

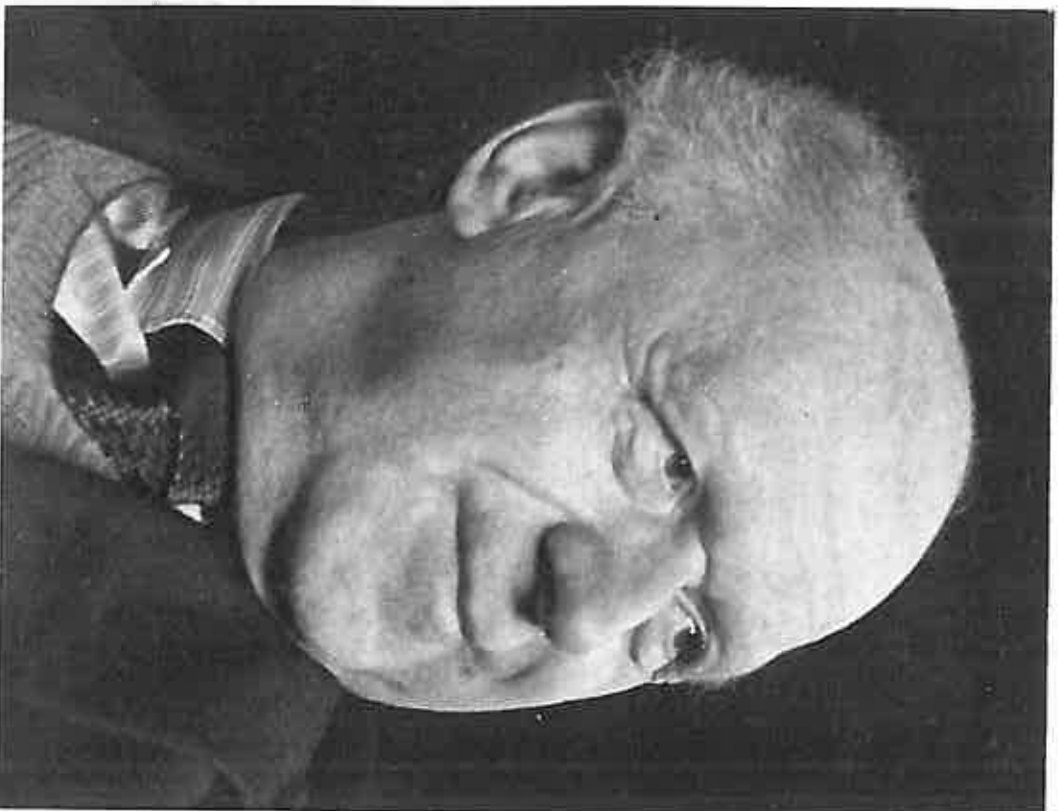
OTTO NEURATH

# EMPIRICISM AND SOCIOLOGY

*Edited by*

MARIE NEURATH and ROBERT S. COHEN

*With a Selection of Biographical and Autobiographical Sketches*



Otto Neurath on December 21, 1945.

LIBRARY OF THE  
CENTRAL EUROPEAN  
UNIVERSITY  
BUDAPEST



D. REIDEL PUBLISHING COMPANY

DORDRECHT-HOLLAND / BOSTON-U.S.A.

cannot be mastered by the utilitarian calculus. Individual scholars will then have to agree beforehand at least about the ordering of individual types or about the principles of this ordering.

While the demand that each man's actions must aim at his own individual maximum pleasure might contribute to the creation of a well-ordered community in which the happiness of each appears accounted in equal measure, the demand that each must keep sight of the happiness of all at once leads to practical difficulties if one is not to allow the decision of one man as mandatory for all, or if one merely gathers together individuals who share the same basic views about the best distribution of pleasure. In general it is not possible to create an order of life which takes equal account of different views as to the best distribution of pleasures, as would have to be the case with the pleasures of each in a purely utilitarian world. One cannot determine in general how these contradictions will solve themselves. Perhaps struggle will decide which view about the best order of life shall be victorious; perhaps preference will be given to one order out of those in question, and the choice may be made with the help of an inadequate metaphysical theory or in some other way; tossing coins would be much more honest.<sup>2</sup>

## REFERENCES

- <sup>1</sup> [Bibl. No. 50 - Ed.].  
<sup>2</sup> [See Neurath's 'Inventory of the Standard of Living', *Z. f. Sozialforschung*, vol. 6, pp. 140-151 (Bibl. No. 237 - Ed.).]

THROUGH WAR ECONOMY  
TO ECONOMY IN KIND<sup>1</sup>*List of Contents*

## PREFACE\* (April 1919)

*War Economy*

- |  |               |
|--|---------------|
| 1. The Theory of War Economy as a Separate Discipline (1913)*  | Bibliogr. No. |
| 2. War Economy (1909 (?) or 1910)                              | 66            |
| 3. Introduction to the Theory of War Economy (1914)            | 22            |
| 4. Freezing of Bank Accounts in War-Time (1909)                | 73            |
| 5. Accounting in a War Economy, and Its Limits (1916)          | 7             |
| 6. War Economy, Administrative Economy, Economy in Kind (1917) | 85            |
|  | 88            |

*Administrative Economy*

- |   |    |
|---|----|
| 7. State Cartel and State Trust as Organisational Structures of the Future (1910) | 21 |
| 8. Communal Means of Transport and Their Possible Developments (1909)             | 6  |
| 9. The Economic Order of the Future and the Economic Sciences (1917)              | 92 |

*Economy in Kind*

- |  |    |
|--|----|
| 10. Economy in Kind and Accounting in Kind in Relation to the Theory of War Economy (1916) | 84 |
| 11. Economy of Supplies and the Issuance of Paper Money (1917)                             | 93 |
| 12. Principles of Compensation in Inter-State Trade in Goods (1917)                        | 95 |
| 13. Food Scarcity and Governmental Power (1918)  | 94 |
| 14. The Converse Taylor System (1917)*   | 87 |

*Economy of the Future and Socialization*

- |  |     |
|--|-----|
| 15. Character and Course of Socialization (1919)*      | 111 |
| 16. Technology and the Economic Order (1919)           | 112 |
| 17. Utopia as a Social Engineer's Construction (1919)* | 114 |

(Articles 1-16 are reprints; Article 17 was published in this book for the first time.)

\* [These sections are given here. - Ed.].

## PREFACE (APRIL 1919)

The present book comprises papers that are all inspired by the idea that the era of free exchange economy is ending while that of administrative

economy is beginning; that money economy will dissolve to give way to a thoroughly organized economy in kind.

Grown up in the intellectual atmosphere of my father, I was from early youth filled with the notion that the traditional economic order with its crises and misery was in principle unable to make men happy. I turned my attention to all those trends which seemed to announce a new era. State cartels and trusts and similar bodies seemed to me promising precursors of the new era. Averse to all political life, I occupied myself in a detached way with what possibly or actually will happen, without actively intervening.

These considerations of things to come led me to the view that a world war would introduce the administrative economy of the future, since it would promote central control of all efforts and materials in the interest of the war. From this new order of things to an administrative economy in the interest of all seemed to me only a small step that would depend on political power. Astonished and terrified, I saw how humanity was moving towards world war, without having a clear notion of what such a war, lasting for years, would entail. My very detailed predictions remained quite unnoticed.

While the organization of world war developed in the way which I had expected, I tried to predict the future of peace that was to follow. For me this could only be an administrative economy with growing regard for the interests of the people. Governments seemed hardly to notice any of this. In Germany, measures toward socialization were gappy and aimless. An invitation from the Munich Workers' Council gave me the opportunity to express clearly, if still in a strictly scientific way, that the time was ripe for comprehensive socialization, that an economic plan could replace net profit.

The hesitations and vacillations of those called upon to act, the advice of my friends and sundry accidental circumstances, finally moved me, after much reflection, to conclude my life of contemplation and to begin one of action, to help to introduce an administrative economy that will bring happiness. After many incidents I was entrusted, as President of the Central Office of Economics, with the socialization of Bavaria. What hitherto I had yearned for as the future, I can now myself help to fashion in the service of the people, and soon, I hope, in the service of the free world.

#### THE THEORY OF WAR ECONOMY AS A SEPARATE DISCIPLINE (1913)

If we thumb the pages of the usual reference works on economics of the last decade, we search in vain for articles on war and its attendant phenomena. We fare no better if we look into our widespread handbooks and textbooks; war is hardly even mentioned. Whereas in other ways social aspects of a most general kind are not rare in discussions of even quite specialised commercial questions war is noticeably neglected, as much in matters that affect war as in those that are affected by it. Again, we might for instance pick up detailed considerations about railway systems in which there are technical digressions which in themselves hardly help to clarify the problem at hand, which concerns the supply of goods to certain areas, and yet there is no mention of the fact that many railway lines, especially important ones that cross continents, are built with considerable regard to military factors, indeed that some owe their existence to purely military considerations. But it should hardly be long now until a comprehensive description of world transport will, for the sake of a complete picture, include military factors along with the usual commercial ones as the conditions for certain connections. But not only such rather indirect relations between war and goods traffic are neglected; writers also abstain from any systematic treatment of the effect of war on commerce, industry and banking, and even the sociological literature proceeds in a more or less one-sided way. Recently published works on special financial questions, on the effects of war on industry, agriculture and trade of individual countries, on the connection between modes of production that are conditioned by war on the one hand and peace on the other, are doubtless highly valuable results of research; but they do not replace a systematic examination of the whole specific body of questions. If in economics we were so far advanced as to study all possible forms of economy in a quite general way, and put to ourselves the question how given forms change if certain rules are permanently observed, and what happens on the other hand if the rules change, then we should need no special theory for war, this already having been allowed for as a special case. But as matters stand we generally diverge but little from existing combinations and seldom dare link empirically found material into new forms, as is regularly done by modern physicists and chemists in a planned way. It therefore corresponds to the present state of economics if we

proceed step by step from a treatment of observed existing forms to generalizations, though it might perhaps be possible to deduce from existing theories of economic life (by varying the circumstances) the various possibilities including war economy.

For the case of war a special theory is needed; this follows from the fact that the crisis of war differs essentially from those regularly appearing crises which are characteristic of the present economic order. Whereas, for instance, a "normal" economic crisis proceeds slowly, in that it forces the entire economy into a gradual liquidation and in most cases spreads from an initial point to other areas, the war crisis usually supervenes suddenly and hits all parts of the economy at once. The call-up on the one hand acts like an epidemic on agriculture and industry, but on the other it does not reduce the amount of food required for the country. Often there occurs an increase in means of circulation which can have a different effect from that of peacetime because the circumstances are different. Nor is it at all enough to start with a peace economy and to see how its separately conceived parts suffer changes in case of war, for instance the monetary system, credit, production and so on; rather we must examine the interrelations as a whole, in a way that has not been done for a long time now. Since the excellent treatise of the ingenious Joseph Lowe, who today is all but forgotten, I am not aware of anyone who has tried to present a picture of all the interconnections and above all to determine the shifts in real income which of course matter most. Lowe solved his task in an outstanding manner, though one cannot agree with all his results. That such an inquiry should have been conducted just at that time (1822, London) need not surprise us, for the Napoleonic wars provided ample empirical material, while at the same time theoretical economics had strongly developed. In addition there was the often noted circumstance that much seemed to point to an increase in England's wealth during the war, which led many fairly to dread the coming of peace. But most of the authors restricted themselves to special questions, as, e.g., B. P. Colquhoun in his detailed and excellent treatise on the wealth of the British Empire (1814, London). The same is true of related inquiries of the period. Tooke and Newmarch examine the relevant questions in a more general way. To this world of ideas in some sense also belongs Gütlich's original work (1830-1845, Jena) which is hardly used today: he tried to classify commercial history into periods of war and periods of

peace. He consciously allowed for the influence of war on the development of industries, while always watching with understanding whether a war stimulated or paralysed. Of those mentioned only Lowe really rises to higher demands for a systematic theoretical treatment. But what he tried to achieve in his book by way of sketching events for a specific country (England), we could equally well describe in a much more general form even with the means now at our disposal. In this way a separate discipline with its own theory would emerge. I would like to suggest the name 'Theory of War Economy' for it. The single inquiries just mentioned could be considered as investigations of special cases of war economy.

The present situation is extremely favorable to the development of this discipline. A series of wars in quick succession has provided significant empirical material: the Spanish-American war, the Boer war, the Russo-Japanese war, the Italian-Turkish war, the Balkan wars. At the same time there has grown up a greater sense for more general theoretical syntheses, so that we may hope for some systematic achievements; individual works have always been published after wars, after those of Frederick the Great as well as after the Franco-Prussian war, to name two eras in which there was less inclination towards more general theoretical considerations. In comprehensive works of the eighteen-seventies we look in vain for important ideas on war economy. Even the astute Lorenz von Stein says no more than other authors of that period. If problems are tackled that are connected with war they are mainly sociological in character and touch less upon the structure of the market, with the resultant change in real income and allied problems that are the proper object of the doctrine of war economy. The Balkan wars especially open up a number of important international questions. All European states are interested in the issue and act under the pressure of a threatening world war. There was a wealth of remarkable facts to be observed in the international lending market and likewise in the goods market. The moratorium in the Balkan states and the closing of lines of transport had its effects on non-participants too. We are more than usually moved to consider what changes would be caused by a world war that knows no neutrals, as last was the case a hundred years ago during the Napoleonic wars. In that event there are for instance no longer any 'external' loans, because each group of fighting nations must rely on itself. It would be an important task to formulate

more general results on the basis of the observations made of the effects of the Balkan wars.

Oddly enough the peace movement has hitherto shown itself rather sterile in the field of economics. The special inquiries at present inspired by the Carnegie Endowment for International Peace cannot be counted here, since in content they do not flow from the peace movement; according to statute the Division of Economics and History must further entirely objective studies on the economic and historical causes and effects of war, and this does not exclude results that seem unsuitable for supporting the peace movement. The economic arguments of pacifists are usually not very original and often go no further than rather inadequate attempts at calculation that try to express the losses caused by war in terms of sums of money. In this they commit an error which is indeed fairly common with non-pacifists too. Here, as so often, the money economy approach fails completely. This approach is especially out of place where one tries, by some scale or other, to convert services in kind into sums of money. The posing of this problem has been furthered in great style by Norman Angell, whose work has caused something of a sensation in Germany too. It suffers from the fact that it is tendentious from the outset and treats the questions it raises with a lack of thoroughness. Moreover, all its theses are formulated in an exaggerated way as possible, which makes them look grotesque and scurrilous. Although a blending of propaganda and research need not always be harmful — since it is often a specific practical goal that inspires the inquirer and makes him acute — nevertheless in this delicate field in particular the best results may be expected from a clean separation of research and propaganda, because the results that the representative of a certain goal expects from science can on the one hand not be found quickly and on the other not be formulated in a few sentences; on the contrary they require many clauses that are not very suitable for partisan struggles. But of course one cannot object to it if the inquirer, who in his scientific publications weighs everything with great care and must leave much in doubt, should at the same time (as believer in an idea) anticipate future results of research in the interest of practical action, and stand up energetically for his goal. The Balkan wars show precisely how many-sided the effects of war can be on the political economies as they are at present, and how unlikely it is that the significance of war for an economy can be unambiguously and succinctly formulated.

We observe how in one place war provokes most serious disturbances and in another only small changes, and perhaps in yet other spots may act as a positive stimulus. The doctrine of war economy will classify states into groups and moreover take into account which system of states a given state happens to be in. It will have to make a distinction between those states that essentially possess the characteristics of money economy which is characterized above all by an accumulation of easily cancelled or short-term contracts, and those areas in which an economy in kind prevails and traditional feeling of belonging together allows many hardships to be borne more easily. It will be very important whether the distribution of landed property in a state is equal or not, whether armies are conscripted or mercenary, whether it is common for restrictions in production to occur in peace time or whether productive capacity is fully used. In short, even a cursory survey shows what a complicated structure the new discipline will be and how many problems are waiting to be solved.

The doctrine of war economy was neglected deeply, in part because economic theory is to this day not elastic enough to encompass various economic orders at once. Historians and geographers are forced by the nature of things to distinguish from the outset various economic levels and forms and to describe them concretely. But theoretical economists, moved by unclear analogies from the natural sciences, have often tried to construct one specific economic order as *the* economic order, and to regard the various empirically encountered ones as unimportant variants. Many were seeking a theory of economics in a way in which one might seek a theory of astronomy. It would in many regards have been much more fruitful to compare the various economic orders with different types of machines which could be as alien to one another as a steam engine and an electrostatic generator. There were other theoretical defects as well; with these we cannot deal here. As far as the treatment of economics from a historical and geographical point of view is concerned, there was an inclination to regard war as a deviation from the normal condition. It is worthy of note that even economists like Oppenheimer who, as historians and sociologists, did indeed accord a sufficient treatment to war, did not carry out the fitting of war into the economic order. It seems that the present structure of economics prevents such an integration.

A working out of the theory of war economy into a closed theory would greatly further the development of economic theory as such, be-

cause in this way one would become used to recognizing a theory of war economy alongside the theory of peace economy, to use that expression. Perhaps in this rather than in some other way we shall more quickly reach the insight that the theory of political economy can describe many groups of phenomena that exhibit different rules of displacement for its elements. Apart from the fact that the theory of war economy will make it possible to inquire more intensively than hitherto into concrete reality, because an always present factor is consciously and constantly allowed for, it will also contribute to the development of the total discipline.

#### THE CONVERSE TAYLOR SYSTEM (1917)

##### Reflections on the Selection of the Fittest

The last decade before the war has familiarised us in Germany with the American attempts to study scientifically the way work is done in industry and in offices and to fashion it in such a manner that each movement is performed most expediently and for each task the men most suited for it should be called upon. Those who rejected this doctrine of scientific management which is being furthered both in theory and practice here too (it is often as a whole called the Taylor system) were not only adherents of the development of true humanity and opponents of 'Americanism' as it is called. Among workers too one could note strong aversion to it. The Taylor system benefits workers only if a part of the increased profit is ensured for them, but they have to fear dismissal and overexertion. At the beginning of the 19th century, conditions of work deteriorated as a result of the introduction of machines, because those who had been dismissed or were fearing dismissal depressed the level of wages and moreover women, children and the elderly could be called upon. By a detour through most severe disturbances, conditions of work were slowly improved during the 19th century, partly under pressure from the state. The Taylor system as a means for saving work is related in kind to the machine system. Its universal introduction without corresponding measures taken by the state or by workers' organizations, could have many doubtful consequences for the workers.

But many fear that the Taylor system, even where it is introduced to the advantage of the workers would increase the general mechanization of living. However, this is by no means necessarily the case; indeed, it is

precisely in this system that we find elements which could make it into a principal force of a new humanism.

During the war people everywhere turned toward a conscious shaping of life and today they are more concerned than formerly to apply their effort for certain goals in a really successful manner. If by the technology of an epoch we understand the total of its inventions, and by 'technicism' their application, then there was during peacetime in the past a high level of technology combined with a comparatively low one in technicism.

The war has changed the organization of our economy in more ways than one, in that the net profit of the entrepreneur did not remain decisive for most measures. More and more frequently the course taken, by official decree, was that which was recognised in each case as the most appropriate. Production was put into effect which might not in itself be profitable, but became so only through special assignments from public funds. But there also were cases of compulsory production and similar measures. The production of ammunition, arms, and so on, stood in the foreground. The conduct of war was carried through along purely technical lines. In that field, technicism seems in principle to live to the full. Even if the giant concerns of America have a more thoroughly shaped structure in their organization, still they basically aim at maximising net profit, whereas the conduct of war subordinates a whole people to a purpose. We must of course never lose sight of the fact that the actual performance of utilising energy is still in its initial stages, because our methods and ideas have hardly developed.

We begin with much effort and care to select from the healthy, but also from the war injured, those men who are suited to existing professions and forms of organization, and this trend no doubt will greatly develop after the war. Would it not be in the interest of a farsighted cultural policy to link these strivings with more comprehensive ones, that extend the conscious shaping of life to the whole body politic? In this way these endeavors would gain the support of many who are still deterred from industrialization and Americanization. But all this is avoided if we also use the 'converse Taylor system', which, unlike the hitherto usual Taylor system, does not seek to regard the professions as something given, but puts men themselves in the foreground, and then examines the possible professions and forms of organization as to how far they correspond to men as we find them. Perhaps existing professions and forms of organizations are

inadequate; perhaps in order to achieve full humanity and the best use of all energies towards each envisaged goal, we must create new forms of profession and organization.

Before the World War everyone was so captivated by the present that considerations about the economic order of a world war were hardly noticed. Now such a plethora of changes has been set off that every body busies himself with the future. By depicting for oneself the immediate future in a more or less felicitous way, one imagines that one has gained greater freedom of judgment. But there is a new danger of constriction. To free ourselves from it, we ought to think of the future that is next-but-one as well. Perhaps this will help us to shape the immediate future more fruitfully.

The trade economy has released men from countless local bonds and has given them a far reaching freedom of decision; on the other hand it has created market conditions such that individuals, on the basis of their free decisions, have had to agree to a form of life which for the majority was basically the same, having only scant regard for variable inclinations and dispositions. This form of life, which required from each considerable insight into the consequences of his actions, elbowing, etc., was appropriate only to a fraction of people. Another part necessarily bowed under the yoke. A third group of people could make no proper use of their abilities at all; and while the mighty rushing equalizing stream carried the others along, these men were cast on a bleak shore where they lived on miserably.

The epoch of the free trade economy whose falling off we are witnessing was based on the officially recognized aim of the greatest possible net profit. This obviously did not lead to a complete use of all capacities. Even though the individual entrepreneur within his own firm acted rationally to achieve an increasing net profit, it did not follow from this that the order of life of a free trade economy as a whole likewise functioned rationally. The advance of the administrative economy, based partly on official or semi-official bodies and partly on private associations, can be explained, among other things, by the fact that one now aims at a fuller use of capacity while trying to abolish the underemployment or non-employment of abilities. This administrative economy with its orientation toward an economy in kind, which will probably be realized completely as little as the money-oriented trade economy, seems to incline toward the

furthering of a certain uniform shaping of the economic organization, based on centralized measures. The equalizing tendency of a free trade economy would thus be replaced by an equalizing tendency of an administrative economy. Here, as so often, the impetuous development of rationalism contains at first a hankering after equalization. The number of those who wish to come to terms with the principles of a military workers' state as proposed by Popper-Lynkeus (*General Peacetime Labour Draft*), even though small, increases significantly.

It is indeed quite understandable that one is not unwilling to accept universal uniformity in the shaping of life if at the same time an improvement of all conditions of life occurs. If the administrative economy with its associations of producers, consumers, with its state-controlled banks, state monopolies and so on, does actually make better use of available effort, abolishing unemployment, making crises impossible and diminishing mass poverty, it will doubtless take some time before an incisive criticism is raised against the uniformity. But the wish for co-existence of different forms of life and organization would then show itself more forcefully perhaps than ever before, and it might not be impossible that a multiplicity of forms of life adapted to the multiplicity of men themselves should become a mark of the future next-but-one.

The World War prepares this future next-but-one as well. Many traditional forms are destroyed, desires of quite opposite kinds have come alive. That only one group of them should win is less likely today than in the past, because the idea of equal rights for different forms of life is gaining ground, partly as a result of the sceptical outlook on life that is a child of rationalism. Insofar as this outlook acts in a constructive manner, it endeavours to facilitate the simultaneous existence of as many forms of life as possible, as it also tries to create a fully developed cultural existence for different nationalities within the same association.

The multiplicity of desires manifests itself in various ways, if we disregard for the moment the aim of making burdens smaller. Many people would for instance prefer to work nine months a year in industry and three on the land, instead of living without break in a factory. Others again, who wish to educate themselves further in their professions, would accept part-time work for part pay, if they could obtain it. There are teachers who would gain in their activity if they were to be put say every fifth year in an administrative office. All such possibilities are occasionally

realised, but not on the basis of general principles, mostly only because of accidental circumstance.

However we might delimit the goal of the social plan, it would certainly lie in the interest of the people's wellbeing and health to shape and distribute professions and their organization in such a way that the given type of organization would show that it did not properly use the given human energy. If until now one has asked which men are best suited to fill certain posts in given forms of organization, now the converse question arises, which forms of organization and professions are best suited to use the existing human abilities and energies?

Already before the war there were occasional hints that vagabonds, hawkers and the members of many other minor pursuits that are sought by invalids and the handicapped, are human beings who can assert themselves only inadequately in our order of life. Partly they are restricted in their technical ability. But if somebody is only three-quarters fit, he usually is to an even smaller extent able to work because we have adopted no measures to use the handicapped. Partly these are people who might even be fully capable technically, but they cannot cope with free competition as the form of life. They would immediately become fully capable if they were put in the proper post which they are yet unable to seek or create. Men of a quiet type that was normal in times of a patriarchal constitution are today the outcasts or even persecuted. Sometimes they may find a niche in a minor pursuit, a solution which is not really rational either for them or for the whole. Those with psychic deficiencies, who as individuals cannot be used at all, can attain notable achievements in correspondingly organised groups, thus diminishing the burden they would otherwise impose on the whole.

What we can assert of the deficient, sick and socially abnormal, probably is true also of many others whom we regard as socially quite normal. For do we know whether the majority of men today might not be living in forms of organization, adaptation to which absorbs a great deal of their energy? Do we know whether the majority of those who count as socially normal, because they achieve the effort of adaptation, might not be incomparably more efficient if we let them work in different forms of organization?

The call for more varied shaping of professions is brought especially near by the war. The war-injured, who are more differentiated than those

sound of limb, must be found a place. But we are devoting much more effort to the question of finding out how their usefulness for existing professions and ways of working can be determined than to the other question, what forms of organization and professions must be reshaped or newly created in order to give these men the most favorable occupation. Very many perhaps could fulfil a part-time job. Would it not be obvious to organize entire factories for part-time work and to pay for the extra cost so arising from the subsidies for invalids? Once the dam is broken such proposals will come from all sides. The universal introduction of half-day work for married female factory workers with small children for example then appears as self-evident. Just as today one conducts individual experiments concerning certain effects on firms, one could then examine the influence of whole organizations of firms and professions. One would endeavour to test, in pilot plants, the influence of the rotation of agricultural and industrial work, which will be not inconsiderably bound up with the individual's hope that 'agricultural holidays' or 'industrial holidays' are close at hand. Vacations and care for convalescents may then often be replaced by a change of occupation. Of course all this depends largely on whether today's growing intention to overcome the effects of war as quickly as possible, will find a clear goal. Then it will be possible that after the war we shall not only make good through organizational reform the permanent damage attendant on war but furthermore create a happier life than existed before the war.

For the entire work of war relief, of social policy and not least for the entire work of national welfare, it would be important to have so many different forms of professions and types of organizations that as many people as possible can be given occupations that correspond to their abilities and inclinations. Create appropriate professions and forms of organization for the appropriate men!

#### CHARACTER AND COURSE OF SOCIALIZATION (1919)

Socio-technical report given to the 8th plenary session of the Munich Workers' Council, 25th January 1919

Before I begin my explanations I wish to express my pleasure at receiving your invitation to speak to you on socialization. A series of circumstances in economic history and theory that I have long observed and examined



strife have of course no attraction; what attracts is an idea, its clarity and success. We need not discuss what favorable consequences it would have for Germany if she were to live in a community of states that was likewise involved in the process of socialization. Certainly, the leaders of such a movement abroad would not be her fiercest opponents.

In conclusion let me give a short summary: the internal political situation presses for socialization. In terms of social engineering the most perfect form of implementing it would be to enlist the traditional large organizations, cartels, co-operatives, etc., while at the same time extending the state administrative economy. However, political conditions might favor other ways of reshaping. Successful socialization is possible only of the whole and from above. If one wants to socialize at all it should be done at once and quickly, because delays and insecurity paralyse. The present moment is specially suitable for socialization because the organizations of war still exist, and dire want fairly cries out for a planned administration of all forces, while the break in international relations has made an independent start of socialization easier.

The prerequisite for socialization is the establishment of a comprehensive economic plan and the creation of a directing Central Economic Office.

#### UTOPIA AS A SOCIAL ENGINEER'S CONSTRUCTION (1919)

At present we live in a period of conscious shaping of life. Wide circles of the population feel the urge to express their will for or against certain strivings. It is becoming increasingly clear that we should create a new order of life. In the long run only those parties will therefore be able to act decisively who follow the goal clearly and perceptibly and whose programs trace the outlines of the future they aim at. They will be filled with the desires and hopes that for centuries and millennia were alive in the imaginary creations of many poets and thinkers, in the 'utopias' that could find no proper home amongst men.

Most men felt entitled to speak of utopias and utopians with a certain smiling condescension, if not with commiserating mockery. For the majority, these were dreams and dreamers. And yet we find in utopias prophetic trains of thought which remained closed to those who, proud of their sense of reality, stuck fast to yesterday and could not even control the present. It is quite unjustifiable to describe utopias as accounts of

impossible happenings, for it is hardly ever possible to say of a thoughtful order of life that it might not some time, somewhere come true. It is much more sensible to describe as utopias all orders of life which exist only in thought and image but not in reality, and not to use the word 'utopias' as expressing anything about their possibility or otherwise. Utopias could thus be set alongside the constructions of engineers, and one might with full justice call them constructions of social engineers.

Mechanical engineering, too, began in the same fantastic way as social engineering. The legend of Daedalus and Icarus leads us into the fairy tale era of engineering construction. Leonardo's sketches of flying machines also are still mainly fantastic in kind. Above all they lack integration into a system of engineering constructions. It was reserved for a later era to conduct the ideas of aeronautical engineers into stricter ways and to make them usable for ordered practical work.

Social engineering, to use the expression, likewise begins with fairy tale accounts of the golden age, of the distant island of Atlantis, and then turns to conscious creations of the kind given us by More, Cabot, Bellamy, and in fairly advanced form, Rathenau; while in the end it called forth systematic constructions as well, as sketched by Ballod-Atlantius and Popper-Lynkeus. What yesterday was dreamers' work, today already appears as scientific work preparing the shaping of the future. We have attained the conviction that a huge part of our order of life can be shaped in a goal-directed manner, and in particular that consumption and production, in quantities, can be determined and regulated, even though for now we cannot or will not extend a social engineering rule over mores and morality, religion and love.

A social engineering construction treats our whole society and above all our economy in a way similar to a giant concern. The social engineer who knows his work and wants to provide a construction that shall be usable for practical purposes as a first lead, must pay equal heed to the psychological qualities of men, to their love of novelty, their ambition, attachment to tradition, willfulness, stupidity, in short everything peculiar to them and definitive of their social action within the framework of the economy, as does the engineer to the elasticity of iron, to the breaking point of copper, to the color of glass and to other similar factors. The levers and screws of the machinery of life are of a strange and subtle kind. But the difficulty of

the task has never yet frightened a courageous thinker and man of action.

Let us now ask what we may expect from this development of social engineering: what paths it will open to our thinking and action. If for example we raise the question what characteristics must a social order have in order that no one shall suffer hunger, that there shall be no credit crises, no living standards that are determined by chance and privilege, then we may find several equally correct solutions under quite definite presuppositions. If for instance we ask what order of life we may expect in the next decades we must in principle give several answers, since because of our inadequate insight into the presuppositions of events, several possibilities present themselves to us. In the past such a scientific treatment, such a way of posing the question was lacking. Usually one did not think through whole groups of utopias, but one created a single utopia from a basically unscientific psychological mood. Utopias were deterrent and alluring images in order to spur men into action. Often, too, they were merely fantasy pieces to amuse or instruct the reader. Particularly in eras of strict censorship, a utopia was not seldom a way out for revolutionary and satirical trains of thought. In scenes of foreign peoples and legendary communities, one saw one's own fate. Often the various goals and effects of utopias become blurred and prevent a simple classification into a few groups. In this way they resemble the world and dreams, whose many-sidedness also escape such endeavors.

More distinctly discernible are those utopias that undertake to describe the nearest present and arise as prophecies that want at the same time to become the causes of their coming true. It is above all they that give impetus to strict scientific work. Or is it not science when Ballod-Atlantius and Popper-Lynkeus, with the assistance of modern statistics, work out how many years every person in Germany would have to work to cover the necessities of the nation? In the past, economic theorists took up a partly rejecting and partly uncomprehending attitude toward such attempts. In some cases it was even regarded as essentially unscientific to occupy oneself with a future and possible economic order, notwithstanding the fact that mechanical engineering which is so successful quite deliberately constructs new forms that never existed before. Utopias were relegated to the history of economic theory, whereas they belong to the theory itself, just as the construction of new bridges and aeroplanes belong into the theory of civil or mechanical engineering. Of course these

authors have worked out only one possibility, tried only one construction and presented only one calculation in kind, from which one may infer how much dwelling space, how much food and clothing can be created from how much raw materials together with how much working time. It would be scientifically more complete if they had dealt with several possibilities.

Every factory manager and every well-trained farmer who wants to survey the technical basis of his concern, works in the way of Ballod-Atlantius and Popper-Lynkeus; could it be that the national economy or the world economy are not amenable to such treatment? Of course, an age that is attached to monetary calculation and expects more from free competition and the planlessness of the market than from a clear and surveyable administration, will respect the entrepreneur's secrets so thoroughly that it will forego comprehensive economic statistics and know nothing about the most important things in our lives. This untechnical thinking, hostile to the shaping of events, is the main explanation why the utopias of social engineering construction enjoy so little esteem.

The tremendous transformations of the war have breathed new life into the idea of a utopia. The generals and politicians of recent years, ignoring the traditional social order, have tried to make everything serve the cause of military success. No intervention was too great for them if it seemed to promise victory. The bonds of family were shaken, masses of men were shifted hither and thither, industries were transformed from their foundations up, and in the shortest time. For the sake of annihilation it was shown what human energy can achieve. Is it then so incomprehensible that more and more men raise the question whether one might not in a similar way strive for peaceful goals just as one had for so long striven for warlike ones? Is it so incomprehensible if men now knock impatiently on the gates of the future, asking whether the misery which they knew in the past must last, whether the great generals and politicians of the fight for human happiness might not bring new orders of life while ignoring traditional forms and adapting industries? Is it so incomprehensible that the people today cry out for utopias, for powerful presentations of their future fate? Is it so incomprehensible that many today are groping insecurely and full of hate and bitterness, led on by some indefinite urge to shatter the past in the vague belief that such an action must be enough to force a reconstruction?

What we thus see in the masses, we also meet everywhere in the ranks of those who reform quietly. Is it not as though a new spirit imbued engineers who ever more insistently demand that things should be made uniform, standardised, typified and specified; that work, the firm, and in short everything that can be technically controlled should be moulded in the most successful and rational manner possible? Are not all those who represent these aims ultimately drawing lines on the great canvases that shall depict the future? Is not the idea of a comprehensive administration of energy and power, already accepted today, a utopian idea, or the idea that all conditions of existence should be publicly safeguarded? Is not this thought one of social engineering?

Utopians may pursue the most varied goals, they may serve non-human ideals, the greatness of God or of the nation and its rule; but they may also aim at describing a world in which men with their faults and foibles can live as happily as is allowed by the natural base, land and sea, raw materials and climate, numbers of people and spirit of invention, culture and will to work. Whether this striving for happiness, bliss, and joy is praised, whether it is regarded as low and common, in any case happiness as the effect of social institutions may be treated quite scientifically. Precisely the utopias of the coming years should help to promote the development of a comprehensive doctrine of happiness.

Once we are clear about the fact that utopias as social engineering constructions can preserve us from many false steps and can make the mind flexible and free it from accidental notions, then we must demand that our schools should deal with social engineering constructions. Of course we should have to avoid a situation where men fasten on to a particular utopia instead of whole teams of utopias which should be developed and examined side by side. Above all the great treasure of historically given utopias will provide a suitable basis for such a scientific inquiry. In this way one will be able to discuss what kinds of choice of a profession, what kinds of payment and the like are conceivable, what combinations of such institutions may be considered and other such things. Perhaps we are now at the beginning of a scientific study of utopias. It would in any case serve our young people better than traditional economic theory and sociology, which, being restricted to the past and the accidental present, were in no way able to cope with the tremendous upheavals of war and revolution.

To spend too much thought on the possible may have some doubtful effects especially for young people; but in the past too little room was allowed to the possible in social engineering. Apart from the fact that for the adolescent, utopias are instructive on many actual connections, one fully recognizes the real only when one surveys the possible as well. Utopias give him a certain impartiality and mature his own judgment. How stimulating it is to describe one's own time like More's Utopia and conversely to think of his somewhat bare scenery furnished with the paraphernalia of the present.

What proud experience it would be if in the course of developments we should constantly come across phenomena that we had long anticipated in our thought or even in our wishes! Particularly in the field of social engineering we are dealing with quite well-known elements; new phenomena like radioactivity will hardly supervene. This field is akin to pure mechanics which also allows for ever new constructions but knows no new forces. One day a generation may come which will see true humanity only in the conscious shaping of our life and happiness, regarding everything that went before as a prehistoric era; into this many may then wish to return just as we yearn to go back to days long past though often only because we tend to forget the revisions and disturbances of the past course of history just as in our own lives.

It is a difficult task successfully to prepare the ideas of the future. Let us therefore not despise those who created the foundations for traditional economic and social theory. They have satisfied the best of their time and on their part smoothed out the path for a happy younger generation. Why these last failed to preserve this spirit of advancement, world history may judge; in any case we can begin the great task of consciously cultivating the future and the possible. This holds for those among us who, like the ancients, watch from the pillars of Hercules how the sun sets far away, larger than elsewhere in the world, while inactively dreaming of a far-off Atlantis; but it holds also for those who like Columbus and his men muster the decision and energy to weigh anchor to steer full sail towards the happy isle.