

# The Executive's World

It takes more than a degree in business studies to reach the top in U.S. companies. KENNETH HOPPER describes the background of the men who run them.

## Engineers take the controls

THERE SEEM to be at least two Americas. One is America as it exists. The other is a mythical country which many British hold dearly in their imaginations. In mythical America everything is new and nearly all top company executives hold Master's Degrees in Business Administration. In real America things are different. Last year 12 new presidents were appointed in the 100 largest American companies; three-quarters had a technical degree, but only two held MBAs. The table gives details.

Technical degrees were held by half of the presidents of the Fortune 500 largest industrial companies in 1967, the great majority being engineers. MBAs were held by only 9 per cent. In the very largest of the 500, the technical proportion rose to 55 per cent., with engineers occupying almost half the presidential chairs. These statistics, published by the Chicago consulting company Heidrick and Struggles in 1967, seem to have attracted little attention in Britain. Perhaps it is our internationally recognised hang-up about the management ability of technologists, recently commented on in the Brookings Institute Report. We hope if we ignore the statistics long enough they will go away.

Though this technical invasion is a marked change from the past, the trend has been repeatedly commented on over the years. Newcomer noted the change up to 1950. Scientific American found the change so marked that they entitled a study of management up to 1963 "U.S. Industry: Under New Management." "The Big Business Executive/1964" showed that by 1964 almost one-third of the Chairmen and Presidents of the largest U.S. industrial, transport and utility corporations had technical degrees. The technical group was larger than any other and was rising rapidly, having grown by over 50 per cent. between 1950 and 1964. The rate of increase from 1900 had been much greater for technical than for any other form of education.

Evidence about a lower level of management was given by an unpublished survey by the Harvard Graduate School of Public Administration. It found that younger men with a technical education were getting an increasing proportion of the posts in middle

and upper management. Whereas only a third of the managers aged 55-64 had technical degrees, half of these aged 35-44 were so qualified.

Statistics quoted here show little evidence that present top British management should have higher degrees. They do show that the Americans have few preconceptions as to the qualifications the next President of their company should have.

American executives continually refer to their young engineers and scientists as "the elite of our graduates." Salaries paid to them, and their success in management shown by these studies, compared with the lesser progress of the much greater numbers of business and liberal arts graduates produced each year confirms the high regard of U.S. industry for its technologists.

These figures should not be taken as in any way downgrading

would think immune, has experienced a substantial (17 per cent.) infiltration of these engineer presidents. Another, a marine engineer Edward Vilella, noted for his soaring technique, has taken over as principal dancer at the New York City Ballet, Lincoln Center. The technologists in this country obviously does not know what he is going to be asked to do next.

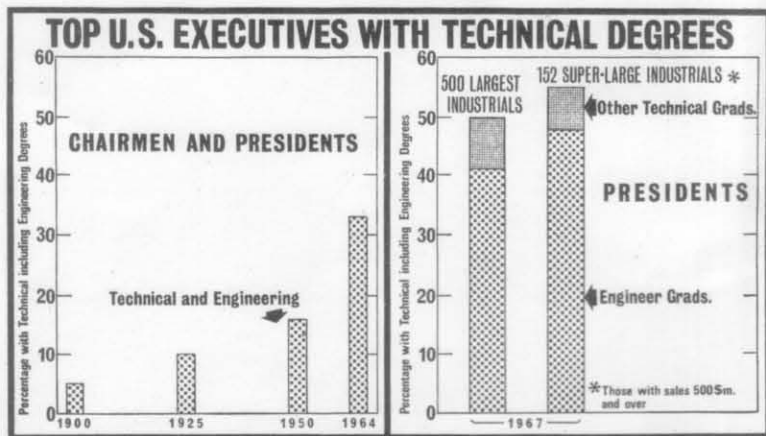
U.S. financial writers and analysts show a very high acceptance of the top technical man. There is, for example, no comment that he cannot control cash. Forbes was able to attribute the turn-round in Sperry Rand's for-

\$225,000,000 in its next fiscal year and has generated virtually all its business from internal growth—the Chairman and President of Polaroid is a distinguished scientist—Northrop, unlike other smaller aircraft manufacturers, has not been forced to merge, and under its engineer Chairman, has pushed its earnings 40 per cent. above those of a year ago—the new President of Monsanto is a mechanical engineer. The positive reporting on technologists in management is very noticeable to the British technical man arriving in the U.S.

Perhaps the most spectacular example of technologists-in-charge is the group riding that rocket the incredible Teledyne, which lead all companies in Forbes 1968 Report on American Industry for growth in both sales and earnings. Chairman Singleton, a MIT physicist, believes his top management group composed almost entirely of engineers and scientists, is better able to spot acquisitions and advise subsidiaries than would be a finance oriented head office. Since without making any really large acquisition, his company which started with \$450,000 in 1960, grew in seven years to have a common and convertible stock value of:

\$1,500,000,000

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EDUCATION OF THE 12 PRESIDENTS APPOINTED IN 1967 IN THE 100 LARGEST INDUSTRIAL COMPANIES

FIRST DEGREE		SECOND DEGREE (if any)	
Number	Subject of First Degree	Number	Subject of Second Degree
5	Engineering	1	Chem. Eng. (1);
3	Science	2	Chem. Eng. (1); Chemistry (1)
3	Arts	3	Engineering (1); MBA (2)
1	No degree		
12	TOTAL	6	
Number with at least one technical degree=9			

the contribution of the graduate business school to the U.S. economy. Considering the small size of the elite business schools, they are very well represented at top level. Furthermore, there is considerable cross-fertilisation of ideas at top level. For example, new financial techniques introduced by a business school top manager are quickly picked up by the technically bossed companies.

The ubiquitous engineer is getting into strange places. Among marketing vice-presidents there are more engineers, at 25 per cent., than men from any other discipline—only 3.6 per cent. have degrees in marketing, and 4.6 per cent. MBAs. Nearly half the presidents of large transportation corporations have engineering degrees, and even merchandising, which one

tunes to the application by the president of his "sharp engineer's mind to the company's problems," and to his introduction of strict financial controls. Business Week commented on engineer Knudson's appointment as president of Ford, that he was a "dirt-under-the-fingernails, Detroit type auto man," and therefore a "very special sort of available man for Ford."

News on top technical appointments appears constantly—the Chairman and Chief Executive Officer of consumer-oriented General Foods is an engineer—the President of the most profitable major mining company is a mining engineer—11 engineers left Raytheon in 1951 with \$45,000; the company they formed, Sanders Associates, is forecast to sell

least entitled to express an opinion.

At present the world's three largest companies, GM, Standard Oil (NJ), and Ford, are presided over by three engineers, none with higher degrees. The exact proportions of the different types of president appointed each year in the U.S. does vary. It does seem, however, that a substantial proportion of technical men will appear at the top level in future.

Many Continental European countries have a long-established practice of placing technical men in top posts. Perhaps it is just a habit. The fact that the U.S., with its intensely pragmatic and successful approach to industry, has changed to having so much technical top management, cannot be explained on the grounds of tradition. The conclusion of many American managers can be simply summarised, "to cope with modern industry we have had to throw out our British tradition."

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