

Excerpts from Michael Polanyi, "The Growth of Thought in Society," *Economica*, New Series, Vol. 8, No. 32 (Nov., 1941), pp. 428-456.

A movement denying the justification of pure science was started in England in 1931 by a group of Soviet delegates, including Bucharin and Hessen, at an International Congress of the History of Science, held in that year in London. It has been carried on since with considerable success by a number of able writers, mostly Marxists, under the leadership of L. Hogben, J. D. Bernal, and J. G. Crowther. As a result the idea of pure science is considered to-day as obsolete and reactionary by most of the scientists who take an active interest in the position of science in society. Though such scientists form a comparatively small minority, they have now brought considerable influence to bear on important organisations and publications dealing with scientific policy.

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The purpose of this essay is to analyse the part played in society by the ideal of Science and by the ideals of other aspects of truth. We shall trace the principles of organisation which are appropriate for the service of these ideals, and through which the intellectual and moral order of society is established and developed further. We shall show that these organisations must be free, and that they must conflict with the claims of a Totalitarian State. Finally we shall demonstrate that the abandonment of the ideals of truth logically entails the replacement of these ideals by fanaticism coupled with cynicism-and that the establishment of a totalitarian rule of unscrupulous fanatics must follow.

#### PERSONAL INTEREST IN SCIENCE

The totalitarian doctrine asserts that scientists who cultivate science for its own sake are neglecting their duty to the community. They are reproached with seeking their private amusement heedless of the financial cost and irrespective of the consequences to society. Such unsocial practice-it is urged--ought to be suppressed, and science should instead be conducted as a public service. Scientific progress should be planned and directed by the authority representing the interests of society-that is by the State. This argument assumes the totalitarian view of the structure of society. It implies that the social order is upheld by the commands of the State; all apparently independent manifestation under the State being either mere pretence or else representing some private residue to which the State has made no claim. Totalitarians assert that this is the actual state of affairs, basically, in the democracies ; and that the totalitarian state, built on these lines, represents the only honest and logical position for the State power. In their view, therefore, an independent personal action can never claim to perform a social function ; it can only be a private amusement, which, if it affects the public, will-more often than not-result in a public nuisance.

In order to prepare the critique of this doctrine-which will form the larger part of my subject here-I shall first briefly define the position of private freedom, about the nature of which the totalitarian and the liberal view of society do not differ in principle; though they do regard its value in a different light.

Private freedom may be represented as the converse of personal servitude. When it is completely absent, men are reduced to the state of slaves or villeins. Medieval authorities on the Common Law

1 Thus Bracton says : "For that is an absolute villeinage from which an uncertain and indeterminate service is rendered, where it cannot be known in the evening what service is to be rendered in the morning, that is where a person ,is bound to do whatever is enjoined to him."

define this freedom as the condition in which a man's obligations are defined, and not to be varied at amaster's pleasure.<sup>1</sup> The most decisive step towards a free status consisted in the fixing of feudal dues by custom, law and written copy. As a final stage in his emancipation the peasant acquired the right to discharge his obligations in cash, not in labour or produce. This commutation enabled him to dispose freely of his own time and to engage only in such work as was most congenial and profitable. The desire for greater freedom in this personal sense continues to enter as a factor into many modern relationships, as in the case of domestic servants, who prefer factory employment, which is more strenuous and less well paid, for the greater personal freedom which it accords.

The desire for personal freedom is the desire to be left alone ; it does not define its purpose, because that would limit the freedom which is wanted. The demand is entirely irresponsible, and is put forward as a personal right of the individual. Liberals recognise and encourage the right to personal freedom, because they connect it with wider classes of human and social liberty. The totalitarian view admits the existence of no form of liberty other than that of private freedom, and sees th:refore no reason to encourage its claims. It may tolerate personal freedom, but only so far as this does in no way affect the collective interests of the community. And above all, it insists, and must insist--as shown below--on identifying irresponsible private freedom with liberty in general, and arguing that hence social responsibility can only be achieved by the opposite of liberty: which is subordination to the orders of the State.

A more general view of liberty, extending far beyond the claims of private freedom, will be most readily gained after a brief analysis of the two kinds of order which are known to occur both in nature and in society: one resulting from the exercise of authority over a group, the other from the enjoyment of freedom by the individuals in a group.

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#### PUBLIC LIBERTY

The maintenance and growth of dynamic order in society entails a kind of liberty that goes far beyond the claims of personal freedom. Individuals, participating in the building up of a dynamic order, all act independently. They are not fulfilling another's instructions, elaborating details of another person's scheme, as is the subordinate official's duty. On the contrary, any specific desire of any other person, regarding the course of their future action, would be rejected by such an individual as improper, and injurious to his own function. Presented with the entire scope of a situation calling for initiative. and judgment of a higher order, he must be given freedom to act according to his own conviction.

This freedom is in many ways the opposite of private freedom. It is not meant for the satisfaction of the desire to be left alone, or to do as you please. A judge may enjoy discharging his office, but that is not the purpose of granting him independence. The scientist's passion for research gives him immense satisfaction, but that is a poor reason for giving him the security of academic freedom. Nor should any business man in the modern world believe that his property rights over capital are given him for his pleasure. The freedom with which we are concerned here is not for the sake of the individual at all, but for the benefit of the community in which dynamic systems of order are to be maintained. It is freedom with a responsible purpose; a privilege combined with duties, as exacting as any that are shouldered by man. It may well be called, therefore, Public Liberty as opposed to Private Freedom.

The Totalitarian State, which claims that it completely represents all the collective interests of the community, must reject the rival claims of individuals to act independently for the benefit of society. Hence the Totalitarian contention that liberty can mean only a private freedom to act unsocially, or at least irresponsibly, is a necessary corollary of the conception of the State as a corporate order specifically planning and directing in the common interest the entire collective activities of the community. Such a conception implies the rejection of all dynamic systems of order in society, and makes their suppression an essential condition for the existence of the State.

The Liberal view of the State can be represented, on the contrary, by analysing the changes which would have to be made in a corporate authority in order to transform it into a dynamic order. The changeover could be effected by a strengthening of the direct lateral adjustments between the subordinates, up to the point where all the specific features of their actions are determined-not vertically from above but laterally by direct contacts below. Once all specific initiative has been handed over to the individuals at the bottom of the pyramid, the authority above can have left to it only functions of an *indiscriminate* character. The former executive authority is then transformed into a *supervisory* authority, presiding over the free individual initiatives below. Its functions are now: to protect these initiatives, to provide opportunities for their exercise, and to enforce the rules which govern the interaction of the individuals under its care. The services which such a State, acting as supervisor to the growth of dynamic order, renders to the community are the exact opposite of those which a State built as a corporate authority can render; it fosters the dynamic order which the imposition of corporate authority would necessarily destroy, and abandons thereby the possibility of carrying out specific tasks by centrally directed co-ordination of its citizen, which is the purpose proper to a State constructed as a corporate authority.

The functions of modern Democratic States in peace time correspond to that of the Liberal view of the State. These States act mainly as supervisory authorities, presiding over autonomous dynamic systems which they foster within their realm. The specific demands (in matters of health, education, defence, etc.) which they make on their private citizens are, in peace time, few and not far reaching, compared with the effects which the dynamic systems of society, competitive enterprise, the law, science, art, religion, etc., exercise on the citizens' life. In fact, corporate institutions, effectively co-ordinating their subordinates to specific tasks, are in (peace time) Liberal society, small, compared with the field of dynamic order, and the operations of these are determined by their participation, as wholes, in wider systems of dynamic co-ordination. Corporations with specific operative aims are mainly industrial enterprises, co-ordinated between themselves by the dynamic order of competitive production. The few other instances include such minor corporations as teams of research workers, dependent on senior scientists-which are mutually co-ordinated by the dynamic system of science.

The existing Totalitarian States do not achieve the extreme opposite of the Liberal idea, which would be a corporation in which all the functions of every citizen are assigned to him as specific tasks by a superior State official. In all large corporate organisations there are a certain number of cross links below, which, while they necessarily reduce the precision of instructions transmitted from the centre, introduce a certain amount of dynamic order instead. Though Totalitarian States claim to be responsible for all the collective interests of their citizens, they actually achieve only a paramount framework of corporate power, which leaves a varying amount of unabsorbed dynamic order functioning in the interior of the corporate organisation.

The struggle-conducted often at the cost of disastrous consequences-for the final subjection of this residue, persisting with particular tenacity in the economic field, is a constant preoccupation of Totalitarian Governments. The fluctuations in this struggle mark off the four main periods in the history of the U.S.S.R.: War Communism (1917-1920), N.E.P. (1921-1927), First Five Year Plan (1928-1932), and the subsequent period up to 1941. I have pointed out in this chapter that responsible public liberty sets a limit to irresponsible private freedom ; but we must not think of the two as enemies. On the contrary, they merge into one another and mutually stimulate each other. Liberalism recognises that privacy is the ground on which-amidst many purely personal matters -there germinate new ideas, which will eventually benefit the community. Irresponsible privacy, solitary habits, non-conformity and eccentricity are protected by Liberal society, because it sees in these the breeding ground of independent men: much needed for the public good.

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#### MACHINERY OF DYNAMIC ORDER

The people engaged in the various dynamic systems of society, other than economic, are organised on more or less official lines in circles of special interest and professional bodies. Artistic, literary, musical, sporting, medical, technical, scientific, political, religious, legal, etc., circles cultivate one particular section of the social heritage and supervise its development. Their main functions are : to preserve and disseminate in approved form the past achievements and accepted principles of their special field ; to stimulate new individual contributions and to judge their value: discussing, and either rejecting or accepting new additions to the body of the heritage under their care. The " influentials " in these circles act as referees for the publication of papers and books, for the exhibition of pictures, the production of plays and musical compositions, as advisers for endowments and appointments, as authoritative critics of work already made public; they can powerfully help or hinder the novice; they rule the internal life of the community of specialists of which they possess the confidence.

They rule according to law ; assessing values according to the standards accepted and publicly acknowledged as the basis of all activity in their own field. Without such traditional standards no creative work and no dynamic order is possible. Mental creation means an act of thought, or of art, or of practical craftsmanship, that can be proved valid by some pre-existing standards. While every new creative effort changes somewhat the framework to which it is assimilated, every such modification is based on the continued persistence of some wider criteria of validity, in the light of which the minor change is being approved. Take science. New discoveries are frequently upsetting the scientific outlook of the day and modifying scientific standards, yet these discoveries are accepted by science -though sometimes after a lengthy period of discussion-in accordance with a wider scientific outlook and a wider aspect of scientific standards, which they are found to satisfy. It is the same in every art, in law and in all the other fields mentioned above. Each is governed by a permanent fundamental idea that cannot be expressed precisely, yet which comes into play every time the standards of the day are challenged. There have been many attempts to define these ideas: to formulate Scientific Truth, the Law of Nature, or the Canons of Beauty. But these attempts can lead to no definite result. Scientific Truth is an ideal : the ideal underlying the practice of science. It cannot be finally de-limited so long as science lives and continues to grow, opening up ever new unexpected realms of discovery. The same is true of the Law of Nature, which represents the ideals of Reason and Equity as practically manifested in the development of the various legal systems ; so long as this development goes on, its underlying principle cannot be

finally assessed. In Art again the only evidence of the ideal of perfection pursued is afforded by permanent artistic practice, as represented by the enduring masterpieces of all ages.

Ideals are adequately expressed only by the traditional practice which is conducted under their guidance. Their guardianship is the most important function of the autonomous circles of men cultivating the various dynamic systems: of science, law, art, etc.

Totalitarianism, hostile to all dynamic systems, attacks their standards and ideals. In the totalitarian view those who pursue ideals are neglecting their duty to society, for the sake of unsubstantial values of purely formal significance. The Marxist denial quoted at the beginning under Point 1-of the justification of pure science, is a case in point. We will come back to it later in detail.

Another aspect of the same conflict arises from the democratic nature of the dynamic systems. Their growth takes place through the life and action of the community of specialists in charge. It is a democratic life conducted publicly, under the voluntarily accepted laws of this circle. We have seen how every new addition to the social heritage is suggested in public, discussed and codified, or rejected in public under the guidance of the "influentials" acting as elected officers. At the same time the specialist circles keep up popular contacts all around them. They appeal to a wider range of lay connoisseurs or specially interested members of the general public, and through these they recommend themselves to the common man throughout the entire community. Thus they establish the standing of their particular pursuits in the life of society as a whole. The inner circle of creative men becomes entrusted by the whole of society with the cultivation of certain ideals, in which the rest of the people take part at various stages of interest. We have here a system of indirect representation, at each stage of which people less experienced and interested in a particular field confide in others, more intimately concerned with it.

The expansion of modern public life during the 19th century, which has continued rapidly during the past two decades through the advent of the wireless and film, had made this informal mode of self-government, by direct response of the public to the activities of various specialised strata, a most important element of democracy. It has recently become a factor in politics, where it seems to be side-tracking to some extent the electoral machine. In the United States in particular, the division between the Legislative and the Executive has invited the development of this type of direct public influence--exercised through the press and the results of private polls which sway in major issues the views of the professional politicians--the electoral machinery retaining of course its function as the ultimate sanction of public opinion.

The existence of this modern form of democracy, upheld by the circles of dynamic systems and the general public connected with them, makes it necessary for modern dictators to become totalitarian. No absolute ruler can be satisfied to-day with dominion over political life alone. That realm in itself is shadowy and insecure--as shown for example by the regime of South American dictators. Dictatorship can become real to-day only by eradicating the whole autonomous cultural life with all its widespread popular roots. Not before the prestige of the guardians of intellectual and moral order is broken, their autonomous circles are dispersed, and the wider public is reduced thereby to a helpless mass, can the dictator address the people directly, without fear of control or criticism.

Followers of totalitarianism often try to reassure themselves, and others, by promising that the central planning of science, and of other cultural and economic activities, would not be oppressive, since it would be based on democratic elections with a wide franchise. However, a regime which undertakes to

destroy cultural life-as well as a system of production based on independent individual initiatives-by converting its members into the officials of a corporate organisation, does not become less oppressive by the fact that its chief is due for re-election at frequent intervals. Tyrannical functions do not become democratic, even though each single measure were referred to a plebiscite. Actually, of course, there could be no meaning in elections under a totalitarian regime, which controls all the news reaching its citizens and is responsible for planning all their public intellectual activities. Democracy cannot rely on elections, but must be based on the proper division of the social order between the corporate and dynamic forms of organisation.

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#### IDEALS IN SOCIETY

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This hope of progress through the pursuit of various forms and aspects of truth-artistic, scientific, religious, legal, etc.--by a number of autonomous circles, each devoted to one of them, is the essential idea of a Liberal Society, as contrasted to a Totalitarian State. It reveals the full scope of the ideal of freedom. The Liberal conception is that freedom is the only method by which we can continue to discover the regions of yet undisclosed truth into which we are advancing. Truth is so complex, and each particle of it hangs together directly with so many others, that it can be revealed only by a continuous series of independent individual initiatives. On the other hand, there are so many kinds of truth, corresponding to the wealth of different faculties possessed by man, and the variety of interlacing patterns that can be found in the world, that the explorers must split up into a number of detached parties, each following the guidance of a single ideal which leads to one aspect of truth out of many. Only thus can the growth of the whole vast web of better understanding be advanced, which in its entirety is far beyond human perception, but on which, nevertheless, Liberal Society confidently bases its future.

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#### The Totalitarian Position

However, this argument in a sense lacks reality. Points 1 and 2 of the Marxian position stated at the opening of this essay--the negation of pure science and the demand for the control of research by society--have not been put forward by their protagonists as isolated doctrines, nor can they be met on such grounds. The attack on science is a secondary battlefield in a war against all human ideals, and the attack on the freedom of science is only an incident in the totalitarian assault on all freedom in society. This attack is entailed in Point 3, demanding unconditional support of scientists for the rise and continued rule of the right kind of political power.

It is hardly possible to argue with this doctrine. It calls for unlimited violence in order to achieve the establishment of desired changes in the social structure and rejects all obligations to truth or humanity which might obstruct its own set purpose. But we may use the foregoing analysis to draw up a brief outline of the totalitarian position in its entirety : so as to reveal the full strength of its formidable logic and bring into view the decisive points at which its advance must be met.

Liberal society, by maintaining various systems of dynamic order, entrusts its fate largely to forces beyond its control. Its productive system grows in unpredictable directions; and by the cultivation of the ideals to which it gives allegiance, society lets itself be guided towards new stages of enlightenment, whose implications are largely unknown. The faith that society may confide itself to a variety of principles, which guide systems of co-operation by individual adjustment, is the faith of Liberalism, on which-as I have tried to show-the entire structure of the Liberal Society depends. From the opposite position one arrives, by following the same analysis backwards, to all the basic principles of the Totalitarian State.

Suppose society decides to abandon the pursuit of largely uncertain ends and to take its fate wholly into its own hands, directing its course entirely towards definite and specific immediate aims: then the structure of society must be changed accordingly. The application of the whole community to the achievement of a definite immediate aim-like winning the war, or dealing with flood, famine, epidemics, or any other emergency-must be entrusted to a State with powers to use every citizen for that definite aim, in accordance with a central scheme, or plan, formed at headquarters. No respect for law, or even humanity or truth, must interfere with the immediate good of society which is thus defined and entrusted to the State. No individual has any justification to act independently under a State which alone knows the whole plans for the future welfare of the community. There may still remain residues of private life and private freedom; but all independent individual action for the public good, all public liberty as Liberals define it, must go. A State which is wholly responsible for the collective welfare and progress of its citizens must be dictatorial.

Powerful emotional forces are set into motion when general aspirations are replaced by specific aims. The wide hopes of men, withdrawn from where they dwelt in many dimly perceived expectations, are now focused entirely on the single concrete task set by the State. Such faith is narrowed down to the point of idolatry and intensified to the pitch of fanaticism. It produces a curious type of fanaticism, deriving its strength from the destruction of all ideals. A fanaticism, bitterly-hostile to all ideals; combining fanatic passion-in an entirely novel way-with hard-headed, biting cynicism.

It is a vast undertaking to convert a social body, where the citizens are participating in the wide horizontal network of dynamic order, into a corporation in which every man is a subordinate depending vertically on the State. In Germany this process has gone on for years, and even to-day there seem to remain numerous circles retaining vestiges of their previous independent cohesion.

The transformation has been described by Rauschnig as the endless Revolution of Nihilism. Wherever citizens meet, or communicate with one another, to cultivate any aims that are not set to them by the State, the network of communications must be destroyed ; and its destruction must be made secure by placing each individual directly under authority from above. All jointly upheld rules and standards, and the authority of eminent individual experts, must be ground to dust so that no shelter should be left standing, for use against the decrees from the centre. Any influence that the circles hitherto cultivating special ideals may possess over the general public, and all access they may have to the public ear, must be eliminated: so that the official voice alone shall be heard. Any motive that goes beyond the fulfilment of directions from above can be tolerated only as a residue of private life and must be branded as unsocial or disloyal if it should attempt to pursue aims of any wider significance. There must be left no more independent witnesses, or judges, or scientists, or preachers, or painters, musicians, playwrights, journalists, historians, economists, or even doctors, lawyers or clergymen; no independence of unions,

professional associations, congregations or even sports clubs can be tolerated ; the validity of all laws, of science, of the arts, of religion must be suspended and their substance declared subject to summary revision by the State.

This process of vertical integration under Party Rule is nothing but the sober logical consequence of the replacement of social ideals by immediate specific social purposes. But the destruction to be undertaken in its execution is so vast, and the lingering feelings of respect for the intellectual and moral treasures hitherto cultivated, as well as for the men who would defend them, is still so strong that only disciples steeped in fanaticism will be able to suppress their own scruples and wield the weapon of terror with sufficient effect. The party members educated in unscrupulous fanaticism is an indispensable factor in the making and maintenance of the Totalitarian State.

The promotion of the totalitarian doctrine thus involves three phases which can be traced, for example, through Mr. Crowther's book.

*Firstly* the debasement of the most cherished ideals of our civilisation. Respect for Christian devotion may be debunked, for example, as follows : "The Franciscans ... were the obverse of the new bourgeoisie. By pledging themselves to poverty they atoned for the bourgeoisie's lust for gain, and became its conscience. In return, the bourgeoisie kept and favoured them." 1 Thought and art even at its highest peaks can be exposed in a similar fashion. The Renaissance may be described as " in effect a manœuvre by the triumphant bankers and merchants to fortify their new ruling positions by cultural defences ". 2

*Secondly*, the transfer of devotion from ideals to specific aims. People must be made to feel that to pursue pure truth is " a little cold, mean and selfish" as compared with direct service to the community. Gradually all ideals are replaced by a single determination directed towards immediate social action.

*Thirdly*, the establishment and justification of the new ground entailed by this position. We are told: "On the one side there is private ownership, spiritual vulgarity and some independence ; on the other side there is communal ownership, moral dignity and police supervision." 3 And thus eventually the mind will be opened to the final thesis, that the methods of the Spanish Inquisition are the rational instruments of human progress.

L S.R.S., p. 188.

2 S.R.S., p. 248.

3 S.R.S., p. xxvii.