It should be observed that Veblen uses the terms "business men" and "commercial" in a sense more restrictive than that in which they are ordinarily used. The shop superintendent, the production manager, the sales manager and the general manager are not "business men"—they are technologists; the "business man" is he who is outside of and above the operating personnel; he is engaged in the field of the larger industrial-political, financial-commercial strategy, studying and manipulating values on behalf of "vested interests," and concerned with production only as its advancement or repression will contribute to his larger purposes. The term "commercial" refers to these industrial-political-financial operations and not to the buying and selling of the technologist.

> But from an early point in the (industrial) development there set in a progressive differentiation such as to divide those who designed and administered the industrial processes from those others who designed and managed the commercial transactions and took care of the financial end. So there set in a corresponding division of powers between the business management and the technological experts. It became the work of the technologist to determine, on technological grounds, what could be done in the way of productive industry, and to contrive ways and means of doing it; but the business management always continued to decide on commercial grounds, how much work should be done and what kind and quality of goods and services should be produced; and the decision of the business management has always continued to be final, and has always set the limit beyond which production must not go.
>
> But the specialists in technological knowledge, abilities, interest and experience . . .—inventors, designers, chemists, mineralogists, soil experts, crop specialists, production managers and engineers of many kinds and denominations—have continued to be employees of the captains of industry, that is to say, of the captains of finance, whose work it has been to commercialize the knowledge and abilities of the industrial experts and turn them to account for their own gain.
>
> It is perhaps unnecessary to add the axiomatic corollary that the captains have always turned the technologists and their knowledge to account in this way only so far as it would serve their own commercial profit, not to the extent of their ability or to the limit set by the material circumstances or the needs of the community.
>
> The result has been, uniformly and as a matter of course, that the production of goods and services has advisedly been stopped short of productive capacity, by curtailment of output and by derangement of the productive system. . . . They have . . . maintained prices at a profitable level by curtailment of output rather than by lowering production-cost per unit of output. . . . The result has been . . . enforced incompetence in the management of industry, a curtailment of output below the needs of the community, below the productive capacity of the productive system, and below what an intelligent control of production would have made commercially profitable.
>
> One outcome of this persistent and pervasive tardiness and circumspection on the part of the captains has been an incredibly and increasingly uneconomical use of material resources, and an incredibly wasteful organization of equipment and man power in these great industries where the technological advance has been most marked.

This discreditable pass, Veblen says, has brought the regime of the captains of industry to a close and has shifted control to the syndicated investment bankers to whom has been passed the function of "regulating the rate and volume of output in those industrial enterprises" which have passed into their hands. The corporation financier (captain of industry of nineteenth century tradition) has become an "idle wheel in the economic mechanism, serving only to take up some of the lubricant." The engineers are the technological general staff of the industrial system, whose surveillance has become increasingly imperative to the conduct of any profitable enterprise in industry. But they have no control and take no initiative; and their technical advice is followed only insofar as it promotes the larger political-industrial strategy of the syndicated investment bankers. This is a complete development, of course, "only in those larger and pace-making lines of industry which are altogether of the new technological order," but throughout industry in general "the present posture and drift of things is unmistakable."

The industrial system requires the use of trained and instructed workmen and a corps of highly trained and specially gifted experts—born, bred and trained at the cost of the community at large. These experts are essential to the working of the industrial system. "Without them and their constant attention the industrial equipment, the mechanical appliances of industry, will foot up as just so much junk." To do their work as it should be done, these men should have a free hand. With a reasonably free hand "the production experts would today readily increase the ordinary output of industry by several fold,—variously estimated at some 300 per cent to 1200 per cent of the current output." Yet they are restricted by the owners through the syndicated investment bankers and by business as usual.

Of late these technologists, says Veblen, have begun to become "class-conscious" and to realize that they constitute an indispensable general staff of the industrial system. They realize the waste and confusion in the management of the financial agents. First the consulting engineers of the standard type began to "make scattered corrections in detail," but they are as yet no more than "a cross between a technological specialist and a commercial agent, with the limitations of both and commonly not fully competent in either line," employees of the investment banker, on a stipend or a retainer. The "efficiency engineers" have accomplished more but are in much the same position.

> Circumstances have decided that the older generation of the craft have become pretty well commercialized. Their habitual outlook has been shaped by a long and unbroken apprenticeship to the corporation financiers and the investment bankers. . . . But the new generation which has been coming on during the present century are not similarly true to that tradition of commercial engineering that makes the technological man an awestruck lieutenant of the captain of finance . . . they are beginning to understand that commercial expediency has nothing better to contribute to the engineers' work than so much lag, leak and friction. . . . So they are beginning to draw together on a common ground of understanding, as men who are concerned with the ways and means of tangible performance in the way of productive industry . . .—there is a growing conviction among them that they together constitute the sufficient and indispensable general staff of the mechanical industries, on whose unhindered teamwork depends the due working of the industrial system and therefore the material welfare of the civilized peoples.
>
> It would be hazardous to surmise how, how soon, on what provocation, and with what effect the guild of engineers are due to realize that they constitute a guild, and that the material fortunes of the civilized peoples already lie loose in their hands. But it is already sufficiently plain that the industrial conditions and the drift of conviction among engineers are drawing together to some such end.

In attempting to alleviate the continuing and increasing industrial unrest

> negotiations are continually carried on and never concluded between capital and labor, between the agents of the investors and the body of workmen, to bring about whatever readjustments are to be looked for in the control of productive industry and in the distribution and use of its product. . . . In the course of these endless negotiations between the owners and their workmen there has been some loose and provisional syndication of claims and forces on both sides; so that each of these two reorganized parties to the industrial controversy has come to make up a close-knit vested interest, and each speaks for its own special claim as a party in interest . . . hitherto no disinterested spokesman for the community at large or for the industrial system as a going concern has cut into this controversy between these contending vested interests.

Veblen concludes that the engineers are in a position to make the next move.

> So slight are their numbers, and so sharply defined and homogeneous is their class; that a sufficiently compact and inclusive organization of their forces should arrange itself almost as a matter of course, so soon as any appreciable proportion of them shall be moved by any common purpose. And the common purpose is not far to seek, in the all-prevading industrial confusion, obstruction, waste, and retardation which business as usual continually throws in their face. At the same time they are the leaders of the industrial personnel, the workmen, the officers of the line and the rank and file; and these are coming into a frame of mind to follow their leaders into any adventure that holds a promise of advancing the common good.
>
> So that, given time for due irritation, it should by no means come as a surprise if the guild of engineers are provoked to put their heads together . . . there is the patent fact that such a thing as a general strike of the technological specialists in industry need involve no more than a minute fraction of one per cent of the population; yet it would swiftly bring a collapse of the old order . . . the industrial relationship of the captain of finance is now held on sufferance of the engineers and is liable at any time to be discontinued at their discretion as a matter of convenience.

BUSINESS TRAINING FOR MILITARY OFFICERS

THE Taylor Society respectfully suggests that provision be made for adding to the technical training of West Point graduates, a training in business administration. When war is declared an immense burden of business negotiation and administration is at once thrown upon those officers who are assigned to the increasingly important procurement and supply functions. It may be expedient that regular officers be placed in charge of supply bureaus, of which the assistants are especially commissioned civilians experienced in business affairs, but the effectiveness of the latter has been proved to be conditioned by the breadth of view in business matters of the bureau chief.

That his business capacity is limited is not surprising. Appointed to West Point before he has had any contact with the world of affairs, he is given an extremely narrow technical training—relating to the designing of military equipment or to the technique of field operations. Then during the first quarter of a century after graduation, unless he happens to be a member of the engineer corps, his "experience" is limited to checking the paper work of, say, first a company and finally, at the ripe age of fifty, of a post at which is a regiment of troops. The routine paper work of a post does not afford training in business methods, in conducting business negotiations, in organizing and managing a war-time bureau office of a thousand civilian clerks, or in supervising and stimulating production on war-time contracts.

A course in business administration at West Point, special work at the Harvard School of Business Administration or the Tuck School, a period of service in manufacturing and merchandising concerns,—such additional training for future officers would profoundly influence the supply operations of another war.