

The Business Career of Henry Clay Frick

by Kenneth Warren

HISTORIANS and much of the general public have long considered Henry Clay Frick one of the leading businessmen in an unrivalled period of American economic growth. Yet more charismatic figures have overshadowed his role. In an age of business moguls, some of whom were corrupt but many of whom were colourful and even swashbuckling characters, Frick has been portrayed in blacks and greys. A dearth of available insight into his mind has existed. In the absence of detailed information, myth held the field, and it has generally

Kenneth Warren, History Lecturer at Oxford University in England, is author of *The American Steel Industry, 1850-1970*. The book, published in 1973, was recently reprinted by the University of Pittsburgh Press. The Press plans to publish a book by Warren based principally on his research at the Helen Clay Frick Foundation Archives in Pittsburgh.

A big-stakes gambler on America's industrial frontier, Frick had his first million by age 30.



as functioning parts of a nationwide economic organisation. The United States became the world's biggest economy and then, for the first time, a major factor in the direction of commercial operations beyond its own boundaries. In short, Frick's career covered both the nationalising and the internationalising of American business. At his birth the U.S. economy was still small compared to the United Kingdom's; by the end of his life it was far ahead. (Appendix, page 14, Table I) This growth was uneven, for the pace of economic development varies over time. (The parts of the nation where it occurs most intensely also vary, of course, over time.) Such development originates with the actions of human beings, and while few individuals can do more than respond to it, in doing so they to some extent guide and help to localise it.



been unkind to him. A more complete analysis of his personal qualities, and of evidence that he was one of the great men in American industrialization, will be attempted in my book that will be largely based on the rich resources of the Helen Clay Frick Foundation Archives in Pittsburgh. The present is merely an outline and principally an interim assessment of his business accomplishments.

Henry Clay Frick was born 19 December 1849 and died a few days short of his 70th birthday in 1919. The themes of his business life focused on here are his general part in the industrial growth process and the ways in which his particular line of activity — and thereby to some extent himself — placed him in a dependency relationship.

Before considering his business achievements, it is perhaps helpful to consider their context. During his lifetime, and even the 50-year working part of it from 1870, many regional economies were linked together

American growth at its various stages depended on different types of activities, which for a range of reasons were conducted in different regions; it was the good fortune of Frick and his close associates that the phase of development with which their lives coincided was particularly suited to the physical endowment and location of Western Pennsylvania. Circumstances provided the opportunities; successful regional entrepreneurs recognized and seized them. Consider for a moment economic historian Walt Rostow's model of national development, described in his *The Stages of Economic Growth: a Non-Communist Manifesto* (1971), in which the take-off stage involves textiles and the early railway age, and is above all focused in New England

and the areas east of the Alleghenies. The twentieth century age of mass consumption was bound up with consumer durables and preëminently with the automobile industry; though widely penetrating, its impact was concentrated most impressively in southern Michigan and nearby parts of neighboring states. In between these two eras was a half-century drive to maturity, that critical stage which, leaving the take-off far behind, laid firm foundations for a widespread diffusion of the fruits of an affluent society. The drive to maturity was marked by the building of a national infrastructure in industrial plant and, even more spectacularly, the completion of the railroad network. These industrial achievements were most characteristically summed up in the growth of the iron and steel industries.

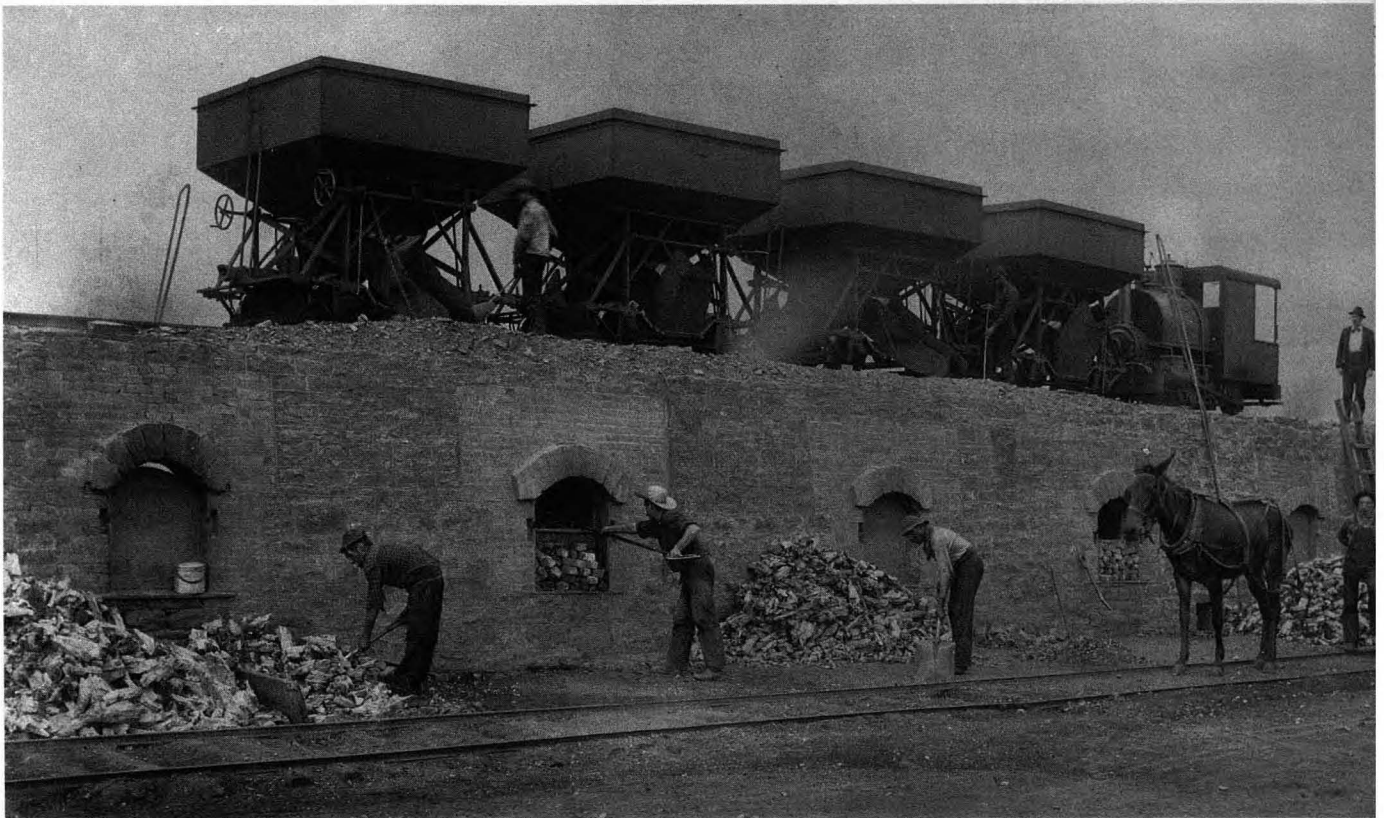
In 1860 the iron industry ranked sixth in terms of both employment and value added among the major industries of the nation; by World War I the steel

industry was first by both criteria. Expansion in production was mainly concentrated in the vast tributary area for the Great Lakes basin, an emerging functional economic region with raw material bases of upper lakes' ores and Appalachian plateau coal. During this period emphasis moved from exploitation of natural resources to manufacturing and on to finance. This progression depended on continuing raw material supplies — indeed, on vastly increasing supplies — but the centres of control passed from the producing areas to the board rooms of giant industrial concerns and on to the masters of capital. This 50-year phase of the drive to maturity, its nature, timing and localisation, provided the context and stages for the business career of Henry Clay Frick.

After a brief period in retail and office work, Frick worked for 18 years in an extractive industry which required relatively simple further processing activities. For the next 12 years he added a major manufacturing element to his first and continuing interest. In the final 19 years he also had widened concerns in the

tertiary sector, in finance, transport and real estate. The coal district of southwestern Pennsylvania was the setting for Stage I; Stage II centred on the manufacturing plants of Pittsburgh but required organising a system to move raw materials on an unprecedented scale more than 1,000 miles by water and rail from the Minnesota iron ranges to coal mines and coke ovens within a few miles of the West Virginia boundary — and even greater distances for finished products; by Stage III he had moved his home and centre for decision-making to New York. His operations were now not only on a national but also an international scale. Within this three-stage career the middle period is in many ways the most interesting, for in it his business achievements were uniquely great, and also he was associated with and may be compared to other business leaders.

In the third quarter of the nineteenth century the United States began to make larger tonnages of iron, charging blast furnaces either with raw bituminous coal or, increasingly, with coke. America got off to a



Top left: Dickens's smoky London? No, the urban hub of Frick's business and personal life — Pittsburgh, late nineteenth century. "Go to Pittsburgh;" he often advised, "there is no other place where a young man can find so many opportunities." Frick company mines, *bottom left*, honeycombed southwestern Pennsylvania and northern West Virginia. Dumped into the beehive oven, *above*, bituminous coal was cooked for several hours to make coke, a purified fuel that powered steel industry blast furnaces. By 1900, Frick interests operated more than half of the 20,000 ovens in the district.

slow start in this industry, owing something to delayed overall economic growth, geological build, and perhaps most of all, to abundant forests and anthracite coal. From just under 8 percent in 1855, the proportion of iron made from bituminous coal had reached nearly 31 percent by 1870. Five years later, bituminous coal passed anthracite as the main fuel, with coke becoming its most prevalent form. Pig iron output was now increasing with extraordinary rapidity — from 1.7 million tons in 1870 to 13.8 million tons 30 years later. Iron output using coke went up even quicker, especially in the Pittsburgh district. Never again would the industry experience growth rates that gave so great an opportunity to skilled and daring businessmen. It was in 1870, at an early stage of this expansion phase, that Frick entered the coal and coke trades. He came in on a surging tide of Connellsville coke production. (Appendix, Table V) Beginning with

a 50 oven plant at Broad Ford by the Youghiogheny River, he controlled 200 ovens in two works only two years later. In the difficult years of the mid-1870s he kept his head and gradually increased his interests; by 1882 he already controlled nine works and 1,022 ovens, or almost one in every eight of the total in the area. By 1900, when he left the company, the size of the Connellsville coke industry had vastly increased again, and the company which continued to bear his name controlled well over half of that industry.

In Stage I of his career Frick bought coal lands, especially in the earlier years, at prices which soon proved low in relation to coke prices. The industry's technology was unsophisticated, with the standard "beehive" oven cheap to build and maintain. Operations were labour intensive, but immigration provided a large and apparently endless pool of cheap workers. The varied sources of the immigration, and

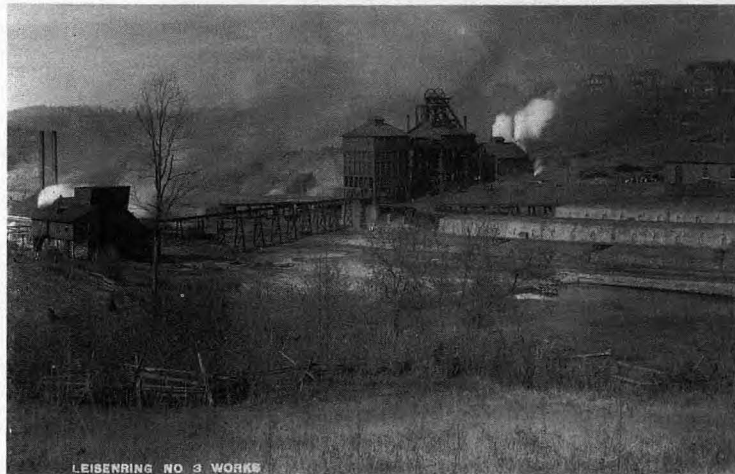


Top right: A Frick dollar for use in the company store, in his first imperial town, 1870. Expensive new technology was rejected in 1890 at Leisenring 3, *bottom right*, to continue with the beehive, by then a "primitive process," notes the author. "Profit margins remained high." A typical entrance, *above*, to a coal field "patch town," c. 1890. Unionizing workers who lived there proved difficult because they were mostly ethnically diverse immigrants who did not share even a common language. Wages were low, conditions dangerous, and operations efficient.

its sometimes seasonal or at least temporary nature, meant the workforce was difficult to unionise, so wages remained low. With cheap labour extracting a cheap raw material — both in the cost of land and plant — the returns on investment were high. It is therefore not surprising that by 1879, after less than a decade in a business which he had had to borrow money to enter, Frick was a millionaire.

Given the relatively simple geology of the coking coal fields of southwestern Pennsylvania, it was easy to calculate its reserves of first class coking coal and to predict how long they could support current levels of production. However, the rapid increase in the output of iron soon rendered all such projections too conservative. A variety of responses were possible: neighboring areas of good quality coal, although not quite as good, could be exploited; other coking fields could be developed that would require new technology; or the Connellsville reserves could be mined to the point of exhaustion. All three happened. The coals of the so-called Upper and Lower Connellsville districts, and of neighboring parts of West Virginia, were put to use and the first by-product coke ovens began to appear after 1893. The capital required for this new and much more elaborate technology was great and the coal resources controlled in the Connellsville district were too small to justify the outlay, the operators realized. With only one or two exceptions they turned their backs on by-product coking.

It is important to stress that they were not ignorant of the new technology, which eventually supplanted the beehive nationally and made possible the recovery of other valuable products in the burning of coke while also allowing the use of coal inferior to that of the Connellsville district. Frick's company received numerous reports on by-product ovens and suggestions to shift to them. Frick was adamant that the company shouldn't. An interesting example of the firmness of his opinion concerns improvement, rather than abandonment, of the old process. In July 1890 his General Manager, Thomas Lynch, queried his boss about building an "Adams patent" coke oven at Frick's Leisenring 3 facility. "I made an examination of the Adams ovens at Dunbar [in the Connellsville district] and I believe that more can be produced per day with these ovens than from the Bee Hive..." wrote Lynch. "The first cost of building the Adams oven is fully double the cost of a regular Bee Hive, but it seems to me it would be worth our while to try a few of them...." Within two days, Frick had written a note on Lynch's letter. It read, "Answered verbally said not to build."¹ One result of continuing this primitive process, however justifiable commercially, was that a



first rate mineral resource was savagely wasted. Profit margins remained high.

Nationally beehive coke production, like the iron production it supported, soared from 3.3 million metric tons in 1880 to 19.4 million by 1900. Connellsville continued to be the heart of this expansion. In 1880 it had 58.3 percent of all U.S. ovens; in 1900 it still contained 35.9 percent. The district's national share of coke output was even greater at both points than in the percentage of ovens. Investment decisions, oversight of the general production and labour relationships all provided a wide range of exercise for business talent and in turn provided ample financial rewards, for this was what we now see as the dizzy heyday of relatively uncontrolled resource exploitation. Although they certainly shaped and polished Frick's business abilities, the challenges, opportunities and rewards of the coal and coke industries did not exhaust them. In 1882 he began his 18 year association with the Carnegie iron and steel interests, an association which was to make him, for a critical period, almost as central in that industry as in coke. Both before and during his period of direct involvement in steel, Frick was, despite his great talents and wealth, in a dependency relationship with the industry's key firms.

He was put under strong pressure to ensure a continuing supply of fuel to the furnaces at prices, or

under other production conditions, which were not always in his best interests as a coke maker. To that extent, his business was made subservient to "downstream" activities. An example was Andrew Carnegie's insistence that Frick's handling of an 1887 strike in the coke region not imperil Carnegie iron production. Twelve years later it was a dispute over what Frick regarded as an unreasonably low contract price for coke which helped worsen the relations between the two men and brought the severance of their business association. The same dependency relationship is seen in long term arrangements for coke supply to the major Chicago-area iron and steel firms which Frick continued even when he was already deeply involved in the day to day operations of Carnegie Steel. In September 1885 Frick wrote to Jay Morse, president of Union Steel Co. of Chicago, about the supply capabilities of the South West Coal and Coke Co., a joint venture by Frick and Illinois steel interests. He remarked that O.W. Potter of the North Chicago Rolling Mill Co. was interested in their coke, but "I think the principle objection he has to us is the fact that Mr.



Coal workers, northern West Virginia, c. 1910.

Andrew Carnegie is a member of our firm, and he does not like the idea of taking the risk of having Mr. Carnegie say to his friends in the east that he is getting a dividend out of the Chicago Rolling Mill Co. by supplying him with coke."² Here, too, the association with a steelmaker could prove a whip for the back of the fuel supplier. A year later, Morse was writing about a possible labour dispute in the coke region: "You cannot afford to have a general racket without proper notice given us all. We certainly cannot stop our works nor can other Mills until the winter. The Railroads at present are pressing for rails that are under contract."³

In coal and coke Frick was to some extent a business loner. To be sure he had able lieutenants, some of real substance such as the Ramsay brothers or Thomas Lynch. There were important rivals, too, like McClure, Moore, Schoonmaker, Leisenring or Rainey, but they were all less concerned to expand or to fight, or at least less resolute or successful in doing so than

Frick. As a result the H.C. Frick Coke Co. grew in part by absorbing some of them. The outcome was that, long before the end of his career in coke, Frick was acknowledged as "king" among them. By contrast, in steel there were many men of great talent, boundless ambition and self-confidence. Stackhouse of Cambria Steel, Walter Scranton of Lackawanna Steel, John Gates of Illinois Steel, or Elbert Gary at its successor, Federal Steel, made up a diverse group from the business context within which Frick now had to operate. Within the Carnegie organisation itself there was, at different times and in different ranks of the hierarchy, a galaxy of stars of varied hue and intensity: "Captain" Bill Jones, Julian Kennedy, James Gayley, William Corey, Thomas and Andrew Carnegie, and, rapidly rising from the production side of the business after

Jones's death in 1889, the exceptionally talented Charles M. Schwab. Together this group supervised the expansion of small operations into giant ones, built new plants, and acquired others by shrewd purchase. Frick matched them all in the labour of making Carnegie Steel into a producer of unrivalled efficiency. He

proved to be a master of clear thought and of coolness in command, as Schwab long afterwards recorded: "[H]e was a thinking machine, methodical as a comptometer, accurate, cutting straight to the point."⁴ However, in addition to these admirable day to day qualities, he showed more imagination than most of the others in recognising the ways in which their organisation could be extended by vertical or horizontal integration or rationalised in some way or other. A number of steps marked the company's progress to the dizzy height of competitiveness reached before Frick left Carnegie Steel at the end of the 1890s.

Henry Clay Frick was the initiator of the Union Railroad which linked numerous Carnegie operations in the Pittsburgh area into an integrated whole. On the other hand, it was Andrew Carnegie who realised that the acquisition, extension and improvement of the line which became the Pittsburgh, Bessemer and Lake Erie Railroad would enable his firms to break the

stranglehold the Pennsylvania Railroad had exercised over the district's trade. Frick was the key actor in the 1890 purchase for \$1 million of the Duquesne Works of the Allegheny Bessemer Steel Co., a mill which soon afterwards became a major contributor to Carnegie profits. Most vital of all he was the instigator of the purchase of large interests in the ore reserves of Mesabi and of the provision for linking them by bulk lake transport to the coal reserves and plant operations of the Ohio River belt. Carnegie was doubtful of the wisdom of further involvement in ore. In 1892, at the time when Frick had acquired for Carnegie Steel a half interest in Henry Oliver's ore company, Carnegie had written from Scotland: "Oliver's ore bargain is just like him — nothing in it. If there is any department of business which offers no inducement it is ore."⁵ In this instance there is no doubt that Frick was right and Carnegie wrong: Mesabi ore and the advantage of controlling one's own supply rather than depending on the vagaries of the open market became crucial factors in the industry. Apart altogether from these grander schemes, Frick continually

pressed on the superintendents of Edgar Thomson, Homestead, Duquesne, and other lesser works, the necessity for a never-ending pursuit of cost reduction. At the same time he negotiated for more favorable freight rates or, in the associations of the major steel firms, for larger sales quotas for the Carnegie company. Frick never spared his associates, their management and men, or himself in the endless search for economy and orders. Assessed by a range of criteria, the results were impressive. (Appendix, Tables II, III, IV, VI, VII)

While all this went on there continued an apparently ceaseless flow of letters or telegraph messages from Carnegie, in New York or from his Scottish retreat. They asked for details, offered comments, made suggestions — often very shrewd ones — but always from beyond the scene of the action. Under these circumstances it is not surprising that Frick occasionally became impatient with his distant correspondent. It is

important to note that the pressure of everyday work probably kept Frick from writing about the business as fully as Carnegie wished. Apart from this general source of irritation there were a number of occasions when sharper disputes arose, times when Frick could be remarkably outspoken with his older and senior partner. In August 1883, within less than a year of the start of their close business association, he wrote to Carnegie that though "I have great admiration for your acknowledged and your general good judgement...I am free to say, I do not like the tone of your letter."⁶ Three years or so later, when Frick was pressing for a larger interest in steel, Carnegie had sensed the unhappy consequences which might result from their closer association. He then warned Frick, "Your career must be identified with Frick Coke Co.

You never could become the Creator of C B & Co. [Carnegie Brothers and Co.]. Twenty years from now you might be a large owner in it, perhaps the principal, still the concern would not be your work — and you could not be proud of it."⁷ There was hard feeling again in 1887, when



Frick family members and friends, c. 1915.

Carnegie undermined Frick's position in the coke strike. Frick handled the Homestead strike with unbending firmness, while Carnegie stayed in Scotland, though it must be recorded that Frick was glad to have him out of the way.⁸ Late in 1895 Frick resigned the chairmanship of Carnegie Steel and accompanied this with a letter roundly condemning not only Carnegie's business opinions but also his attitudes and what Frick saw as his postures for the public. After this, although he resumed the chairmanship, Frick never recovered the same degree of power; he was more and more shadowed by the rising star of Charles Schwab. Schwab was younger by 12 years, and like Frick, immensely able but with a richer endowment of the qualities which make for easy personal relations. Even more than Carnegie he was a master of public relations. In mid-1899 a misunderstanding over a bid to form a company which would buy out Carnegie and leave Frick in charge of operations led to a sadly wors-



break with Schwab was not final. It is true that in 1903, as a director of U.S. Steel, Frick was one of those who helped bring about Schwab's removal from the company's presidency on grounds of unbecoming conduct. However, occasional business letters continued to pass between the two men for many years. Schwab was also an occasional dinner guest at the Frick Manhattan mansion. By contrast, throughout the remaining 19 years of their lives, Frick and Carnegie, so intimately associated for a preceding period of business almost as long, seem never to have met. However there was to be at least one more occasion of contact. In 1912, Frick was incensed by Carnegie's remarks during his well-publicized appearance at the Stanley Committee hearings, the U.S. government's dissolution suit against U.S. Steel. In the course of his evidence, Carnegie had said that in 1899 Frick and Henry Phipps had acted in bad faith towards him. Frick consulted his attorney and a statement was issued refuting this. Characteristically he did not mince his words: "I am the Henry C. Frick referred to by Mr.

Carnegie, and the testimony that was thus given by Mr. Carnegie was absolutely untrue." He also had a letter prepared for Carnegie that demanded correction of the evidence which had been given, for:



...these statements, which are false in every particular, were disseminated... throughout the country, and, further, were incorporated into the proceedings of the Stanley Committee. The result is that there is now in the public archives a permanent record of charges against Messrs Frick and Phipps of untruthfulness, chicanery, dishonesty, infidelity to associates, avarice and double-dealing; and these perjured records are backed by the name of a man whose public gifts may hereafter erroneously be supposed to represent his private virtues. This is an intolerable condition and must be relieved.¹⁰

ened state of relations between the two men. An autumn dispute over the price which Carnegie Steel paid his company for coke provided the occasion for the final rupture. Having decided to throw in his lot with Carnegie, Schwab visited Frick's home to show him the letter he had written. Schwab vividly remembered the incident: "When Frick read the letter, he took mortal offence. I have seldom seen a man so enraged. I left his house and from that time on we were never friends."⁹ The dispute brought about Frick's resignation shortly afterward and an acrimonious and final confrontation with Carnegie in January 1900.

Although there had been sharp disagreement, the

The bitter tone of this final letter indicates the depth of the affront Frick believed he had suffered at the hands of his senior partner more than a decade before. Carnegie responded in a different fashion: in the whole of his autobiography, all but completed before World War I, he mentioned Frick only once and then only to briefly praise his business talents.¹¹

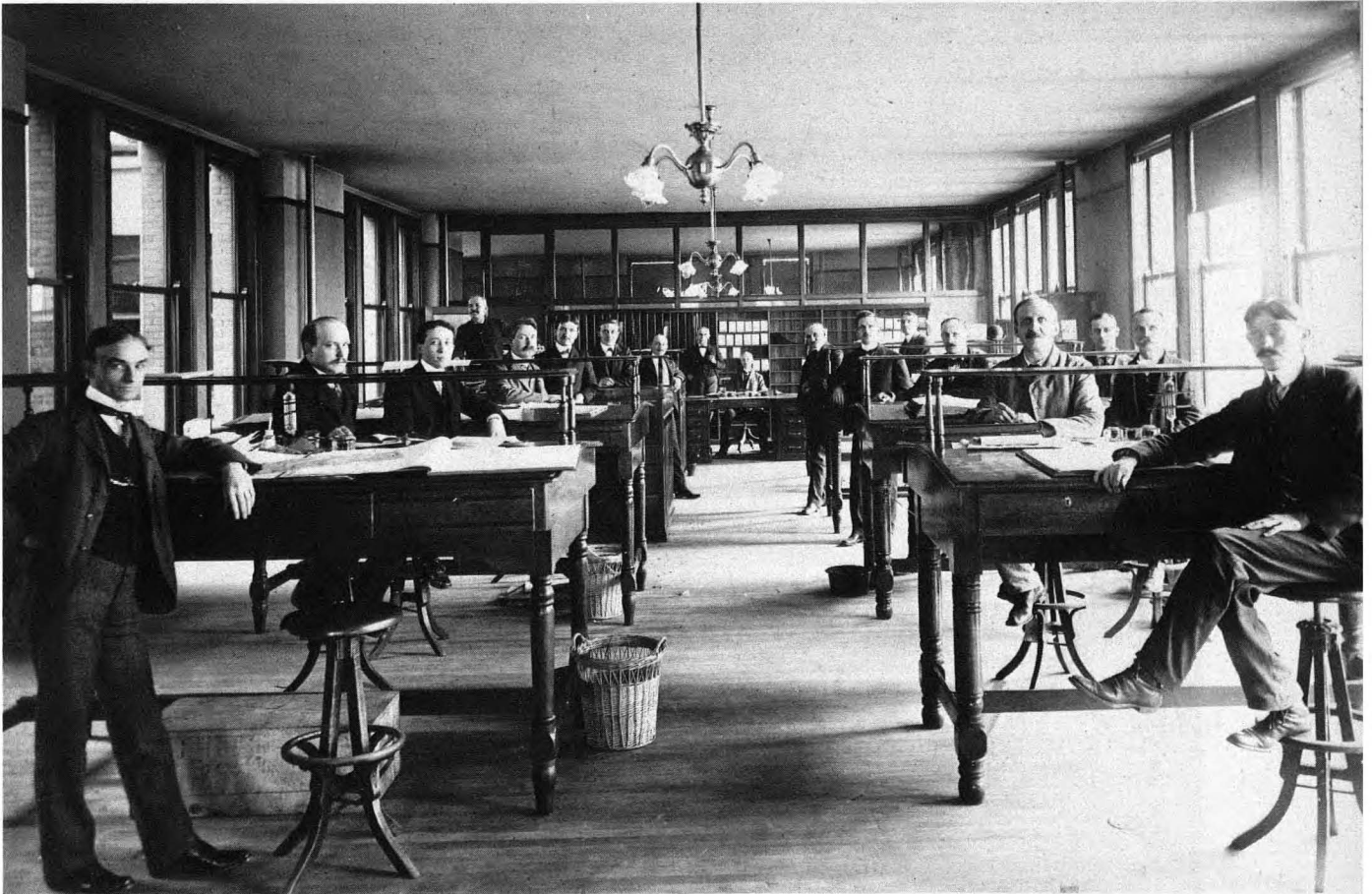
With his removal from the chairmanship of Carnegie Steel at the end of 1899, Frick also lost control to that company of the immense coke operations which continued to bear his name, and which more than anything commanded his affection. Now he was without active employment. However, he was only 50 and

had the wealth, energy, and well-earned respect of the business community, all of which meant that he would not long be idle. There now began the last and least spectacular, but in some respects extremely interesting, phase of Frick's business career. To greater or lesser extent he was involved in it until his death 20 years later.

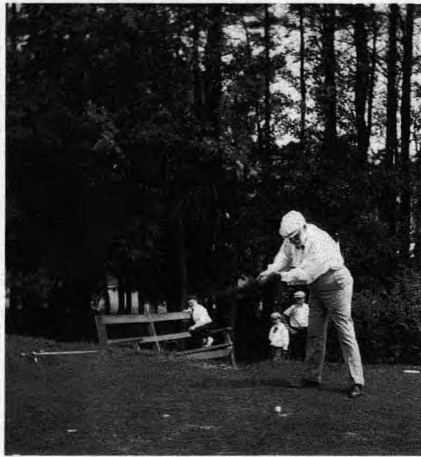
Frick became interested in banking through his closest friend, Andrew Mellon, who shared not only his interests in art but also his difficulties in personal relationships and in handling publicity. From 1901 to 1905, Frick was a director and then chairman of a committee investigating irregularities in the Equitable Life Assurance Society. He resigned when his report, critical of the probity of its top management, was rejected. He became a director of the Pennsylvania Railroad in 1906, and was at one time on the board of six other railroads whose operations spanned the

continent. At that time he owned \$42 million worth of railroad stock. No doubt remembering his struggles with them from his coke and Carnegie Steel days, he thought highly of the railroads' central role in the economy and of their power. This conviction he retained to the end of his life, perhaps understandably not recognising that their key role was, in some respects at least, already rapidly passing to the surging automobile industry. In this respect he was in the position of other executives who had made their mark in the late nineteenth century, including Schwab. In the 1920s and still more so during the Great Depression, some of these other men were to pay a high price for their failure to realise that the old industrial rankings no longer applied.

In some ways the most interesting aspect of Frick's business life in the twentieth century was his continuing involvement in the steel industry. He played a part, as a valued senior advisor to J.P. Morgan, in the formation of U.S. Steel. He became a member of the



Top left: Charles Schwab, c. 1895, became a leading steel and finance captain. His decision to side with Andrew Carnegie in a contract dispute led to a final rupture in Frick's business association with Carnegie. Frick was a power in railroading, too, although the Pittsburgh, Bessemer and Lake Erie Railroad, *bottom left*, was Carnegie's idea. (The photograph is from the 1940s, location unknown.) The line allowed them by the 1890s to slip the noose that the Pennsylvania Railroad had fashioned on steel product shipments in the region. *Above:* the PRR's accounting department, Union Station, Pittsburgh, 1902.



board of directors but was not in the earliest stage of that corporation's history very actively involved, partly as a result of Morgan's deference to Schwab's wishes. It was also partly because he had been building up a new firm with Mellon, the Union Steel Co. This was never more than a small rival of the giant

concern, but the hand of the past master was discernible in its development plans. It originated with a plant at Donora, Pa., built in 1900 to produce rods, wire and nails. When Frick and Mellon became involved, the original capital of \$1 million was greatly increased, while operations at Sharon, Pa., in the same fields and in tubes, sheet and tinplate, were added. By late 1902 an open hearth steel plant and blast furnaces were being built at Donora. A rail mill was planned. The new concern went further to ensure its raw material supplies. Coal and coke facilities were acquired in the Lower Connellsville district. In the upper Lakes region, control of ore deposits amounting to 40 million tons was secured. The Connellsville Central Railroad route to fuel supplies was graded and an independent line was projected to a new ore dock at Elk Harbor near Girard on Lake Erie. In its numerous integrated subsidiaries, Union Steel was like a miniature Carnegie Steel. In December 1902 U.S. Steel bought Union Steel for \$45 million; it secured a good if small plant and useful additions to its mineral reserves, but also the elimination of an ambitious and potentially dangerous rival management.

After the buy-out, Frick was more fully involved on the board of U.S. Steel. His connection there was as long as his earlier one with Carnegie and, according to his biographer, he attended some 1,000 of its board meetings, the last one within four weeks of his death. In 1907 he was convinced by Morgan to play an important role in the takeover of the assets of the Tennessee Iron, Coal and Railroad Co. of Birmingham, Ala., in the wider interests of national economic well-being. Notwithstanding his doubts in this instance, he, over a long period, showed a striking open-mindedness to new thinking about the ideal locations for steelmaking.

Although he remained convinced of the suitability of the old heartland production locations of Carnegie Steel — he often said to aspiring entrepreneurs, "Go to Pittsburgh; there is no other place where a young man can find so many opportunities." — he was also

aware of the circumstances which had made the Midwest an attractive area for the industry. In the late 1890s he acquired property along the ship canal at Indiana Harbor on Lake Michigan as a possible location for a mill. However, U.S. Steel built its great Gary works a few miles to the east in 1905. The tract which Frick owned was eventually built on by the Sheet and Tube Co. of America in 1916. For some 15 years after the early 1890s Frick occasionally took up the question of acquiring the works at Sparrows Point, Md. It was bought during World War I by Bethlehem Steel, then under the direction of Schwab. For a time after he left Carnegie Steel Frick was also associated with plans for a big new steel works, forge and shipyard at Camden, N.J.

Another interest of these final years took Frick back to primary economic activity, but this time in base metal mining overseas. He was involved in the plans of the Cerro de Pasco Corp. to undertake large scale copper extraction at 14,000 feet in the Peruvian Andes. The United States had long been of great and increasing importance in the commercial life of the Caribbean and Central America but had been less prominent in South America than European capital; this project was one of the earliest to mark the advance southward of American enterprise, an advance accelerated by the Great War. Frick never went to Peru, but he was kept informed of the study of prospects and the earlier stages of development.

Henry Clay Frick remained active in business throughout World War I, though he allowed himself more leisure. He became ill in Autumn 1919; early in



December he died. Immediately after his death, the president of U.S. Steel, James Farrell, observed: "Mr. Frick was an undefatigable worker, a man of wisdom and of the widest vision and, moreover, possessed of those human and kindly qualities which endeared him to his associates."¹² Schwab spoke of the keenness of Frick's mind and of his "highest type of integrity and honesty."

It is now almost 70 years since Frick's death, but his legacy is with us still, for he and his contemporaries laid the foundation of a mature U.S. industrial economy. The manufacturing structure and the personal

wealth of post-industrial America is built upon the base so firmly laid in the great economic surge of the late nineteenth and early twentieth centuries. It was an heroic age; it does not seem too fanciful to rank Henry Clay Frick with the highest in its business pantheon. ■

¹ T. Lynch to Henry Clay Frick, 17 July 1890, Helen Clay Frick Foundation Archives, Pittsburgh (hereafter, "Frick Archives").

² Frick to J. Morse, 19 Sept. 1885, Frick Archives.



! Top: Tee time, c. 1915, with a young gallery. Above: Frick's New York mansion.



³ Morse to Frick, 17 Sept. 1886, Frick Archives.

⁴ S. B. Whipple, notes of interviews with C.M. Schwab in the 1930s, p. 85, Schwab Memorial Library, Bethlehem, Pa., and the Hagley Library, Wilmington, Del.

⁵ A. Carnegie to Frick, 29 Aug. 1892, quoted in J.H. Bridge, *The Inside History of Carnegie Steel* (New York, 1903), 259.

⁶ Frick to Carnegie, 10 Aug. 1883, Frick Archives.

⁷ Carnegie to Frick, 25 Feb. 1886[?], 1887, Frick Archives; G. Harvey, *Henry Clay Frick — The Man* (New York, 1928).

⁸ J. F. Wall, *Andrew Carnegie* (Pittsburgh, 1989 [reprint]), 546.

⁹ Whipple notes, 117, Schwab Library, Bethlehem.

¹⁰ Frick to Carnegie, 17 July 1912, Frick Archives.

¹¹ Andrew Carnegie, *Autobiography* (London, 1922), 222.

¹² J. Farrell on Frick in *New York Tribune*, 3 Dec. 1919.

[Frick in the late 1910s. His wife, Adelaide Frick, is wearing the big hat.]

APPENDIX

TABLE I

The Wealth of the United States and of the United Kingdom 1850 to 1921 (Million)				
	1850	1870	1900	1921
USA	7,200	26,100	88,500	300,000
UK	24,000	35,300	73,000	94,800

Sources: M.G. Mulhall, *A Dictionary of Statistics*, London: 1899, and Austin, 1924 (title not available).

TABLE II

Steel Capacity of Works in the Pittsburgh and Chicago Areas 1890, 1896 to 1901 (Gross tons within approximate 40 miles of city center)			
	1890	1896	1901
Pittsburgh*	1375	3695	6353
Chicago**	993	1369	1876

*Allegheny, Beaver, Butler, Armstrong, Washington, and Westmoreland counties.
**Cook, Will and Lake counties.

Sources: American Iron and Steel Association, *Statistical Yearbook*, Philadelphia, PA.

TABLE III

Crude Steel Output by Selected Areas and Companies 1889 and 1900 (thousand tons)					
Year	USA	Allegheny County	Jones and Laughlin	Carnegie Steel	All other Allegheny Co.
1889	3,386	1,005	109	537	359
1900	10,188	4,051	535	2970	546
Percent Increase	200.9	303.1	390.8	453.1	52.1

Sources: American Iron and Steel Association, *Statistical Yearbook*, Philadelphia, PA.

TABLE VII

Net Profit of the Carnegie Associates 1880 to 1899	
Year	\$ thousands
1880	1,558
1881	2,000
1882	2,128
1883	1,019
1884	1,301
1885	1,192
1886	2,925
1887	3,442
1888	1,941
1889	3,540
1890	5,350
1891	4,300
1892	4,000
1893	3,000
1894	4,000
1895	5,000
1896	6,000
1897	7,000
1898	11,500
1899	21,000

Source: Frick Archives, Pittsburgh, PA.

TABLE IV

Carnegie Steel Company in the 1890s Efficiency Indices (\$ thousands)					
Year	Value of Products Shipped	Wages Paid in Year	Net Profit Per Ingot Ton	Net Profit as % of Value of Products Shipped	Wages Paid as % of Value of Products Shipped
1892	46,225	7,271	4.56	8.65	15.73
1895	52,494	7,294	3.41	9.52	13.89
1897	62,897	7,546	4.15	11.13	12.00
1899	104,999	10,992	7.88	20.00	10.47

Sources: Frick Archives, Pittsburgh, PA.

TABLE V

Beehive Coke Ovens in Connellsville District 1840 to 1900	
Year	Ovens
1841	2
1850	4
1860	70
1870	550
1876	3,000
1879	4,200
1882	8,400
1884	10,364
1888	13,047
1890	15,865
1896	18,351
1899	18,608
1900	20,981

Source: Table compiled by Kenneth Warren.

TABLE VI

Carnegie Steel Company Ingot Steel Production 1888 to 1899 (millions of tons)			
Years	United States Ingot Production	Carnegie Steel Ingot Production	Output as a Percentage of US Production
1888	2897	332	11.5
1889	3386	537	15.8
1890	4277	660	15.4
1891*	3904	797	20.4
1892	4928	878	17.8
1893*	4020	863	21.5
1894	4412	1115	25.3
1895	6115	1464	23.9
1896*	5282	1375	26.0
1897	7157	1686	23.6
1898	8933	2171	24.3
1899	10,640	2663	25.0

* Years in which US output fell from level of previous year. Source: Frick Archives, Pittsburgh, PA.