

Technological Trends and Economic Structure under National Socialism

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In the discussion revolving about the problems of totalitarian economy it has repeatedly been said that economic dynamism has come to an end in our time; that where there is no dynamic economy, there is no capitalism. Technological changes are still supposed to occur but they no longer engender significant variations in the economic rhythm and thus no longer occasion any considerable shifts in the set-up of society.¹

The fact that technological revolutions do occur under totalitarian rule would not as such invalidate the argument. It could be held that technological reconstruction is made by totalitarian dictatorships and thus does not derive from, or give rise to, an economic dynamism *sui generis*. But if it can be shown that the technological revolution under totalitarian rule follows lines drawn by the pre-totalitarian economic development and fits into a pattern set by economic factors intrinsic to the inherited dynamics of capitalism, then, of course, the consistency of the reasoning would be impaired.

If there was a point in correlating the economy of competitive capitalism to technics based on the steam-engine, and the economy of non-competitive capitalism to technics based on the use of electric power, there might be no less a point in ascribing the economy of capitalism under totalitarian control and regimentation to the preponderance of chemical processes in the technological foundations of economic life. Important technological changes have taken place in the German economy, changes closely connected, indeed, with the advance of chemical processes. There has been an important technological transformation of industrial production, and this is enough to reject the thesis that technological dynamism has come to an end.

¹Lawrence Dennis' roll-call for a revolution in the United States, for example, originates from the assumption that "as a capitalist dynamism the industrial revolution is over" (*The Dynamics of War and Revolution*, New York 1940, p. 66), and that therefore only a political revolution can perform changes in the economic set-up: "Technological change continues. But such change is neither dynamic nor constructive for capitalism any longer. The great capitalist democracies are already industrialized. Further industrial or technological change in them will go on but will not prove helpful to capitalism as a source of increased total demand." (*Ibidem*, p. 49.)

Economic Causes and Conditions of the Technological Change

Within the technological framework, as it had been built up during the previous development of the capitalist economy, Germany, more than any other capitalist country, had failed to find the way out of the great industrial post-war crises. The capitalist automatism no longer operated to overcome stagnation and unemployment. Too many commodities were facing too small a buying capacity. Monopolistic price-pegging prevented the aggregate value of commodities from being expressed in less money-units. Creation of additional buying capacity (through investments, more employment, higher wages and increasing productive demand) encountered the resistance of "vested interests" as expressed in invested capital's claim to at least "normal" return on capital outlay. Either the investor's, the creditor's, or the commodity-owner's claim for just return was to be turned aside, or the crisis was to go on and on. The monopolies paralyzed the automatism of capitalist dynamics.¹

On the given technological basis new profits were not to be had unless the old investors' claim of profits was nullified. Capital that had become valueless but still held title to profits had to be revalued in a new technological set-up. There is the example of the leading coal and iron combines. They certainly were in want of outlets to market their products at a good price. Yet, the necessity of paying interest on invested capital prevented them from cutting down prices, converting bonds and reducing the capital stock, or even closing down mines and mills that could not stand such "deflationary policy." So they had to find new ways of utilizing their coal and of processing their iron. Now, the production units that would be most fit to use new technological opportunities would be the ones that possess the most diversified scope of manufacture. Whereas a coal-mining enterprise would benefit only by new outlets for coal, a "mixed" iron and coal combine would have new marketing possibilities for steel and plates and sheets, and would smelt more iron-ore and coke more coal to feed its own blast-furnaces.² A mining and metallurgi-

¹The specific rigidity of the German economic system prior to the Nazi revolution has been the topic of numerous studies, monographs and book publications. Most of the evidence available is to be found in the hearings of the investigation committee set up by the German Reichstag: *Enqueteausschuss zur Untersuchung der Erzeugungs- und Absatzbedingungen der deutschen Wirtschaft*. See also Robert A. Brady, *The Rationalization Movement in German Industry*, Berkeley 1933.

²The combination of iron and coal within one production unit is one of the most characteristic features of the German economic set-up. Most of the leading "heavy-industry" concerns are "mixed" enterprises: Krupp, Gutehoffnungshütte, Hoesch, Mannesmann, Vereinigte Stahlwerke, Flick, etc. For details see, for example, *Deutsche Montan-Konzerne 1929*, Spezialarchiv der deutschen Wirtschaft (publications sponsored by the Dresdner Bank), Berlin 1929. The fact that the Hermann-

(footnote continued on next page)

cal combine owning engineering plants as well would be still better off; in turning out machinery for newly-created productions it would create additional demand for coal and iron produced "in the shop," whereas new steel and iron orders necessitated by the new requirements of machine-building plants (e.g., for the construction of hydro-generation equipment or cellulose-wool spinning machinery) would reach other concerns only belatedly and through intermediary channels.¹ On the other hand, the use of new methods of coal-processing must favor concerns that need less coal for their own coke-ovens and blast-furnaces and that at the same time control chemical factories, plants for the chemical utilization of by-products, or gas plants combined with grid distribution nets.²

The grafting of new productions upon the old over-capitalized production units rendered a technological reconstruction possible without infringing upon the old set-up of property rights and profit claims. There was no need to break up monopolies in order to clear the field for technological changes; these very technological changes were fitted to the economic structure so as to meet the profit requirements of monopolistic combines.

Another feature must be added here. It has often been said that Germany's economic recovery was essentially due to rearmament. Yet, rearmament orders constitute but a quantitative change. They mean more employment but they do not mean employment on a new basis so as to provide altered conditions for earning returns on invested capital. Neither the problem of realizing the profit claims of technologically obsolete plants nor the problem of making profits within a system of rigid and inflexible costs of production can be solved through more employment by rearmament unless there is a

Göring-Werke combine had not been endowed with a "coal basis" of its own when it was created in 1937 engendered one of the most significant conflicts within the totalitarian set-up. It came to an end only with the expropriation of the Thyssen interests (see below).

¹The combination of coal-mining, metallurgy and engineering (including machine-tool building) is another specific feature of the largest German combines, such as Krupp, Mannesmann, Gutehoffnungshütte. It constitutes the skeleton of the biggest and most powerful of the existing German industrial combines, the Flick-Konzern, which equals and perhaps already surpasses in economic and political power the giant Dye Trust (IG-Farben). In the "struggle for coal" the Göring-Werke combine, though victorious in robbing Thyssen's Steel Trust (Vereinigte Stahlwerke), did not manage to outmaneuver Flick but had to content itself with a compromise most profitable to the latter (June, 1940). The Flick enterprises are worth mentioning because, having started some 15 years ago as a "pure" machine-building concern, they now control the major part of German lignite production, own a controlling interest in the government-founded and government-supervised lignite hydrogenation trust (Brabag), and through interlocking directorates participate in the control of potash production and chemical industry.

²On the connection of coal-mining concerns with the chemical industry see, e.g., *Die grossen Chemie-Konzerne Deutschlands*, Spezialarchiv der deutschen Wirtschaft, Berlin 1929.

chance to reverse the entire structure of manufacturing calculation and introduce new elements of cost-cutting through manifold and combined application of new processes, new equipment, new labor-saving machinery. Capital itself, as embodied in the industrial apparatus, must undergo a structural transformation to make investments pay. Rearmament, since it is another aspect of pump-priming, eases the way of technological reconstruction, but it by no means renders the latter superfluous or avoidable.

The entire technological structure of German industry, on the level of concentration and combination that had been attained prior to 1933, was based, as pointed out above, on the agglutination of different groups of production, processing and manufacture within the largest and most important organizational production units.¹ This not only gave the producers the opportunity to dodge difficulties and to avoid collapse during the depths of the crisis, but also enabled them to find adjustments in the course of the technological reconstruction, to make up for expenditure incurred with new investments, to compensate for risks undertaken with the opening-up of new fields of production, the construction of new plants, etc.

In the course of reconstruction, production must be set afoot in fields where it cannot be profitable at the beginning. Production tasks must be undertaken that require huge investments and do not by themselves guarantee any return on the capital invested. Experiments in processing and manufacturing must be carried through, involving tremendous costs. Compulsion is an easy expedient. But it can be dispensed with where risks can be leveled down or compensated at the expense of surplus earnings available in other fields within the same production unit. If experiments in the manufacture of synthetic gasoline have to be begun when there is no market for products of chemical industry, the chemical trust which has to face this problem will needs give up gasoline or freeze the experiments at an early stage. But if, on the contrary, all operative divisions of the trust are in full action, if not only all old products of the concern are salable at good prices but new products are also being manufactured that can be marketed with profit (plastics, e.g.), there will be an excellent opportunity to start hydrogenation processes, to take the risk of investing huge amounts of capital in this new production, and to wait for the profits to come some day.² Giant com-

¹See Herbert von Beckerath, *Modern Industrial Organization*, New York and London 1933; and Hermann Levy, *Industrial Germany*, Cambridge 1935; also Brady, quoted *supra*.

²On the great variety and diversity of productive tasks that might be undertaken within a single production unit under conditions prevailing in the German chemical industries, see Claus Ungewitter, *Chemie in Deutschland*, Berlin 1938.

bines covering a multitude of different productive operations, enjoying great financial power, and connected with, or controlling, other industries will be in the most favorable position to go ahead with the technological reconstruction. Others will have to follow.¹

This frame of interrelationships into which technological reconstruction had to fit itself shows a close weave of organizational, financial and economic elements. The economic situation is characterized by a very high degree of concentration. In no other country had cartels, the "horizontal" organization of industry, achieved such progress as in Germany. In no other country was there such an intimate intertwining of production units both within the individual industries and across the boundaries of the individual trades. In no other country had the centralized organization of both capital and commodity flow reached a similar level of completeness and tightness. At the same time, each and every industrial enterprise had become dependent upon the other enterprises; every industry was affected by changes or disturbances in every other industry.

The manifold interdependence of the economic units accounts for their particular instability, for their immediate response to any shock, any disturbance, any disruption of economic equilibrium. Difficulties encountered by a concern of some importance have to affect the whole of the economic process, and do so at once. There is no bankruptcy that would not implicate numerous apparently sound enterprises. A bank cannot close down without involving several other banks, a whole set of big, medium and small industrial enterprises, numerous wholesale and retail shops, and in the end even transport undertakings and public utilities.² To prevent social disturbances from generating under this hyper-sensitivity of the economic apparatus, state interventionism is called for at an early stage. In the parliamentary set-up of Imperial Germany, as well as

¹The leading German potash combine Wintershall, to cite an example, was able to engage in the construction of a hydrogenation plant at a time when hydrogenation prospects were dubious. It enjoyed a kind of risk-insurance because it controlled potash mining, combined chemical processing of potash, coal and metal ores, had financial connections and interlocks with lignite mining, oil production, and the manufacture of arms and ammunition. Contrariwise, the Thyssen combine, confined to metallurgy and engineering and experiencing a downward trend ever since the Nazi *coup d'état*, was virtually blown up when compelled to finance and construct a hydrogenation plant of its own (Gelsenberg-Benzin). Tied up financially in hydrogenation, and in need of capital to finance the plant, Thyssen could not resist the Göring-Werke combine's assault on his Austrian iron mines and steel works and had finally to surrender the Alpine Montan-Gesellschaft with all its holdings; the next assault—on Thyssen's coal—ended with the expropriation of Thyssen's personal holdings in the Steel Trust (Vereinigte Stahlwerke), which, however, did not mean expropriation of the Steel Trust itself.

²One ought to recall that the great crisis of 1931 that turned out to be Hitler's springboard to power was unloosed by the collapse of Jacob Goldschmidt's Darmstädter und Nationalbank.

in the democratic structure of the Weimar Republic, it was the non-capitalist groups whose interests required intervention to protect the continuance of work and to preclude catastrophes. The intervention was a forced one, but it gave the state machinery the appearance of an independent umpire imposing his will upon recalcitrant business interests.

Yet, the "umpire" state was never free to act against the interests of big business. To prevent economic disruption it could not simply refloat a collapsing concern and make big business pay for it; it had to secure the consent of the predominant interests before taking action.¹ In setting itself up as an entrepreneur in its own right, in taking over more and more private industrial and utility concerns,² the state could not dispense with the approval of big business interests, and had to pay for it "in cash and in kind": tax reductions, subsidies, preferential treatment in foreign trade, reduced transportation and utility rates, etc.—hence the permanent and intimate cooperation between the management of the big industrial concerns and the industrial "Spitzenverbände"³ on the one hand, and the government officials and managers of the government-owned enterprises on the other. State interventionism finds solid foundations in the close connection of bureaucracy and big business.

The financial situation of German industry was no less instrumental in enhancing the importance of the state in economic life. The very centralization of industrial enterprise contributes to increasing enormously the amount of capital needed for any single investment in large-scale industry. Moreover, as the technological level of industrialization becomes higher, invested money becomes "fixed capital" to a greater extent; technological change then presupposes new construction expenses on a vast scale or most expensive re-building of the industrial apparatus together with the scrap-

¹The Brüning government, for instance, was prevented from refloating Goldschmidt by the veto of the other big banks and the coal and iron magnates. The assets and liabilities of the Darmstädter und Nationalbank were transferred to the Dresdner Bank and the latter taken over by the government, not to be "re-privatized" until September, 1937, when its controlling stock was distributed among several big industrial combines.

²This not only applies to the taking-over of collapsing concerns such as the Darmstädter und Nationalbank or Thyssen's Steel Trust (turned back to the Thyssen group at the beginning of the Nazi era) but also to the expansion of government business activities in general (transportation, public utilities, mining, aluminum production, etc.). I abstain from giving data on the extent of government participation in business. Such data, as far as available, require a more detailed discussion. On the amount of capital involved see "Kapitalbildung und Kapitalmarkt in Deutschland seit der Stabilisierung" by Dr. Wolfgang Reichardt (President of the Reich Statistical Office) in: *Probleme des deutschen Wirtschaftslebens*, Berlin and Leipzig 1937, pp. 585-618.

³See Robert A. Brady, "Policies of National Manufacturing Spitzenverbände," I and II, in: *Political Science Quarterly*, LVI, 2, pp. 199-225; 3, pp. 379-391.

ping and writing-off of immense investments.¹ Every new or auxiliary investment requires such amounts of capital as cannot possibly be raised by individual enterprises, not even by big ones.

Ever since the prosperity peak of 1929 there was much ado about what was called the investors' strike. This "strike" has but one objective: to get guarantees that would make investments less risky and easier to accomplish. Actually, a triple guarantee is called for. The investor must have the freedom to cut down the costs of labor, i.e., he must be freed from any monopoly in the labor market. He must have the opportunity of using the modern devices of money and credit manipulation to expropriate competitors both at home and abroad, to impose the burden of pump-priming, experimenting and market-dumping, if need be, upon the shoulders of other social groups, and he must be able to act on the legitimate assumption that the increased economic power of the state, which he contributes to establishing by the use of such devices, will not turn against him. Finally he must have individual investments guaranteed by the government through subsidies and non-competitive prices, and he must have large-scale government orders to provide for a permanent outlet.² Once this threefold guarantee is ensured, the investors' strike comes to an end. That is exactly what happened in Germany when the totalitarian regime came into power.³

For all that, economic and organizational trends were not the only ones to bring about state interference with business on a large scale. The technological development did so, too. As an example the need for new processes of utilizing coal has been mentioned above. But new methods of production and new outlets could only

¹See E. Schmalenbach, *Finanzierungen*, revised edition by R. Bethmann, Leipzig 1937.

²Where such guarantees have to be granted and enforced by the state, the government machinery will of necessity acquire substantial economic and financial power and the authority to supervise business and to control investments. I do not share the view propounded by Frederick Pollock in this issue, pp. 201-7, that this means the abolition of the market economy. I intend to discuss this topic in a separate study.

³As late as 1941 the German capitalists still make their decisions upon impending investments subject to whether they are or are not given government guarantees, and have to be taught a lesson by Reich Minister Funk, the Nazi "business dictator," on the principles of capitalist economy: "The endless clamor for Reich guarantees is a downright *testimonium paupertatis* to private initiative and to private business' willingness to bear responsibilities. There surely remain today, and will remain in the future, tasks that may not be undertaken or carried through except as collective tasks. In the fulfillment of such tasks private business must be given a big share. Besides this, however, a vast domain for private business and the private businessman to exert their efforts will not only be preserved but will also to the very largest extent be found anew after the war." (Funk to the stockholders of the Reichsbank on March 12, 1941, see *Frankfurter Zeitung*, March 13, 1941.)

be found in the chemical processing of coal.¹ The same applies to any other raw material, be it wood or straw, nitrogen, oil, metal, or what not. The entire technological reconstruction centers upon the chemical industry.² Chemical synthesis has become the paramount trait of industrial technology in well-nigh every sphere of production. As connected with large-scale industrial production, it has economic features of its own. The new aspect of this field is mainly the transformation of the structure of high-molecular combinations in order to produce out of a given substance one or several new substances whose molecules have an identical atomic composition but cluster in differently constructed groups (polymers), i.e., form different chemical bodies that have different properties and can be used to serve different technological and manufacturing purposes. Such "polymerization" processes presuppose, as a rule, high-pressure action of hundreds of atmospheres and involve huge expenditure even at the beginning of the experiment, the outcome of which cannot be known beforehand.³ Though one might theoretically deduce what substances will be produced, nobody can foretell the proportion of the different substances obtained. This last depends on the catalytics used and on circumstances that might vary during the catalytic process itself.⁴

Not only are huge investments involved but at the same time risks are multiplied because of the unpredictability of the polymeric synthesis. When the experiment is put to test without the government guaranteeing the capital affected, it must needs be confined to mere laboratory processes, handled with caution and timidity, and stretched over a long time in order to lessen the risks and the financial responsibility of the investor. The situation can be reversed at once where the government guarantees or subsidizes the production.

¹See Ferdinand Friedensburg, *Kohle und Eisen im Weltkrieg und in den Friedensschlüssen*, Berlin and Munich 1934; *idem*, *Die mineralischen Bodenschätze als welt-politische und militärische Machtfaktoren*, Stuttgart 1936; Dr. Rudolf Regul, "Die Entwicklung des Wärme- und Energiebedarfs" in: *Glückauf*, 1938, Nos. 39 and 40.

²The value of production turned out by the German chemical industry proper (not including rayon, cellulose wool, or synthetic productions connected with coal mining, etc.) rose from RM 2.4 billion in 1913 to RM 3.0 billion in 1934 and RM 5.75 billion in 1938 (data of the Economic Group Chemical Industry in Ungewitter, *Chemie in Deutschland*, and *Frankfurter Zeitung*, August 4, 1939).

³In the hydrogenation of coal or in the cracking of heavy oils the same high pressure involving the same vast expenditure must be used whether the outcome be mostly valuable gasoline (or other light oils), or heavier and less valuable lubricants of different composition and different properties.

⁴See, e.g., the paper read by M. Pier, one of the chief chemists of the Dye Trust, at the International Chemists Convention in Rome on May 21, 1938, in: *Technik und Betrieb*, June 10, 1938; also Dr. A. Hagemann, "Katalytische Druckhydrierung," *ibidem*; "Zum Jubiläum des ersten Bergiuspatents" in: *Deutsche Bergwerks-Zeitung*, August 9, 1938.

In this case there is no need to wait for the perfect synthetic to be born since even its embryonic forerunners will find a buyer—the government—or limitless protection against the competition of natural products, regardless of what they might cost.¹

At an earlier stage the consequence of the investments required in chemical production was that the chemical producers merged their interests into giant combines,² leaving only a baker's dozen of independent concerns outside. At the present stage the specific conditions inherent in chemical synthesis as it enters the field of industrial technology³ make the giant chemical combines themselves call for government protection both in production and in the market, and thus contribute toward the expansion of the interventionist machinery.

Technological Revolution and War Economy

It is hardly possible at the present time to paint a comprehensive picture of the effects of the technological revolution in totalitarian Germany, or to express its scope in statistics and figures. What in 1933 did not seem to be practicable until a rather remote future, has been accomplished under the impact of the totalitarian regime. Whatever one thinks of the processing of coal and crude oil, the replacement of wool and cotton by artificial filaments, or the advance of light metals—the chances have been taken under centralized supervision, the risks ventured on the basis of government guarantees, investments made with capital partly levied through government compulsion at the expense of the smaller enterprise or at the expense of industries not favored by the general trend of technological reconstruction.⁴

To give some features: The problems of the mining industry, which had suffered from a chronic crisis up to 1933, have been

¹Different patterns of government participation in the risks of new investments or in raising capital for new industrial processes have been designed in the course of Germany's industrial reconstruction. To give an outline of the various devices used would be tantamount, however, to presenting the general picture of the entrepreneurial set-up of business in all industries concerned, i.e., chemical, textiles, coal (incl. lignite) and oil, rubber, automobiles, etc. This cannot be done here and will be reserved for special discussion.

²IG-Farben in Germany, Imperial Chemical in England, Kuhlmann in France, Du Pont de Nemours in the United States, etc.

³See Albert Sulfrian and Josef Peltzer, *Betriebs- und gesamtwirtschaftliche Probleme der chemischen Produktion*, Stuttgart 1938.

⁴Lack of space prevents me from describing the various devices used to transfer the small and medium investors' and producers' money to the treasuries of the private industrial combines upon whom had been bestowed practically the exclusive privilege of large-scale investment.

solved; Germany no longer produces too much, but not enough coal.¹ This is due to the fact that coal is not any longer used mainly for fuel, but has become the basic substance for raw and auxiliary materials in numerous industries. Coal is used for hydrogenation, i.e., for the production of gasoline and other oils.² It is the basic element in the production of synthetic rubber, "Buna," which is a combination of butadiene, a carbon polymer, and sodium.³ The manufacture of plastics, which serve multifarious purposes, including the construction of automobiles,⁴ is based on coal tars and phenols. Coal is one of the materials used in producing artificial textiles (although the manufacture of "Nylon," a pure carbon filament, has scarcely spread in Germany, having been outrun by rayon, cellulose wool and "Pe-Ce," a carbon and chlorine derivative). Finally, coal enters into numerous other combinations derived from other substances, minerals, metals, acids, etc.

Coal is a typical example. The creation of a giant industry of hydrogenation, or of artificial rubber, would not have been possible but for the fact that other industries were being created or thoroughly reorganized to manufacture machines, machine-tools and plant equipment for the production of oil and rubber synthetics. On the other hand, both synthetic gasoline and "Buna" serve the purposes of the "motorization" program. Motorization, however, does not so much mean the shifting of transportation from rail to road, from steam-engine to motor-car,⁵ as it does the building-up of aeronautical transportation (both civil and military), i.e., the construction of an airplane and airplane motors industry.⁶ In addition,

¹Yet, the output of coal has risen (in millions of metric tons) from 163.4 in 1929, and 104.7 in 1932, to 186.4 in 1938. The output of lignite totaled 174.5 in 1929, 122.6 in 1932 and 194.9 in 1938.

²Peace-time production of gasoline, benzene and other oils from German raw materials would have reached about 3.6 million metric tons in 1940 as compared with 0.83 in 1933, 1.9 in 1937, and 2.7 in 1938. (These are estimates computed from different sources. See data of General Loeb in: *Der Vierjahresplan*, 1938, No. 2; Eicke [member of the Reichsbank Board], *Warum Aussenhandel*, 5th ed. 1939; *Frankfurter Zeitung*, April 18, 1939; *Der Bergbau*, June 9, 1938; *Halbjahrsbericht zur Wirtschaftslage*, Institut für Konjunkturforschung, 1938/39, 1.)

³The only statement I could ever find on the volume of "Buna" production was that it must equal one quarter or one third of the total German requirements for rubber in 1939; this would make for an output of 33,000 or 50,000 metric tons. (See "Chemiebilanz 1938" in: *Deutsche Bergwerks-Zeitung*, January 1, 1939.)

⁴See Ungewitter, *Chemie in Deutschland*, pp. 86f.; General Loeb, "Die Kunststoffe in der deutschen Wirtschaft" in: *Der Vierjahresplan*, 1938, No. 3, pp. 133f.

⁵See Trost, "Erzeugung und Absatz von Kraftfahrzeugen" in: *Der deutsche Volkswirt*, February 17, 1939; Dr. Reinhold Stisser, "Die deutsche Kraftfahrzeugindustrie, ihre Exportprobleme und ihre Wettbewerbslage" in: *Weltwirtschaftliches Archiv*, Vol. 48, No. 1, July 1938.

⁶Dr. Heinrich Koppenberg (general manager of Junkers), "Deutschlands Luftfahrt-industrie ist Grossindustrie" in: *Der Vierjahresplan*, 1939, No. 1/2, pp. 74f.

trends toward transforming the entire system of distribution and production of power must sooner or later result from the motorization of the national economy.¹ All this taken together with the chemical processing of coal and other minerals accounts for a rapid expansion of the engineering and machine-tool building industries, of the manufacture of electric appliances and precision instruments: new industries cannot be created, and old ones cannot expand, unless they can get enough machinery and equipment to start with.² This in turn accounts for the expansion and technical reorganization in building, and last but not least for the rise of the chemical industry proper.

As compared with the innovations deriving from chemical synthesis, other features of the technological revolution are not essentially new in their economic purport. They are, nonetheless, connected with several new processes, new manufacturing lines, new products. The new metal constructions ought to be mentioned, the replacement of iron and steel by light metals (aluminum and magnesium in the first place), new metal alloys, the use of non-metal substances (plastics, glass,³ wood derivatives) for metal construction. Mention ought to be made as well of the entire domain of artificial textiles (insofar as not based on coal), starting, of course, with the manufacture of rayon,⁴ which is not new, but culminating in the manufacture of "cellulose wool,"⁵ a rapidly expanding field of production based on the use of materials hitherto unknown in the manufacture of textile filaments (wood previously unused, straw and, more recently, potato stalks).⁶ It goes without saying that here,

¹Dr. Rudolf Regul, *Energiequellen der Welt*, Schriften des Instituts für Konjunkturforschung, Sonderheft 44, Berlin 1937; Carl Krecke, "Die deutsche Energiewirtschaft," in: *Probleme des deutschen Wirtschaftslebens*, Berlin and Leipzig 1937, pp. 381-405.

²The production index-number in the German machine-building industry (1928=100) reached the peak at 147.7 in 1938, as compared with 40.7 in 1932. (*Statistik des In- und Auslands*, Institut für Konjunkturforschung, 1939/40, No. 2.)—The value of output (at current prices) rose from RM 1.4 billion in 1932 to 5.5 in 1938, as compared with 2.8 in 1914 and 4.0 in 1929. (*Frankfurter Zeitung*, December 29, 1938, and *Halbjahrsbericht zur Wirtschaftslage*, Institut für Konjunkturforschung, 1939/40, No. 1.)

³"The glass industry is actually passing through its second industrial revolution"—says Dr. Otto Suhr, "Umwälzungen in der Glasindustrie" in: *Die Wirtschaftskurve*, 1940, II, p. 83.

⁴Output of the rayon industry totaled 67,000 metric tons in 1938, as compared with 31,000 in 1932 (*Wochenbericht*, Institut für Konjunkturforschung, March 9, 1938, and March 15, 1939). It was estimated at 70,000 metric tons for 1939 by E. H. Vits, general manager of the Glanzstoff combine, in: *Der Vierjahresplan*, 1941, No. 7.

⁵From 3,000 metric tons in 1932 the output of "cellulose wool" (staple fiber) rose to 162,000 in 1938 (*Wochenbericht*, Institut für Konjunkturforschung, March 9, 1938, and March 15, 1939). It was to attain 200,000 tons in 1939 and 275,000 in 1940, according to Hans Kehrl, Chief Consultant in the Reich Ministry of Economic Affairs, speaking at the Reich convention of textile manufacturers, June 3, 1939 (*Frankfurter Zeitung*, June 4, 1939).

⁶Friedrich Dorn, "Die Zellstoff- und Papierwirtschaft in und nach dem Kriege" in: *Der Vierjahresplan*, 1940, No. 23, pp. 1033f.; W. A. Chatelan, "Textilindustrie einmal anders gesehen," *ibidem*, 1941, No. 7, pp. 423f.

too, new machinery and new industrial equipment is needed. It has become unavoidable not only to expand the capacity of production in the manufacture of machines, machine-tools, instruments, vehicles, and metal ware, but also to reorganize all the industries concerned, to institute labor-saving devices, to standardize the products, to extend the assembly-line system and uniform mass production.

Revolutionary though they are, the technological changes as pictured here have not succeeded in alleviating the shortage in metals and metal-ore, a particularly weak spot in Germany's economic armor. The metal supply has considerably increased.¹ Still, a tremendous deficiency remained in iron ore, and special measures had to be enacted to correct the situation. The most famous example is the mining of hitherto neglected German iron-ore deposits.² Though generally associated with the setting-up of the "Hermann-Göring-Werke" combine, mining of low-grade ores is not limited exclusively to this government-controlled enterprise. Private combines have followed the Göring example.³ This is not the only new feature in metallurgy. In fact, the activity of the Göring combine is focused not on mining but on processing, the Göring enterprise being the first in Germany to introduce oxygenation into the smelting process.⁴ Together with these developments, the construction of the first giant rolling mills for continuous manufacture of steel-sheets was begun, inaugurating a new era in the continental iron and steel industry.⁵

¹German pig-iron output rose from 15.3 million metric tons in 1929 to 18.5 in 1938 (after 6.8 in 1933). Steel production increased during the same years from 16.2 million metric tons to 23.3 (after 7.6 in 1933). Between 1933 and 1937 the foundry output of lead increased from 116,600 to 162,400 tons, of copper from 49,800 to 65,500, of zinc from 50,900 to 103,300, of aluminum from 18,900 to 127,500 (and 175,000 in 1938).

²Output of iron-ore from German mines (aggregate output, not metal content) totaled 11,150,000 metric tons in 1938, as compared with 6,373,700 in 1929 and 2,590,000 in 1933.

³Two private enterprises have been set up to exploit the German ore deposits: the Doggererz-Bergbau-GmbH. pooling the interests of Burbach, Dillingen, Neunkirchen, Völklingen, and Halberg (all of them private concerns) in the Zollhaus Blumberg iron fields, and the Gewerkschaft Damme for the Osnabrück ore deposits, the latter with the participation of Krupp, Mannesmann, Hoesch, Klöckner and Thyssen's Steel Trust. These are Göring's competitors in his particular domain.

⁴Eduard Houdremont, "Einige Aufgaben der deutschen Metallurgie" in: *Stahl und Eisen*, 1938, No. 44; Dr. Lenning's paper at the convention of the German blast-furnace enterprises, in: *Deutsche Bergwerks-Zeitung*, November 6, 1938; Dr. A. Wilhelm, "Kosten der Verhüttung eisenarmer Erze" in: *Mitteilungen des GHH-Konzerns*, November 1938; Paul Goerens (general manager of Krupp's), "Fortschritte der Eisenhütten-technik" in: *Der Vierjahresplan*, 1939, No. 4, pp. 365f.; H. A. Brassert (chief consulting engineer of Göring's), "Erfahrungen in amerikanischen und europäischen Hüttenwerken" in: *Der Vierjahresplan*, No. 4, pp. 370f., and No. 6, pp. 472f.

⁵Giant continuous strip mills, until a few years ago known in the United States only, have been built by the Steel Trust (Bandeisenwalzwerke in Dinslaken) and by Neunkirchener Eisenwerk A.-G. (Stumm combine). Two other plants are under construction by Hoesch and Röchling. In the Dinslaken plant one unskilled hand is said to turn out as much as 5 to 10 highly skilled workers had been able to in old-

(footnote continued on next page)

To sum up, the technological changes we have reviewed amount to an enormous increase in productive capacity. This could not be achieved but through curtailing consumption. In consequence, the major long-term change in the economic structure amounts to a considerable shift from consumers to producers goods¹ or, considering the structure of capital, from manpower to machinery. From this angle, innovations in armament proper are less important by themselves. The strength of the German war machine is in the combination of weapons and vehicles. The center of gravity has moved from arms to locomotion, and the transportation problem has become the central problem of warfare. Motorized lightning war, however, is but one of the aspects of motorization as a whole. The new technology of coal and oil, outgrowing the confines of steam and rail, has brought about motorized transportation (on the ground and in the air) and reversed the technological conditions of war.

Preparedness for motorized *Blitz* warfare implies that the whole of economic activity must serve the purpose of constructing and motorizing the machinery of military transportation. Once set up as an end to attain, however, motorization of warfare conflicts with the "civil" requirements of technological reconstruction from which it issued. Actually, Germany's technological revolution has been carried on under conditions of a continuous crisis of transportation, time and again verging on downright collapse of the transportation system.² In practice, motorizing transportation was confined to the military domain, while motor truck transportation of freight is still of no account. The newly constructed motor roads have thus far no "civil" economic significance. There was no extension of the railroad network and no increase in the rolling stock. The tonnage of river craft increased inadequately, and motorization hardly progressed at all. Commercial use of aviation is unimportant. Canal construction has been insufficient to connect the new industrial areas with navi-

styled thin-plate works. (Hans Cramer, manager in Dinslaken, "Die erste vollkontinuierliche europäische Breitbandstrasse" in: *Der Vierjahresplan*, 1939, No. 16, pp. 972f.; Dr. Konrad Hofmann, assistant to Herr Brassert, "Die moderne Blecherzeugung," *ibidem*, No. 15, pp. 918f., No. 16, pp. 964f., No. 17, pp. 1017f.

¹From 1928 to 1938 production of consumers goods increased only by 7 per cent, as compared with 35.9 per cent increase in the production of producers goods; within the category of producers goods, production of durable investment goods increased by 40.3 per cent (*Wochenbericht*, Institut für Konjunkturforschung, February 22, 1939).

²See *Wochenbericht*, Institut für Konjunkturforschung, September 14 and October 26, 1938, February 15, 1939; H. O. Philipp, "Der Verkehrsapparat—das Rückgrat der Wirtschaft" in: *Der deutsche Volkswirt*, January 27, 1939; "Verspätungen im Eisenbahnverkehr" in: *Der deutsche Volkswirt*, January 6, 1939; Dr. Trierenberg, paper delivered at the Thuringian Civil Service Academy, in: *Deutsche Bergwerks-Zeitung*, March 11, 1939; H. O. Philipp, "Reichsbahn vor den Herbstaufgaben" in: *Der deutsche Volkswirt*, August 18, 1939.

gable waterways, while existing connections cannot be made full use of for lack of cargo tonnage.

This is where war economy, a product of technological reconstruction itself, obstructs reconstruction. In hampering the reorganization of civil transportation, military motorization served to postpone indefinitely any serious attempt to electrify both transportation and industry.¹ To a considerable extent the crisis of transportation is due to the fact that the bulk of industrial power is derived from combustion of coal, and nearly half the freight-load conveyed by railroad is coal.² No large-scale electrification was carried through; neither in industry nor in agriculture.³ There was, of course, a considerable increase in the production of electric power;⁴ synthetic processes require a tremendous amount of electricity,⁵ and technological reconstruction is, theoretically, propitious to, and would in turn be propelled by, electrification. But to focus the entire power supply of industry and agriculture on electricity would have meant huge investments by the government which would have conflicted with the priority of chemical synthesis and motorization. Motorization, as connected with military preparedness, had to rank first in the priority list.

Yet, was there any economic necessity at all for combining technological reconstruction with the rebuilding of the war machine? Technological conditions as explained above made military and economic rearmament take the shape of motorization, chemical synthesis, and chemical technology in the widest use of the term. In this way rearmament certainly did influence the progress of technological revolution, but it did not determine the direction the changes took. It was but an element and a consequence of technological reconstruction, the roots of which were deeply embedded

¹*Wochenbericht*, Institut für Konjunkturforschung, February 2, 1938, and May 17, 1939; *Elektrotechnischer Anzeiger*, October 20, 1938.

²*Statistisches Jahrbuch für das deutsche Reich*, 1933-1938; Dr. Werner Fischer, "Die Schlüsselstellung der Kohle" in: *Der deutsche Volkswirt*, August 4, 1939; *Der Wirtschaftsdienst*, September 2, 1938; *Wirtschaft und Statistik*, 1938, No. 18.

³"Betriebsausgaben der Landwirtschaft" in: *Wirtschaft und Statistik*, 1937, No. 20, 1938, No. 21; Hans von der Decken, "Die Mechanisierung der Landwirtschaft" in: *Vierteiljahrshefte zur Wirtschaftsforschung*, 1938/39, No. 3; Günter Hünecke, *Gestaltungskräfte der Energiewirtschaft*, Leipzig 1937.

⁴Production of electric power totaled 55.0 billion kilowatt-hours in 1938, as compared with 30.7 in 1929 and 25.7 in 1933.

⁵Consumption of electric power per metric ton of product amounts to 40,000 kilowatt-hours in the production of Buna, 22,000 to 25,000 in the production of aluminum, 18,000 to 20,000 in the production of magnesium, 7,000 in the rayon and staple fiber manufacture, as against 3,800 in the manufacture of natural textiles, or 100 to 200 in the iron production. (*Deutschlands wirtschaftliche Lage an der Jahreswende 1938/39*. Reichs-Kredit-Gesellschaft, Berlin 1939; *Frankfurter Zeitung*, August 21, 1938.)

in the entire economic and technological set-up of production in pre-Nazi Germany.

“Capitalism” and “Anti-Capitalism” in the Totalitarian Set-Up

Although resulting from the entirety of economic conditions, the development that has been going on since 1933 was by no means automatic. The trends that have since taken definite shape did not appear equally necessary and desirable to all parties that enter into the picture. The interested parties and the actual actors and promoters were not identical throughout the period considered, and more often than not were surprised and disappointed at the results. The monopolists certainly did favor the prohibition of unions, the abolition of parliamentary rule, the establishment of a “strong government.” They did not favor the setting-up of a political power machinery that would encroach upon their interests. Industrial capitalists certainly did crave rearmament orders and pump-priming to refloat collapsing business. They did not crave a totalitarian regime where all economic activities would be under control and the interests of the individual enterprise would be sacrificed to totalitarian militarism. The middle-classes certainly did advocate an economic recovery which would ensure full employment, industrial expansion and even the widening of the bureaucratic sphere in order to provide jobs and offices. They did not advocate an economic set-up where full employment would mean the allocation of foreign exchange, raw materials, labor and capital according to the productive capacity of the enterprise, and where medium and small-size business would be spoliated.

There are other such discrepancies between hope and fulfillment. The thoroughly anti-middle-class policies of the Nazi regime must not obscure the fact that the active ranks of the Nazi revolution had been recruited from the middle-classes, and that the machinery of political control and mass domination which constitutes the skeleton of the Nazi state still is a middle-class machinery. It does not suffice to say that the “*élite*” is made up of dispossessed members of the upper middle-class.¹ It must be added that the active rank and file, though unemployed, did not consist of people without a definite profession but mostly of people connected with some kind of business.²

¹Officers of the army and navy; sons of high-placed bureaucrats, judges, professors, officers whose career had been broken up by the dwindling of their assets during the inflation; young intellectuals who had no chance to climb as high as the upper strata since the economic crisis barred their access to any professional career, etc.

²Owners of factories and shops; managers in industry and commerce; business employees; salesmen; engineers; farmers; employees of big rural estates; “independents” and employees in professional work; officials and employees of manufacturers’ associations, chambers of commerce, agricultural associations, etc.

The *élite* of *déclassés* drew its active support from the group connected with the owners, managers and leading personnel of independent medium and small-size business,¹—and the most active ones were the sons of these people.

The Nazis have made plenty of anti-capitalist propaganda. But this “anti-capitalism,” attracting hundreds of thousands of labor votes, did not frighten or alarm or alienate Hitler’s big and small capitalist supporters. It has been said that this propaganda was merely demagogic, and that the Nazis were, and are, but paid tools of Big Money. Obvious though it seems, this explanation does not account for the paramount fact that business has participated in “anti-capitalism” not only as a demagogic device but also as a far-reaching government practice of infringements upon traditional property rights.²

What the average businessman and shopkeeper stood against was very accurately expressed in the National Socialist ideology and propaganda. His foe was Big Business profiting from prosperity as well as from crisis, getting government subsidies and preferential treatments, obtaining credits and loans to refloat unsound investments, and engendering crises that ruined the others. In the “anti-capitalism” of the average businessman there was a profound yearning for security first, and what he blamed Big Business for was that it ruined his chance of making profits and rising through profits to the very apex of the social pyramid.

In adhering to “anti-capitalism” the small and medium businessman did not mean to advocate the abolishment of the capitalist system, nor did he stand up against concentration or mergers and amalgamations as such. In opposing monopolies he did not mean to vindicate prohibition of trusts, combines and cartels; he merely loathed becoming their victim instead of participating in their rise. As long as he is a victim of Big Money himself, he hates monopolies and banks as he hates Jewish competitors and labor unions. But once he has a share in the general recovery of business, he will not

¹During the post-inflation period several political parties arose in Germany claiming to represent the interests of small and medium business and soliciting business votes as “Business Party,” “Revalorization Party,” etc. They had considerable success up to the 1929-1930 crisis when all of a sudden they were swept away by the National Socialist wave. Election statistics prove beyond doubt that it was the entrepreneurial middle-class that sent the first sizable Nazi squads to parliament.

²After this paper had been completed, Erich Fromm presented *Escape from Freedom*, New York and Toronto 1941. In analyzing the character structure of man, particularly of the middle-class individual, on the eve of totalitarian society and within the latter’s framework, Dr. Fromm (see especially pp. 207ff.) arrives at conclusions very similar to (in part almost literally identical with) those drawn in the following paragraphs. His investigation into the psychological situation corroborates the results of my analysis of the economic facts.

fight to preserve the insecurity of free, unhampered competition, but will rather have his security guaranteed and enforced through control of competition as exercised by a government he trusts.

Being a little man, he stands against the big ones. He does not want them free to crush him under heel. But he claims for himself the freedom to become big. As long as his security is threatened he will favor measures to enhance control over Big Business, and be oblivious of the danger that his freedom will be overrun as soon as the control begins to operate. He craves protection by someone who would prove bigger than the big, but he will pathetically execrate any system that should deny him the chance to climb to the top. In securing employment for big capital the totalitarian regime seemed to restore security for the small and medium entrepreneur; it apparently did so through instituting a system of government controls. This very regimentation, which was to strangle him later, made the middle-class businessman take security for granted. He might be forced to close his shop some day or become a mere retailer for some big combine; but still he would feel secure within a system where there is both government control and free initiative, both regimentation and private enterprise.

Alleged "demagogy" boils down to an accurate expression of the ambiguous reality that the middle-class capitalists¹ have to face. Government control is identified with security. It makes no difference that in the end security widens the gulf between the rich and the poor and finally changes previously independent producers and traders into salaried employees. Where there is full employment, there is a chance for "economic men" to become successful.² To the "little fellow," generalization of totalitarian controls means equalization of chances. Everybody perforce becomes a member of an organization that interposes itself between the individual and the centralized power of the state. Everybody's fealty becomes mediated. Monopolies lose their frightening aspect when subject to equal organizational coercion and control, granted even that their power increases and small business forfeits all of its independence.

¹This applies as well to such sections of the middle-class as are not directly engaged in business, *viz.* professional men, teachers, lawyers, civil servants. The world they live in is as ambiguous as the middle-class capitalist's. So is their ideology. There is this very same ambiguous "anti-capitalism" which is based on the belief in free initiative and private enterprise within the framework of totalitarian control and regimentation.

²General regimentation implies certain equalitarian tendencies. There is no doubt that the Nazi regime abolished the last remnants of feudal relationships. This meant not only the weakening of the social importance of certain conservative groups opposed to the "revolution of nihilism" but also the annihilation of caste boundaries and caste taboos which the Weimar Republic had not been able to get rid of.

Now there is a "mediatization" of dependency.¹ In his very atomization the individual experiences a pseudo-annihilation of his defenselessness and insecurity in that he becomes part of a whole wherein he is given security and protection.²

To break up the political and social barriers that obstructed the path of the technological revolution the monopoly magnates had need of the active support of an "anti-capitalist middle-class movement." So the political machinery called upon to smash the institutional order of the Weimar Republic became highly instrumental in eliciting both the institutions and the power transmission mechanisms of the new set-up. This in turn gave the political machinery the opportunity to preserve and widen the power it had acquired. But this power is still contested by the capitalist monopolies. With their economic strength increasing, and bound to increase further as the industrial reconstruction continues, they will not relinquish the pressure they have been used to exercising in the political field.

From this derives the division of power between the Nazi political machinery and Big Business, which from the very beginning has overlain an ever latent conflict. Within this division of power which is obscured by interfering and conflicting interrelationships with other groups (e.g., different layers of bureaucracy) the party machine is, of course, not an organized representation of middle-class interests. It merely represents their traditional claim for security, and since security can only be maintained in an ever expanding economy which through expansion avoids crises, the party machinery stands for expansion first. As the claim of small business people for security is wedged into monopoly capital's claim for expansion, the latter swallows the former. The claim for security, however, gives the party machinery additional weight to throw into the balance, gives it greater authority to influence the drift of expansion.

It does not matter whether any given particular interest of small business is being protected, or whether the small businessman is "combed out" or his quota canceled from the list of those entitled to raw materials or labor supply.³ What matters is that the hidden

¹For details see pp. 278-83 below.

²This is the source of all "corporatist" tenets in National Socialism and the reason why the National Socialist revolution, although violently assaulting monopolies, became instrumental in enhancing the economic power of monopoly capital.

³I refer the reader to O. Kirchheimer's analysis of the facts in this issue. Several examples are quoted there to show that the discretionary power lies with the economic "self-administration" bodies controlled by the monopolists. Among the examples quoted I want to emphasize the recently enacted "profit stop" measures (the Price Commissar's instructions "regarding the operation of the profit stop according to article 22 of the War Economy Decree" and his ruling "concerning the enlargement of the powers attributed to the Price Supervision Boards" of March 11, 1941). Destined to give the community

(footnote continued on next page)

fatality of blind market or stock exchange forces will not be the one to forge the destiny of the individual capitalist, but that the latter will be entrusted to the state that warrants security (or to its agents).¹ The state thus gains power to advance the concentration of capital and the centralization of enterprise at the expense of small business, without being doomed to encounter serious resistance.

It is highly important in this connection that the social position of the political machine which runs the state—the party—has meanwhile undergone considerable changes. First, the *élite* is no longer a gang of *déclassés* but has become the leading group of organizers within the governmental set-up. Second, the active rank and file's claim for security has been fulfilled; the party supporters participate in the universal prosperity as capitalists, managers or corporation officers, or have been put on the payroll of the civil service, the police, the economic administration or the party itself. Their vital interest is no longer a nebulous longing for security and recovery, it is now a very specific interest in the maintenance of prosperity, i.e., in technological revolution, war production, imperialistic aggression.

This collective interest of the party machine (called "common interest" or "political necessity" or "national imperative") coincides with the capitalist monopolies' interest in expansion and implies in the long run the spoliation and subjugation of the small businessman. On the other hand, in every individual instance the political machine's collective interest in abstract economic progress may easily antagonize particular interests of the capital magnates and become identical with the average capitalist's, manager's, official's yearning for more business, more profit, more power at the expense of yesterday's *grands-seigneurs*. This change in the social function of the political machine is still going on. But there is a *hiatus* in the

a share in "unjustifiable" war profits, these measures institute a retroactive control of profits earned which are to be checked with "patterns of appropriate profits." Yet, the setting-up of such patterns has not been referred to the jurisdiction of an independent arbitrating body but entrusted to the "self-administration," i.e., to the organizational agencies of big business. In the future they will be the ones to fix the profit margin not only for every industry but also for every individual enterprise, and the leading principle is not to be social equity but the appropriateness of the profits to the requirements of industrial expansion (with a differential rate of profits to reward the technologically fittest). See "Die Durchführung des Gewinnstops" in: *Frankfurter Zeitung*, March 15, 1941; "Kriegsverpflichtete Preise und Gewinne" in: *Soziale Praxis*, April 1, 1941; "Die Anweisungen zur Preissenkung und Gewinnabführung" in: *Der Vierjahresplan*, May 5, 1941.

It is comforting and reassuring for the individual capitalist to know that big concerns like Stoehr, the leading textile combine, are fined RM 1,500,000 for having neglected one of the countless rulings of the Price Commissar, or that a tycoon like Thyssen has his assets turned over to the state for having disagreed with the Fuehrer. The very use of equalitarian and leveling devices enables the state machinery, on the other hand, to act as an executioner of small fry in behalf of the big.

trend when the party machine's specific goals shift from the struggle for security to the struggle for the conquest of additional economic power, for the invasion of the monopoly citadel.¹

From this time on division of power between "political machine" and "business" changes its character. Those in charge of the political controls endeavor to penetrate into the economic sphere. They start to build new industrial combines that they are going to own or to control.² They see to it that individual party functionaries get into the managing boards and directorates of industrial enterprises.³ On the other hand, the emphasis put on economic advance and expansion expedites the setting-up of an all-embracing organization of the economy. The concentration of business through mergers, amalgamations and interlocks is being urged, and at the same time the "self-administration" organs of the economy have their powers widened and increased to supervise and to check on all economic activities of individual entrepreneurs and corporate enterprises.⁴

Since the self-administration is controlled by big business from the very beginning,⁵ the widening of its power and organizational scope results in improving and strengthening the position of the capitalist monopolies as against the political machinery. This in turn calls for a parallel extension of the governmental network of

¹This occurs when full employment is about to be reached (around 1937). Different features of the economic set-up which have since taken more definite shape, e.g., demand permanently exceeding supply, have been associated with characteristics of preparedness economy. Yet, scarcity is no necessary implication of preparedness. Scarcity forcibly results from continuous expansion after the limits of full employment have been reached. Expansion on the basis of full employment produces a dynamism of its own.—For further discussion of this topic see below.

²Besides the "Hermann-Göring-Werke" combine mention ought to be made of the "Wilhelm Gustloff Foundation," ammunition and machine works in Thuringia, title to which is held by the National Socialist Party, and the manifold enterprises of the German Labor Front embracing banking, insurance, etc.—Contrary to what has been stated in the Berlin dispatches of American correspondents, the newly-founded Kontinentale Oel-Aktiengesellschaft, a giant corporation to exploit continental oil resources, is not a party undertaking but a joint enterprise of several privately controlled industrial combines.

³It makes no difference in the result whether private concerns hire Nazi dignitaries to protect them against bureaucratic interference, or whether directorial seats are granted to officials of Supervisory Boards as a compensation for services rendered, or whether specific groups within the party hierarchy obtain such controlling positions in business through more or less overt political blackmail.

⁴In its present form the "self-administration" of the economy rests on the decree of the Reich Minister of Economic Affairs concerning the "reform of the organization of industrial economy" of July 7, 1936, and on the Cartel Decree of November 11, 1936. (See Eberhard Barth, *Wesen und Aufgaben der Organisation der gewerblichen Wirtschaft*, Hamburg 1939, pp. 30f.) The legal set-up was moulded on the eve of "full employment."

⁵As will be explained below, the self-administration is but the continuation of the former manufacturers' associations. Its executive organs have been recruited from the associations' personnel, and the advisory committees are made up of the heads of the most representative private concerns. See Barth, quoted *supra*, pp. 64-68.

controls and checks. The process began with the reorganization of the Reich Ministry of Economic Affairs,¹ and continued with the enlargement of the Supervisory Boards,² and the creation of the District Economic Boards.³ It is still in progress.

It turns out to be impracticable, however, to set up an organizational machinery to duplicate and supplant the machinery of business itself. More and more supervisory functions, therefore, are ceded to business' self-administration, and even the distribution of raw materials, which could have become the most important device for intruding upon the decisions of the individual enterprise, is to an ever growing extent being entrusted to the organizational bodies of business itself.⁴ What then is left to the political bosses but to build up business enterprises of their own, which would make them rank as high as those of the monopolies, and to bolster up these newly-acquired positions with loot secured in conquered territories?

Profit, Money and Credit Under Regimentation

The success of industrial reconstruction has certainly hinged to a large extent on the smoothness of the organizational set-up of busi-

¹Dismissal of Dr. Schacht, merger of the Ministry with Göring's Four-Year-Plan Office. See Paul Koerner (Under Secretary in the Four-Year-Plan Office), "Führung und Wirtschaft" in: *Der Vierjahresplan*, 1938, No. 2, pp. 66f.; "Anordnung zur Neuorganisation des Reichs- und Preussischen Wirtschaftsministeriums," *ibidem*, p. 105. The reorganization was enacted on February 4, 1938.

²Shortly before the outbreak of the war, the Supervisory Boards for the control of foreign trade were transformed into supervisory bodies covering all economic activities. They are now called Reich Boards (Verordnung über den Warenverkehr vom 18. August 1939, *Reichsgesetzblatt* [quoted *infra* as RGB] I, p. 1430).

³These District Boards (paralleled by Food Boards for agriculture) are destined to provide an organizational infra-structure for the machinery of the Reich Ministry of Economic Affairs (in the case of agriculture, for the Ministry of Agriculture). Their legal set-up is based upon the "Decree on Economic Administration" as amended on November 28, 1939 (RGB I, p. 2315). Article 5 of the Regulations of September 22, 1939 (RGB I, p. 1872) explicitly stipulates that the Boards' tasks in the maintenance of production and the regimentation of business shall not be taken care of by the governmental agencies themselves, but be delegated to the self-administration bodies, i.e., to business organizations. Only the organization of rationing devolves upon the District Boards. The same applies to the District Food Boards under the decree of August 27, 1939 (RGB I, p. 1521). They are made up of two divisions each, a division A supervising production and marketing and identical with the board of the district organization of the farmers, and a division B—the only one to be run by civil servants—for the rationing of food and its distribution. (See Posse-Landfried-Syrup-Backe-Alpers, *Die Reichsverteidigungsgesetzgebung*, Vol. III, section Allg. V, pp. 1-48.)

⁴For more details on the role of the "self-administration" see pp. 275 ff. below. This development only generalizes organizational patterns that could be found previously in the distribution of textile raw materials (law on spinning materials of July 5, 1938, RGB I, p. 833). There already the Chambers of Industry and Commerce, subdivisions of the self-administration, were entitled to grant exemptions from the prohibition against new concerns. After the outbreak of the war, when the entire textile industry was subjected to regimentation, the distribution of raw materials was conferred upon newly founded Distribution Boards set up within the framework of the self-administration. (See Posse-Landfried-Syrup-Backe-Alpers, *op. cit.*, Vol. II, Section Spinnstoffwirtschaft Allg., pp. 11-21.)

ness, the potentialities of influencing and "steering" the economic automatism. The entirety of economic life is geared to produce the maximum yield and to exploit available resources as economically and efficiently as possible.¹ This cannot be done unless the general direction of economic activity has been agreed upon and a large degree of coordination has been secured in the day-to-day functioning of business.² It is true that the general direction of economic life, though determined by the potentialities of the production apparatus, was to some extent influenced by political decisions. Business activities of the individual enterprises are being coordinated "from without," and their decisions as to what ought to happen within the enterprise are subject to restrictions.³ What determines the character and scope of such restrictions?

Regimentation, to begin with, does not abolish the profit motive within the industrial enterprise. Notwithstanding that volume and nature of production may be prescribed, the individual enterprise has no other purpose in producing but to produce commodities salable at a profitable price. In an economy where the flow of com-

¹"An increase in Germany's economic power can still be achieved through improvements in the set-up of the productive plants, the means of production and the methods of manufacture as well as through raising the working capacity of those employed in the German economy. The measures to be taken to this effect require a uniform guidance if they are to be carried through." (Wording of the rationalization mandate bestowed by Hermann Göring upon Reich Minister Funk on December 12, 1938, in: *Frankfurter Zeitung*, December 15, 1938.)

²Coordination of activities, not elimination of private management: "Still bigger tasks than those that he has, in our view, to perform in peace-time devolve upon the head of the enterprise in the war economy. It is understood that the war demands thorough planning in the use of manpower, raw materials and productive capacity, and thus imposes upon business certain planifying restrictions. However, this kind of planned economy must never lead to a situation wherein the initiative and the impulse to work of the industrialists should be hampered by executive agencies of the authorities. Extensive elimination of free market production does not mean obstructing entrepreneurial initiative; on the contrary, the more active, resourceful and daring the head of the enterprise proves to be, the more he will be able to fulfill his war task." (General Georg Thomas, Chief, Staff Division of Defense Economy, Supreme Command of the Armed Forces, in: *Der Vierjahresplan*, 1939, No. 20, pp. 1178f.)

³"It is not so much the compulsion to economize in the use of manpower and financial means as such that causes frictions with the businessman; it is much more the fact that the public administration today has become . . . an invisible member of the management of the shop and thus considerably restricts the latter's freedom of disposition. This, however, is a condition which cannot be dispensed with if governmental steering of the economy is to be carried through when scarcity governs the supply in numerous fields. The task of rationing these steering devices can therefore consist only in this: to prevent the individual enterprise from becoming—like St. Sebastian—a target for the arrows of each and every administrative body; to minimize as far as possible the burden which the effects of such measures impose upon the enterprise, and to do so in canalizing them." (*Der deutsche Volkswirt*, November 11, 1938.)—Such was the task of "rationing" and "canalizing" regimentation which the editorial writer of *Der deutsche Volkswirt* took pleasure in assigning to the then newly-appointed leader of the Reich Group Industry, Herr Zangen, president of the Mannesmann iron, steel and machine-building combine.

modities is punctuated by a series of transactions which are money transactions, not to make profits or to incur losses means to be barred from continuing production. This has not been altered in the totalitarian set-up and still applies to private enterprise as well as to government-owned enterprise. Moreover, since the maintenance of production depends on occupying a favorable position in relation to the supply of raw materials, labor, machinery and equipment, and the procurement of such a favorable position depends in turn on the capacity to produce and to expand production—which again is a question of the financial overlay—, profit-making and profit-amassing becomes more imperative than ever. Fixed prices, unfavorable delivery conditions, difficulties in securing raw materials and other ingredients of the manufacturing process, or high taxes, duties, levies and contributions of all kinds, render the earning of a surplus more difficult, and this cannot but sharpen the sting of the profit motive instead of neutralizing it.¹ It then often becomes a question of life or death to obtain preferential treatment and influence government agencies, supervisory bodies and political go-betweens in order to get such preferential treatment.²

Since the main interest of the government is maximum efficiency and maximum production, preferential treatment is most easily obtained where there is maximum expansion of enterprise. On the other hand, expansion of enterprise improves the competitive position and thus provides for more profit. Expansion guarantees the realization of the profit motive, and the profit motive stimulates expansion. Far from being nullified, the profit motive as condensed and multiplied in the impulse towards expansion becomes more

¹“The profit is, like the wage, a factor hampering and furthering buying capacity; hampering it as an element of the price, furthering it as the basis of demand. It must be held in balance between these two functions so as to preserve its third (or first) function as a stimulus to entrepreneurial activity.” (*Soziale Praxis*, April 15, 1941.)

²Where profits are threatened by price-fixing or severe delivery terms, the enterprise will have to gain influence with the price-fixing authority or the board that determines when, how and in what condition products are to be delivered. Where profits are threatened by marketing restrictions and sales quotas, one will have to gain influence with the cartel or self-administration body that assigns marketing quotas to the individual shops, or to try to purchase the other fellow's quota, or to strangle him so he will sell out, etc. Where at last profits are threatened by hindrances in the supply of raw materials, equipment, etc., there will be the imperious necessity to establish a “pull” with the body that distributes and subdivides the “contingents.”—The organizational set-up which governs the distribution of “contingents” is discussed in Kirchheimer's article in this issue. The trend he emphasizes as being in progress, a trend towards entrusting the “self-administration” agencies with the regimentation of supplies, is paralleled by similar trends in the allocation of priorities for government orders, the allocation of subsidies to enterprises which are under the compulsion to close down or to restrict production, etc. See Friedrich Landfried (Under Secretary in the Reich Ministry of Economic Affairs), “Zusammenarbeit von Staat und Organisation der gewerblichen Wirtschaft in der Kriegswirtschaft” in: *Der Vierjahresplan*, 1939, No. 23, pp. 1320f.

than ever the stimulus underlying every economic activity.¹ Government interference with business activities actually results in augmenting the impulses to make profits and to grow bigger and stronger in order to be able to make them. Regimentation and control only spurs that progressive widening of the scope of profit-making which is the main characteristic of capitalist production.

The dynamics of profits are, of course, not identical with the dynamics of prices, and stabilizing prices does not mean eliminating the movement of profits. Actually, totalitarian controls did not even succeed in stabilizing commodity prices.² Besides, there was no attempt to stabilize the price of capital, either liquid or invested in industrial plants. Even if the prices of commodities were totally freed from the impact of supply and demand, they would still have plenty to do with the costs of production. But the costs depend on the possibility to obtain capital and means of production. In turn the prices of these elements of the costs are governed by the ratio of supply and demand which crystallizes in the market value of contingents, quotas, permits, etc. on the one hand, the price of shares, patents and licenses, controlling interests, and entire plants and enterprises on the other hand. Here is the decisive limitation on government control of prices and profits.

It may be objected, however, that the government as a major purchaser, customer and distributor of manufacturing orders is in a position to fix prices arbitrarily and to disrupt existing correlations of prices and profits. Actually this is not the case. The regulation of prices for government purchases follows closely the lines of the general price control and obeys the requirements of the profit-bound economy of expansion.³ It could not be otherwise because the gov-

¹Of course, the industrial capitalist in totalitarian Germany is not free to restrict or to expand production *ad lib*. But restricting production as a weapon to improve the competitive position is preposterous anyway in an economy based on the maximum use of productive capacity. At the same time the check on expansion resulting from the permanent excess of demand over supply does not weaken but on the contrary highly increases the incentive to expand and to overthrow all barriers that hamper expansion.

²The general scarcity resulting from "full employment" makes the prices of all commodities display an upward trend. Where the government strives to prevent prices of all commodities from going up (in order to circumvent inflationary chaos), it naturally has to "stop" prices at a given level in stabilizing all of the existing price correlations. In this the Nazi government did not succeed. In fact, the Price Stop Decree of November 26, 1936 (Verordnung über das Verbot von Preiserhöhungen, RGB I, p. 955), enacted on the eve of full employment, has been supplemented and widely supplanted by a complicated system of regulating flexible and fluctuating prices, a system too intricate to be presented here in its working details.

³Leitsätze für die Preisermittlung auf Grund der Selbstkosten bei Leistungen für öffentliche Auftraggeber (LSÖ), November 15, 1938; Richtlinien für die Preisbildung bei öffentlichen Aufträgen (RPÖ), November 15, 1938; Preisbildung bei öffentlichen Aufträgen, Circular instruction of the Price Commissar, November 24, 1938; Leitsätze für die Preisermittlung nach LSÖ und LSBÖ bei mittelbaren Leistungen für öffentliche Auftraggeber, March 11, 1941.

ernment is not free to contract or expand its demand at will. Arbitrary contraction of government demand is impossible unless made up for by a corresponding increase in the demand of private business—or else expansion must stop, full employment come to an end, and the entire structure of the regime face collapse. Arbitrary expansion of the purchasing power of the state would be tantamount to inflation; expansion is limited by the actual volume of production and the speed of the commodities flow.¹ Where a given productive capacity is in full use, printing money will not increase production though it might canalize the flow of commodities and affect distribution.

The actual financial sovereignty conferred upon the government lags behind its increased technical potentialities. The flow of capital and credit may certainly be directed to one or several industries that the government selects. But once driven in a given direction, it creates additional employment, additional output and more profits. It increases the volume and speed of accumulation in the concerns which benefit by this additional financing. Subsequently, they are enabled to retain the profits earned, to amass them and to finance further investments and further expansion “from within.” Internal financing makes them almost independent and necessarily checks the government’s interventionist tendencies and volitions.² Manipulation of currency and credit then cannot continue except with the consent of those very industrial monopolies whose financial power has been strengthened through government financing. It happened thus in totalitarian Germany. Once the decision was taken to finance synthetics, coal-processing and rearmament first,³ the subsequent financial development was bound to follow the lines drawn by the intra-industrial accumulation, i.e., by internal financing.⁴

¹According to recent estimates by the Reich Statistical Office (*Wirtschaft und Statistik*, 1941, No. 6) the aggregate turnover of all commodities in Germany was RM 225.4 billion in 1929, 163.3 in 1935, and 250.0 in 1938. Money circulation at the end of these years totaled RM 6.6 billion in 1929, 6.4 in 1935, and 11.0 in 1938. Creation of buying capacity did not arbitrarily outdistance the creation of moneyable commodities, i.e. aggregate production marketed.

²“Internal financing creates seemingly unsupervised capital and thus obstructs the investment steering that has become necessary under the sign of super-employment.” (*Soziale Praxis*, April 15, 1941.)

³Not even this decision was an arbitrary one. It has been pointed out above that the course of industrial reconstruction was pre-determined by the technological structure and the economic set-up of pre-Nazi society.

⁴As late as 1941 the Nazi government is still unable to prevent internal financing which goes on at the expense of financing government expenditure. In addressing the Reichsbank stockholders on March 12, 1941, Reich Minister Funk most emphatically scored internal financing as threatening the government’s tax revenue, and ostentatiously announced measures to cut profits and to preclude further amassing of capital in business hands. (See *Frankfurter Zeitung*, March 13, 1941.) He undoubtedly succeeded

(footnote continued on next page)

In directing a huge part of national income into the financing of technological reconstruction and rearmament the totalitarian government naturally had to engage in large-scale spending of its own. Various schemes were concocted to this effect, either to drain or canalize the capital market. Private business up to 1938 was practically barred from capital stock issue¹ and pushed towards internal financing.² In other words, the very fact that the government had the opportunity to divert the flow of capital towards one or another sphere and at the same time to widen the scope of public spending has led to a considerable limitation of the government's financial sovereignty.

This does not mean that no financial decisions can be made by the government. It still has to decide how to provide funds for public spending, whether to increase taxation, or to expand public credit, or to compel industrial treasuries to take in government bonds, etc.³ In manipulating currency a totalitarian regime cannot overdraw its potential credit any more than a parliamentary regime could do. Where the monetary saturation point is passed, inflation starts. This only the market will reveal. A totalitarian regime is undoubtedly better equipped than any other regime to foresee developments in the market and to act accordingly. That's what accounts for the "finance miracles" it is said to have performed.

in provoking quite a slump in the German stock market. But the actual content of the sensational measures (enacted on June 21) boils down to additional taxes on dividends exceeding 6 per cent of the nominal stock value, and to granting all corporations the power to revalorize the face value of their capital stock. According to *Bank-Archiv* (April 1, 1941), "the status of the minority stockholders will once more be weakened" as a result of these measures. This amounts to saying that undivided profits, instead of being cut, will keep growing as ever. There is obviously no way to suppress internal financing as profits continue to flow.

¹Government issue as percentage of total stock and bonds issue amounted to 70.0 per cent in 1933, 39.7 in 1934, 64.8 in 1935, 70.8 in 1936, and 70.9 in 1937. (*Wirtschaft und Statistik*, 1938, No. 5.)

²According to recent estimates by the Reich Statistical Office, aggregate undistributed earnings of German corporations in 1938 totaled RM 3,420 million as against 1,200 in 1935 and 175 in 1933 (*Bank-Archiv*, 1941, No. 8). Aggregate capital stock of German corporations in 1938 amounted to RM 18.7 billion (*Wirtschaft und Statistik*, 1940, No. 21); dividends paid out averaged 6 per cent (*ibid.*, 1939, No. 15). Aggregate dividends must have amounted to about RM 1,100 million. Out of the profits earned 25 per cent were allotted to the shareholders.

³Such decisions are certainly influenced by the conflicting interests of the industrial and financial groups concerned. The financial policy of the Third Reich has been the result of conflicts in this sphere. To quote an example, a few weeks after the government had announced that it was going to "stop profits" the comments of the German press were pointing out that "the Price Commissar shows less interest in curtailing profits than in reducing prices" (*Frankfurter Zeitung*, April 24, 1941). "What actually does interest him [the Price Commissar] as regards the balance-sheets of the corporations is not what part of the profits he may collect as excess profit to cream the milk, but to what extent prices can be cut down in the future without endangering the profitability of the enterprise" (*Frankfurter Zeitung*, March 30, 1941). "The question of creaming the profit milk is being assigned the minor part which is its due" (*ibidem*).

Yet, how to circumvent danger points in monetary policies is the object of political decisions which lie with political bodies in any regime whatsoever. Divergent interests have to be taken care of. There was a plurality of conflicting interests to decide upon both the content and the technicalities of government finance under Dr. Schacht, and there is still a plurality of interests to mould the final decisions under Dr. Funk.¹ There is the Ministry of Economic Affairs, the Ministry of Agriculture, the War Ministry, the Finance Ministry, the Reichsbank, etc. There are the giant banks cooperating with the Reichsbank, and the big industrial combines closely connected with the banks. They all have their say in the formation of decisions on financial policy, as have the central organizational bodies of the political party machine. Since political power is concentrated with one monopolistic machinery and all political activity outside this machinery is curbed, interests of individual groups or particular sections of society cannot express themselves except through the channels of the monopolistic political organization. The monopoly of political power implies the plurality of authority and decision as regards any particular step within the general limitations drawn by the sovereign decisions of the party machine.²

The decisions are based on, and reached by, compromise. They have to cope with the general trend. As a rule, they are not taken in opposition to the capitalist monopolies but with their consent. Still, there remain countless technicalities which someone or other has to decide upon. Who? None other than the bureaucracy of the Reichsbank and other government agencies,³ the officialdom commissioned to cut thousands of Gordian knots as business goes on. With this officialdom not only the bureaucratic tradition but also the notions of fiscal correctness, clean accounting, balancing assets and liabilities, solvency of those to be dealt with, still prevail. No abstract motivations are to be considered, only prices, interest, ex-

¹It is characteristic of the Nazi government set-up that the Reich Finance Ministry takes no active part in determining the features of the financial policy. In practice, the economic administration has more authority in discussing and preparing the financial decisions. It exerts its influence through the personal union established between the Reich Ministry of Economic Affairs and the Presidency of the Reichsbank both under Schacht and under Funk.

²As pointed out above (pp. 243 ff.), the monopoly of political sovereignty rests upon the division of power between the political machine and the leading business groups who hold the economic key positions. Such equilibrium must be unstable and subject to daily shifts in the distribution of power. This accounts for the plurality in the source of decisions and for the social struggle going on around each particular measure and each practical step to be taken.

³Important decisions which presuppose a compromise between the main interests concerned will have to be made by the Reichsbank President, who is the Minister of Economic Affairs, and who as a representative of the party machinery has authority to arbitrate. But this applies to important and consequential decisions only.

change rates. The bulk of the decisions to be made concern only the priority of the applicants for credit.¹ In a non-totalitarian regime the decision normally lies with a syndicate of issuing banks, whereas under totalitarian rule it is the Reichsbank that arranges the order of applicants in the priority list. The principles underlying the decision are identical in either instance: under equal conditions of capitalization and issue rates, preferential treatment must be bargained for, and the one wins who has the most trumps (political influence not excluded) to play.

The Bureaucratization of the Economy

The main direction of economic life is given by the political machinery and conforms to the "automatic" tendencies of technological reconstruction. But the day-to-day practice is regimentation and coordination of the totality of individual economic activities, implying continuous interference with the decisions of the individual producers, permanent encroachment upon the domain of the independent economic units.

A comprehensive system of economic regimentation did not crystallize in Germany until full use of the existing productive capacity was ensured. Certainly no perfect or complete system was introduced, but the framework at least was set in operation when full employment was about to be reached.² The coincidence was not fortuitous. Economic activity in Germany is geared to guarantee maximum efficiency and optimum yield in the sphere of armament in the broadest use of the term, i.e., in the industries of producers goods. But when existing productive capacity in the manufacture of producers goods is used at its fullest, shifts and changes in the use of the industrial wheelwork must be brought about to guarantee ex-

¹Since private business has been given access to the capital market there is no industrial stock or bond issue that would not be over-subscribed within a few days. Therefore, the question as to the commercial advisability of a projected issue does not even arise. The only thing to be decided upon is: who goes first? For the Reichsbank as the operating body (a supreme supervisory authority is the Reich Commissar for Banking whose department has recently been merged with the Ministry of Economic Affairs) it does not make any difference whether the capital-seeking concern is the Mannesmann combine, for instance, or the Rheinmetall-Borsig, a subsidiary of the Göring combine, or some other enterprise. To illustrate, during the three months ending March, 1941, new stock issue on the German capital market totaled RM 192,950,000. Out of this amount RM 112,950,000 were issued by privately-owned concerns, and RM 80 million by the newly-founded privately-owned but government-supervised giant combine Kontinentale Oel-Aktiengesellschaft. Yet, the major part of the Konti-Oel issue, viz. RM 50 million, never reached the market but was taken over by the founders. Thus, out of an actual issue of RM 143 million only RM 30 million were being issued by a corporation at least partly government-controlled. No government-owned concern was among those allowed to approach the market. (See *Frankfurter Zeitung*, April 8, 1941; *Der deutsche Volkswirt*, April 4, 1941.)

²See p. 245 above (note 1).

pansion. Since surpluses and resources can be multiplied but on a limited scale, selective decisions must be made which presuppose coordination. Someone must decide which among the desirable investments are to be granted priority, what is to be produced or built first, and who is to get machines, raw materials and labor where there is not enough of everything to go around. Expansion no longer propagates itself automatically. Where there are no idle plants to put into operation or labor to operate them, building and re-building must be subject to organized direction and control.

On the other hand, the problem of outlets and markets disappears. When the whole of production is geared to yield the maximum supply of means of destruction for a virtually unlimited market, and all other industries must supply machinery, equipment and materials to this single sphere whose potential demand is boundless, total production must lag behind the producers' and the consumers' demand for both producers and consumers goods. Scarcity becomes law. Maintaining production, which in itself depends upon expansion, becomes a question of organizing the distribution of means of production. Coordinative regimentation must ensue. Stopping the expansion would mean curtailing the demand of the armament sphere. But the sphere of armament or war economy extends to most large-scale industries. Curtailment here would result in a general economic breakdown. No economic sphere could stand the effects of a check on expansion and none would oppose regimentation where the only alternative is economic collapse. It is, then, not principle that decides who will be commissioned to put into practice the brakes and checks of economic control. Where "business," for all that it suffers from bureaucratic interference, must willy-nilly accept centralized control or face decay, it is not surprising that the exercise of controls should be entrusted to business itself or to its satellites.

Only part of the coordinating and regulating activities are carried on by government agencies.¹ Up to the outbreak of the war there existed only a central machinery of economic administration without any regional network to rely upon. The new Economic District Boards do their work mainly through the organization of busi-

¹"If the enactment or the execution of measures requires continuous action with regard to the enterprises affected and if such action cannot be expected to succeed unless a close contact with the enterprises has been established, the government shall entrust the enactment or the execution to the Organization of Industrial Economy"—says Dr. Barth, Ministerial Councillor with the Reich Ministry of Economic Affairs, in: *Wesen und Aufgaben der Organisation der gewerblichen Wirtschaft* (Hamburg 1939, p. 21), an official commentary prefaced by Rudolf Schmeer, Chief of Department III, Reich Ministry of Economic Affairs.

ness itself.¹ The central machinery, however, has important functions to perform as it deals with priorities, distribution of raw materials, and in particular instances, direct control of the volume of production. Who then, one must ask, are the men in charge of the economic administration?

The top officials entrusted with the control of economic life come from the ranks of both business and bureaucracy. There are capitalists and industrial managers among them as well as career-officials, mainly from the ranks of the fiscal departments, the Reichsbank, the customs and the mining administration, and finally managers of state-owned industrial and utility concerns. There is not much difference between the latter and the managers of private business firms.² As to the career officials in the ministerial and supervisory bodies concerned with economic life, most of them are law graduates (or economists and engineers) who have followed the normal civil service career, are *ex officio* pledged to serve an abstract "common weal," and dwell in categories of order, correct accounting and auditing, and civil law. In dealing with economic life they may not be interested in the well-being of an individual businessman or in the success of his undertakings. But, as a rule, they are used to respecting established rights, property titles and privileges. They are rather reluctant to making discretionary decisions affecting other people's property claims; where such decisions must be the outcome of regimentation, they favor the transfer of the discretionary power to the organization of business itself. Either certain spheres of control and regimentation are legally assigned to the jurisdiction of the "self-administration"; or government agencies, permanently or for a time, confer upon mandatories of business the execution of measures they are in charge of.

This is one of the reasons why the actual operation of government controls lies to a very large extent with the Organization of Industrial Economy, the Reich Groups and their subdivisions, and the regional infra-structure of the "self-administration," the Economic Chambers and the Chambers of Industry and Commerce.

¹See p. 245 above (note 4) and p. 246 (notes 3 and 4).

²They are university people: engineers, chemists, scientists, lawyers, economists. Most of them belong to the entrepreneurial middle-class, some of them are even sons of big capitalists, several come from families with an old bureaucratic tradition. The ties which connect them with the groups they came from have never been severed. In the upper strata of management changing over from government-owned to privately-owned enterprises and the reverse has always been usual in Germany, and is being continued under Nazi rule. It also often occurs that high-ranking civil servants enter the ranks of management (in private and public enterprises) after having climbed as high as the top of the bureaucratic hierarchy; it occurs as well that eminent industrialists are offered, and accept, positions in government-owned concerns, and advance therefrom to bureaucratic careers.

The self-administration, endowed with public authority, covers all of the enterprises in any given district or trade. There is no democratic set-up, no election of officers. But the organization cannot function unless it is in close, permanent and working contact with the enterprises it is supposed to represent. On the other hand, the organizations really representing the "rank and file" of business are the cartels, still private organizations devoted to specific business tasks, above all to eliminating competition and organizing the market. Legally, cartels are subject to supervision by the "self-administration" and do not even enter in its organizational set-up.¹ In practice they are the basic units of the self-administration, its very wheelwork, and all that is done within the scope of the Organization of Industrial Economy, either in the latter's own competence or in very wheelwork of the cartels.² As contrasted to all of the other the public functions it performs by deputation, is done through this organizations integrated into the state structure of totalitarian Germany, the cartels are the only ones to be allowed a democratic set-up, to make decisions through votes and to elect their executive bodies.

This is essential for the functioning of the self-administration whose official structure is framed differently and whose officers are appointed by the government. However, even this method of selecting the officers of the self-administration does not alter the paramount fact that there is not one single president of a Chamber of Industry and not one single leader of a Reich Group or its subdivisions who has not been chosen out of the ranks of the leading industrialists. The chiefs of the organizations which interfere with the daily activities of the individual concerns are themselves heads of industrial or commercial enterprises, banks and insurance companies—as a rule, of the biggest, the most influential, the most highly capitalized concerns.

This applies to the leadership of the self-administration. But who then makes up the operative personnel that does the work, co-

¹See Eberhard Barth, official commentary quoted *supra*. There is the fact, for instance, that the government agencies keep warning the "self-administration" not to tolerate personnel identity with the staff of the cartels. Thus far the warning has been of no avail.

²It is impossible to give here a catalogue of the various tasks and functions assigned to the cartels by government agencies or by the economic self-administration. A great many particulars as well as single data can be found in the publications which try to comply with the thankless task of gathering and codifying myriads of laws, decrees, rulings, instructions and injunctions dealing with the regimentation of economic life. I refer to Posse—Landfried—Syrup—Backe—Alpers, *Die Reichsverteidigungsgesetzgebung*, thus far 4 volumes; Dr. Carl Moelders, *Das gesamte Recht des Vierjahresplans*, 2 volumes; *Die Anordnungen zur Durchführung des Vierjahresplans*, 3 volumes. Besides, ample evidence is furnished by *Kartell-Rundschau* and other periodicals. An accurate analysis of a particular sphere is given by Leonhard Miksch, "Bewirtschaftungskartelle" in: *Die Wirtschaftskurve*, 1940, No. 1, pp. 24f.

ordinates and guides economic activity, technically and practically interferes with the "economic man?" This economic bureaucracy proper (from which the personnel of the cartels cannot possibly be segregated) is the focal point of all regimentation of business. Here is a body of officials and executives which is welded into an indissoluble unity from top to bottom, intimately connected likewise with the officialdom of the government agencies in charge of economic affairs,¹ the live texture of the organizational machinery of economic controls, that which makes a whole out of a legion of separate agencies, boards, offices.

This bureaucracy of the economic organizations, though less often spoken of than the officialdom of the government agencies, is much more important and much more concerned with the daily functioning of the economic mechanism. It is, besides, not a product of the totalitarian regime. Originating in the specific conditions that had determined the development of capitalism in Germany, it is the skeleton of institutions which were set up by business to take care of interests outgrowing the sphere of the individual enterprise. With the spread of big industry, with the progress of technology, with the growing importance of political decisions and social antagonisms, organizations had been built to represent producers, manufacturers, traders where they had interests in common as regional, professional, social groups. Rapid concentration promoted equally rapid amalgamation of such associations into more and more influential and powerful groups.²

The work of this supra-entrepreneurial and inter-entrepreneurial machinery had to be done by full-time officials, executives, organizers, lawyers, economists, statisticians, consulting engineers. They were, of course, but an instrument of the totality of individual enterprises, yet a common instrument, an authority outside and above the individual enterprise. In many an instance the individual capitalist had long ago transferred his sovereign authority to the organization of his industry, his district, his social group. The scope of the functions that had to be performed in common, of inter- and supra-entrepreneurial tasks that had to be fulfilled, widened enormously as the technological revolution (and rearmament) went into effect,

¹Government agencies not only delegate functions and jurisdiction to executive bodies of the self-administration or of cartels but also quite often appoint officials of both to act as officers (commissioners, superintendents, etc.) on their own staff. It must be noted that being appointed to such a public office hardly ever implies resigning from the offices held in business or business organizations. The contrary is common usage and, as a rule, the condition of the appointment.

²See the brilliant study by Robert A. Brady, quoted *supra*.

emphatically tightening the interdependency of all economic activities.¹

The bureaucratization of the economy consists not only of the increase in bureaucratic functions (supervision, accounting, statistics, office work, research, etc.) within the enterprise. It also consists of the projection of organizational functions beyond the limits of the enterprise, and creates a new bureaucracy which necessarily must infringe from without upon entrepreneurial privileges.² This supra-entrepreneurial bureaucracy, albeit that it is linked with managerial bureaucracy inside the enterprise, is not identical with the latter. Its working field is not the individual enterprise. The organizational bureaucrat experiences no scruples in sacrificing one or several concerns to the requirements of industry as a whole. Yet, though his virtual boss is the collectivity of concerns his organization represents, his actual boss is but a small group of industrial magnates who run the organization. Manufacturers' associations have always been governed by the biggest interests within them.³ This is obvious with regard to cartels where votes are determined by the "quota"; it is also true of the larger supra-entrepreneurial organizations in whose set-up the economic influence, the social position and the financial power of the big industrialists are necessarily given precedence. It is all the more so within the organizational framework of the actual German self-administration of business.⁴

The economic bureaucrat, who was to serve the interests of the totality of business enterprises, becomes an agent of big business interests as concentration of capital progresses. The "common weal" he is pledged to observe boils down to the well-being of one particular group. He will easily sacrifice the particular interests of small and medium business to favor the big, and he will be capable

¹"Compliance by the entire industry with the dicta of the coopted 'self-governing' cliques involves a rationalization of cartel-like patterns of control for all industries" (Brady, *loc. cit.*, p. 390).

²In Germany this development has been going on for decades at a particularly rapid pace, undoubtedly resulting from the rapid progress of industrial concentration as well as the bureaucratic set-up of society inherited from the cameralist and autarchic beginnings of capitalism in the Prussian military citadel. Economic bureaucracy of this kind is thus far but embryonic in the remaining democratic countries.

³"... Here leadership is taken by a cooptative 'élite' dominated by the huge corporate combines and communities of interest" (Brady, *ibid.*).

⁴Plenty of evidence can be adduced to prove that the bosses of the self-administration are the leading industrial magnates. This I must refrain from doing here. To quote some examples: leader of the Reich Group Industry is Herr Zangen, president of the Mannesmann combine; his predecessor was Herr Dierig, major stockholder and president of one of the biggest German textile combines; leader of the Reich Group Banks is Herr Fischer, formerly president of Reichs-Kredit-Gesellschaft, the finance institute of the government-owned enterprises, now banker in his own right in Berlin and partner of the Merck, Fink & Co. bank of Munich.

as well of infringing upon the privileges of one or another big combine if still bigger interests are at stake. Whereas the "interest of the state," for which the government official stands, is rather an abstract one and allows of different interpretations, the economic bureaucrat's "interest of the community" is much more concrete and actually does allow of one interpretation only. It takes shape as the "interest of business," more specifically as interest in the expansion of the trusts and combines that control business at its very source. The particular interest of the economic bureaucrat is identical with the general interest of big capitalism, often even with the particular interest of capital as a whole as against the individual capitalist.¹

Anonymous Capital and Industrial Expansion

The economic bureaucrats introduce a certain amount of bureaucratization and planning into the entire economic set-up. Particular interests of individual concerns may be disregarded, but the idea that profits must be made is a matter of course. These are fundamentals for the economic bureaucrats. These fundamentals anticipate the interests, desires and ideas of those who are in charge of the capitalist monopolies.² The characteristics of these monopolists must be discussed now.

Concentration of capital certainly implies changes in the set-up of industrial management, and is but the reverse of the bureaucratization which penetrates the entirety of the economic process. Such changes are by no means a specific feature of totalitarianism, and are not confined to Germany alone. Separation of ownership and actual control is already the case when an enterprise is run by salaried executives instead of the relatives of the old-style entrepreneur who had founded the concern. Concentration of wealth inevitably results in steady growth of the group of business executives whereas the percentage of capital owners among them shows a relative decrease.

¹The supra-entrepreneurial function of the economic bureaucrats is adequately attended to by the composition of this group. The specialist in law, economics, statistics, or scientific management who enters the bureaucratic career within the industrial organization is eager to organize, to supervise, to superintend, not to do business. His background, as a rule, is the intellectual middle-class, and in most instances he has never been in business himself. He has had university training instead, and his intellectual heritage is an ideology wherein the notions of "State" and "Nation" stand for economic development, and the notion of "Economic Development" stands for unlimited (and traditionally imperialistic) expansion.

²There is, of course, no absolute identity between the interests of the economic bureaucrats proper and the *grands-seigneurs* of business. The economic bureaucrats could, if such emergency occurred, serve other masters. As far as their social position is not threatened by the political machine, they are not necessarily bound to oppose it.

But centralization of enterprise and increase in the size of the plants and in the minimum amount needed for investment purposes subsequently produce a further development. Stocks of big concerns are scattered among numerous shareholders, large quantities of shares are deposited with banks (that in Germany may exercise voting power on behalf of the depositors), voting power is exercised by proxy, the majority of the capital stock is not required to secure control. This was the situation in pre-Hitler Germany; it did not change under totalitarian rule.¹

Separation of stock ownership and stock control becomes all the more obvious where the control of a giant industrial edifice, as secured by a chain of interlocks, is being exercised by an anonymous group of managers of a bank, or of a holding company, or of some other combine, instead of an individual peer of industry. It does not matter whether the springboard for the industrial or financial executive is furnished by the ownership of capital, or profitable social and family connections (e.g., the opportunity to marry into an influential concern), or a high rank in the political hierarchy. Nor does it matter how much capital he has a legal title to. What does matter is how much of other people's capital he is in a position to control. This is not separation of capitalist ownership and salaried management, but separation of the entirety of the capitalist's function from the legal title to property. Outweighing legal claims, ownership becomes a function of control. Capital definitely becomes anonymous.² The factual capital relation continues even when the

¹Whereas the new German corporation law aims to disclose the real owners of corporate capital, the actual development shows an opposite trend: "In reality there is a definite tendency towards an extraordinary increase in that part of the stock which is represented without disclosure of the owner's name, i.e., of the stock deposited with banks. In a recent stockholders' meeting the presence of 86 per cent of the capital stock was called a 'record' by the chairman of the corporation. The real 'record' was, however, in the additional statement that only 1.5 per cent of the capital stock was entered in the name of stockholders . . . The actual intention of the legislator to disclose the real ownership is being circumvented; the leading principle which made the legislator oppose the anonymity of capital is being counteracted. If the development continues in the direction drawn by such contagious examples, then the entries of capital registered at stockholders' meetings will within a few years portray an anonymity of capital as never had been heard of before." (*Deutsche Bergwerks-Zeitung*, July 28, 1939, under the heading "The Invisible Stockholder.")

²"Anonymization" is the natural consequence of "internal financing" which, as pointed out above, originates in the failure of management to distribute accumulated profits: "The policy of retaining profits in the shop, as it has been practised on a large scale up to now, must gradually lead, if it should become common, to a change in the structure of our enterpreneurial economy. As profits cast off their character of being private profits, the capital of the corporations ceases to be private capital. Although the corporation stocks are legally owned by the shareholders, they are becoming more and more a kind of trustee property at the disposal of the management, according to the decrease of the stockholders' share in the aggregate profits. In this sense the much decried transformation of the shareholder into a mere rentier is given another impetus,

(footnote continued on next page)

links tying up economic control with property inherited or legally acquired, are loosened.

Those who control the means of production are the actual capitalists whatever they may be called.¹ In speeding up the process of concentration the totalitarian regime has contributed to reducing the number of those in control and to degrading numerous members of the old capitalist class from active executives of capitalism to mere consumers of a more or less fixed income.² Control of the means of production thus becomes equivalent to the power to cut the income of those legal owners who have no say in the management.³

Profit earned, instead of being distributed to the shareholders, is to an ever increasing degree used to expand investment. Augmentation of capital is going on, but no adequate increase in the titles to dividend or interest acknowledges this trend. Big Business realizes higher rates of accumulation and finds more and more opportunity to invest surplus as capital grows anonymous and government furthers the authority of the monopolists. This again leads to more concentration.⁴ The "common weal," as represented by the political machinery, demands the permanent widening of the productive capacity, whereas the interest of the monopolists dictates the spolia-

whereas management has to face an increasing responsibility towards the economic interests of the community, and thus is drawing closer to the sphere of the public functionary." (*Bank-Archiv*, July 15, 1940, p. 270.)

¹If James Burnham (*The Managerial Revolution*, p. 92) is right in assuming that "where there is no control, there is no ownership," he ought to conclude that his "managers" are the actual capitalists of today. This he refrains from doing although he agrees that "those who control are the owners" (p. 94). No matter whether some capitalists have retired from business and become rentiers deprived even of "preferential treatment in distribution," or whether others still take an active part in operating the concerns which they are stockholders of,—in fact only those of them who actually control are performing the functions of "capitalists."

²Adaptation of the corporate stock value to the capital accumulated "internally," which was to be effectuated through higher capitalization, was announced by Reich Minister Funk (quoted *supra*) as a measure to protect the small shareholders. It now develops that this measure is not to be compulsory but will be left to the discretion of the corporations themselves, i.e., of the management. (See *Bank-Archiv*, April 1, 1941; *Der deutsche Volkswirt*, April 4, 1941; *Frankfurter Zeitung*, June 22 and 23, 1941.)

³As to persons who have a say in the management, there is no difference between "capitalists" like Krupp von Bohlen und Halbach, president of Krupp's, who, by the way, is a former diplomat and only an in-law to the founder of the concern, and mere "managers" like Zangen, president of the Mannesmann combine.

⁴Lack of space prevents me from giving even a summary of the process of concentration and combination in German industry. I intend to prepare a survey of these developments later on. As yet, the best (though still not complete) survey of concentration trends is to be found in Dr. Günter Keiser, "Der jüngste Konzentrationsprozess" and "Die Konzernbewegung 1936 bis 1939" in: *Die Wirtschaftskurve*, 1939, No. II, pp. 136-156 and 214-234.

tion of the shareholders¹ and requires that as little profit as possible be withheld from expansionist investment. Here again the interests of the party machine and the capitalist monopolies coincide and multiply each other. Their congruence guarantees the smooth functioning of the capitalist machine within the scope of continuous expansion.

It has been asserted that the "managerial" masters of anonymous capital cannot be considered capitalists since they do not hold any title to dividends and their social position therefore does not hinge upon profits. This argument cannot be upheld. The managers' income is drawn from profits and depends on total profit, whether dividends are distributed or not. Moreover, all monopolists' economic power is a function of the competitive position of the industrial units they control. In turn, this competitive position is determined by the opportunities the respective enterprises can secure to expand, to operate technological changes, to make new investments, and to acquire additional quotas and contingents according to the larger scale of productive potentialities they have been able to pile up. Increase in accumulation which becomes the primordial goal of the masters of anonymous capital is conditional upon the size of profits they can make.

The motives that underlie the economic activities of those in control of anonymous capital do not differ, then, from the motives of the capital-owners who had been their own managers. The only difference is that profit-hoarding (which, however, never was decisive) is being definitely supplanted by profit accumulation, by expansion. The economic expansion motive clearly coincides with the motive underlying the economic policies of the party machine that runs the state, and their concordance accounts for the immensity of the productive and destructive apparatus hammering the world.

¹In addressing the stockholders of Kronprinz Aktiengesellschaft für Metallindustrie in Ohligas, a subsidiary of the Mannesmann combine, Herr Zangen seconded the subsidiary's complete merger with the parent company, a merger which was opposed by Kronprinz minority stockholders, and said: "The Kronprinz concern that was founded back in 1897 is one of those enterprises built up by the initiative and efficiency of single individuals. In the meantime the ideas on business professed by these men who personified their enterprises have been supplanted by ideas bent on national economy, ideas originating both in intrinsic ideological shifts and in the factual development. It is a feature of this development that now enterprises such as those I just described press closely together. . . . Today you have to produce where production seems the most profitable from the viewpoint of both national and private economy, that is to say, where you have to use minimum manpower and materials to obtain maximum volume and quality of production. . . . Now then it is inevitable that you give one enterprise what you take from another, and conversely, and there is no way of adjusting a balance equitable for all. . . . The idea of balancing and compensating must not be allowed to hamper technological and economic development, even if the measures to be taken imply a new set-up which might hurt particular interests." (*Deutsche Bergwerks-Zeitung*, July 26, 1939.)

Yet, in this very configuration arises the conflict of the two social groups that have built the gigantic machine. Whereas the monopolists in controlling the means of production hold the key to economic life, the political masters are reduced to the role of mere organizers and superintendents of the social set-up. Of course, handling the coercive machinery of society gives them the power to infringe upon the privileges of the capitalist magnates, to attempt inroads into the latter's domain. They could even try to snatch the key positions the monopolists hold, to appoint themselves masters of anonymous capital, were it not for the danger of causing social disruptions that they might not be able to stop. The automatism of economic expansion set to work by the technological revolution and in turn propelling the industrial transformation protects the condominium, maintains the pluralism in the social and political set-up, and preserves the inconstancy of the balance of power.