to the pleasure of destruction. Their leader, Hans Felix Egli, commonly called Rellstenfelix, was known to be subject to religious mania and fits of melancholy, and his wife testified that the excessiveness of his generosity to the poor during the winter of 1831–32 was a certain sign of madness. His defense attorney, the twenty-four-year-old Jonas Furrer, who was at the beginning of his brilliant career as a trial lawyer, made the most of this information and argued that his client had been obsessed with the idea that the mechanical looms would inevitably mean death

and starvation for his family and that he had been in such a rage during the events of 22 November that he was not responsible for his actions. This defense did not prevail, for the liberal government, still uncertain of its hold on power and aware that the conservatives were looking for ways to use the incident against them, felt that they could not afford to be lenient, and Rellstab-felix was, therefore, sentenced to twenty-four years in prison, his accomplices also receiving long terms of punishment.

What had happened in Uster did not, however, rest lightly on the liberal conscience, and on 12 January, Heinrich Escher, the new editor of the *Neue Zürcher Zeitung*, published a long leading article which began:

> Anyone who has intimate knowledge of the situation and the misery of that class among the residents of our canton who until now have supported themselves and their families by weaving, and knows how they are scarcely able, by sixteen hours of daily work, to still their own hunger and that of their wailing children with boiled potatoes and thin milk or to cover their nakedness, will, if he has anything like a human heart in his breast, wish that their condition will not only not get worse but, if possible, improve. In this connection, the introduction of the weaving machine demands earnest and conscientious discussion, which cannot be satisfied in the interest of only one class or by coldly invoking the word freedom of trade.

Human sympathy alone, Escher continued, might seem to require the government to forbid the use of mechanical looms. But the burden of available information indicated that, without them, Zürich's textile industry would not be able to compete with other nations, whose machine-made fabrics would be cheaper and perhaps even of finer quality than the local product. In the long run prohibition of mechanical looms, even if legally possible, would spell the decline and eventual disappearance of cotton weaving in Zürich, in which case the weavers would have gained nothing from it. It was obvious, of course, that, if the introduction of mechanized weaving inflicted serious hardship upon the handweavers, the state would have to come to their aid. Studies would have to be undertaken to discover how many people were affected, and in this connection—and here Escher's article reflected its author's study of Adam Smith and Malthus in his youth—some attention would have to be paid to the fact that "in no district of our canton and in no other class is early marriage and the production of a great number of children more common than in the weaving districts and among the weavers." If large-scale relief were necessary, consideration would have to be given to means for restraining the current birth rate, either by moral means or by the establishment of poor houses in which the sexes were separated. On the other hand, one must hope that, if the condition of the industry counseled the unrestrained introduction of weaving machines, they would gradually absorb the handweaving population, "just as the spinning machines, which were so deeply hated at the beginning, later provided bread and even more or less adequate employment for many thousands."

Escher, a close associate of Paul Usteri's and a professor of law at the Political Institute, was a moderate liberal who did not find the radicals of Ludwig Keller's stripe congenial and was, indeed, considered by them to be a hopeless conservative. Yet, although he was more troubled than they by the conflict between faith in freedom and progress on the one hand and humanitarian concern over their results on the other, in the last analysis he was at one with them in regarding economic growth as the means of alleviating social problems, and his position in this respect was characteristic of liberalism in general at this time, particularly in France, where Escher had studied in his youth, and England, whose political economists had influenced him.

In the case of the cotton weaving industry, his view was justified, although other crises had to be surmounted before this was clear. Handweaving did not disappear in the thirties. On the contrary, the explosion of popular rage at Uster in 1832 had the effect of slowing down mechanization for a generation: Corrodi and Pfister were not back in operation until 1837, and other entrepreneurs seemed unwilling to risk the damages that it had suffered. Meanwhile, handweaving continued and, thanks to an easement of foreign competition, held its own for at least a decade, the number of hand looms, which had stood at 12,000 in 1827, increasing to 17,000 in 1842.

The real crisis came in the forties, when the prices for calico, that is, plain white cotton cloth, began to fall catastrophically. About two-thirds of the Zürich handweavers worked in calico and, unless they could shift to the weaving of colored wares or

to silk, which was still in a robust condition, they were fully exposed to the incursion of cheaper foreign cloth. Thousands were forced to the wall in the decade that earned the name "the hungry forties" all over Europe because of its crop failures and disastrous potato famine. These did not spare the Zürich Oberland, and the government was hard put to it to mount relief programs and to seek new occupations for the indigent at a time when it was distracted by the disorders that accompanied the onset of the Sonderbund War. Paradoxically, the same people who had railed against the onset of mechanization in 1832 now pleaded with entrepreneurs to establish new factories, and there was a general complaint that the canton had allowed its chief industry to lose its competitive advantage by neglecting industrialization.

If this was true, this condition did not last for long. The economic depression came to an end almost simultaneously with the founding of the new federal state, and amid the buoyant optimism engendered by the latter event Zürich was not long in making good its industrial deficit, the Oberländer Caspar Honegger of Rüti playing a major role in the vigorous industrialization of the weaving trade. Rudolf Braun has called the fifties a veritable *Gründerzeit* in this respect, pointing out that in [illegible] there were already 2,600 mechanical looms in operation in the canton of Zürich and that, in the sixties and seventies, the expansion assumed hectic proportions. That it was accompanied by all the psychological and social problems that industrialization breeds goes without saying, and the liberal government was unable to eliminate these, not least of all because its humanitarian impulses were checked by its economic prejudices. Before 1837 there were no legal restrictions upon hours of labor, although in that year the Great Council issued orders regulating child labor, eliminating the worst abuses and forbidding the employment in factories of children who were attending school full time. In 1858 the Governing Council convened a commission of experts, and the Great Council set up a special inquiry of its own to consult on comprehensive factory legislation, and the resultant law of 24 October 1859 introduced a series of safety regulations and measures for the protection of workers' health. On the crucial question of working hours, the law, while forbidding child labor at night under any circumstances, established

a legal daily limit of thirteen hours for adults and children alike. Repeated attempts during the debates and consultations to reduce the hours of child labor further were defeated on the grounds that this would constitute an unwarranted interference with the freedom of trade, would tend to make the factories uncompetitive, and would lower the standard of living of the working class, with unforeseen social consequences. It is interesting to note that this was the position taken by the commission member J. J. Treichler, a former socialist, whereas Gottfried Keller, in the press, was a vigorous critic of this aspect of the law.

In general, it can be said that the transition from handweaving to industrialized production had been accomplished without major social dislocation, and the cotton industry not only played a major part in making Zürich the leading Swiss industrial center but helped to encourage and support the industrialization of other trades—silk manufacturing, machine tools, printing, papermaking, bookbinding—which, by 1860, were an important part of the Zürich scene.

II

Economies that are ambitious to acquire more than regional scope require efficient systems of transportation, and in this respect Zürich, like all of Switzerland, was badly served until the second half of the nineteenth century. The cantons were, of course, bound together by roads and canals that were superior in quality and maintenance to those in many parts of Europe, including the German states, but travel by coach and barge was slow and impeded by the multitude of toll booths that interrupted the journey at cantonal boundaries and often in between. A merchant carrying a shipment of clocks and watches from Geneva to Zürich could count on having to stop dozens of times to pay customs duties, a procedure that not only slowed delivery but sensibly raised the market price of the product. Moreover, at a time when other European nations were investing heavily in railroad construction, Switzerland seemed entirely indifferent to this revolution in the transportation of goods and persons. In the mid forties, when there were already 3,600 kilometers of

railway line in operation in Great Britain, 7,500 in the United States, 1,750 in Germany, and 882 in France, there were no Swiss railways at all.

This is not to say that there was no interest in railways in the Eidgenossenschaft. The liberal press championed construction from an early date, and in 1836, noting the brisk market in Germany for shares in projected lines between Frankfurt am Main and Mainz and between Dresden and Leipzig, the *Neue Zürcher Zeitung* wrote, "Will Switzerland alone remain wholly behind? Should something similar not be undertaken between Zürich and Winterthur, Basel and Zürich, Bern and Neuenburg?" If the first of these questions continued to be answered affirmatively, this had three principal causes: the fact that, before the creation of the Confederation in 1848, the kind of national economic policy or vision that might have encouraged railway construction did not exist; the conservatism of the business community, which deprived construction products of the capital needed to support them, and the absence of any public pressure for railways. Indeed, Ferdinand Gubler once compared the popular view of railways in the 1830s with that of "the free Toggenburgers at the end of the eighteenth century [who] protested against the construction of the post roads and cursed them as the work of Satan."

In the canton of Zürich at least the third of these obstacles proved less formidable than it originally appeared, and the change was effected by another application of steam. In [illegible] Caspar von Rorschach and a mechanic named Lammlin from Schaffhausen founded a company in Zürich for steamer service on the lakes of Zürich and Wallen and ordered an iron steamship, complete with engines, from England. This vessel, *Vulcan*, sailed via Rotterdam and the Rhine to Basel and Kaiseraugst, where it was dismantled, carried overland to Zürich, and reassembled, refurnished, and renamed *Minerva*. On 19 July 1835, amid the firing of cannon and the ringing of bells, with flags flying and music playing, she made her first voyage from Zürich to Rapperswyl and back, and regular service began the next day. The experiment was so successful that Escher, Wyss and Company started competition a year later with its steamer *Linth Escher*, and by the mid-forties there were five steamers on the lake. There were always lots of passengers, for the service lent itself equally well to business and pleasure trips, and in the autumn,

when columns of pilgrims went to Einsiedeln, they were apt to use the steamships for part of their journey, traveling from Zürich to Wadenswil or Richterswyl by water.

The success of the steamship changed popular thinking about railways all over Switzerland and opened many eyes to new possibilities. In December 1837 a liberal journal in Graubünden argued vigorously for the railway as the key to economic expansion and prosperity. "What travel by steamship is to lake and river traffic," its editors exclaimed, "travel by steam railway is to traffic on land. A Hercules in the cradle, that will free the peoples from the plague of war, from inflation and famine, from national hatred and unemployment, from ignorance and routine, that will fertilize their fields and put new life in their workshops and mines, and give the lowliest among them strength to educate themselves by visiting foreign lands, to seek work in distant places, to seek the restoration of their health in far-off springs. . . . A new invention is all the more important and beneficial in proportion to its effect upon the well-being and the intellectual improvement of the working class, that is, the great majority of the people. Measured by this criterion, railways are really popular welfare and education machines."

Most of the cantonal governments were still, however, reluctant to embark on programs of construction or even to make concessions of rights-of-way to private entrepreneurs, and investors remained for a long time timorous about the soundness of participation in railway companies. In 1838, when a group of Zürich businessmen under the presidency of former *Bürgermeister* Conrad von Muralt formed a company to construct a line from Zürich to Basel, they encountered endless difficulties in their negotiations with the Basel cantonal government, which seemed bent on preserving its toll rights on the post roads running eastward and to prefer to have the railway come to it from the west, as it did in 1844 in the form of a line from Straßburg, which crossed only 1,800 meters of Swiss territory. The Zürich company persisted in its efforts, but it suffered a heavy blow when only 9,178 of the 30,000 shares it offered for public subscription were taken up and, after fruitless efforts to obtain government support, it went into liquidation in December 1841.

There was, however, a happy ending to this story. When the company auctioned off its documents and plans, which included scientific studies and geometrical sketches of levels, contours,

and gradients along possible routes, these were acquired for a trifling sum by Martin Escher-Hess aus dem Wollenhof. The man who was to be remembered in local history as "Steam Escher" (*Dampf-Escher*) had already demonstrated his imagination and energy as the head of the Kaufmännische Direktorium in the thirties, when he had been responsible for much of the new construction along the Limmat, including the Münster Bridge and the Kornhaus. He had since become inspired by the vision of integrating the economy of his native city into the rapidly growing European railway net, and in 1845 he formed a planning committee of friends and local businessmen, opened negotiations with the governments of Zürich and Aargau for the necessary concessions of rights-of-way for a line that would run from Zürich along the left bank of the Limmat to Baden and then, following the Limmat and the Aare, to Koblenz and eventually to Basel, and went to Vienna to recruit the services of engineer Negrelli of the Austrian State Railway, who had designed and built the Münster Bridge.

Martin Escher's self-confidence was contagious. When the difficulties with Basel once more proved to be insurmountable, he decided nevertheless to go ahead with the construction of the Zürich-Baden-Koblenz stretch and, once the concessions were in hand, offered the public 40,000 shares of stock, at 500 French francs a share, in a company to be called the Schweizerische Nordbahn. This time there was little evidence of distrust or timidity among investors. By October 1845, 10 percent of the capital was already in hand, and by March of the following year 32, 939 shares were paid up, the company holding the remainder. By this time—with the newspapers reporting daily on Negrelli's plans for bridging the Sihl River and the designs of the [illegible] architects Wegmann and Stadler for the new Zürich railway station, which was to be built in the Schützenplatz—railway fever had Zürich in its grip, and in March 1846, during the Sechseläuten festival, there was an explosion of almost frenzied enthusiasm, which began with a ceremonial laying of the cornerstone for the new station and culminated with a giant torchlight procession to Martin Escher's home on the [illegible] in which 800 torchbearers, 13 guild masters, 26 marshals [illegible] staff and banner carriers, and hundreds of local dignitaries participated, songs composed especially for the occasion were sung, and a silver beaker engraved with the arms of the city and [illegible]

of the Münster Bridge and the Kornhaus was presented to the man of the hour.

All of this was nothing to the excitement on 7 August 1847, when—despite a year of unexpected problems (difficulties with the bridging of the Reppisch at Diätikon, the correction of the terrain between Spreitenbach and Baden, and the shoring up of the tunnel walls at Baden against massive rock slides)—the Northern Railway had its formal dedication, and the steam locomotive "*Aare*" (one of four built by Emil Kessler's works in Karlsruhe) made its first run from Zürich to Baden. The "*Aare*" was bedecked with flowers, and two of its three engineers wore [illegible] costumes and carried banners, the third directing the engine. It was followed by an open carriage filled with musicians, who played throughout the voyage, and the passenger coaches, filled with 140 leading citizens and stockholders, followed. Crowds cheered their progress at Altstetten, Schlieren, and Diätikon, and at Baden they passed through a large garlanded arch of triumph to a tumultuous reception in the station and a banquet of rich foods and oratory at the Gasthof zum Schiff. This exuberance did not seem out of place. Zürich had won the distinction of having built Switzerland's first railway, and the "*Spanische Brötlibahn*," as it was immediately nicknamed after a much loved baked confection that was made only in Baden (which, thanks to the railroad's shortening of the trip there from four hours to thirty-five minutes, one could now have for breakfast in Zürich on the same day of baking), was immensely popular. Regular service, of four trains a day in each direction, began on 9 August, and in the first three weeks of operation the Northern Railway carried 24,836 passengers, traffic that was not discouraged by Switzerland's first train accident, when on the third day of operation the engineer leaned out as the train crossed the Reppisch and was torn from the cab and killed.

After this exhilarating beginning, however, nothing much happened for a considerable period. The atmosphere of intercantonal strife and foreign menaces was not conducive to economic expansion, and, although many projects were conceived, none came to fruition, and even the Northern Railway had to abandon its intention of extending its line toward Koblenz. Thus, when the federal state was established in 1848, the *Spanische Brötlibahn* was still the only Swiss railway in existence. At the same time the new constitution created conditions that were much

more favorable to planning in the grand manner. In November 1849, in his opening speech to the second session of the National Assembly, Dr. Alfred Escher, its president and the new leader of Zürich's liberal party, reminded his fellow deputies of the services that the new federal state had already performed for the economic growth of the country: the creation of a national postal service, the abolition of internal customs and the establishment of free trade, and the acceptance of a common currency that had put an end to the "Babylonian confusion" that had reigned previously. It was now essential, for the sake of its own survival, for the government to take the railroad question in hand. The iron rails were approaching Switzerland from every direction; the question of how they were to be coordinated was ever more actively debated, and there were actually plans to bypass Switzerland completely. If that should happen, the country would be reduced to the condition of a melancholy hermitage, and this would be accomplished, ironically enough, by means of an invention that had been called one of the greatest agencies of progress, at the expense of a nation that had just proved itself to be an island of calm in a European ocean racked by tempest. Escher urged the assembly to rise to the challenge and "weigh the full significance of the present situation with respect to the question that, without exaggeration, can be called a matter of life or death for Switzerland."

The involved rhetoric of this statement made it difficult to discern what it was exactly that Escher wanted the national government to do, and it may well have been that at this point he did not know himself, for the issues were complicated. Article 21 of the federal constitution of 1848 authorized the federal state, in the interest of the whole country or a large part of it, to engage in or to support public works and for this purpose granted it the right of expropriation with full compensation, a right defined in greater detail by an expropriation law passed in 1850. It was clear that these provisions opened the door to intervention by the national government in railway planning and building, and the *Bund* availed itself of the invitation to employ the engineers Henry Swinburne and Robert Stephenson to draft a plan for a Swiss national railway system; simultaneously it entrusted Councillor Geigy of Basel and the Winterthur engineer Ziegler with the task of estimating costs and proposing a scheme for financing the construction. Swinburne and Stephenson's

plan, which was completed at the end of 1851, called for the construction of a main trunk line that would run east and west, connecting Geneva, Lausanne, Yverdon, Bern, Olten, Brugg, Zürich, Winterthur, Rorschach, and Lindau with branch lines from Bern to Thun, from Olten southeast to Luzern and northwest to Basel and the railroads of Baden and Alsace, and from Rorschach south to Chur and beyond, a plan that was simple and reasonably comprehensive and would allow for easy expansion into unserved local areas. This might have generated a lot of support had it not been for the difficulty of reaching agreement about financing, and more particularly about the issue of state or private ownership of railways.

The experts Geigy and Ziegler clearly came down on the side of state ownership, although they envisaged collaborative financing arrangements between the *Bund* and the interested cantons, and the majority of the National Assembly's railroad commission were of the same persuasion and drafted a railway law which said in so many words that "the establishment of the Swiss railway network, as well as the organization of the construction and the company itself, is the subject of federal legislation." But this was a very narrow majority, and the minority had the support of that part of the country that did not stand to profit directly from the railways and objected to the national plan on economic and moral grounds, as a scheme for building "pleasure trains" for politicians who wished to flee from the city of Bern to the fleshpots of Europe, as well as the great body of liberal opinion that viewed state ownership as objectionable on various grounds.

The debate over the ownership question marked the beginning of a duel that was to dominate national politics for more than a generation between the leader of Bernese radicalism, Jakob Stämpfli, and Alfred Escher. They had in the past been allies and collaborators, both in their opposition to conservatism and the separatist ambitions of the Sonderbund and in the creation of the new federal constitution, but on the railroad issue they divided, and, because of their personalities, their differences hardened into an implacable hostility. Both men—the relatively uncultivated Bernese politician, who had made his way, despite gaps in his formal education, by sheer energy and will, and the Zürcher aristocrat to whom eminence and power had come easily and at an early age—possessed extraordinary energy, ab-

solute dedication to their immediate task, whatever it might be, and a ruthless determination to succeed. They were alike in their impatience with opposition, their unconditionality, and their desire to dominate, and this temperamental kinship alone made their mutual animosity all but inevitable.

Escher's wealth made it easy for his critics to demean his own motives and those of his supporters. But his position on the ownership issue in 1852 was influenced neither by this nor by any desire to increase his belongings. His opposition to state ownership of railways was rooted in the individualism that lay at the very heart of the liberal philosophy, in his aversion to any unnecessary increase of government power, and his conviction that, in the economic sphere, private enterprise and the laws of free competition should be allowed to prevail and would in the long run bring greater benefit to the community than government *Dirigismus*. In addition, there is no doubt that Escher [illegible] resented a shift of emphasis within liberalism from the [illegible] unitarian impulse of Paul Usteri's time to a jealous regard for cantonal sovereignty now that a stronger union had been achieved. He saw no reason why Zürich's economic development should be at the mercy of federal bureaucrats and [illegible] politicians. In this sense his dispute with Stämpfli was from the beginning more than a debate about abstract principles [illegible] ownership/private ownership, centralization/states' rights. It was—and this was recognized by both great antagonists—another phase in the struggle between Zürich and Bern for leadership in the Eidgenossenschaft, and one in which the city on the Limmat sensed its industrial potential and was determined to achieve it, while Bern, proud of its political primacy, looked on with jealousy and suspicion.

In 1852, when the Railway Bill came up for a vote, its fate was probably determined less by Escher's personal intervention, although he was certainly regarded as the leader of the opposition to state ownership, than by the strength of liberal sentiment in the country. With Zürich's representatives, and those of St. Gall, Appenzell, Thurgau, and Graubünden, expressing the most impeachable Manchesterian sentiments, and the deputies from western and central Switzerland divided, the National Assembly left the future development of the country's railways to private enterprise, provided the exercise of this privilege did not harm the national interest.

The law of 1852 opened the way for Zürich to build a rail network that would complement its already healthy industrial development, and Alfred Escher charted the course with skill and restraint. Unlike his Bernese adversary, who continued to build grandiose state rail systems for the next two decades while continually attacking "Escherism" and accusing the Zürich leader of seeking to establish a nationwide "private railroad monopoly" for the profit of "an interested caste," Escher moved with caution and deliberation and restricted his activities for the most part to eastern Switzerland. In the early spring of 1853 he became head of the board of directors of the newly established Zürich-Bodensee Railway and almost immediately entered negotiations with the Northern Railway, which had lost its original momentum and was suffering from financial problems. In July the two companies amalgamated under the presidency of Martin Escher, with Alfred Escher as chairman of the board of directors, and a vigorous program of construction got under way. By May 1855 the new Northeastern Railway (*Nordostbahn*) had built a line from Winterthur to Romanshorn, in the vicinity of the Bodensee, and by June 1856 the route from Winterthur to Zürich via the Brütten tunnel was in operation. Meanwhile, the extension of the *Spanische Brötlibahn* toward its original objectives made progress. The line from Baden to Brugg was complete by September 1856 and by May 1858 had reached Aarau, where passengers bound for Basel could transfer to the Swiss Central Railway and travel toward their objective via Olten and Liesthal. The company also opened a line from Winterthur to Schaffhausen in 1857, after acquiring the Rheinfall Railway, which owned the original concession, and in 1859 a line from [illegible] on the main line between Baden and Aarau, to Koblenz and Waldshut.

Nor did these activities exhaust railway building in eastern Switzerland. In 1852 and 1853 three other companies were founded: a St. Gall-Appenzell Railway, which planned a line from Winterthur over St. Gall to the Bodensee; a Swiss South-Eastern Railway Society, which projected connections between Rorschach and Chur, with connections to Rapperswyl and Glarus; and the Glattal Railway, which planned to connect Zürich with [illegible] via Uster. All three of these companies experienced financial difficulties, which they reduced by fusing, in April [illegible] as the United Swiss Railways. The completion of their

projected lines, and their connection with the Northeastern Rail-
way system at Winterthur and Wallisellen and with the steam-
ship service on the Zürich Lake at Rapperswyl, created a
comprehensive and well-articulated transportation system with
Zürich as its hub.

These developments were followed with enthusiasm by the
Zürich press. The *Neue Zürcher Zeitung* had been a strong ad-
vocate of railway construction since the 1830s; Ludwig Her[illegible]
Daverio, its editor from 1845 to 1849, had written shortly before
assuming that office, "Zürich must make haste, lest our can[illegible]
be circumscribed from the direction of Basel or the Boden[illegible]
Let us get to work quickly! Whoever builds the first Swiss rail-
way will have an advantage over all followers and the [illegible]
secure prospect for a fortunate continuation of its undertakings,"
and, under his successor, Peter Felber, who was editor until 18[illegible]
the paper strongly supported the fight for private ownership [illegible]
saw in the success of Escher's construction plans a manifestation
of the soundness of liberal economic policy. The liberal con-
vative *Eidgenössische Zeitung* was even more zealous and [illegible]
stantly urged expansion and fusion. After the Northeastern
Railway had completed its line to Schaffhausen, it began to [illegible]
haste in making connections with the Badenese and Württem-
berg lines between Tuttlingen and Tübingen, and in 18[illegible]
carried an article that spoke of Zürich's interest in becoming
"the central point in the trade basin that extends toward [illegible]
and upon which the rich industrial districts of Toggenburg, [illegible]
nerland, and the eastern part of Aargau impinge."

By the end of the liberal era the railway promoters had com-
pleted their work in eastern Switzerland, and the greatest of
them, Alfred Escher, was turning his attention to what [illegible]
be his greatest challenge: the building of the Gotthard Rail[illegible]
through the Alps, an enterprise that would, before it was fin[illegible]
in 1880, require the construction of a main tunnel fifteen [illegible]
meters long and fifty-five smaller ones with a combined [illegible]
of forty kilometers, as well as thirty-two bridges and [illegible]
ducts. Yet what he had already accomplished at home [illegible]
markable enough, for the Northeastern Railway, by [illegible]
Zürich's existing industries and encouraging the growth of [illegible]
ones, had transformed the city on the Limmat into Switzerland's
leading industrial center.

This transformation had brought many other changes in its
[illegible], not least of all to the traffic passing through the city. One
[illegible] of this was the railway station that had been designed
[illegible] built by Gustav Albert Wegmann and inaugurated with such
[illegible]mony in 1847. In the graphics department of Zürich's Cen-
[illegible] Library, one can find lithographs of that original station, an
[illegible]tentious building set in the wooded area close to the con-
[illegible] of the Limmat and the Sihl. Its main hall had four tracks,
[illegible] by a fifth with a turntable at its end for switching, and
[illegible] flanked by a modest administrative building on the side
[illegible] the city and shops and service buildings on the side facing
[illegible] Promenade Platz. Trains approached from the northwest,
[illegible] the Sihl Bridge before they entered the station, and when
[illegible] approached barriers were set up for the protection of pedes-
[illegible] until the train was safely in the station. There must have
[illegible] many people in those first days who walked out from town
[illegible] the trains come in, and in one of the romanticized artists'
[illegible]ntations we see some of them—elderly gentlemen with
[illegible] sticks strolling along the bank of the Limmat, a gov-
[illegible] with her charges, a fraternity student with sash and long
[illegible] lounging against a tree, a servant girl sitting on a bench in
[illegible], two boys fishing and a barge slipping downstream,
[illegible] occupants watching with interest as two horse-drawn
[illegible] cross the bridge to the station, laden with passengers
[illegible] luggage for the train, which can be seen in the distance,
[illegible] a long plume of smoke as it approaches. The scene is
[illegible] almost idyllic, dominated not by the locomotive and
[illegible] but by the trees that gird the station, the river in
[illegible]ground, and, rising above the Sihl valley, the green hills,
[illegible] terraced for cultivation, their tops crowned by forests.
[illegible] it was clear that Zürich's economy had outgrown
[illegible] facility, and the railway board of directors asked the
[illegible] leading architects—Gottfried Semper, whose work will
[illegible] attention in a later chapter, Leonhard Zeugheer, Fer-
[illegible], and Johann Jakob Breitinger—to submit designs
[illegible] station. All did, but the jury chosen to decide among
[illegible] in the end for one laid before it by the new city
[illegible] the thirty-one-year-old Jakob Friedrich Wanner, whom
[illegible] had strongly supported, even to the extent of permitting
[illegible] features of his own design. Wanner's new station,

construction of which began in 1865 and was completed in 18[illegible] was situated where its predecessor had stood. It was a [illegible] Renaissance hall-like structure without pillars, covering [illegible] square meters of space (which made it one of the biggest sta[illegible] in Europe), with six tracks, without perrons, that led to the [illegible] facade. This Wanner crowned with a figure of Helvetia, [illegible] rounded by allegorical figures signifying public transport[illegible] by land and water. The station's location was criticized by [illegible] in the sixties for still being a bit remote, but time and the [illegible] nomic growth of Zürich were to correct that. By 1889, wh[illegible] statue of Alfred Escher was erected opposite the east fa[illegible] was already in the very heart of the city, and the railway k[illegible] eyes looked down the street that was to become the fashion[illegible] shopping center of the Zürich of the future.

III

At the beginning of his economic history of Switzerland, [illegible] François Bergier has cited the words of a character in R[illegible] *Les plaideurs* of 1668: "*Point d'argent, point de Suisse*." [illegible] ever true this may be as a general proposition, it is inco[illegible] that the impressive development of industry that raised [illegible] to a position of economic primacy among Swiss cities [illegible] latter half of the nineteenth century would have been im[illegible] without money, in its abstract rather than its concrete [illegible] credit. And for credit one needs banks.

Zürich had never been a great banking center. In the [illegible] Middle Ages credit for the expansion of local business, or [illegible] liquidation of the debts of the aristocracy, or for major [illegible] enterprises generally came from Jewish and Italian mon[illegible] ers. In the purchase of Winterthur from Duke Sigmund of [illegible] in the fifteenth century, for example, the Jews provided [illegible] of the 10,000 florins needed to complete the transaction. [illegible] they and the Italians faded from the local scene in the [illegible] century (they never seem to have been very welcome and [illegible] subject to intermittent violence and expulsions), local [illegible] who had acquired wealth from trading in mercenaries set [illegible] selves up as money lenders, but never on a very grand [illegible] apparently without sufficient success to establish a fam[illegible]

[illegible]tion in banking. When private banking began to be recognized [illegible] a Swiss specialty, at about the time when Racine was writing [illegible] *plaideurs*, it found its main center in Geneva, where in the [illegible]se of the eighteenth century the names Thélusson, Saladin, [illegible]ker, Mallet, Candolle, Pictet, Lombard acquired a European [illegible]nance.

Nothing comparable was to be found in the city on the [illegible]mat, and there were no intimations of that distant time in [illegible]h a British Foreign Secretary would coin the term "the [illegible]mes of Zürich." This was tolerable as long as the economy [illegible] purely regional in scope, but when the textile industry began [illegible] expand its export activity and when interest in railways began [illegible] grow, it soon became clear that an improvement of the city's [illegible]ncial facilities was urgent. In the 1840s, Zürich had two [illegible]ate banks, the Bank in Zürich and Leu and Co., and it was [illegible] their support that the *Brötlibahn* was able to complete [illegible] construction of its line to Baden, but the resources of these [illegible] were completely inadequate for the extension of the kind [illegible] credit that would have enabled the *Nordbahn*, to say nothing [illegible] the more ambitious Northeastern Railway, to expand. That [illegible] that the railway lines would have to seek financing from [illegible] banks, which were eager to enter the Swiss railway [illegible], with resultant loss of local control and the diversion [illegible] of a large part of the return on investment. In 1853, [illegible] the Northeast Railway was seeking credit for its Win[illegible]-Romanshorn line, it had to go to the Rothschilds in [illegible] for the necessary support, and it looked for a time as [illegible] would be the normal procedure.

In the spring of 1856 the Universal German Credit Insti[illegible] in Leipzig (Allgemeine Deutsche Kreditanstalt in Leipzig), [illegible] on the advice of its deputy chairman of its board, who [illegible] the Swiss Consul General in Leipzig, decided that in[illegible] in Swiss railway development would be profitable and [illegible] to set up a branch office in Zürich. This galvanized [illegible] Escher into action, and in June he formed a local com[illegible] procured a concession from the government, and an[illegible] his intention of founding a Swiss credit institution, [illegible] the bankers from Leipzig to participate on the condition [illegible] abandon their plans for a branch of their own in Zürich. [illegible] was quickly reached; shares were offered to the pub-

lic and taken up with celerity, and the result was the foundation of the Schweizerische Kreditanstalt, which has been called Escher's most important achievement and which he himself said later, in his autobiographical notes, gave Zürich a financial importance that it had not possessed before.

While the negotiations were proceeding, the *Eidgenössische Zeitung* published a series of articles under the general title "Credit Institutions," which were apparently designed to educate its readership in the choices that Zürich had if it hoped to pursue a policy of vigorous economic growth and to explain the importance of Escher's initiative. One could, the editors wrote, reject the whole course of industrialism out of hand, on ethical and other grounds, if one was willing to deny the advantages it brought in the way of daily conveniences and comforts of many kinds. But it was not to be stopped and, in view of the growth of urban population and the necessity of providing it with comestibles and supplying its other needs, such things as the expansion of food services on the one hand and transportation on the other were indispensable. Credit institutions existed to make such things possible. The question was what kind of institutions were the most effective and desirable. Experience had demonstrated clearly that old-style private banks were incapable of funding large projects. Government banks were, and the City Council in Bern had just perpetuated the life of its State Bank because the people of Bern apparently believed that the state should supply all of its needs at whatever cost. But, the editors wrote, in a burst of liberal orthodoxy,

> We must emancipate ourselves from that spirit. . . . It is a sad thing to want to be regimented in all things, and especially in money matters. For every attempt on the state's part to mix in such things goes wrong. . . .
>
> The government can always direct commerce, but it does so badly, as it does all other business. Let the private sector do what is appropriate to it, and the government the same. Let them manage the police for us, instead of playing the banker!

What was needed then was a new kind of credit institution like the *Crédit Mobilier* in France or the old Brussels bank of

1822, *La société générale des Pays Bas pour favoriser l'industrie nationale*—banks with large accumulations of capital that were provided by selling public shares on a large scale and which insisted not to pay out big dividends but to serve a public interest by investing in its economy. The Schweizerische Kreditanstalt was such an institution, and not the least of its advantages was that it was a Swiss bank—despite the fact that it had accepted investments from Leipzig, Augsburg, and Berlin—for only an independent Swiss bank could make a proper assessment of Swiss needs and provide for them.

Escher's new bank—for he not only inspired its foundation but directed its fortunes from 1856 until 1877 and again, after a short break, until his death in 1882—lived up to this encomium. It helped free Switzerland from its dependence on foreign banks, and it gave Swiss citizens an opportunity to invest in their own future, to which they responded with alacrity. From the beginning its activities were extensive, although the focus was generally on eastern Switzerland. Its first great loans were made to the Western Railway and the Northeastern Railway, but it was by no means a predominantly railway enterprise. Indeed, the industries that were its beneficiaries were diverse in kind even if all were central to the development of the country—in the first instance, texiles and the machine industries, later food and the luxury trade, later still the chemical and electrical industries. It extended loans to cantonal governments and in 1870–71, came to the aid of the federal state in supporting the costs of mobilizing and maintaining the army along the country's borders. It was also active in laying the foundations of Switzerland's insurance industry and in financing the Gotthard Railway. Indeed, in the crisis of 1877–78, it played a prominent role in preventing the collapse of both that enterprise and the Northeastern Railway. All in all, its services to the country's economic development and its importance in making Zürich the center and motor of that development can hardly be overstated.

IV

In his memoirs the Luzern politician Philipp von Segesser described the two greatest political figures of his time, Jakob Stämpfli and Alfred Escher, and in a passage in which the im-

plied contrast was clearly designed as a defense of the former wrote:

> Escher was the heir of millions, on whose education nothing was spared. Around him gathered the men of high finance and industry, who held their noses high and luxuriated in the fine pleasures of life—those modern feudal lords who, with no less appetite than that of their forefathers in their castles, pose as the benefactors of humanity—and also those who in this society of interest saw a chance of getting ahead themselves, hungry professors and scribblers from all over, and journalists for hire—and, naturally, many respectable people also, who believed that their well-being and convenience were better served by Herr Escher than by his opponent. Because for his obedient partisans—it cannot be denied—his yoke was light and pleasant; with his fine tact he knew how to appeal to everyone's weak side and to bind him to him in proportion to his usefulness. But woe to the disobedient! A wave, and the name of the unhappy wretch was crossed out of the golden book.

This portrait is doubtless malicious, but it does prompt one to ask whether, in the so-called Escher Era, the principles that had guided the liberal party when they first came to power in 1830 had been subverted by the profit motive. There can be no doubt that some liberals worried about the power of the "modern feudal lords," and their fears were formulated sharply by a writer to the *Eidgenössische Zeitung* in 1856 who complained that "until the end of the year 1852 we in German Switzerland, and especially in Zürich, knew nothing about stock market gambling and swindles with paper. At that time there was a Zürich with Northern Railway stock!"

It seems highly likely that these fears were, at least in the first stage of the economic takeoff, exaggerated. Gottfried Keller had a very good nose for such things, and it is worth noting that his growing pessimism about encroaching materialism came at a much later time. It is true, of course, that the number of industrialists and great merchants who supported the liberal party and had a voice in its councils was greater in the fifties and sixties than it had been at the beginning of the liberal era, there is no doubt that they were drawn to liberalism by the fact that it protected and advanced their economic interests. But the

time was still far distant when such people were forming trade associations to lobby for special privilege, and it would be a mistake to think that they were untouched by a sense of social responsibility or uncommitted to those parts of the liberal program that expressed such responsibility in action.

It has often been said that early industrialism retained elements of an older patriarchal concern for the rights and interests of the working class. This was true in Zürich, where, in addition, the corporate spirit that was so deeply rooted in the city's history discouraged unrestrained Manchesterism. If some liberal men of affairs had been startled in November 1833, when the *Neue Zürcher Zeitung* printed an article on "Associations of Workers" in which it defended such unions as justified by liberal principles and respect for human rights and said that, basically, they were a necessary protection against "capitalists, agriculturists, and entrepreneurs" who sought maximum profit at the expense of the consumer, they had come to accept the proposition that the vulnerable classes in society had special problems that required attention. In general they believed that economic growth was the best panacea, in which they were not entirely wrong, since for the period 1836–60, with the exception of the depression years 1847 and 1855, the percentage of Zürich's population on relief was only 3 to 4.8 percent, less than half of the percentage for the largely agricultural cantons. But they knew that this was not the only answer, and this was demonstrated by the careful investigation of working and living conditions that they undertook before the passage of the Factory Act of 1859, as well as by their support of hospitals, of public charitable organizations, with which Zürich was richly endowed, and of public education.

No one embodied the corporate spirit more completely than Alfred Escher himself. In 1847, Gottfried Keller wrote an appreciation of him that began where Segesser's did, but took a different direction.

> The son of a millionaire, he submits himself to the sternest labors from morning until night, and takes on difficult and complicated duties at an age when other young men between twenty-five and twenty-eight would, if they possessed his wealth, devote themselves above all to enjoying life. It is said, to be sure, that he is ambitious. That may be; it merely

delineates a firmer shape. For my part, I should find it dif-
ficult, even if I had his education, to sit all day at a desk—
even if I had his money too!

If Escher was ambitious for himself, it was because he was am-
bitious for his canton; if he enjoyed authority, he used it for the
enhancement of his community. All of his work in politics and
all of his creative achievements—the Northeastern Railway, the
Kreditanstalt, and the Polytechnic Institute, to which we shall
turn in the next chapter—were directed to that end, and, since
he was the leader of his party in every sense, it is probable that
his example was not without influence upon his colleagues. It
is perhaps true that the liberal philosophy that inspired his own
career, with its emphatic insistence upon the representative
principle and its opposition to direct democracy, could not have
been expected to satisfy the people he served indefinitely. Peter
Stadler has written that his speech to the National Assembly in
November 1849, urging the elected representatives to make
"courageous and determined progress along the road delineated
by the constitution and followed by us until now" and described
them as "the priests to whom the people has entrusted the flame
. . . for careful nurture," made a religion, if not a mystery,
of parliamentary politics. To a people with Stäfa and Uster in
their history, to say nothing of 1488 and 1839, this was perhaps
never completely congenial. But when they finally overthrew
the "Escher System" it was because they felt it gave them in-
sufficient opportunity for participation in the political process,
not because they believed its creator had been motivated by
interest.