Origins

The Creation of the United States Steel Corporation

On 1 April 1901 the United States Steel Corporation was incorporated under the laws of New Jersey. It was far and away the nation's biggest steel company and the largest industrial organization of any kind worldwide. The capital involved was $1.1 billion, though, as in other trusts of the time, this figure was grossly inflated with "water"—that is, much of its nominal capital was not represented by physical plant. The origins of this gigantic agglomeration of capacity and capital may be traced through a range of forces—some general, many peculiar—to the particular stage reached in national economic development at the time. An early historian of the Corporation distinguished the "enabling" or "desirable" factors for a giant consolidation from the unique circumstances of the particular occasion.[1] These last, which included trade, company, and personal factors, gave particular shape and content to the new organization.

In the course of the 1880s and 1890s, the output of iron and steel had grown massively. As late as 1880, the nation made half as much pig iron as the United Kingdom; by 1900 it turned out more than 150 percent of U.K. output. Over those twenty years U.S. iron production rose from 4 to 14 million metric tons, amounting to almost half the world's increase. American technology and organization became in many respects the best practice. Although it was tempting to ignore the fact that there was much obsolescent equipment, rapid growth in demand and production generally encouraged modernization. As a visiting Englishman found during extensive travels in 1903 and 1904, "Each new plant that is erected is the epitome of the latest practice in its own particular field"; the improved efficiency of the new works made it

necessary to modernize the older ones.[2] Rich national mineral endowments and the generally large and rapidly growing markets for standardized steel products differentiated the American experience from that of other leading industrial nations. But it was also true that enterprise and capital had responded positively to both opportunities and challenges. Writing in 1896, Pennsylvania Steel Company engineer Henry Huse Campbell, proudly summing up what had been done, recognized the costs as well as the benefits: "Within the last decade America has made marvellous developments in her iron industry, until she now leads the world in the quantity of her products, and bows to none in their quality. This wonderful progress has not been the unearned harvest of bounteous nature, for it has been accomplished in defiance of mighty obstacles in the enormous distances through which the raw materials must be carried, and, although the achievement may be a just source of national pride, it involves inevitable expenses and disadvantages which may be lessened by energy, but which can never be swept away."[3] This great system of production was still further extended and expanded during the next few years. Yet, though the industry's technical and organizational achievements were universally admired by steel experts, it was in many respects flawed commercially. Large-scale combination was one of the ways by which financial returns might be made to match excellence of practice.

In economic activity, generally, the trend toward concentration in bigger, more concentrated units was now at full flood.[4] In steel the technology of the time provided a strong upward impetus, large furnaces, forges, or rolling mills usually producing greater output at lower unit costs than smaller units. Further economies gained from linking the various stages in the manufacturing process, especially in such a heat-intensive industry, meant that iron making, steel production, and rolling and finishing operations were now commonly combined at a single site. Ideally, such integrated plants should attempt to secure the most efficient multiples of capacities in each of the various subdivisions of the operations. But growth and rounding out of individual works, though often accommodated by the rapid extension of steel consumption, could also mean keen, sometimes cutthroat, competition. In bad times this meant acceptance of unprofitable operation of plant that had been modernized at high cost. Such conditions encouraged acquisitions or amalgamations, which might for a time contain the ever-present drive for expansion and lead to more gradual increases of capacity, better tailored to market growth. The combination of formerly separate enterprises made easier the maintenance of "reasonable" prices, elimination of inefficient plants, and specialization to cut overall costs. It produced ever-bigger companies.

Other forms of organization aiming to ensure "ordered" competition in

which all of the important producers could be reasonably prosperous had been tried and found far from satisfactory. Since the late 1880s, leading firms in various product sectors had formed "pools" that allocated production, fixed prices, or both. There were temporary successes, but pooling arrangements proved unstable, often broke down, and were followed by periods in which prices plummeted. Many companies—and dependent communities—suffered severely. It was unfortunate for long-term stability that even under these dire conditions all but the weakest tended to struggle on and survive into the next upward phase.

Some more efficient way of controlling competition was needed. The "trust" style of organization seemed to offer an advantage. By the 1890s there was a well-established trend to combination in a range of industries. Incentive for the processes of merger, rationalization, and the shaping of a leaner industry was always to be found in the promise of a more remunerative future. In addition to realistic or likely promises to the industry of genuine improvements in efficiency, the combination process was attractive to those who carried it through as a source of promotion profits. These seemed justified by the fact that a promoter required not only imagination to see the possibilities of combination but also the ability to secure financial backing and agreement from those controlling the firms in question. As a result, beyond the financial interests of the new group comprising the merging companies, there was added stock to reward the promoter and those underwriting the resultant organization with working capital until it was a going concern. Steel seemed an appropriate field for large-scale application of this process. To understand the necessities and possibilities, some other aspects of the structure of the industry at this time must be considered.

Steel was finished in a wide variety of forms: bars of a range of sizes and shapes for further processing, plate, sheet, tinplate, wire, tubes, structural shapes, rails, and other items as well as castings and forgings. In a nation still building its infrastructure, a few of these products had long dominated the rest. This had been especially the case with rails, but now the economy was diversifying. In 1880 U.S. production of rolled steel was 1.012 million tons, of which rails made up 85 percent. By 1900 the rail tonnage was not far short of three times that of 1880, but this now represented only 31 percent of rolled-steel output. In the 1890s a range of new products grew rapidly. The McKinley Tariff Act of 1890 had been followed by the establishment of an American tinplate industry, which then mushroomed, providing an outlet both for a large increase in "blackplate" (sheet) production and of the steel bars from which this sheet was rolled. Expansion in shipbuilding, both mercantile and naval, meant more need for plate and angles. New construction in bridges and

especially in multistory office and apartment buildings called forth a massive expansion in output of the bigger structural shapes. Large-scale growth in wire and in tube and pipe manufacture, for use in fencing and the extension of the oil and natural gas industries, required new wire-rod, skelp, strip, and plate mills. In 1889 the combined production of iron and steel plates, sheets, skelp, and structural shapes was some 400,000 tons less than that of rails; ten years later it was 1.7 million tons greater.[5] Yet, despite the huge scale of national economic growth, the expanding industry was marked by gross overcapacity, and there was an apparently irresistible temptation to extend plant far in excess of likely demand. Between 1887 and 1898, the steel-making ability of the nation was reckoned to have increased from 5.85 to 15.64 million net tons. Both years were ones of record output, but the amount of steel produced went up only from 3.34 to 8.93 million tons. In 1887 about 57 percent of capacity was utilized; eleven years later the proportion was almost exactly the same. The picture was confused by the fact that much obsolete plant was included in the capacity figures as well as plant that was reasonably competitive. The next year posted record production figures for both pig iron and crude steel, but for the first the estimated capacity exceeded the high level of the year's output in iron by 37.3 percent and in steel by 56.3 percent.[6] Even more important, the rounding out of the industry company by company, some needing more primary capacity—pig iron and crude steel—others more plant for finished rolled steel products, threatened vastly greater overcapacities, ever keener competition, and reduced returns. From 1898 to 1900, these problems seemed to be building up to a crisis.

Some of the additional capacity was provided by diversification on the part of existing major companies, some by new operations. Two companies stood out from the list of major integrated companies, partly by virtue of the capacity they controlled and the fact that they owned a number of works, but

TABLE 1.1
Output of various finished iron and steel products, 1890, 1895, and 1900 (thousand gross tons)

Year	*Rails*	*Plates and sheets except nail plate*	*Structural shapes*	*Wire rods*	*All other rolled products*	*Rails as % all rolled products*	*Tinplate*
1890	1,885	810	incl. in other	457	2,870	31.3	n.a.
1895	1,306	991	518	791	2,583	21.1	114
1900	2,386	1,794	815	846	3,646	25.1	303

Sources: AISA annual reports.

mostly by their efficiency. These were Federal Steel and Carnegie Steel, which together controlled well over one-quarter of the national crude steel capacity. Federal had been formed in late summer 1898 when the ore-mining Minnesota Iron Company, the Lorain Steel Works on Lake Erie, and a few additional operations were merged into the older Illinois Steel Company of Chicago. The industrial zone at the head of Lake Michigan had long been recognized as a highly desirable location both for making iron and steel and for distribution of the finished products. For years, though, the greater efficiency of the Carnegie operations in Pittsburgh had largely cancelled out the natural advantages of their chief rival. Elbert H. Gary, general counsel for Illinois Steel during the 1890s, later recalled that Carnegie Steel once sold steel rails in the Chicago district for eighteen dollars a ton, and that to meet the challenge his own company had to sell at below the costs of production. "The Carnegie Company could do what it came very near to doing at one time, namely force the Illinois Steel Company into the hands of a receiver. In 1896 . . . the papers were drawn, in fact." On the other hand, even though in normal times Illinois Steel could not compete with Carnegie beyond one hundred miles east of Chicago, 95 percent or so of its output could be disposed of where it enjoyed striking advantages of accessibility, its huge natural market area west of the Indiana-Ohio line.[7] The main producers east of the Alleghenies, for whom rail manufacture had also been the staple trade, were less well sheltered from the harsh winds of Carnegie competition. As Carnegie wrote in September 1899: "My view is that sooner or later Harrisburg [Steelton], Sparrows Point, and Scranton will cease to make rails, like Bethlehem. The autumn of last year seemed as good a time to force them out of business as any other. It did not prove so. The boom came and cost us a great deal of money." Even so, whereas in 1888 Allegheny County had produced 12.3 percent of the rail tonnages rolled in Pennsylvania and Illinois combined, by 1897 its share was three times as large.[8]

Although the superiority of Carnegie and to a lesser extent of Federal over other established integrated firms had been proved, there was at the end of the 1890s a new challenge in the form of big, expansion-minded combinations in the fields of the main finished products. Many of the plants of these new companies bought steel in semifinished form from the fully integrated iron, steel, and rolling-mill firms. By the close of the century, a large proportion of the finishing firms were combined in a series of major horizontal mergers, the resulting specializations and range of which were reflected in their new company names. They came in quick succession and in two great waves. The process was helped along by increasing output and rising prices that seemed to promise a rosy future. As an early student of US Steel put it, these compa-

nies were "industrial experiments," but he might have added that they followed a well-tried route and, as a contemporary noted, "hit off the psychological moment."[9] In December 1898 the creation of the American Tin Plate Company brought together firms operating thirty-nine plants containing 279 mills and making up about 90 percent of national tinplate production. A month later the American Steel and Wire Company (AS&W), incorporated under the laws of New Jersey, included most of the wire firms left out of a smaller combination formed under Illinois corporate law ten months earlier. In June 1899 the National Tube Company combined twenty-one separate companies and some nine-tenths of United States wrought-tube capacity. (In this case, one-quarter of the $80 million capitalization was said to represent promotion profits.) After this there was a pause until spring 1900, when in succession the Shelby Steel Tube Company brought together some 90 percent of the seamless-tube capacity, American Sheet Steel incorporated 70 percent of sheet making, and American Steel Hoop linked nine firms making bars, hoops, cotton ties, and skelp. The main aim of those who in those months formed a constructional steel combine, American Bridge, seems to have been to yield promoters' profits.

There is no doubt that the product groupings yielded many economies. John W. Gates of AS&W claimed that reduced cross hauling alone saved a half-million dollars per year.[10] But the process was also fraught with penalties, restrictions, and outright extortion. For example, one of the stipulations of contracts for sale of plant to American Tin Plate was that the former owners could not start tinplate production again for a period of fifteen years within 1,500 miles of the site they had sold. In their quest to control trade, the trusts incorporated much unsuitable plant, so much of which seemed haphazard. As one academic of the time put it, the works of AS&W "were sown broadcast over the whole face of the land. A grant of land, a cash bonus, ten year's exemption from taxation, a local connection, among one of a number of causes entirely disconnected from considerations of economical production, had determined the original locations of these plants, the burden of whose maladjustments the steel trusts had now to assume and to carry."[11] Local industrial communities suffered from the weeding out that followed combination. By summer 1899 American Tin Plate was dismantling works at Baltimore and another location in Maryland, in Brooklyn, and in Cleveland. D. G. Reid, Tin Plate's first president, revealed another aspect of the restraint of trade involved. He told the Stanley Committee, a House of Representatives commission charged with investigating US Steel, that his company had a contract with roll makers to take their output but could not remember whether they

also had an arrangement with manufacturers not to sell to independent producers.[12] A notorious instance of the ruthless greed of these sales, mergers, and new ventures was revealed years later when John Stevenson Jr. summed up his working philosophy of the time, "'We'll shake the apple tree again' I told my associates."[13]

Most combines, like the smaller finishing companies of which they were composed, bought semifinished steel from the longer-established large companies that had mineral resources, blast furnaces, and steel works as well as rolling mills. Of these there were a considerable number, but their size and location in relation to the distribution of the finishing companies meant the two main suppliers were the Federal and Carnegie companies, for which the increasing outlets for semifinished steel supplemented their trade in such major fully finished lines as plates, structurals, and rails. Federal's Chicago plants delivered wire rods to American Steel and Wire in the Midwest; its Lorain works sold billets to the Ohio plants of National Tube. Carnegie supplied various finishing groups around Pittsburgh and in the Ohio–Lake Erie belt. Two circumstances threatened this commercial arrangement and seemed likely to plunge the industry into unprecedented uncertainty and possible chaos. First, some finishing combines began to contemplate or even to carry through plans to reduce their costs by producing some or more of their own steel. Increasing difficulties in finding adequate markets after spring 1900 pushed them further in this direction. National Tube had iron and steel plant at McKeesport, near Pittsburgh, and in autumn 1900 revealed plans for a steel works at Wheeling, West Virginia. AS&W controlled some Connellsville coking coal, had associated interests in lake ore carriers, and in 1899 began to build what was then expected to be a fully integrated iron and steel operation on Neville Island at the head of the Ohio River; reportedly, the site had been laid out for up to six blast furnaces.[14] At year's end the company announced plans for a Milwaukee steelworks to supply its western plants. Second, the formation of a new company expressly to supply various rolling mill combinations threatened the regional arrangements. National Steel was organized in February 1899 and soon built up a fair-sized mineral resource base. Henry Oliver sold National his New Castle blast furnace, one-sixth of the ore production of the Oliver Iron Mining company for fifty years, the whole output of his coke works near Uniontown for ten years, and reserves of coking coal in Westmoreland County.[15] In its first year, National Steel produced 12 percent of the nation's crude steel, primarily from works established some years before in Ohio. As billets and sheet and tinplate bars, most of this output was supplied to American Tin Plate, AS&W, and American Steel Hoop, firms with which National Steel

was associated through common promoters, the so-called Moore group. National then prepared to go further, taking the offensive by building a rail mill reported to have a daily capacity of 1,200 to 1,500 tons of Bessemer rails per day, which could later be raised to 2,000 tons daily. If this latter capacity were realized, it would account for more than a quarter of the previous year's record output, ranking it roughly equal to Carnegie's Edgar Thompson works (ET) or the output of the Chicago rail mills. Only later did it become clear that National aimed to make and sell rails only when demand for bars was at low ebb.[16]

An inevitable outcome of these developments in the finishing combines and at National Steel was a reduction in purchases of semifinished steel from "primary" producers. Predictably, the latter companies reacted with plans to finish more of their own steel and in so doing invaded more of each other's product ranges as well as those of the finishing combines. In 1900 Federal Steel made 15 percent and Carnegie Steel 18 percent of the nation's crude steel. That year Federal proposed to take up the manufacture of tubes and structurals, the latter a challenge to Carnegie's long-established leadership. It threatened to build wire mills unless American Steel and Wire cancelled its plans to produce more of its own steel. AS&W gave way, but it was clear that plans to integrate backwards could be revived at any time. Carnegie Steel re-

TABLE 1.2
Capacity of steel plants of important companies, 1900–1901 (thousand gross tons)

Carnegie Steel		Pennsylvania/Maryland Steel	
Edgar Thomson	1,000	Steelton	500
Homestead	1,900	Sparrows Point	400
Duquesne	1,000	Inland Steel	
Federal Steel		Indiana Harbor	125
South Chicago	1,075	Lackawanna Steel	
Joliet	600	Scranton (to be closed)	705
Union (idle)	325	Lackawanna (building)	845
Lorain	550	Bethlehem	
Jones and Laughlin		Bethlehem Steel	335
Pittsburgh	750	Republic	
Cambria Steel		Youngstown	350
Johnstown	825	Tennessee Coal, Iron and Railroad	
National Steel		Ensley	300
Ohio plants	1,260	Colorado Fuel and Iron	
		Pueblo	250

Sources: AISA, *Works Directory*, 1901 and 1902.

sponded still more vigorously, initiating plans to bring it into competition with former major customers. Company officials decided to install wire-rod, wire-, and nail-making plant at Duquesne and sheet mills were contemplated for Homestead. By far Carnegie's biggest project was a wholly new, fully integrated, iron, steel, and tube works at Conneaut on Lake Erie, where costs would be at least ten dollars a ton lower than at National Tube. After many months of planning, the project was revealed to the public on 12 January 1901. At once, Edmund Converse, National Tube's president, denounced the Carnegie plans as not only losing them the 150,000 tons of plate and strip Carnegie was supplying to National Tube, but also as likely to bring back the situation before the horizontal combinations had been formed, involving "a cutthroat warfare which bankrupted the weaker ones, destroyed the profits of others and caused all manner of discrimination and uncertainty among patrons." In Gates's words, it seemed the Carnegie mill would "tear the National Tube, that Morgan had just put together, all to pieces."[17]

During 1900, tensions and stakes were raised still higher by the reconstruction of some old companies and the beginnings of new ones, though the latter were as yet insignificant in relation to the established producers. Republic Iron and Steel Company was formed in 1899 as an agglomeration of rolling-mill operations. It also controlled five blast furnaces and a few, generally ill-located, steelworks. It set in train a purposeful reconstruction, concentrating its powers in the Youngstown area. Above Pittsburgh, Union Steel Company was intending to enter the wire-rod trade and considering supporting these operations with steel capacity and blast furnaces. One of the main rail makers, Lackawanna, having decided to move operations from Scranton, was now constructing a new works on a greenfield lakeshore site just south of Buffalo. The ferment in steel also threatened the good order of the railroad business. Carnegie was actively planning new lines to release him from the Pennsylvania Railroad. At the same time he vigorously criticized it for high freight charges that made it difficult to continue to deliver structural steel into Chicago at a time when Federal had decided to spend $10 million to build its own structural steelworks.[18]

Trade conditions worsened in the latter half of 1900. As this happened, prospects of large additions to iron, steel, and rolling-mill capacity from established and new companies, through backward integration by finishing groups or through forward integration by steel makers, threatened general demoralization in an industry already marked by gross overcapacity. Uncertainty was increased by the acknowledged terrifying abilities of the Carnegie Steel Company. Two weeks after the public announcement of the Conneaut tube-mill project, Charles M. Schwab, that company's young, able, and ag-

gressive president and Andrew Carnegie's heir apparent, sent his chief some statements outlining the financial, raw material, and capacity situations of their own operations and those of their leading rivals. The figures came with a covering note, which emphasized not only Carnegie's own present commanding position but also how it seemed likely to improve still more. "I really believe that for the next ten years the Carnegie Company will show greater earnings than all the others together. . . . I shall not feel satisfied until we are producing 500,000 tons per month *and finishing same.* And we'll do it within five years. Look at our ore and coke as compared with the others. If you continue to give me the support you have in the past will make a greater industry than even we ever dreamed of. Am anxious to get at Conneaut. Are pushing plans rapidly and will be ready for a start in the spring." Carnegie responded enthusiastically, "I like your talk—five years development at Conneaut will put C. S. Co. where she belongs."[19] Despite—indeed partly because of—Schwab's confidence, for most steel companies years of doubtful commercial prospects seemed to lie ahead.

Under such conditions it was natural that industry leaders talked of amalgamations. The amazing thing was that until a late date no one seems to have contemplated an association anywhere nearly as wide as that which eventually took shape. When this happened a positive, forward-looking emphasis could at last be added to what might otherwise have been merely a larger version of an often-repeated defensive action. Naturally, such an outcome would owe much to the disposition of the principal characters involved. They were responding to a situation for which no one of them had been responsible, though some of them had played important parts in shaping it. Some saw possibilities where most saw none, few, or even disaster, but a few proved to have the organizing power and financial acumen to transform visions or vague schemes into reality. To attain any happy outcome required a catalyst. In the

TABLE 1.3
The Carnegie, Federal, and National Steel Companies in 1900 according to C. M. Schwab

Company	*Capital (millions)*	*Steel output (th. tons)*	*Earnings (millions)*	*Earnings per ton of steel*	*Earnings per $100 capital*
Carnegie Steel	$320	2,970	$40	$13.47	$12.50
Federal Steel (Chicago plants)	$126	1,225	$10	$8.16	$7.94
National Steel	$63	1,400	$8	$5.71	$12.70

Source: C. M. Schwab to A. Carnegie, 24 January 1901, ACLC.

circumstances of the time, it would involve not only a persuasive idea but also a forceful proponent and much patient analysis of practicalities.

The leading actor so far in the industry was to play no subsequent part in the drama. During 1900 the readiness and vigor with which he was prepared to fight old, new, or reconstructed competitors alike had belied Andrew Carnegie's sixty-five years. Though sentimentally attached to the industry so that his attitude to major restructuring for years varied according to his mood, by this time he was generally willing to contemplate retirement from active involvement in steel. This would enable him to devote much of his time to the distribution of the riches his controlling interest in Carnegie Steel would bring him if it became part of a major public company. For some of the others who negotiated and planned for a wide amalgamation, the hope of securing Carnegie's elimination from the trade was a prime incentive to carry the work through to completion. J. P. Morgan was the next most important influence, though largely as impresario rather than performer. A main concern was the maintenance of orderly business and thereby of the conditions under which the companies in whose formation he had already been involved—Federal Steel, National Steel, and to a smaller extent American Bridge—could become firmly established and financially successful. In his recent pugnacious mood, Carnegie had proposed to build new railroads to free his company from dependence on trunk-line operators. This would strike at another key sector in which Morgan was involved. Below these two principals, future prospects for the greater number of those men already occupying prominent positions as presidents or directors of finished product or primary steel companies were tied up with the wider framework of planning and negotiation. If their concerns were merged into a larger group, they could expect big financial rewards.

As early as 1899, as the product groups were taking shape, there had been schemes for the combination of considerable sections of the industry. Elbert H. Gary, with whom Morgan was involved in the formation of Federal Steel, was said to have afterward urged the banker to purchase Carnegie Steel. There were various vague ideas for linking Federal and Carnegie. In spring that year there was a scheme, which nearly came to fruition, for cooperation between the Moore group, which had promoted a number of the product groups as well as National Steel, and certain of the Carnegie top management, notably Henry Phipps and Henry Clay Frick. Together they planned to buy out Carnegie and float a reconstructed Carnegie Steel as a major public company, with Frick taking over Carnegie's top place. One after another such projects were mooted; followed up by a flood of rumors, hopes, and fears; and then failed to materialize. The following year, Carnegie Steel was recon-

structed, but Frick was expelled from active involvement. The company retained its partnership status and prepared for keener competition ahead, in a business that it seemed would continue to be dominated by the cut and thrust of the survival of the fittest. At this critical time of darkening prospects, yet another way out was first tantalizingly outlined and then assiduously pursued.

The vision of better things that might be shaped for the future was presented by Carnegie Steel president Charles M. Schwab in what has come to be seen as probably the most momentous after-dinner speech ever delivered by an industrial executive. Unfortunately, there is no transcript of what he said at the banquet given in his honor on the evening of Wednesday, 12 December1900, at the University Club in New York; within a year he had covered some of the same ground in an address in Chicago of which a record does remain.[20] Many years afterward Schwab recalled some of what he said: "I chose as my subject my idea of the future development of manufacturing in the United States, especially as relating to our industry. . . . I explained at that meeting the very great advantages that would result in manufacture from such an organization as the United States Steel Corporation, and I gave my reasons in detail to them." A key principle was that "one mill should run on one product and not one mill on 50 products as was then the practice." Such specialization would bring large cost savings. A further consideration, which might clash with the last, was the possibility of general reductions in selling costs, including fewer long hauls on products as plants concentrated on supplying their local or regional outlets. In any event there would be large economies in distribution. He added, "In my proposal there was no thought of limitation of production or the maintenance of price."[21]

There have been suggestions that Carnegie encouraged Schwab to make such a speech, which taken along with the obvious preparations being made by Carnegie Steel to wage a more effective economic war against its competitors might help along a profitable buy-out. Against this interpretation is Carnegie's distaste for finance and company promoters, but there is at least some evidence supporting such a conspiracy theory. Carnegie was reported to have stayed at the banquet for only a short time before leaving to address the Pennsylvania Society, though ten years later Schwab included him in the list of those he recollected as seated at the table.[22] A discrete departure could spare an emotional Carnegie the need to hear what he knew was inevitable. At some point, probably a few days before the dinner, Carnegie had sent a short message to his cousin, George Lauder. His words do not rule out the possibility that he recognized that Carnegie Steel interests were being promoted: "Schwab's dinner here remarkable. Mr. Schwab tells me every one invited ac-

cepted and really the biggest men in New York. He is a favorite indeed and this makes him more valuable for us."[23] Whatever Carnegie's prior knowledge, the University Club speech initiated a period of activity out of which, within less than five months, the United States Steel Corporation emerged.

After his speech Schwab had half an hour of close conversation with J. P. Morgan before returning to Pittsburgh. The next vital step came when he was summoned to a meeting at Morgan's New York home. The date is unknown, but it seems to have been about three weeks after the University Club dinner, that is, during the first few days of 1900. This time Morgan asked Schwab to compile a list of companies that might be incorporated into a giant group designed to achieve the economies he had outlined on 12 December. When completed, this list also included Schwab's estimate of each company's real worth. Morgan then asked him to enquire at what price Carnegie would sell. Schwab recalled for the Stanley Committee that it was "about a week later" that he spent the day with Carnegie and passed on Morgan's message; other evidence suggests that their meeting and Carnegie's very rough draft asking $480 million for the Carnegie Company should be dated a further two weeks later, probably toward the end of January. On the other hand, there is some circumstantial evidence that Carnegie may have known what was going on much earlier than this, indeed, even before the public announcement of the Conneaut project. On 7 January 1900 from New York he sent Schwab in Pittsburgh an intriguingly worded telegram. It seemed not only to refer to the tube mill but possibly also to weightier matters. It may suggest, however, that Schwab had implied that his contacts with Morgan were about no more than the latter's wish to stop Conneaut: "Don't think it necessary for you to come on to see that gentleman. I should rather you stay at home, and return to your youthful, bright appearance. Take care of your health. Besides, the dinner of Wednesday [a dinner of eighty-nine officials of Carnegie Steel at the Schenley Hotel, Pittsburgh, on 9 January] may require you to lie up for a day or two. Think you could write a note which would meet the purpose and then announce soon, if you met him he might try to stop us and refusal would be trying, better write tonight. Am down town today on matters. Saw the important man today. Everything looks well. Anything new? Andrew Carnegie."[24] Working from the very different recollections of Judge E. H. Gary, then head of Federal Steel, his biographer, Ida Tarbell, provided a different listing and chronology of events.[25] Whatever the true timescale, Morgan accepted Carnegie's price. After that, with some help from Schwab, Gary decided on the properties they were interested in and began negotiations with their controllers.

Federal and Carnegie Steel were the core operations of the combination. It is clear that some of the other firms or plants were brought in only as parts of a corporate package. Years later during the dissolution suit, Daniel Reid recalled that those interested in National Steel, American Tin Plate, American Sheet Steel, and American Steel Hoop would not entertain the idea of selling any one of them without selling them all. Negotiations over these properties took several days, Judge Moore "going back and forth between his office and Mr. Morgan's office until 7 or 8 o'clock at night."[26] The result of this sort of procedure was that properties that were not very attractive were willy-nilly included along with prime businesses. The new corporation would begin business not so much as an amalgamation but as an agglomeration.

It is important to put the work of these individual actors into perspective. The "heroic" view of business history is less popular today than in a past that tended to either idolize or execrate its tycoons. The most outstanding entrepreneur, "captain of industry," or "master of capital" can only be successful if conditions are propitious. He or she—and at that time there was effectively only the former—must await opportunity. Many, however, may not see or only partially recognize the potentialities of a situation or, having realized it, may yet bungle in carrying through the plans. In the course of a concise account of the new combination, Peter Temin recognized that it solved the crisis created by vertical and horizontal integration in the 1890s, made easier the running of pools, and yielded great promotional profits. Still, he rather frowned on "the conventional story" with "all the appropriate drama."[27] Long before, Frick's biographer, George Harvey, had made what seemed a reasonable conclusion: "It was the stern reality of the actual situation, in vastly greater measure than either the eager pleading of Judge Gary recounted by his biographer [Tarbell] or the eloquent portrayal of possibilities by Mr. Schwab at a celebrated dinner party, that finally impelled Mr. Morgan to essay the greatest undertaking of his career."[28] Perhaps, after all, this much of the heroic may be allowed, that though the genesis of the new group was in part due to the stark situation and prospects of the time, largely a response to a careful assessment of dangers and possible rewards by many business leaders, it was successfully carried through only as the result of a grasp of even greater possibilities by a mere handful of men.

In the early part of February 1901, Elbert H. Gary informed the press that moves were underway "for the acquisition of the properties of some of the largest iron and steel companies of this country." On Tuesday, 26 February, Carnegie signed a formal agreement to sell his company. A few days later, notice of intention to form what was now for the first time referred to as the

United States Steel Corporation was conveyed to the shareholders of the companies proposed to be incorporated. On 7 March Carnegie cabled Schwab, "saw Morgan today all goes well." He followed this up with a letter on the same day, ending with the postscript that he "called on Mr. Morgan this AM to get leave of absence from my Boss. He gave it."[29] What for Carnegie marked the end of one of the most successful of all industrial careers signaled the beginning of a new industrial era. On Monday, 1 April 1901, the United States Steel Corporation began business.

Early Years of Industry Leadership, 1901–1904

When asked why he had helped in the formation of US Steel, John Warne Gates replied, "To convert a lot of doubtful assets into cash."[1] He had been hurt by J. P. Morgan's refusal to include him on the Board of Directors. Even if this showed in the frank cynicism of his statement, there was at least an element of truth in Gates's words, for much of the nominal capital did not represent tangible assets. Like most combinations of the time, US Steel was grossly overcapitalized. It is true that, shortly after trading began, Schwab set the value of its properties, minerals, and cash at $1.466 billion, but a decade later the Bureau of Corporations estimated its real property at the start of operations at $682 million; by this assessment, $721 million of the capitalization was "water." In fact, it was extremely difficult to make a well-reasoned evaluation of the immense agglomeration of physical plant and even more so of the mineral resources. In summer 1902 Schwab valued the Corporation's holdings of iron ore at an extraordinary $700 million, compared with only $348 million for production plant and real estate. (That year US Steel shipped 16.1 million tons of Lake Superior ore, 58.3 percent of the total.) The "principles" guiding Schwab's ore valuation were, firstly, that the holdings could not be duplicated at any price and, secondly, that US Steel would have to pay that much to obtain this amount of ore. His estimate for their coal and coke fields was $100 million; at the same time, Thomas Lynch, president of H. C. Frick Coke Company and who knew more about this section of the business than Schwab, made what he regarded as a conservative estimate of the value of their Connellsville coking coal alone: $157 million.[2]

The creation of US Steel more or less coincided with major reconstruction at other older operations and with the establishment of some new firms that