Carnegie University: New Institution Emerging in Pittsburgh

Pittsburgh. "If I had my choice I would choose honest poverty rather than money," one-time bobbin-boy Andrew Carnegie told his Carnegie Tech audience in 1910, a decade after he founded the institution. The managers of Carnegie Tech wisely chose to accept "Uncle Andy's" money and ignore his homily.

While retaining its academic honesty, Carnegie Tech has increasingly sought the money necessary to offer high-quality programs in all its educational areas. A recent indication of substantial new resources for "Tech" became apparent earlier this academic year when the intention to merge Carnegie with the Mellon Institute was announced by the trustees of the two institutions. At present it seems that the details of the merger will be worked out by the end of the current academic year. (Carnegie and Mellon are within easy walking distance of each other in the Oakland section of Pittsburgh, about 3 miles east of the downtown "Golden Triangle.")

When the two are merged, the new institution will have assets of about $200 million. The resources of the Mellon Institute will provide more than $60 million of that amount; about half of this contribution will be in the form of endowment. The annual research budget of the new institution will total about $13 million.

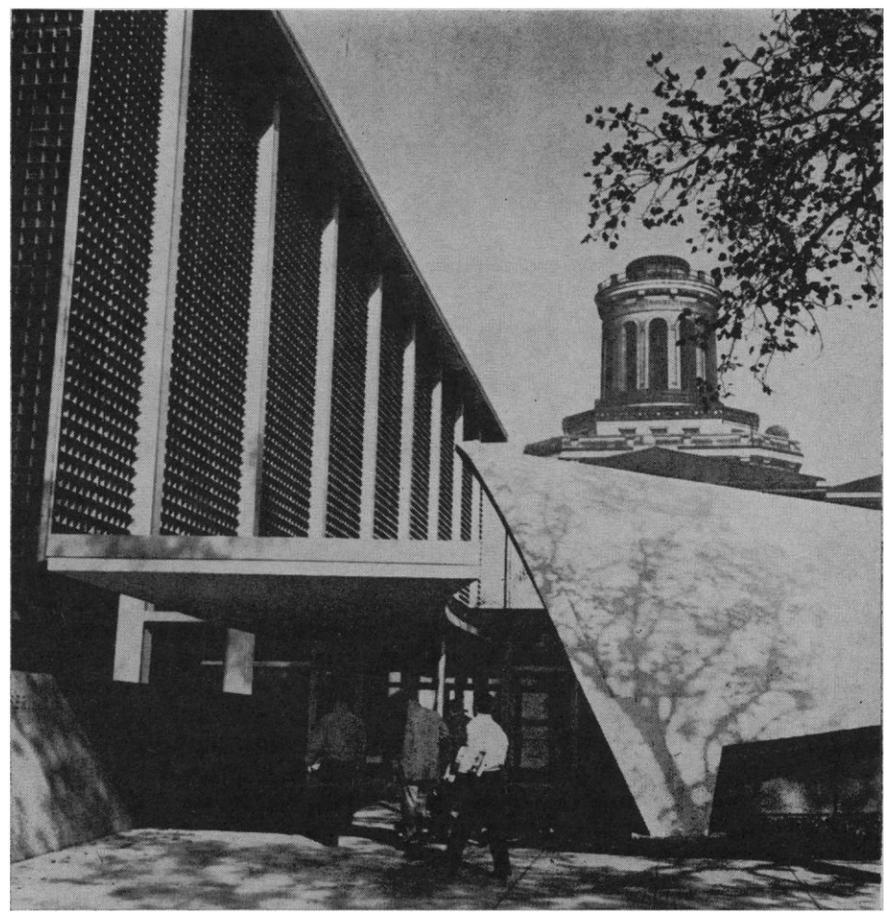
At the same time, plans are proceeding for the transformation of the name and role of the Carnegie Institute of Technology into Carnegie University, of which the Mellon Institute will be a part. Mellon officials will retain their leadership positions within the Institute, but the president of Carnegie will provide overall direction for the new institution.

At present, Carnegie is composed of four degree-granting sections—Engineering and Science, Fine Arts, the Margaret Morrison Carnegie College for Women, and the Graduate School of Industrial Administration. Except for a few departments, the offerings in the social sciences and the humanities are rather sparse at present; these sections exist primarily to serve the other divisions. When Carnegie University is established, male students will be fully able to work for a B.A. in the humanities or social sciences.

Under present plans, the research facilities of the Mellon Institute will be used, in part, for the educational activities of Carnegie University. Graduate work in several disciplines, including chemistry and biology, is likely to be housed eventually behind Mellon's Greek-columned facade. Mellon, which was founded as a nonprofit research institute for industry, has moved increasingly into basic research during the past decade. Mellon primarily performs research in chemistry although it does some work in other areas, such as metallurgy and biochemistry.

A principal advantage which Carnegie will gain from the merger is a chemistry department improved in both quality and quantity of academic personnel. William W. Mullins, dean of Carnegie's College of Engineering and Science, reflects opinion at his institution when he comments that the merger will give Carnegie "one of the best chemistry departments in the country." The number of faculty members in Carnegie's chemistry department is likely to be increased by approximately 75 percent, thus creating a department numbering about 30 tenured positions. Mellon's extensive research in polymer chemistry and in viscoelasticity add new areas to Carnegie's current program. In addition, Carnegie will acquire access to the well-equipped Mellon research facilities, which are manned by a highly praised service staff.

As well as gaining a healthy general increase in endowment, the new Carnegie University will gain a specific financial strength by adding Mellon's post-doctoral research fellowships



Students enter Alan M. Scaife Hall of Engineering on the Carnegie Tech campus. In the background is Hamerschlag Hall (called Machinery Hall until 1965), named for Arthur Anton Hamerschlag, first president of the Carnegie Institute of Technology.

Ivy League Investment Patterns

The New York Stock Exchange recently issued some interesting figures on the investment practices of four of the richest private universities—Harvard, Yale, Princeton, and Columbia.

According to the January issue of *Exchange,* the four Ivy League institutions keep major portions of their endowments invested in common stocks; all include IBM in their top-ten holdings, but otherwise there is no one stock that appeals to all of them. Yale has no oils among its top-ten holdings, whereas the other three have heavy oil holdings.

As of 30 June 1966, Harvard's General Investments totaled $975 million, with 54.7 percent invested in common stocks. A year earlier, the comparable figures were $980 million and 54.4 percent.

Yale University's Endowments totaled approximately $470 million, with 69 percent in common stocks. A year earlier, the figures were $457 million and 61.9 percent.

Princeton University's Pooled Funds totaled $311 million, with 73.6 percent in common stocks. The earlier figures were $301 million and 73 percent.

Columbia University's Pooled Funds totaled $210 million, with 44.3 percent in common stocks, compared with $206 million and 45.6 percent in the previous year.

Following are the top-ten common stockholdings of each of the four institutions, as of 30 June for each fiscal year:*

*On 30 June 1966, the Dow-Jones industrial average stood at 858.90; it hit a low for the year on 10 October—734.74; last week it was back around 850.

Company	1966		1965	
	Market value	Shares	Market value	Shares
		Harvard University		
Int'l. Bus. Mach.	$30,716,000	87,634	$25,045,000	54,683
Texaco	26,414,000	375,326	25,215,000	325,361
General Motors	22,869,000	284,089	26,355,000	275,604
Gulf Oil	17,094,000	341,884	18,348,000	334,352
Standard Oil (N.J.)	15,367,000	223,523	16,866,000	215,537
Eastman Kodak	15,132,000	117,756	9,009,000	112,965
Middle South Util.	13,621,000	542,114	13,399,000	270,837
Ford Motor	13,298,000	293,076	13,590,000	258,251
AT & T	11,588,000	210,688	13,412,000	199,061
Standard Oil Calif.	10,898,000	170,279	13,641,000	199,872
		Yale University		
Int'l. Bus. Mach.	20,910,000	59,574	10,992,000	24,000
Xerox*	8,610,000	35,000		
Consolidation Coal†	8,122,000	128,913	6,000,000	125,000
Sperry Rand*	8,100,000	300,000		
General Electric	8,056,000	76,000	6,970,000	72,600
Avon Products‡	7,844,000	94,500	4,536,000	81,000
Celanese	7,524,000	104,500	6,240,000	80,000
Amer. Broadcasting‡	6,885,000	85,000	4,050,000	75,000
Alcan Aluminium†	6,633,000	189,500	5,265,000	125,000
Consolidated Cigar‡	6,619,000	287,800	4,400,000	100,000
		Princeton University		
Xerox	17,627,000	71,655	10,667,000	75,655
Texaco	11,666,000	166,650	12,700,000	164,937
Int'l. Bus. Mach.	11,269,000	32,198	9,496,000	20,734
Louisiana Land	7,917,000	161,562	8,078,000	161,552
Bristol-Myers	7,159,000	75,360	5,648,000	75,307
Litton Industries‡	6,905,000	92,064	4,311,000	51,325
Gulf Oil	6,752,000	135,047	7,368,000	133,960
Standard Oil (N.J.)	6,747,000	97,779	7,516,000	96,379
Amer. Home Products	5,743,000	83,234	5,582,000	82,095
General Motors	4,100,000	50,621	4,713,000	49,091
		Columbia University		
Int'l. Bus. Mach.	5,034,000	14,342	4,250,000	9,279
General Motors	4,224,000	52,146	4,922,000	51,275
Standard Oil (N.J.)	4,135,000	59,933	4,533,000	58,111
Mobil Oil	3,446,000	40,071	3,277,000	39,476
Texaco	3,136,000	44,796	3,264,000	41,850
Cabot Corp.	2,880,000	60,000	2,100,000	60,000
General Electric‡	2,817,000	26,571	2,498,000	26,016
Standard Oil Calif.	2,520,000	39,371	2,650,000	38,971
Texas Instruments‡	2,306,000	20,050	1,042,000	9,925
Gulf Oil	2,227,000	44,545	2,450,000	44,545

* New addition to portfolio in 1965–66. † Acquired by Continental Oil in September 1966. ‡Not in top ten in 1965.

program. Of the 115 Ph.D.'s doing research at Mellon about 50 hold postdoctoral fellowships. Like other universities, Carnegie has found increasing difficulty in obtaining federal and other funds to subsidize postdoctoral fellowships.

Carnegie officials are tactful enough not to gloat, but no doubt they are pleased that the Mellon trustees chose to merge with their institution rather than with their nearby rival, the University of Pittsburgh. Although the three institutions are all in the same general area, Mellon is physically a little closer to Pitt than to Tech. In the past, Mellon has enjoyed closer ties with Pitt than with Tech; Mellon was part of the University of Pittsburgh until 1927, and, since the separation of the two institutions, some formal contact has been maintained. At present several Mellon researchers hold joint appointments at the University of Pittsburgh and some Pitt professors use research facilities at Mellon. The future of the Pitt-Mellon joint appointments after completion of the Carnegie-Mellon merger is a question yet to be resolved.

Although the merger seems to have encountered somewhat more resistance among Mellon scientists than among scientists at Carnegie, Mellon may gain even more substantial long-range benefits than Carnegie will. Mellon officials, including President Paul C. Cross, candidly say that research institutes such as Mellon have found it progressively more difficult to obtain the federal funds necessary for extensive research. They explain that many programs are specifically earmarked for educational institutions, and that in other programs, universities are often given a competitive advantage in obtaining research funds. At Mellon it has become apparent that the institute would do better financially if it had a university label. But Mellon had neither the endowment nor the breadth which allowed the Rockefeller Institute to turn itself into a university, and besides, no one believed there was any real need for a third university in the Oakland section of Pittsburgh.

The proposed merger with Carnegie marks a decisive turning point in the history of the Mellon Institute. In some ways Mellon has been a victim of its own success. Started by Robert Kennedy Duncan in 1913 at the instigation of Andrew W. Mellon and Richard B. Mellon, the institute helped persuade industry of the relevance of scientific research to the solution of its

problems. Having become convinced of the value of such research, companies started their own laboratories. There are now hundreds of industrial research facilities of various kinds in the Pittsburgh area. As companies increasingly performed their own research, the institute felt the need of a new role. After 1957 it was able to undertake a great expansion of basic research activities as the result of an $18-million fundamental research trust fund that was established by members of the Mellon family.

But this shift away from sponsored industrial research created new problems. For staff, the institute wanted the same types of people whom universities find attractive, but some scientists do not feel the same sense of "mission" in working for a research institute that they do at a university. Besides, service at an organization such as Mellon does not always carry the same prestige as work done at a university. "Working at a research institute is a kind of side road which is not widely recognized," comments one Mellon Institute official.

In the thinking of some Pittsburgh scientists, Mellon's difficulty in finding a role for itself was complicated by its great emphasis on chemical research. The institute's activities do not extend very broadly in the natural sciences, and Mellon has made relatively little effort to include research in the social sciences. One Pittsburgh scientist suggested that Mellon's failure to diversify and follow the lead of other research institutes by providing economic analysis have greatly hampered its competitive position and its usefulness to modern industry.

Apparently the trustees of the Mellon Institute have grown progressively more restive about the institute's future and have seized upon the idea of a merger with Carnegie with some enthusiasm. When asked why the idea of a merger had developed at this time, Carnegie president H. Guyford Stever explained that the idea of merging Carnegie, Mellon, and the University of Pittsburgh had long been discussed but that Pitt's move to become a state-related institution (*Science*, 3 February) foreclosed a merger of the three.

Not all the workers at the Mellon Institute were as willing to merge as the Mellon trustees. Since the merger was announced without widespread consultation in either institution, many

H. Guyford Stever, president of the Carnegie Institute of Technology—"I believe in dynamic administration of an institution."

scientists felt that the conditions of their lives were being changed without their consent. Some wondered whether they would be given comparable pension, pay, and insurance benefits under the new institutional arrangements. Others wondered whether their positions might be eliminated.

Since the first announcement of the merger, Stever and other Carnegie officials have moved to quell such doubts, both at Mellon and at Tech. They have indicated that all those now employed will keep their positions and that no one will be forced to teach if he does not wish to do so.

Some Carnegie faculty members were also disturbed by the implications of the intention to merge. In the original announcement it was indicated that engineering would be split off administratively from the sciences in the new university. After faculty protest, the plan to divide the two areas was dropped. Other professors continue to wonder how the university is going to assimilate the sponsored industrial research which comprises about half of Mellon's effort.

At Carnegie there is also concern lest the traditional attention given to undergraduate education be endangered by the merger. More than 3100 of the approximately 4150 full-time students at Carnegie are undergraduates. With the movement of professors and graduate students in some disciplines down the hill to the Mellon Institute, some worry that Carnegie will begin to lose its relatively close faculty-undergraduate relationships. The facilities of the Mellon Institute are not designed to house undergraduate classrooms.

If the Carnegie officials had announced only a merger with Mellon, they might well have encountered objections from the nonscientific parts of their institution. At present, about half of the students are in schools other than the College of Engineering and Science. But, by announcing the intention to create a full university, the trustees gave due recognition to the fact that Carnegie, during its 67 years of existence, has become more than a scientific and technical institution. In addition to its well-publicized Graduate School of Industrial Administration, Carnegie has received wide acclaim for its School of Fine Arts, which offers degrees in drama, architecture, music, painting, design, and sculpture. The College of Fine Arts is highly professional in orientation and rigorously competitive in admissions. The graduates of the School of Drama, which some consider to be Carnegie's best department, can be found filling leading roles in theaters across the country.

Creation of a university at Carnegie will, as well as "legitimatizing" and expanding the role of the humanities and social sciences on the campus, please many of the students and faculty members in the sciences. Physics department chairman Julius Ashkin explained in an interview that many Carnegie students feel the need for a stronger curriculum in the humanities and social sciences and that a university would appeal more to faculty members. "Scientists have a guarded reaction to an institute of technology," he said; "they feel that its aims are too restricted, they are more attracted by a university."

As the leaders at Carnegie know, the intention to create a university and the creation of one are two different things. Even to present a full offering in the natural sciences, Carnegie officials will be committing themselves to developing much larger departments in biology and in earth and astronomical sciences. As for most of the social sciences and humanities, "we still have a way to go," Stever readily admits.

Stever, an engaging, buoyant aeronautical engineer of 50 became president of Carnegie in 1965, following the 15-year administration of the popular John C. ("Jake") Warner. (A modern $1.75-million administration hall named for Warner was opened at Carnegie last September.) Stever, who received his Ph.D. from Caltech and who served

on the M.I.T. faculty for 20 years before coming to Carnegie as president, says he hopes to make his administration a period in which his institution will move into the first ranks in all areas in which it offers instruction. The announcement that Carnegie will become a university which will include the Mellon Institute is an indication of the size of the task which Stever assumed during his first period in office.

Stever and other Carnegie educators seem to have no doubt that the problems surrounding the merger with Mellon and the creation of a university will eventually be surmounted. At present, the chances seem good that Carnegie University will eventually be able to provide its ambitious vision with substantial form.—BRYCE NELSON

Electric Utilities: Technology Leaps Ahead of Regulation

The nation's huge electric utility industry, representing an investment of $70 billion, will get a jolt from *Overcharge*,* a book by U.S. Senator Lee Metcalf (D–Mont.) and his executive secretary, Vic Reinemer. The authors are carrying on the campaign Metcalf began several years ago to bring the investor-owned utilities—the I.O.U.'s, the Senator calls them—under tighter regulation.

Senator Metcalf, having just been reelected for his second 6-year term, is in a position to give the utilities some bad moments. As a member of the Senate Government Operations Committee, Metcalf hopes to initiate an investigation of the power industry and the regulatory process. He would be joined in this endeavor by Senator Ernest Gruening (D–Alaska), who 35 years ago wrote *The Public Pays*, a work which is *Overcharge*'s spiritual forebear. Also, as a member of the tax-writing Senate Finance Committee, Metcalf will suggest a congressional review of tax policies under which, he says, some right-wing organizations supported by the utilities for propaganda purposes enjoy tax-exempt status and the privilege of soliciting tax-deductible contributions.

The thesis of *Overcharge* is simply that, while a galloping technology has steadily reduced the utility industry's costs in serving a rapidly expanding market, existing regulatory practices are as obsolete as the kerosene lamp. The consequence, the authors insist, of this incongruity between a technologically advanced power system and an antique regulatory system is that far too little of the savings in operating costs are passed on to the consumer, especially the residential consumer. They contend, moreover, that the consumer and the general public are the targets—all too often the gullible targets—of propaganda giving an upside-down picture of the investor-owned utilities.

"As the spread between the cost and the price of power widens, the industry advertises that electricity is the biggest bargain in the family budget," the authors say. "While publicly proclaiming the desirability of utility regulation, the industry quietly works for repeal of the basic regulatory laws. While collecting more money than they need for taxes, and keeping the difference, they advertise themselves as the biggest taxpayer in the state, or 'Your Tax-Paying (Not Tax-Eating) Electric Company.' "

In the authors' view, the regulatory process is sadly anemic. The regulation of electric utilities rests largely with the states. But state regulatory commissions, according to the authors, usually lack the staff and other resources necessary to properly oversee power companies and other utilities and public carriers for which they are responsible. (There are usually hundreds, sometimes thousands of companies—bus and truck lines, gas companies, and telephone companies as well as electric utilities—under a commission's jurisdiction.) In 1963, the authors found, all of the state commissions together had only 500 accountants, and, of these, only one in ten was a certified public accountant.

In 1965 the Federal Power Commission, whose limited jurisdiction includes interstate transmission of power and its sale at wholesale in interstate commerce, had only 38 field auditors. The FPC staff assigned to electric power matters was smaller than in 1949, when the utility industry was only a third the size it is today.

A fourth of the state commissions, the authors say, have not conducted a public inquiry into electric utility rates in 8 years or more, and some never have had a "rate case" since they were created. In Maryland a few years ago the counsel to the Public Service Commission, Francis X. Gallagher, resigned in frustration. He had given up trying to regulate more than 200 utilities with a small staff that was no match for the utilities' teams of experts.

"The pendulum of control is shifting to the utilities and the state regulatory agencies are powerless to reverse this trend without aid from the legislative bodies," Gallagher said. "We ask the impossible when we expect a corporal's guard to analyze the rate schedule submitted by scores of utilities to determine their inherent fairness. . . . We have to accept the figures given to us by the utilities."

In some cases, it must be added, there is little desire on the part of the utility commission to keep a close watch over the utilities. During a congressional hearing in 1965, Edwin L. Mason, chairman of the Florida Public Service Commission, said, "The best regulation is little or no regulation."

The new technology which has resulted in lower power generating and transmission costs has come swiftly since World War II. As the authors note, steam power is being generated in larger and larger units at higher and higher pressures, permitting a great increase in the amount of energy obtained from each ton of coal. At some power dams a "pump-back" system is employed, so that the same water can be used repeatedly to spin the turbines.

* Published 27 January by David McKay Company, New York; 338 pp.; $5.95. Metcalf, a graduate of Stanford University (A.B.) and the University of Montana (LL.B), served as an associate justice of the Montana Supreme Court and as a member of the U.S. House of Representatives before his election to the Senate in 1960. Reinemer, a former newspaperman, was awarded an American Political Science Association congressional staff fellowship in 1965 to make a study of utility regulation and water resource policy. A graduate of the University of Montana (A.B.), Reinemer was a visiting lecturer of journalism at the university in 1960. The fact that he is identified as co-author of *Overcharge* represents a breakthrough in congressional candor. It is widely assumed that congressional assistants actually do a large part of the work on books and articles bearing the names of senators and representatives, but seldom is the hidden authorship acknowledged.