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PREOBRAZHENSKI AND THE ECONOMICS OF SOVIET INDUSTRIALIZATION¹

SUMMARY

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I. INTRODUCTION

During the latter half of the twenties an intense controversy raged among the leading economists of the Soviet Union. The central issue involved was the appropriate tempo of the planned industrialization. The final outcome of the debate was the formidable program of Five Year Plans.

This alone would be sufficient reason for calling the attention of economists to this logomachy. The discussion, moreover, was remarkable for its intrinsic qualities as well. In the history of Soviet economic thinking it was certainly unique, both in its candor and in the high theoretical level on which it took place. Neither side concealed the fact that differences in economic thinking were decisively influenced by disagreements on basic socio-political problems; on the contrary, the connection was worked out with the utmost clarity. But at the same time a genuine effort was made by adherents of all the groups involved to state their cases as rigorously as possible in purely economic terms and to use everything available in the tool box of Marxian economics. The debate was far from academic and the participants took obvious satisfaction in witch-hunting whenever possible. At that time, however, the emphasis was not on dogmatic exegesis but on substantive argument.

Among the contributions to the controversy that of Evgeni Preobrazhenski, one of the leading spokesmen of the left wing opposition, stands unexcelled. His article on "The Fundamental Law of Socialist Accumulation," published in 1924, may be considered the

1. The author is greatly indebted for criticisms and valuable suggestions to Professors A. Bergson, W. Galenson, A. Gerschenkron, E. Heimann, W. W. Leontief, A. P. Lerner, and A. Lowe. The work on this paper was started during the tenure of predoctoral fellowship of the Social Science Research Council and completed under the auspices of Russian Research Center of Harvard University; the assistance of both these institutions is gratefully acknowledged.

opening gun in the debate. The caliber of his performance was exceptional even when measured against the high level of the general discussion. True, it is not possible to find in his numerous writings and recorded speeches² a balanced and systematic presentation of a well-defined set of concepts. His approach to problems is in the nature of a shock treatment. Ideas are thrown out in prolific fashion but are not always followed through with the necessary elaboration. Connecting links between different lines of argument are often missing. The reasoning is repeatedly swayed by the emotions of a dramatic political struggle in which the dissenting minority even at that time had to contend with more than the force of ideas alone. But with the heat there was also light — the light of a keen and vigorous mind wrestling desperately with issues which others ignored or tried to circumvent. Preobrazhenski's writings bristle with insights whose importance transcends the limits of the particular school of thought to which their author belonged and the political considerations which gave rise to them. And, finally, in one respect his position was unique: no other viewpoint developed during these years was so violently repudiated at the beginning only to be implemented ultimately on a scale surpassing anything its author had ever thought possible.

No attempt is made in this paper to present an independent critical examination of the issues involved. Its purpose is merely to assemble the disparate elements of Preobrazhenski's main argument and to define its place in the flow of events. I shall consider in Section II his explanation of the so-called "goods famine." Some of the larger issues evolving from this analysis are discussed in Section III, where Preobrazhenski's case for a high rate of economic expansion is further explored. His basic policy recommendations will be described in Section IV, and a brief account of the controversy evoked by his challenge will be given in Section V. The concluding Section VI will deal with similarities and differences between his ideas and the policy of the Five Year Plans.

2. Next to his magnum opus, *Novaia Ekonomika (New Economy)* which appeared in two editions during 1926 and which included as one of its chapters the article referred to above, the most important items are "Ekonomicheskie Zametki" (Economic Notes), *Pravda*, December 15, 1925; a speech during the discussion in the Communist Academy, *Vestnik Kommunisticheskoi Akademii* (Messenger of Communist Academy), Vol. XVII, 1926; "Khoziaistvennoe Ravnovesie v Sisteme SSSR" (Economic Equilibrium in the System of USSR), *ibid.*, Vol. XXII, 1927; *Zakat Kapitalizma (Decline of Capitalism)*, Moscow-Leningrad, 1931.

II. THE "GOODS FAMINE"

The tempo of increase in industrial output slowed perceptibly in 1925 as compared with the previous year, although it still remained at the respectable level of 30 per cent per annum. At the same time industrial commodity markets showed considerable strain, and widespread shortages appeared which became known in the Soviet economic literature as the "goods famine."

Preobrazhenski commented at length upon this development in his "Ekonomicheskie Zametki." Unlike the official spokesmen of the Communist Party and the government, he did not confine himself to singling out for blame particular mistakes in banking or industrial management policy. The "goods famine" of 1925 was to him an accentuated expression of deep-seated maladjustments in the structure of the Soviet economy.

The Disparity between Supply and Demand

In his view, the shortages of the present were, to a large extent, the results of the enforced prodigality of the past. In the period of "war communism" normal capital formation was interrupted: "We did not accumulate — the best thing we could do was to *use up* our resources as economically as possible."³ The process continued in the early years of NEP either in the form of an all-out "auction sale" of industrial commodities regardless of cost, or by using amortization quotas for the purpose of wage increases and replenishment of stocks.

This policy undoubtedly had immediate effects which were beneficial. It kept the city population and the armies in the field from starving during the civil war; it permitted a great increase in output in the early years of NEP by injecting labor and raw materials into the idle capacity of the existing plant with maintenance expenditure restricted to indispensable current repairs.⁴ But as time went by, the negative long range implications of such a procedure were bound to reveal themselves. While the possibility of securing output increases by more intensive utilization of available equipment was diminishing as capacity limits were approached, the deterioration of this equipment was progressing. The consequence could be only the stoppage of recovery short of the prewar level if not an actual downward turn as a result of a breakdown or of a drastic drop in the pro-

3. *Novaia Ekonomika*, p. 39.

4. "The consumption of fixed capital constituted an advantage at this time because fixed capital and stocks of raw material would be a dead weight if labor had not transformed them into consumers goods" (*op. cit.*, p. 130).

ductivity of overaged capital equipment. In order to arrest these trends, the long overdue plant renewal was to be carried through in a very short space of time. This "bunched" replacement would clearly require a drastic increase in the volume of investment.

The situation as Preobrazhenski saw it, however, called for something much more far-reaching. This was due in part to the fact that such a complete renewal of equipment provided the best opportunity for a wide-scale application of the technological improvements which had accumulated in previous years and which he viewed as uniformly capital-using. An even more compelling reason for advancing beyond "maintaining the capital intact" at its original level lay in the circumstance that the impact of revolutionary change had upset the precarious equilibrium of the Russian economy not only from the side of supply but also from that of demand. The share of industrial labor in national income had increased: "Our present wages are determined to a lesser extent than before the war by the value of labor power and in the future will be even less determined by it."⁵ Of still greater portent, however, was the transformation in the status of the peasantry. In Czarist Russia a large portion of the income originating in peasant agriculture was absorbed by payments to the government and landlords. In order to get the money for the fulfillment of these obligations the peasant had to sell a corresponding part of his produce without buying anything in return. This had a twofold effect. On the one hand, a relatively large marketable surplus of agricultural goods was provided; on the other, the claims of the great majority of the population upon industrial output were reduced to the extent of these "forced sales." The amount deducted from peasant income was undoubtedly resented in the main. This re-expenditure, however, absorbed a smaller share of domestic output than a corresponding amount of peasant spending would have done; a large part of it (together with a sizable fraction of industrial profits) went abroad either to service the foreign debt or as payment for imported luxury consumption goods, while its physical counterpart was exported. The October Revolution ended the traditional system. Rent payments were abolished and agricultural taxes amounted in 1924-1925 to less than one-third of their prewar level.

The unstabilizing effects of this upheaval were momentous: "Out of a given amount of the marketable output . . . a much smaller amount than before the war is going for forced sales; this means that the effective demand of the peasantry for industrial commodities and for the products of interpeasant exchange must correspondingly

5. "Ekonomicheskie Zametki," *op. cit.*

increase . . . [Consequently] the stabilization of the relation between the total volume of industrial and of agricultural marketable output at the level of their prewar proportions implies a drastic disturbance in the equilibrium between the effective demand of the village and the marketable output of the town."⁶

The conclusions were clear; productive capacity had to increase over and above the prewar level in order to catch up with the increased effective demand. The failure to accomplish this would result in a recurrence of the goods famine a few years hence, just as the failure to make sufficient provision for capital maintenance in the past made inevitable the present "goods famine." This was the point at which Preobrazhenski hammered incessantly from that time on.

The Peasants' "Freedom of Choice"

The explosive possibilities of the situation were further aggravated by another effect of the changed income structure upon peasant behavior. The reduction in the burden of compulsory payments not only increased peasant demand for city products at a given level of agricultural marketable surplus, but it also influenced decisively the volume of this surplus by making it to a much greater extent dependent upon the peasant's willingness to trade. This was what Preobrazhenski had in mind when he stated that "as a result of the decrease in forced sales the peasantry now enjoys a much greater freedom in the choice of the time and of the terms at which to dispose of its own surpluses." He was even more explicit when he added that "the peasants are nowadays in no hurry to sell grain." Indeed, the average peasant would probably have been willing to market the same total amount of his produce as before the war if the decrease in compulsory payments had enabled him to buy more in return, although the low productivity of agricultural labor kept the intensity of his need for his own product high. Since what he could actually get from the city was by now probably less than before the revolution, it was only logical for him to restrict his sales below the prewar level and to divert the difference toward his own consumption as well as to live-stock feeding, lending to poorer peasants, or plain hoarding. For industry dependent upon this agricultural surplus, directly for its own needs and indirectly via export-import relationships, the implications of such a reduction of the peasants' marketable share were clearly of the utmost gravity.⁷ It would obviously be disastrous if

6. *Ibid.*

7. It should be stated at this point that while the curtailment of agricultural supplies would clearly be a calamity, the very great decline in peasant demand which would accompany it would not be an unmixed blessing. This may appear

a turn in the terms of trade against the village should convert this restriction of sales into a full-fledged supply strike. The dissatisfaction of the peasants need not, moreover, express itself in economic noncooperation alone; it might, as at the end of the civil war, find its outlet in political discontent, culminating in open rebellion: "If this system does not satisfy a certain minimum of wants, we shall have systematic underproduction and insufficient satisfaction of effective demand; this can influence the mood of the masses and can result in what Comrade Lenin warned us against more than once: the masses will think of a system which would better satisfy their wants. Here lies the greatest danger and that is why we are so anxious about the volume of investment."⁸

III. THE TEMPO OF INDUSTRIALIZATION: LONG-RANGE ARGUMENTS

The reasons for a high rate of expansion derived from the "goods famine" were in the forefront of Preobrazhenski's argument and were elaborated by him at considerable length. It may appear strange at first sight that the long-range aspects of the industrialization problem were treated in a rather sketchy way. This could probably be explained by the fact that there was little room for controversy here. Marxism, which provided the common frame of reference for all leading participants in the debate, was as emphatic in its stress upon the superiority of modern technology as in its insistence that a socialist society can be established only on the basis of a well developed industrial economy. Russian Marxism was perhaps even more industrialization-conscious than other Marxian schools because of the function it had to fulfill in its early days. In the decisive stage of the battle which raged between the Westerners and the defenders of Russia's "uniqueness" on the brink of the twentieth century, *Das Kapital* had

strange, for in the situation of a goods famine a drastic reduction in demand seems to be precisely what is called for. It must be remembered, however, that the Soviet industry of the early twenties which inherited its structure from the prerevolutionary period, was largely adapted to the needs of the peasant market. A reorientation toward satisfying the needs of an urban population to a larger extent or toward a different investment-consumption pattern would require a reconversion which, in view of limited capacity and of the dilapidated condition of the equipment-producing industry in that period, would necessarily be time consuming and costly. Any abrupt and drastic fall in peasant demand might therefore overshoot its target and result in excess capacity and unemployment while the shortage of goods for urban consumption and investment purposes would at the same time feed inflationary pressures. This is, apparently, what made Preobrazhenski as well as other Soviet economists wary not only of the supply effects but also of the demand effects of the peasants' withdrawal from the market.

8. Speech . . . , *op. cit.*, p. 231.

provided powerful ideological tools for the protagonists of the West, and a good deal of valuable scholarly work had been done to prove that only rapid industrialization, in combination with far-reaching social reforms, could provide solutions to the awkward problems besetting the Russian economy. Therefore, in addressing himself to his fellow Communists, Preobrazhenski did not have to spend much time explaining the desirability of "building up as quickly as possible the accumulation of resources sufficient to reconstruct the technological basis of industry along the lines of electrification and more rational location."⁹ His failure to enlarge on the necessity of industrialization for reasons of military preparedness was probably also a result of the same reluctance to belabor the obvious.¹

The real problem consisted in deciding what tempo was in fact "as quick as possible." The "goods famine" argument, important as it was in this context, could not be relied on exclusively. In order to be of use for dramatizing the necessity of a sustained high rate of expansion, a description of the impact effect of postwar changes had to be supplemented by some statements on the nature of the economy hit by inflationary forces. One can discern three main groups of such additional considerations in Preobrazhenski's writings.

Overpopulation

As one of the basic conditions of equilibrium of the Soviet economy, Preobrazhenski listed "the gradual absorption of the surplus population of the country."² The stubborn persistence of large-scale unemployment a decade after the revolution had in his view one basic cause. The total productive capacity of the then existing

9. *Novaia Ekonomika*, p. 134.

1. Between the adherents of the left wing opposition and the representatives of the majority there were serious differences in evaluating the imminence of war, the former being inclined to take a more dramatic view of the situation. Defense considerations, however, played a relatively smaller role in the argument of the left than in that of their opponents. The reason for this seemingly paradoxical situation was simple. The representatives of the official party line saw the possibility of armed aggression as the main danger implied in the coexistence of a Socialist Russia and a capitalist world; this was for them the only factor which caused them to step up the rate of capital construction above the moderate level they considered optimal had this "encirclement" not existed. Preobrazhenski spoke for the minority when he presented (for reasons still to be discussed) the low productivity of the Soviet industry with relation to the West and the implied sacrifices of the population as a menace which could become deadly for the Soviet system even without military intervention from abroad. The investment tempo had to be raised accordingly in order to provide not only for more "guns" but also for more "butter" in a not-too-distant future, if *this* kind of external danger were to be met.

2. "Khoziaistvennoe Ravnovesie . . .," *op. cit.*, pp. 68-69.

Russian industry and the size of its capital-making facilities were insufficient to absorb the labor reserve which had been inherited from the agrarian structure of the old regime or to turn out for the people in question in a short period of time the tools to work with; and the same limitations made it impossible to offset the labor-displacing effects of improvements in technology and the organization of the productive process for which the backwardness of the country left so much room.³ Preobrazhenski did not elaborate on the dangers implied in the existence of surplus population; here he was, once more, on well tilled ground. Neither did he attempt to establish a direct link between this phenomenon and the goods famine by showing how deeply imbedded the inflationary tendencies of an economy are when its equipment, apart from several years' depletion, is a bottleneck factor with regard to the utilization of the labor force. He did, however, refer to another aspect of the same problem, when he pointed out that the peasants' ability to fall back upon the production of nonfarm goods in their own households, making it easier for them to restrict their sales, is greatly enhanced by the existence of much disguised unemployment in the countryside. His conclusion was stated emphatically: "All attempts to solve the unemployment problem in a radical way lead to the problem of accumulation."⁴ Industrialization, spearheaded by the expansion of the capital goods sector, would draw away a large part of surplus labor from the land. At the same time it would more than outweigh the displacement effect of labor-saving innovations by letting the productive capacity expand to a level which would permit a rapid increase in volume of employment despite the reduction of the amount of labor per unit of output.

Preobrazhenski did not deny that the problem of rural surplus population could be tackled in a more direct way by the intensification

3. Cf. *ibid.*, p. 69. It might be noted that Preobrazhenski's reasoning on this point does not seem to fit his earlier remark that "the possibilities of rationalization of production within the framework of the old technique are approaching exhaustion" (*Novaia Ekonomika*, p. 124). If the latter statement is correct, the introduction of overdue innovations would require a large amount of investment over and above the replacement level and would therefore increase the demand for labor at least during the gestation process of the new equipment. But even after the new equipment is completed and put to work, it might still employ, in absolute terms, more labor than the old if its output-increasing effect is stronger than the labor-saving effect. It is conceivable, however, that such an increase in employment will not be sufficient to absorb the whole of the surplus population unless the "deepening" in the capital structure is accompanied by a sufficiently large-scale expansion. In such case there would be no incompatibility between these two propositions of Preobrazhenski.

4. *Novaia Ekonomika*, p. 279.

of agriculture, "the possibility of which is directly proportional to our backwardness with regard to foreign farming."⁵ However, he qualified this admission by stressing that such a policy presupposed a considerable increase in the rate of accumulation in agriculture and would imply a corresponding curtailment of accumulation in industry. The reconstruction of the latter, which constituted "the key to the solution of all basic problems of the period of transition" would be slowed down. This would, in his view, inevitably backfire upon agriculture. It would, in the first place, check the increase in the supply of industrial goods and thus deprive the peasant of the most powerful stimulus to intensify his own production. And it would also limit the opportunities for improvement in efficiency of the peasant economy, predicated upon the development of "external economies," and most certainly arrest the process of modernization by intensive re-equipment. "The expanded production in industry, its sufficiently quick tempo, the development of railway networks, canals, electrification, etc., are indispensable also for the peasant economy which cannot without the assistance of a growing industry develop its productive forces even through small-scale production, let alone advance toward the level of productive co-operation." He goes on to put the case even more strongly: "Only when industry can stand on a new technological basis, will the stream of values from the city to the countryside along the channels of long-term credit become a torrential flow."⁶

The Technological Factor

It is not difficult to discover a basic assumption which underlies the reasoning of the preceding paragraphs; the "new technological basis" is consistently understood as the application of "more capitalistic" technology on a large scale. It is this proposition which makes the unemployment factor serve its purpose as an argument in favor of a high rate of capital construction. An economy passing from the stage of zero (or negative) net investment to that of positive net investment must, by definition, show an increase in the share of capital goods in its total output, and the higher the capital intensity of the new plant, the stronger this increase must necessarily be. To these considerations Preobrazhenski added another one which was less obvious, and referred to the specific relationship between stock and flow which characterizes modern equipment. He argued, in effect, that not only must investment, in a modern economy, increase in

5. "Khoziaistvennoe Ravnovesie . . .," *op. cit.*, p. 70.

6. *Novaya Ekonomika*, p. 262.

relation to the consumption of the given period if a discontinuous increase in the final output of a subsequent period is to be achieved, but that the rate of increase in the current output of investment goods must be greater than the rate of increase in output which it is assumed to bring about. His argument on this point as elaborated in "Khoziaistvennoe Ravnovesie" and in *Zakat Kapitalizma* sounded very much like an exposition of the acceleration principle. The output of investment goods, he pointed out, must in such cases be raised not merely to the extent of c , which stands for the yearly replacement quota of the additional equipment as well as for the yearly requirement of raw materials and which constitutes a fraction of the yearly additional output; but it must increase by the full size of the additional equipment (C) which is a multiple of this accretion to output.⁷ The coincidence of such expansion with the introduction of "more capitalistic" technology is bound to make the difference in the rates of increase even more pronounced. There is, he was quick to add, an important exception to this rule. If unutilized capacity is in existence as in the first period of NEP in the Soviet Union, the output can expand for a while without any significant increase in the construction of additional equipment, and can outstrip in its rate of growth the increase in new investment which would be confined primarily to building up the working capital.⁸ When the capacity reserve is exhausted, however, any further increase in the level of output is predicated upon a still greater upward jump in the volume of investment. This investment, moreover, while requiring a larger amount

7. "In order to increase the yearly output of consumers' goods in light industry, by, say, 100 million rubles, the output of the means of production must increase by 400 to 500 million rubles in the preceding period" ("Khoziaistvennoe Ravnovesie . . .," *op. cit.*, p. 41). He did not complete the argument to show that while the rate of increase in output equals the ratio of the increment in equipment to the total capital stock, the rate of increase in investment equals the ratio of this increment to the gross investment of the same period which is a fraction of this capital stock.

8. Cf. *Zakat Kapitalizma*, p. 26. All this, he stressed, does not appear in the famous schemes of Volume II of *Das Kapital*; they are based on simplified assumptions that there are no capacity reserves and that the "small c " stands for the whole fixed capital which wears out and is replaced within one year — an arrangement which results in a picture of smooth and continuous growth. Preobrazhenski acquitted Marx of guilt; he pointed out that the schemes constituted only a rough first approximation and that Marx had shown himself elsewhere fully cognizant of the discontinuous nature of the capitalist process of growth and of the role which the durability of fixed equipment plays in this context. However, he lashed out mercilessly against the disciples of Marx for their "school-boyish shyness and inability to carry Marxian thought further" (*op. cit.*, p. 71). It is a safe guess that this bitterness was largely dictated by the feeling that the highly theoretical problems involved had a very direct bearing upon controversial issues of Soviet economic policy.

of resources than previous situations, will show its first effects at a more distant date, since it takes time to build the fixed capital as well as to use it up. "The new plants will begin to produce three or four years after the start of their construction; this is the result more of a technological than of an economic necessity."⁹

The "Chain Connection"

The crucial importance for Preobrazhenski's case of these peculiarities of modern capital equipment is evident. They put teeth into his argument that the expansion of capital equipment must be large; they explain his insistence that the expansion of productive capacity must start well in advance of the time when the limit for increase in utilization of the existing equipment is reached, if the new plants are to step into the gap promptly and prevent a "goods famine" from developing.

But could not the weight of these factors be lessened by spreading over time the reconstruction of equipment through tackling separate tasks successively in the order of their relative urgency? The coincidence of reconstruction with long overdue replacement goes a long way toward explaining why the satisfaction of the "bunched" investment demand could not in this particular case be extended too liberally without penalty of further shrinkage. Preobrazhenski implicitly advanced another reason when he stated that the required accumulation must be sufficient "to secure the development of the whole complex of the state economy and not only of its particular parts because the chain connection in the movement of the whole complex makes an isolated advance entirely impossible."¹

This statement could be interpreted as a reference to the phenomenon of complementarity between industries which, since the late twenties, has increasingly commanded the attention of such prominent Western economists as Allyn Young, Professor W. W. Leontief and Dr. P. N. Rosenstein-Rodan, and was used by the last of these three in conjunction with economies of scale as a point in the case for a high rate of expansion in backward countries. Preobrazhenski, however, did not pursue this idea any further, and it is difficult to say on the basis of his laconic remark how much weight he assigned to it — especially since two different lines of argument converge at this point. This appears from the sentence which immediately follows the passage quoted; the "chain connection in the

9. "Khoziaistvennoe Ravnovesie . . .," p. 42.

1. *Novaia Ekonomika* . . . , p. 92.

movement of the whole complex" is contrasted with the "method of capitalist guerilla warfare, private initiative and competition" which characterized the expansion both of early "manufacture" and of modern factory production.

The implication is clear; the necessity of expanding simultaneously along a broad front is tied in with the socialist character of the economy. Less clear, however, is the precise nature of this connection. Is it intended to mean that the collective form of ownership makes possible the application of a higher type of technology than is possible under capitalism? Or does the causal relationship run the opposite way, namely, that the system of centralized over-all planning (which was to Preobrazhenski the only consistent form of socialist economy) could not operate efficiently and prove itself superior to capitalism without a high level of integration and concentration in the structure of production which would assume, in turn, a higher degree and wider spread of large-scale technology than under capitalism? Or, finally, is the greater accumulation to a certain extent a kind of protective cushion for state enterprise, necessary as a result of its temporary inferiority in efficiency as compared with foreign and domestic private competitors?

One could find in the *Novaia Ekonomika* material to support each of these alternative explanations, with arguments of the third type the most strongly emphasized. This may seem to be a typical case of putting ideological allegiances before considerations of efficiency. Actually there was more to it, as we shall see later. At this point it will suffice merely to register Preobrazhenski's viewpoint which, whatever its validity, leads straight to the heart of his ultimate policy recommendations.

IV. THE LAW OF "PRIMITIVE SOCIALIST ACCUMULATION"

Formulation of the Law

It is clear that if the irreducible minimum of capital requirements was as large as indicated by all the foregoing,² the question of securing the means assumed paramount importance. Preobrazhenski provided the answer by an historical analogy. The productive powers of modern technology permitted the capitalism of the nineteenth cen-

2. Preobrazhenski never committed himself to any definite magnitude concerning the desirable rate of investment. His ideas on this subject, however, can be gauged from a passage in *Novaia Ekonomika* in which he referred to one of the initial drafts of the Five Year Plan containing a figure of 10.5 per cent of planned annual increase in fixed capital as "rather minimalistic" although he admitted that no capitalist country had ever attained such a rate of growth (*op. cit.*, p. 326).

tury to finance its powerful expansion primarily out of profits earned under conditions of unrestricted competition and to eliminate the smaller fry by the "artillery of cheap prices." The possibility of applying this technology, however, was predicated upon a large accumulation of wealth and the availability of a free labor force. And since both these preconditions of the technological superiority of modern capitalism had to be created before the superiority existed, they could never have come into being if the rules of the competitive game had been adhered to from the start. A number of institutional changes had first to be made; the relative "autarchy" of the primitive peasant economies had to be broken and their participants forced into the market; the independent precapitalist producers had to be either separated from their means of production or at least deprived of a part of the product of their labor.

In order to achieve this, there had to be set into motion a whole array of highly "unorthodox" techniques, ranging from the outright compulsion of enclosures and workhouses, through taxation and state-protected manipulation of prices in the domestic and international markets, to the inflationist devaluation of money. This formative period of modern capitalism was called by Marx the epoch of "primitive capitalist accumulation." It had now to find its counterpart in "primitive socialist accumulation"³ which was assumed to serve as midwife in the same way for the socialist society of the future.

It is understandable that the analogy symbolized by such a combination of words was bound to make a great impression upon Preobrazhenski's audience. For generations the Marxian socialists have been using the famous Part VIII of Volume I of *Das Kapital* not only as a contribution to the understanding of economic history but as a powerful means of arousing the minds of men against a system which "comes dripping from head to foot, from every pore, with blood and dirt." Actually, Preobrazhenski advocated neither the application of methods of violence against the nonsocialist small-scale producers nor the elevation of one group of society (industrial workers) to the rank of a newly privileged stratum, although no less an opponent than Bukharin accused him of aiming at the second.⁴

3. Preobrazhenski was not the originator of this term which made him famous. In his book *Paper Money in the Epoch of Proletarian Dictatorship* (1920) where he used it for the first time he gave credit for this "excellent expression" to V. M. Smirnov, a well-known Soviet economist who was later closely associated with Preobrazhenski in the left wing opposition.

4. "Novoe otkrovenie o sovetskoj ekonomike ili kak možno pogubit' raboche-krestianski soiuz" (New revelation on the Soviet economy or how can the worker-peasant alliance be destroyed), *Pravda*, December 12, 1924.

For one who liked strong medicine in argumentation as well as in policies, the analogy with the period of primitive capitalist accumulation served merely the purpose of providing a dramatic illustration for his idea that the "law of value" which governs the operation of the competitive market, and makes the exchange ratio between goods depend on the relative amounts of "socially necessary labor" contained in them, had to be suppressed as far as possible. "An exchange of the smaller quantum of labor of one economic system (socialism) for the greater quantum of labor of another economic system (capitalism)"⁵ had to be secured instead if a rapid advance from a low initial level were to be made. This was actually what the famous "law of primitive socialist accumulation" amounted to. It stood for the whole set of devices which in various ways served one purpose — to bring about "within the limits of what is economically possible and technically feasible" a shift of productive resources from the private to the socialized sector over and above the share the latter could obtain as a result of the operation of the law of value in a competitive market.

The "Socialist Protectionism"

The necessity for counteracting the "law of value" applied first of all to the sphere of foreign relations of the Soviet economy. One of the crucial differences between capitalist and socialist primitive accumulation lay in the comparative efficiency of the regions in which the new system was in ascendancy and those still dominated by the old. While the countries where capitalism had an early start had a definite lead over the rest of the world in terms of economic power, the socialized sector of the Soviet economy was far behind the industries of America and Western Europe. Preobrazhenski was fully aware that this difference need not necessarily be to the disadvantage of the young socialist system if purely economic considerations should prevail. Indeed, every single basic difficulty of the Soviet economy would, according to him, be much less formidable in a smoothly operating system of international trade and — more particularly — of foreign lending. The goods famine could be alleviated by the importations of consumers goods. The influx of foreign equipment could go a long way toward satisfying capital requirements. It was, therefore, only logical that Preobrazhenski advocated great efforts to attract foreign investment and was prepared to let it bear interest at a rate above the normal. The burden of such payment, he argued, "would certainly be much less than the new values which would be added to the fund of socialist accumulation."⁶

5. *Novaia Ekonomika*, p. 102.

6. *Ibid.*, p. 150.

The trouble consisted in the fact that even such bait would not bring about the desired result because "foreign capital does not intend to flow into an alien economic system on a large scale."⁷ The Soviet economy had therefore to bear the full brunt of its own re-equipment. This did not imply that the whole job had to be done by the domestic investment goods industries. Preobrazhenski undoubtedly was quite vigorous in insisting upon the "protection, development, and creation of particular lines of means of production" which would not survive in a free trial of strength with their foreign competitors but which had real chances for improvement in the future. But he was at the same time careful not to press this point too far. He did not explicitly restate the argument of Trotsky according to which a country whose industrial structure (as inherited from the past) permitted it to satisfy only a minor part of its capital requirements by domestic production could not attempt to change this situation decisively within a few years without running into heavy trouble.⁸ He expressed the same idea, however, in a more general form when he emphasized the necessity of weighing the infant industry considerations against the gains in efficiency and speed of expansion to be secured from the "attempt to make the best possible use of the world division of labor, *i.e.*, to import more of those machines whose domestic production is less advantageous under existing economic conditions."⁹ Since the supplies could not be financed by foreign loans, a determined effort was needed in order to set free for them the largest possible part of the proceeds of current exports. This was actually the major aim of "socialist protectionism" as advocated by Preobrazhenski, although he did not always make it perfectly clear and preferred at times arguments of a rather doubtful validity. His often repeated statement that two-thirds or three-quarters of Soviet large-scale industry would be forced to shut down in the event of unrestricted imports made little sense. Under the conditions of "goods famine" and of insatiable demand for equipment such prophecies of doom were certainly exaggerated.¹

7. *Op. cit.*, p. 328.

8. *Towards Socialism or Capitalism?* (English ed.; 1926), p. 89.

9. *Novaia Ekonomika*, pp. 183-184.

1. One could go even further and point out that with regard to consumers goods such a decline in domestic consumption would be welcome, should it really occur; more resources could then be set free for capital construction. This requires, of course, a qualification in view of the fact that such a shift of resources from consumers goods to investment goods production would necessarily need some time to materialize and that this time would be particularly long under conditions of nonexistent reserve capacities in the investment goods industry. The qualification, however, loses some of its weight insofar as the downward

The real peril consisted, from his own viewpoint, less in the possible effects of foreign competition than in the certainty that an adjustment of the composition of foreign supplies to the voluntary preferences of the population would reduce the amount of capital goods to a level which would imply stagnation, if not actual capital consumption under the specific conditions of Soviet industry of that period. In order to stave off this danger, the foreign trade monopoly had to be used consistently for securing an indisputable priority of replacement and expansion needs in the total volume of Soviet imports. The re-integration of the Soviet economy in the system of world division of labor would then be secured and a shift of resources from western capitalism toward Soviet socialism would be achieved, with the domestic private sector footing the bill: "We are accumulating at prices which are twice as high as the foreign only because we are, as a result of our struggle against the law of value, forcibly attaching the domestic market to our technologically backward industry while the exported goods of the peasant economy are being sold at world market prices and the import program is subordinated to the task of accumulation of fixed capital and replenishment of stocks of circulating capital."²

Taxation by Price

The domestic situation displayed essentially the same problems. The efficiency relationship between the old and the new system was here also the reverse of that prevailing in the formative period of capitalism; the state-owned plants had "no individual superiority with regard to the plants of an historically lower stage."³ This relative weakness of the nationalized large-scale industry was mainly a result of the long period of economic shrinkage which had hurt the large plants more than the small; with the gradual elimination of bottlenecks restricting capacity utilization, the restoration of labor discipline in factories, and the making good of arrears in the maintenance of equipment, the relationship was certain to be reversed. But even such "filling-in" could not be successfully carried out on the basis of the gross savings which industry would be able to make under competitive conditions. Even less could such interindustrial

adjustment in the consumers goods industry is not instantaneous either; unless the reduced price were below short-run prime costs, a more or less considerable part of the workers who could not be absorbed at once in the investment goods industry would continue in their old jobs.

2. *Novaia Ekonomika*, p. 45.

3. *Op. cit.*, p. 143.

accumulation be expected to sustain an expansion at anything like the rate envisaged, particularly since the methods of ruthless exploitation of labor which had raised profits in the days of the Industrial Revolution were now ruled out. "The victorious working class . . . cannot treat its own labor power, its health and working conditions in the same way as capitalism did; this is a definite barrier to socialist accumulation."⁴

The importations of foreign equipment, although highly valuable, were obviously insufficient for bridging the gap between requirements and availabilities. The most heroic efforts of "socialist protectionism" could not go beyond the limits set by export surpluses consisting largely of agricultural goods, and the volume and price of these were determined outside the sphere of the direct control of the state. The importance of the protectionist trade policy, however, consisted not merely in transforming a certain quantum of domestic consumers goods into a corresponding amount of foreign equipment, but also in its function as flank protection for even more drastic measures against the "law of value" in the domestic sphere. The effective curbs against foreign competition would strengthen the monopolistic controls at home; this proposition of the Marxist theory of imperialism applied, according to Preobrazhenski, to the Soviet economy as well. The latter, moreover, could avail itself of the opportunity offered to a much greater extent than a system based upon private ownership of the means of production: "The concentration of the whole of the big industries of the country in the hands of a single trust, that is, in the hands of the Workers' State, increases to an extraordinary extent in comparison with monopolistic capitalism the possibility of carrying out . . . a price policy on the basis of monopoly." The price determined in such a way is in fact nothing but "another form of taxation of private production."⁵

Preobrazhenski did not, to be sure, renounce direct taxation as an instrument of the redistribution of income in favor of socialist industry. On the contrary, he wanted it to be used to the limit together with discriminatory measures in the field of railway rates, credit, and the like.⁶ Taxation through price, however, was in his,

4. *Op. cit.*, p. 136.

5. *Op. cit.*, p. 123.

6. In the earlier period Preobrazhenski went on record as an ardent advocate of still another method of promoting "socialist primitive accumulation"; his *Paper Money in the Epoch of Proletarian Dictatorship* known for its much-quoted panegyric on the printing press as "that machine gun which attacked the bourgeois regime in the rear" contained an analysis of inflationary money printing as a form of taxation. But while he made a specific reference to this device in *Novaia Ekonomika* as an important tool of policy in the past, he refrained

view the most effective single device—both because of the “extreme convenience of collection which did not require a penny for a special fiscal apparatus” and for reasons of political expediency. “The way of direct taxation is the most dangerous way, leading to a break with the peasants.”⁷

It would be wrong to assume that Preobrazhenski ignored the limitations of the method he was advocating. On the contrary, he was quite explicit about them when he stated that “the state is free to determine prices (at any point) within a range from the cost level to the exhaustion of the whole effective demand (*taking into account of course the influence of prices upon demand*).”⁸ Pushing price increases too far would defeat their purpose and result either in “the emergence of competing enterprises with lower costs per unit than in the state enterprises” or in “a shrinking demand and direct refusal to buy” as during the scissors crisis of 1923. Also the monopoly of foreign trade was to him a potential source of grave, if less immediate, danger; indeed, most of his fears for the stability of the Soviet system centered around the possible effects of the peasants’ resentment against the devious manipulation which deprived them of those foreign goods they actually wanted to have in return for the exported products of their labor, and which raised against them the prices of domestic industrial output. There were the resistances to be reckoned with, but primitive socialist accumulation could be relied upon to soften these resistances by its long run effects. The improved equipment resulting from the operation of this policy would, in time, raise the income of the whole society, including the peasants. The latter would consequently demand more industrial goods despite the fact that the prices of these goods, while declining gradually toward the world market price level, would be prevented from falling to the full extent of the reduction in unit costs. In this way, an increase in real income through time would be paralleled by an increase in the effectiveness of the monopolistic squeeze and result in a continuously growing movement of resources into investment in industrial construction. The process would continue until the productive capacity of the Soviet economy reached a level where “technological and economic superiority” over capitalism would be secured. The monopolistic

from recommending its use in the present; and in his later pronouncements he took pains to stress that a fall in the value of the ruble can cause severe disruption of the economy, climaxed by a massive withdrawal of peasants from the market.

7. *Pravda*, January 18, 1924, Speech at the Thirteenth Conference of the Communist Party.

8. *Novaya Ekonomika*, p. 186 (italics supplied).

techniques could then be dispensed with and further expansion would proceed exclusively on the basis of "surplus product" originating within the socialized sector. This, in turn, would set the stage for an even more momentous change; the accumulation drive would have to recede into the background and give way to the "satisfaction of the wants of the participants of collective production"⁹ as the guiding force of the economic policy. The "cycle of transformation of the whole economy" would therewith be completed.

V. THE DEBATE

The appearance of the main chapter of the *Novaia Ekonomika* in the form of an article evoked stormy polemics, which reached new heights after the publication of the book and continued unabated for years. The critics, insofar as they were concerned not with political tactics but with economic reasoning, aimed, first of all, at Preobrazhenski's concept of "two laws" as a proposition in the theory and policy of socialist pricing. At first sight the discussion in this field seemed to be pure semantics. Some of the opponents simply objected to the idea that the Soviet economy might have more than one set of ruling principles, without any serious attempt to support such protests with articulate arguments. Others admitted the existence of the conflicting "two regulators" but preferred to put it in the traditional way by contrasting "market" and "planning" despite Preobrazhenski's insistence that such procedure is devoid of any meaning unless what is being planned for and how the market operates is made explicit. They entertained no doubts that so long as goods are being sold for money and not assigned directly to the consumers, the "law of value" must hold. The obvious objection that this is true (according to Marx) only under conditions of unrestricted movement of factors and goods, was in their view adequately met by the admission that the law of value is operating in a "garbled" way when such free movement does not exist.

Whenever the controversy descended to concrete problems of policy, the element of semantics receded, and the issues involved gained in substance. For a Western student it should not be difficult to recognize that some of the instances of the suspension of the "law of value" given by Preobrazhenski could, in principle, make quite good sense from the viewpoint of modern price theory; they could easily come under the heading of "letting bygones be bygones" or of divergence between current and future costs. While the problem

of choice between the manipulation of price and the application of a subsidy (or of a tax) was not raised in the debate with regard to discrepancies of this "micro-economic" type, it did come up when larger issues were discussed. Preobrazhenski, it will be remembered, favored the marking up of prices as the best way of redistributing income; his critics preferred the method of direct taxation. It would, nevertheless, be wrong to exaggerate the differences on this score. Preobrazhenski did not propose to rely exclusively upon taxation through price, nor were his opponents welfare economists in disguise; Bukharin admitted explicitly the usefulness of a certain upward "deviation" in prices of industrial commodities. If the whole controversy had been reducible to a disagreement on this point, the heated and acrimonious character of the discussion would be inexplicable. This, however, was not the case. The problem of techniques to be applied was completely overshadowed by the paramount issue of objectives to be achieved.

A characteristic instance is the exchange between Bukharin and Preobrazhenski regarding the pros and cons of monopolistic pricing. Bukharin argued that a monopolistic policy weakens incentive for improvement in methods of production since the profits are thrown into the lap of managers of state-owned enterprises merely as a result of artificially inflated prices. Preobrazhenski brushed this aside with the retort that the pressure of effective demand on the one hand and of rising real wages on the other could be relied upon to provide powerful stimuli for increases in productivity while high profits made possible by monopolist price policy would secure the necessary means for the required capital outlays. This encounter showed clearly the reason for the inconclusive drift in the previous argument. The main theme of Bukharin and his adherents was the need for the full utilization of available resources. They recognized that the autonomous market mechanism provided better incentives for effort than the cumbersome system of governmental regulations; and they were firmly convinced that a decrease in prices all along the line would call forth an even larger increase in peasants' demand, thus resulting in a larger total volume of profit and in a broader counterflow of agricultural supply. They were, consequently, wary of monopolistic practices which appeared to them as a continuation of "war communist" attempts to live off the countryside, and which threatened to stifle the incentives for a sustained increase in efficiency in agriculture as well as in industry for the sake of a good temporary squeeze. The problems on which Preobrazhenski focused his attention were of an entirely different nature. His remarks on imbalance between

industry and agriculture indicate that he by no means denied the existence of partial disproportions and the importance of the peasants' willingness to trade. But at the same time he considered these disturbances to be ultimately rooted in that "systematic underproduction" which he deduced from what we would call today the increase in the propensity to consume caused by egalitarian redistribution of income, and from accentuated scarcity of capital resulting from its depletion over many years. His analysis brought out the gravity of such imbalance in an economy with industrial equipment inadequate to absorb the available labor reserves, with millions of subsistence farmers hanging on the market by the skin of their teeth, and with foreign borrowing reduced to a trickle. With regard to such a "macro-economic" disequilibrium mere reliance upon the smooth movement of resources from one small section of the economy to another and upon a more intensive utilization of them would clearly not suffice. Only the imposing of forced saving could restore stability; in the short run by bringing the aggregate demand into equilibrium with the available supply, and in the longer run by making possible an expansion in total capacity which would permit a more abundant supply. And only then would tangible incentives for increased effort be provided. The price policy Preobrazhenski advocated was to serve as a tool for such forced saving. All other effects it might have were of secondary importance to him. The crucial point was not the adequacy of this particular tool, and not even the broader problem as to the extent to which it is possible to combine the manipulation of the propensity to consume by the state and the untrammelled working of the price mechanism. Could the investment program proposed by Preobrazhenski actually be enforced, no matter what economic devices should be used for this purpose? This was the real question; and it was here that Preobrazhenski's ideas met the most decisive objections.

Preobrazhenski castigated his opponents for their failure to break with the "ideology of the restoration period" which led them to extol the possibilities of expansion within the framework of existing capacity. His critics pointed out to him, however, that his own policy recommendations were merely an accentuated reproduction of devices applied in that period. Preobrazhenski did not deny this; on the contrary, he considered it a proof that his ideas were not divorced from reality, and that the Soviet economy was already groping in the direction in which he wanted it to advance vigorously and consistently. It was not difficult to demonstrate that this argument carried little weight. Indeed, the method of extracting "forced

savings" from the peasantry by manipulation of prices could work reasonably well (despite occasional snarls) in a period when such "abnormal" profits had to finance inventory replenishment and the most urgent maintenance measures, and when payment for the sacrifice involved in high prices was forthcoming in the form of large and almost instantaneous increases in current output. The sacrifices of consumers were, moreover, potential rather than actual; the peasants were, despite unfavorable terms of trade, still better off than during the period of "war communism" when they had been forcibly deprived of their surplus, receiving practically nothing in return. None of these considerations held any longer in regard to the reconstruction period. The transition from patchwork to the construction of fixed equipment on a large scale involved a drastic increase in investment expenditure per unit of time as well as an extension of the time period between the input of factors and the emergence of the final output.

As our presentation of Preobrazhenski's views has shown, he was fully aware of this state of affairs as well as of the specific aggravating circumstances implicit in the Soviet situation. If, during this extended period of waiting, one part of the existing equipment after another was bound to decline in productivity or to go out of service without being promptly replaced, the reasons were to be sought, according to him, not only in the channeling of a large part of resources into time-absorbing investment processes but also in the insufficient provision for replacement in the past. The attempt to make good the resulting decline in current output by an intensified use of the serviceable equipment would be confined to narrow proportions because of the rapidly approaching capacity limits, and could succeed only at steeply increasing costs — a circumstance to which Preobrazhenski explicitly referred in his analysis of business cycles, when he pointed out that an increase in output based upon an increase in the amount of labor alone is accompanied by "increasing labor values" as a result of increased use of less efficient plant and inferior land.¹ The conclusion was therefore inevitable, that while the large addition to the existing scarce stock of capital could be expected to have most salutary effects on the supply situation in the future, the investment which was necessary for producing this addition was bound to make things worse for the time being. Preobrazhenski, in fact, said this quite explicitly when stating that "a discontinuous reconstruction of fixed capital involves a shift of so many means of production toward the production of means of production, which will yield output only

1. *Zakat Kapitalizma*, p. 78.

after a few years, that thereby the increase of the consumption funds of the society will be stopped,"² without adding the inevitable conclusion that the amount of consumption goods per employed worker would diminish.

In such a situation an uncontrolled economy could not avoid a wage-price spiral; but neither would the "workers' state" acting in accordance with Preobrazhenski's directives be able to push wages all the way down and thus prevent an unmitigated inflation. The shift of the main burden of the sacrifice to the nonindustrial population would be the remaining alternative; this was what Preobrazhenski actually proposed to do by his policy of "primitive socialist accumulation." But it was he who had shown with unsurpassed clarity that the increase in the peasants' propensity to consume was the most important single stimulant to "nonautonomous" investment; and no one stated more forcefully than he the ever present danger of a peasants' strike in view of the lag in industrial supply. Such an event could materialize in a period when peasants were expected to get fewer industrial goods and at the same time to give up more of their produce than before. They would respond to the attempt at an increased squeeze by withdrawing from the market, and thus would kill the industrial expansion by cutting off supplies of food and, indirectly, of foreign capital goods bought from the proceeds of agricultural exports. Or else, by forcing the state to capitulate, they would impose an increase in food prices and let the inflation start from this side. The cure would prove deadlier than the disease; this was, in effect, the point Preobrazhenski's opponents were making.

Preobrazhenski struggled desperately for a way out of this dilemma. He tried to minimize the danger of high industrial prices by pointing out that the prevailing low wholesale prices were of no benefit to the peasants in any event. When the wholesale price does not reflect the real scarcity situation, he argued, the private trader, on whom the peasants had to rely to a greater extent than had the city population, "corrects" the price in his own favor. To this his opponents replied that even if it were true that the peasants would not suffer after the upward price adjustment, the workers would; and the inflationary pressure would start from the side of wages. They argued, moreover, that an attempt to squeeze profit margins in retail trade by raising wholesale prices would result either in shifting the increases in wholesale prices on to consumers, or in disruption of the distribution apparatus, unless the state were able to create a large network of its own trade establishments — a policy

to which Preobrazhenski and his friends strongly objected. Extension of state expenditure to this sphere would, they believed, inevitably develop at the expense of investment devoted to the expansion of productive capacity. The call for increased taxation of rich peasants was met by the answer that this would aggravate the situation even more by causing a curtailment of marketable surpluses — a development which would be particularly serious because an abundant supply of needed agricultural implements for the main body of the peasantry could not be expected in the immediate future. It is perhaps not accidental that in the last and most systematic recorded statement of his position, Preobrazhenski did not resume these concrete proposals but limited himself to restating the problem in all its ramifications, concluding that “the sum total of these contradictions shows how strongly our development toward socialism is confronted with the necessity of ending our socialist isolation, not only for political but also for economic reasons, and of leaning for support in the future on the material resources of other socialist countries.”³ At its worst, this amounted to an admission that all attempts to find a solution within the limits of the isolated Soviet economy would be merely squaring the circle. At its best, this was a desperate effort to obtain tomorrow’s stability at the expense of enormously increased tensions today, without knowing too well how to withstand the latter.

VI. THE SOLUTION OF THE “PREOBRAZHENSKI DILEMMA”

It was not difficult for Preobrazhenski’s opponents to prove that the “superindustrialist” way was leading to an impasse. To show a flaw in his reasoning was quite a different matter. Indeed, the main argument seemed ominously foolproof. The drastic increase in the propensity to consume as a result of the change in the income structure pressed for increases in supply; the run-down condition of the equipment and lack of adequate reserve capacities made such increases impractical, except by large increases in the volume of capital construction; the “complementarity” factor dramatized even more the magnitude of this needed expansion. But the same circumstances which pushed toward a large volume of investment placed obstacles in its way. Thus the scarcity of equipment permitted investment to proceed on the desired scale only at the expense of consumption, while the equalization of income left little room either for voluntary savings to match the rise in investment expenditures or for luxury consumption to be cut down, and any attempt sufficiently to override the voluntary propensity to consume would be certain to boomerang

3. “Khoziaistvennoe Raznovesie . . .,” p. 70.

with drastic effects. The high rate of growth was a vital necessity and at the same time a threat; granted the underlying assumptions, the choice seemed to be between mortal sickness and virtually certain death on the operating table. The adherents of the majority had, therefore, no right to celebrate a victory. It was rather for them to show that a third alternative for the Soviet economy existed; and in order to do this, they had to face squarely the issues put before them with such merciless clarity. This was, in fact, the sustained effect of Preobrazhenski's challenge. Subsequent developments in Soviet economic policy, if considered under the head of a "history of ideas," can be conveniently viewed as alternative attempts to solve what one might call the "Preobrazhenski dilemma."

The first attempt to do so was implicit in a significant shift in the position of the Bukharin-Rykov group, which was at the time responsible for economic policy. From the idea of increased turnover as the main source of accumulation, and from the declaration that the march toward socialism is possible also "at a snail's pace," a long way had been traveled toward the explicit admission of the necessity for discontinuous growth. Thus the central proposition of Preobrazhenski was tacitly accepted. But an effort was made to reduce the problem to manageable proportions by working simultaneously on the side of current supply and on both components of effective demand — consumption and investment. The proposals of the group in question envisaged greater inequalities among the peasants by tolerating the emergence of stronger peasant holdings. Such a development could contribute to easing the situation both through greater marketable surpluses and through a higher propensity to save in the upper stratum of the peasantry. Progressive taxation could be maintained and perhaps even sharpened if devised in such a way as to penalize usury and hoarding rather than productive effort. At the same time they attempted to scale down the capital requirements by relaxing the assumption as to the size of the average plant. The relative advantages of large-scale production were, to be sure, not denied; yet it was stressed that they did not hold with equal force at every point in the economy. The decision between large and small should therefore not be made in a "wholesale" way; sizeable capital outlays were to be confined in the first place to fields where they could make the greatest contribution while extensive use of "less capitalistic" technology should be made elsewhere.⁴ The opportunities for raising

4. Some non-Party economists of the Gosplan, who were close to this group, e.g., V. A. Bazarov, recommended the use of the rate of interest as a means of increasing selectivity in the allocation of capital and of prodding every plant into more efficient operation.

productivity without large-scale investment were seen as particularly great in agriculture and in small-scale industry. The methods of production in these fields as inherited from the past were, because of the wretched condition of both producers and consumers in pre-Revolutionary Russia, well below the level attainable within the limits of small size. Some recent developments in technology were viewed as favorable for efforts to revitalize small-scale production; the spread of electrification, which made possible the use of mechanical power without large-scale indivisible installations, received a particularly high rating in this connection. But in large-scale industry as well, much importance was attributed to improvements based upon more efficient layout ("rationalization") which did not require any large additional investment.

All this implied, logically, a different approach to the problem of surplus population. Abundant supplies of labor, it was pointed out, before being utilized in combination with large-scale equipment yet to be produced, could find immediate employment opportunities in expanding small-scale industry and agriculture. They would, moreover, be an asset for the largely labor-intensive construction work needed for the erection of new plants as well as for the construction of roads and transportation facilities of the greatest importance in an industrially developing country. The authors of these recommendations by no means denied the need for a high rate of growth, and quite logically; the relative advantages of large-scale technology would still be very pronounced in many fields of decisive importance. More particularly, the construction of small-size equipment on a large scale would also be predicated upon a large investment in heavy industry which can as a rule develop on a strongly "capitalistic" basis. But the volume of such investment would clearly be smaller than under an assumption that "bigness" was to be the rule.

It could be shown that few, if any, points made by the Bukharin-Rykov group were not anticipated in one way or another by the author of *Novaia Ekonomika*. His statement that "accumulation is needed for the state economy to reach the level of modern capitalist technology wherever it is impossible to approximate the level of the new technology gradually,"⁵ contained an implicit admission that the range of choice between alternative types of equipment is not equally restricted in all fields. No less telling was his remark regarding the possibility of significant increases in the productivity of the peasant economy merely as a result of a more rational organization of labor.⁶

5. *Novaia Ekonomika*, p. 92 (italics supplied).

6. Cf. "Khoziaistvennoe Ravnovesie . . .," p. 66.

And as the final passages of the same article show, he was perfectly aware of the economic risks involved in drastic measures against the rich peasantry. The varying degrees of readiness to draw practical conclusions from these observations and the varying degrees of importance assigned to them were a result of basic political differences. The adherents of the left wing wanted to solve the problem of an isolated socialist regime in backward Russia by encouraging the revolutionary working-class movement in the West and by rapidly increasing the industrial proletariat at home; this was what sharpened their search for factors which would require the rapid growth of large-scale industry. The representatives of the right wing did not share the anxiety that small-scale private ownership, if permitted to persist for long, would generate capitalist restoration; they advocated cooperation with the main body of the peasantry on the basis of a mixed economy which would gradually evolve toward integral socialism, and were consequently less inhibited in giving a boost to small-scale production. But while the differences on issues of political grand strategy were about the same as before, the area of disagreement on economic matters was clearly narrowing down. It would be not unnatural to expect, under such circumstances, an attempt to work toward some middle ground.

The actual development did not conform to this logical pattern. It is not the task of this paper to discuss the momentous political factors at work here. It will suffice to present the sequence of events. The resolutions on economic policy adopted by the Fifteenth Congress of the Communist Party in December 1927 could, indeed, be interpreted as a step toward a synthesis between the older right wing and left wing conceptions. However, this change of attitude had its corollary not in a rapprochement between the majority and the opposition, but in the crushing of the latter by force. The whole leadership of the left, including Preobrazhenski, was expelled from the party. Moreover, the synthesis itself went overboard within less than two years. The new policy line, which superseded it, offered a basically different solution of the "Preobrazhenski dilemma." It was inaugurated by a defiant denial that any such dilemma existed at all; the first Five Year Plan proclaimed as its objective an expansion in investment goods output designed to double the fixed capital of the economy, and at the same time a marked increase in per capita consumption. In the process of fulfillment, however, the first part of the program was pushed through unwaveringly at the expense of the second.

The transition was anything but smooth. The disturbances

envisaged by Preobrazhenski as well as by his opponents, for much milder forms of the "shift of means of production towards producing means of production," did not fail to assert themselves with a vengeance. The glaring discrepancy between the targets set and the normal capacity of existing plants called for a large-scale influx of additional labor, and pushed the utilization of available equipment deep into the range of increasing costs, thus extending to an unheard-of degree the divergence between the increase in consumable output and in the labor force. Simultaneously, the new plant which could bring relief was at many crucial points slowed down in its completion, or limited in its operation, by bottlenecks in those complementary lines in which such shotgun adjustments between labor and equipment had proved even less workable than elsewhere. The ensuing cut in per capita consumption evoked a resistance which reached its greatest heights in the years of economic warfare waged by the villages against the cities, and which survived in a subdued form as a downward pressure on the productivity of agricultural and industrial labor. And there was, finally, the blunt fact that in a period of rapid industrialization even the most powerful government cannot afford to prevent money wages from rising.

It was therefore inevitable that the situation in which too much money was chasing too few goods had become, in varying degrees, a permanent feature of the Soviet economy in the period of the Five Year Plans, as had some typical distortions in the structure of production. But whatever one might think about the rationality of the chosen tempo in terms of efficiency, the explosive potentialities which Preobrazhenski as well as his right wing opponents had anticipated were effectively extinguished. This decisive difference was due to the landslide-like change in the institutional framework which all the participants of the industrialization debate had assumed would last for decades and which provided a basis for their theoretical constructions. The wholesale collectivization of agriculture did away with the peasants' "freedom to choose the time and the terms at which to dispose of their surpluses." It was now up to the state to set these terms and thus to determine the rate of peasant saving. The suppression of the limited independence of trade unions ended the possibility of organized opposition by the workers against the fall in real wages; another "barrier to the tempo of socialist accumulation" was thus effectively disposed of.

Not that the difficulties disappeared — some of them became even more acute, at least temporarily. The unwillingness of the peasants to accept the worsened terms of trade was dramatically

intensified by their revolt against the loss of economic independence. In order to weld the newly created collective farms into workable units, it was imperative to press forward large-scale mechanization of agriculture simultaneously with the re-equipment of basic industry instead of letting the first follow the second. The tremendous increase in capital requirements implied in such a decision could not but accentuate general maladjustments and make the reduction in consumption levels still more severe. But at the same time powerful weapons to deal with these difficulties were provided. By assuming direct command over the whole economy and by backing it with the application of outright compulsion and repression on an unparalleled scale, the system succeeded in securing, even at the height of the collectivization crisis, a minimum of basic supplies sufficient to keep it going, and in preventing any organized pressure towards maintenance of the former consumption levels. On this basis additional techniques for dealing with inflation could be developed, among which was included a device cherished by Preobrazhenski: the turnover tax, as the most important single means of absorbing the excessive demand, is a new and streamlined edition of his "socialist monopolism." The "goods famine," domesticated in such a way, ceased to be a source of danger which might culminate in peasant supply strikes and in political upheaval. It became a price willingly paid for the possibility of letting investment soar both in volume and in time beyond the boldest dreams of yesterday's "superindustrialist." The need for a substantial increase in the supply of consumers' goods within a few years, which had loomed so large in Preobrazhenski's argument, no longer seemed important either as an objective or as a limiting factor of industrialization. The desires to utilize the opportunities for technological improvement and to provide a firm foundation for the collective form of ownership, both pushed to an extreme by the drive to build up the power of the totalitarian state, could now assert themselves freely. The "minimum of wants" could be asked to wait a little longer.

The relation of this solution to Preobrazhenski's ideas is clearly indicated by all the foregoing. It appears, however, in a still sharper light when the story of his attempt to adapt himself to the new reality is told. In 1929 he gave up his opposition to the official policy, in the sincere belief that the first Five Year Plan constituted in essence a vindication of his struggle for a high tempo of industrialization. Nearly two years after his readmission to the party he summed up his views in an essay "*O metodologii sostavleniya genplana i vtoroi pyatiletki*" (On the Methodology of the Construction of the General

Plan and the Second Five Year Plan) and submitted it to the editors of the leading economic periodical *Problemy Ekonomiki* (Problems of the Economy). The article was never published but its main thesis can be extracted from the scathing attacks upon it which appeared soon afterward⁷ and which fortunately contained extensive quotations. One can gather from these excerpts that Preobrazhenski began by emphasizing the need for rapid expansion during the reconstruction period as dictated by the necessity "to liquidate the class division of society and to re-equip technologically the whole labor force of society on the technical level, say, of 1930-1931 during the next five or six years." According to his assumption, 54 million working people out of a total of 60 million had to undergo such re-equipment. The reason for speed lay "in the increased danger of intervention and blockade." This sounded like a sweeping endorsement of the official policy at that time.

When he went on to elaborate, however, he drew heavy fire. He prepared a scheme designed to show that, other things being equal, the "tempo of growth" in output would be several times higher in a situation of unused capacity reserves than in cases where additional equipment had to be constructed first, an idea which was promptly branded as "an attempt to prove the same theory of a declining curve of growth which Comrade Stalin has exhaustively unmasked as capitulationist at the Sixteenth Congress." He wrote that "the preparation of the second Five Year Plan has to end, and not to start, with amounts of pig iron and coal," clearly a call for adjustment to bottlenecks. He stressed that the required re-equipment was impossible without an intensified accumulation at the expense of consumption, and indicated that this was what actually happened during the first three years of the first Five Year Plan, an obvious "Trotzkyite" calumny.

The vituperation of the critics rose to its highest pitch, however, when Preobrazhenski, applying his acceleration concept in reverse, predicted that a large part of the capacity in the investment goods industry, which was geared to the re-equipment of the whole economy at a terrific rate of speed, would become redundant as this re-equip-

7. Cf. K. Butayev: "K voprosu o materialnoi baze sotzyalizma" (On the Problem of the Material Basis of Socialism), *Problemy Ekonomiki*, 1932, No. 1; M. Mekler: "Obschchii krizis kapitalizma i bor'ba dvukh sistem v svete teorii Preobrazhenskogo" (The General Crisis of Capitalism and the Struggle of the Two Systems in the Light of the Theory of Preobrazhenski) in *Zakat Kapitalizma v Trotskistskom Zerkale* (The Decline of Capitalism in the Trotzkyite Mirror), ed. by Communist Academy; Moscow: Institute of the World Economy and World Politics, 1932.

ment approached completion. A sharp increase in the share of consumption in the national income, accompanied possibly by some public works, would then become imperative in order to avoid the "overaccumulation crisis." One can only speculate as to how far this suggestion was a product of theoretical deduction, and how far it was a result of anxiety that the hardships imposed on the economy by the official policy might prove unbearable, and of a desire to avoid the grim measures which would be needed to see the policy through. Whatever it may have been, the reply it met was most illuminating. The assumption that the fixed capital of the economy could be capable of the astronomic rate of growth implied in equipping 54 out of 60 million people with up-to-date machinery within five to six years did not appear to cause any uneasiness to Preobrazhenski's opponents. It was the idea that such a tempo could not continue forever which provoked their indignation. Preobrazhenski's remark that a rate of expansion which is appropriate for the duration of the reconstruction period would be "of no use" for the already established socialist society was denounced in strongest terms,⁸ and the statement that "socialism is production for consumption's sake" was considered outrageous. "The heavy industry which produces the means of production must always outstrip the development of other branches of the economy, including light industry. This holds not only under conditions of the reconstruction period but also under conditions of the developed classless socialist society."⁹

The most robust adversaries of the "bogey of economic maturity" would turn pale with envy at this. The basic commandments of the new economic creed came out with striking clarity. The appalling sacrifices involved in the policy chosen must not merely be accepted, but talked out of existence. The overriding priority of "socialist accumulation" over the "wants of the participants of collective production" was not only to be pressed forward immediately with the utmost ruthlessness; it was to continue in the established socialist economy of the future without being affected by rising levels of capital abundance. What was called for was evidently not a rational theory, but a mythology of economic growth.

The author of the once-dreaded "superindustrialist" doctrine had now become hopelessly outclassed. He was unable to accept either

8. The only substantive criticism offered at this point consisted in a remark that after the modernization of equipment was completed, there would also be opportunities for further improvement — as if Preobrazhenski had maintained that such opportunities would end and not merely be insufficient to sustain the full-scale operation of the enormously expanded investment goods industries.

9. Butayev, *op. cit.*, p. 15.

the use to which his old ideas had been put, or the ideological concomitants of the new policy. Least of all could the man who had been a fighting nonconformist all his life be expected to support consistently a viewpoint which was unacceptable to him. He could not deny this even in his self-castigating speech before the Seventeenth Congress of the Communist Party when, after renouncing all his past errors, he had to admit one more "political shortcoming": "When I have to say something political not quite the way I think," he told the Congress, "my tongue does not turn." This speech was his last. He disappeared in the purges of 1936-1937.

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