

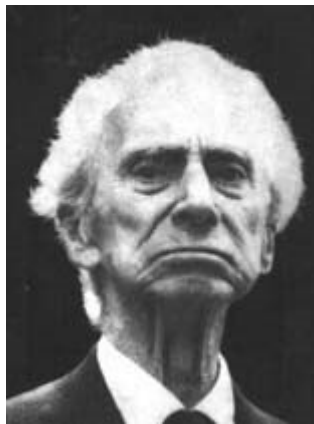
Scientific Technique and Power

The Scientific Outlook

Brent Jessop

<http://www.knowledgedrivenrevolution.com/> - This is the complete set of articles from **Brent Jessop's site Knowledge Driven Revolution** which is no longer being updated by him.

This is a valuable insight into Russell's controversial book through key passages lifted from the text.



Bertrand Russell

This series examines Bertrand Russell's 1931 book *The Scientific Outlook*. Bertrand Arthur William Russell, 3rd Earl Russell (1872-1970) was a renowned British philosopher and mathematician who was an adamant internationalist and worked extensively on the education of young children. This included running an experimental school in the 1920's with his second wife Dora Black. He was the founder of the [Pugwash movement](#) which used the spectre of Cold War nuclear annihilation to push for world government. Among many other prizes, Russell was awarded the [Nobel Prize in Literature](#) in 1950 and UNESCO's (United Nations Educational, Scientific, and Cultural Organization) [Kalinga prize](#) for the popularization of science in 1957.

Part 1 of this series examines science as power-thought and the use of scientific technique to increase the power of an elite scientific minority over the unscientific masses. Part 2 examines the composition of the society of experts who will use scientific technique to dominate the masses. At the forefront of this society of experts is the expert "manipulator", whom Lenin is the archetype. This society also aims to conceal its power and influence behind political veils like democracy. Part 3 explores the application of scientific technique to education with an emphasis on the distinction between education for the "governing class" and "working class". Part 4 looks at the use of education, the Press, radio and Hollywood as forms of propaganda. Part 5 examines the use of behaviourism, psychoanalysis and physiological manipulation as applied to education. Part 6 examines the

application of scientific technique to the reproduction of human beings including the separate breeding techniques to be applied to the "governing class" compared with the "working class". This also includes the creation of a "priestly class" within the ruling governing class. Part 7 explores the changes to freedom and equality in the scientific society. This includes changes in the relationship between individual freedom and the collective good, freedom of speech and the Press, freedom to choose ones own career and the freedom to have children. Part 8 examines the changes to free trade and labour in the scientific. Including the removal of competition and the choice between pre-determined work or prison. The final article describes the creation of two artificial societies including the design and implementation of a new religion specifically for that new planned society. The two societies described are: Japan following their 1867 revolution and Russia following the Bolshevik revolution.

Scientific Technique and Power

The Scientific Outlook Part 1

Brent Jessop - [Knowledge Driven Revolution.com](http://KnowledgeDrivenRevolution.com)

June 30, 2008

"The scientific society with which the following chapters are to be concerned is, in the main, a thing of the future, although various of its characteristics are adumbrated in various States at the present day, The scientific society, as I conceive it, is one which employs the best scientific technique in production, in education, and in propaganda. But in addition to this, it has a characteristic which distinguishes it from the societies of the past, which have grown up by natural causes, without much conscious planning as regards their collective purpose and structure. No society can be regarded as fully scientific unless it has been created deliberately with a certain structure in order to fulfill certain purposes." - Bertrand Russell, 1931 (p203)

Science as Power-Thought

From *The Scientific Outlook*:

[*Italicised text* is original emphasis and **bolded text** is added by author.]

"But scientific thought is different from this. **It is essentially power-thought - the sort of thought, that is to say, whose purpose, conscious or unconscious, is to give power to its possessor.** Now power is a causal concept, and to obtain power over any given material, one need only understand the causal laws to which it is subject. This is an essentially abstract matter, and the more irrelevant details we can omit from our purview, the more powerful our thoughts will become. The same sort of thing can be illustrated in the

economic sphere. The cultivator, who knows every corner of his farm, has a concrete knowledge of wheat, and makes very little money; the railway which carries his wheat views it in a slightly more abstract way, and makes rather more money; the Stock Exchange manipulator, who knows it only in its purely abstract aspect of something which may go up or down, is, in his way, as remote from concrete reality as the physicist, and he, of all those concerned in the economic sphere, makes the most money and has the most power. So it is with science, though the power which the man of science seeks is more remote and impersonal than that which is sought on the Stock Exchange.

The extreme abstractness of modern physics makes it difficult to understand, but gives to those who can understand it a grasp of the world as a whole, a sense of its structure and mechanism, which no less abstract apparatus could possibly supply. The power of using abstractions is the essence of intellect, and with every increase in abstraction the intellectual triumphs of science are enhanced." - 83

"It has had hitherto less success in direct applications to man, and it therefore still meets with opposition from traditional beliefs where man is concerned, but it cannot well be doubted that, if our civilization survives, man also will soon come to be viewed scientifically. This will have a great effect upon education and the criminal law, perhaps also on family life. Such developments, however, belong to the future." - 143

"Science increases our power to do both good and harm, and therefore enhances the need for restraining destructive impulses. If a scientific world is to survive, it is therefore necessary that men should become tamer than they have been. The splendid criminal must no longer be an ideal, and **submissiveness must be more admired than it has been in the past**. In all this there will be both gain and loss, and it is not within human power to strike a balance between the two." - 215

"In psychological terms, this means that the love of power has thrust aside all the other impulses that make the complete human life. Love, parenthood, pleasure, and beauty are of less account to the modern industrialist than to the princely magnates of past times. Manipulation and exploitation are the ruling passions of the typical scientific industrialist. The average man may not share this narrow concentration, but for that very reason he fails to acquire a hold on the sources of power, and leaves the practical government of the world to the fanatics of mechanism. The power of producing changes in the world which is possessed by the leaders of big business in the present age far exceeds the power ever possessed by individuals in the past. **They may not be as free to cut off heads as were Nero or Jenghiz Khan, but they can settle who shall starve and who shall become rich, they can divert the course of rivers, and decree the fall of governments**. All history shows that great power is intoxicating. Fortunately, the modern holders of power are not yet quite aware how much they could do if they chose, but when this knowledge dawns upon them a new era in human tyranny is to be expected." - 152

Scientific Technique

"The social effect of modern scientific technique is, in practically all directions, to demand an increase both in the size and intensity of organization. When I speak of the intensity of organization I mean the proportion of a man's activities that is governed by the fact of his belonging to some social unit. The primitive peasant may be almost entirely self-directed; he produces his own food, buys very little, and does not send his children to school. The modern man, even if he happens to be an agriculturist, produces only a small proportion of what he eats; if he grows wheat, for example, he probably sells the whole of his crop and buys his bread from the baker like any other man; even if he does not do this, he has to buy most of the rest of his feed. In his buying and selling he depends upon immense organizations which are usually international; his reading is provided by the great newspapers, his amusements by Hollywood, the education of his children by the State, his capital, in part at least, by a bank, his political opinions by his Party, his safety and many of his amenities by the Government to which he pays taxes. Thus in all his most important activities he has ceased to be a separate unit and has become dependent upon some social organization. As scientific technique advances, the most profitable size for most organizations increases. In a great many respects national boundaries have become a technical absurdity, and further advance demands that they should be ignored. Unfortunately nationalism is immensely strong, and the increasing power of propaganda which scientific technique has put into the hands of national States is being used to strengthen this anarchic force. Until this state of affairs is amended, scientific technique will not be able to achieve the results of which it is capable in the way of promoting human welfare." - 198

"The greatest triumphs of applied science so far have been in the realm of physics and chemistry. **When people think of scientific technique they think primarily of machines.** It seems probable that in the near future science will achieve equal triumphs in biological and physiological directions, and **will ultimately acquire as much power to change men's minds as it already has power to deal with our inanimate environment.**" - 146

"No sharp line can be drawn between scientific technique and traditional arts and crafts. **The essential characteristic of scientific technique is the utilization of natural forces in ways not evident to the totally uneducated.**" - 137

"The power of psychological technique to mould the mentality of the individual is still in its infancy, and is not yet fully realized. There can, I think, be little doubt that it will increase enormously in the near future. **Science has given us, in succession, power over inanimate nature, power over plants and animals, and finally power over human beings.** Each power involves its own kinds of dangers, and perhaps the dangers involved in power over human beings are the greatest, but that is a matter that we will consider at a later stage." - 185

"While it is rather rash to make detailed prophecies, it is, I think, fairly clear that in future a human body, from the moment of conception, will not be regarded merely as something which must be left to grow in accordance with natural forces, with no human interference beyond what is required for the preservation of health. **The tendency of scientific technique is to cause everything to be regarded as not just a brute datum, but raw**

material for the carrying out of some human purpose. The child, and even the embryo, will come to be viewed more and more in this way as the mentality connected with scientific technique becomes more dominant. In this, as in all other forms of scientific power, there are possibilities of good and possibilities of evil. Science alone will not decide which is to prevail." - 172

Conclusion

[Part 2](#) of this series will examine the composition of the society of experts who will use scientific technique to dominate the masses. The application of scientific technique to education will be examined in [part 3](#) with an emphasis on the distinction between the education for the "governing class" and "working class". [Part 4](#) will look at the use of education, the Press, radio and Hollywood as propaganda. The use of behaviourism, psycho-analysis and physiological manipulation as applied to education will be examined in [part 5](#). [Part 6](#) will examine the application of scientific technique to the reproduction of human beings including the separate breeding techniques to be applied to the "governing class" compared with the "working class". Changes to Freedom and equality in the scientific society will be examined in [part 7](#). [Part 8](#) will examine changes to free trade and labour in the scientific society. Finally, [Part 9](#) will describe two examples of artificially designed societies, including the creation of a new religion specifically for that new planned society.

[1] Bertrand Russell, *The Scientific Outlook* (1931). First Edition.

The Rule of the Scientific Expert

The Scientific Outlook Part 2

Brent Jessop - [Knowledge Driven Revolution.com](http://KnowledgeDrivenRevolution.com)

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"Equality, like liberty, is difficult to reconcile with scientific technique, since this involves a great apparatus of experts and officials inspiring and controlling vast organizations. Democratic forms may be preserved in politics, but they will not have as much reality as in a community of small peasant proprietors. Officials unavoidably have power. And where many vital questions are so technical that the ordinary man cannot hope to understand them, experts must inevitably acquire a considerable measure of control." - Bertrand Russell, 1931 (p224)

The Expert Manipulator

From *The Scientific Outlook*:

[*Italicised text* is original emphasis and **bolded text** is added by author.]

"When I speak of scientific government I ought, perhaps, to explain what I mean by the term. I do not mean simply a government composed of men of science. [...] I should define a government as in a greater or less degree scientific in proportion as it can produce intended results: the greater the number of results that it can both intend and produce, the more scientific it is. [...]

Owing to the increase of knowledge, it is possible for governments nowadays to achieve many more intended results than were possible in former times, and it is likely that before very long results which even now are impossible will become possible. [...] Eugenics, except in the form of sterilization of the feeble-minded, is not yet practical politics, but may become so within the next fifty years. As we have already seen, it may be superseded, when embryology is more advanced, by direct methods of operating upon the foetus.

All these are things which, as soon as they become clearly feasible, will make a great appeal to energetic and practical idealists. Most idealists are a mixture of two types, which we may call respectively the dreamer and the manipulator. The pure dreamer is a lunatic, the pure manipulator is a man who cares only for personal power, but the idealist lives in an intermediate position between these two extremes. Sometimes the dreamer preponderates, sometimes the manipulator. William Morris found pleasure in dreaming of "News from Nowhere"; Lenin found no satisfaction until he could clothe his ideas in a garment of reality. Both types of idealist desire a world different from that in which they find themselves, but the manipulator feels strong enough to create it, while the dreamer, feeling baffled, takes refuge in phantasy. **It is the manipulative type of idealist who will create the scientific society. Of such men, in our own day, Lenin is the archetype.** The manipulator idealist differs from the man of merely personal ambition by the fact that he desires not only certain things for himself, but a certain kind of society. Cromwell would not have been content to have been Lord Lieutenant of Ireland in succession to Strafford, or Archbishop of Canterbury in succession to Laud. It was essential to his happiness that England should be a certain sort of country, not merely that he should be prominent in it. It is this element of impersonal desire which distinguishes the idealist from other men. For men of this type there has been in Russia since the Revolution more scope than in any other country at any other time, and **the more scientific technique is perfected the more scope there will be for them everywhere.** I fully expect, therefore, that men of this sort will have a predominant part to play in moulding the world during the next two hundred years.

The attitude of what may be called practical idealists among men of science at the present day towards problems of government is very clearly set forth in a leading article in *Nature* (September 6, 1930), from which the following are extracts:

"[...] In the modern world the dangers arising from mistakes caused by prejudice and

neglect of impartial or scientific inquiry are infinitely more serious. In an age when nearly all the problems of [governmental and industrial] administration and development involve scientific factors, civilization cannot afford to leave administrative control in the hands of those who have no first-hand knowledge of science. ...

Under modern conditions, therefore, more is required of scientific workers than the mere enlargement of the bounds of knowledge. They can no longer be content to allow others to take the results of their discoveries and use them unguided. Scientific workers must accept responsibility for the control of the forces which have been released by their work. Without their help, efficient administration and a high degree of statesmanship are virtually impossible.

The practical problem of establishing a right relationship between science and politics, between knowledge and power, or **more precisely between the scientific worker and the control and administration of the life of the community**, is one of the most difficult confronting democracy. The community is, however, entitled to expect from members of the British Association some consideration of such a problem and some guidance as to the means by which science can assume its place of leadership. ...

It is significant that, in contrast to the relative impotence of scientific workers in national affairs, in the international sphere advisory committees of experts have since the War exerted a remarkable and effective influence even when devoid of all legislative authority. To committees of experts organized by the League of Nations, and exercising advisory functions only, is due the credit of the schemes which were successful in rescuing a European State from bankruptcy and chaos, and in handling an unemployment scheme which settled a million and a half refugees, following upon the greatest migration in history. These examples sufficiently demonstrate that, given the requisite stimulus and enthusiasm, the scientific expert can already exert an effective influence when normal administrative effort has failed, and when indeed, as in the case of Austria, the problem had been dismissed by statesmen as hopeless.

In truth, scientific workers occupy a privileged position in society as well as industry, and there are welcome signs that this is now recognized by scientific workers themselves. Thus, in his presidential address to the Chemical Society (at Leeds) last year, Professor Jocelyn Thorpe suggested that **the age is at hand in which the changing majorities of governments will no longer be able to determine major policies, except in directions approved by organized industry, and, in advocating the closer organization of science and industry, stressed the political strength to be obtained thereby.** [...] Whatever inspiration or encouragement the meetings of the British Association may give to scientific workers in the prosecution of their researches, there is no way in which the Association can more fittingly serve humanity than by calling scientific workers to accept those wide responsibilities of leadership in society as well as in industry which their own efforts have made their inevitable lot."

It will be seen from the above that men of science are becoming conscious of the responsibility towards society conferred by their knowledge, and are feeling it a duty to

take a larger part in the direction of public affairs than they have hitherto done." - 227

The Society of Experts and the Oblivious Masses

"The society of experts which I am imagining will embrace all eminent men of science except a few wrong-headed and anarchical cranks. It will possess the sole up-to-date armaments, and will be the repository of all new secrets in the art of war. There will, therefore, be no more war, since resistance by the unscientific will be doomed to obvious failure. The society of experts will control propaganda and education. It will teach loyalty to the world government, and make nationalism high treason. The government, being an oligarchy, will instil submissiveness into the great bulk of the population, confining initiative and the habit of command to its own members. **It is possible that it may invent ingenious ways of concealing its own power, leaving the forms of democracy intact, and allowing the plutocrats to imagine that they are cleverly controlling these forms.** Gradually, however, as the plutocrats become stupid through laziness, they will lose their wealth; it will pass more and more into public ownership and be controlled by the government of experts. Thus, **whatever the outward forms may be, all real power will come to be concentrated in the hands of those who understand the art of scientific manipulation.**" -236

This idea of concealing the real power structure from the masses was later described by Bertrand Russell in his book *The Impact of Science on Society*[2] (1952):

"Although this science will be diligently studied, **it will be rigidly confined to the governing class. The populace will not be allowed to know how its convictions were generated.** When the technique has been perfected, every government that has been in charge of education for a generation will be able to control its subjects securely without the need of armies or policemen [...]" - 41

Scientific Technique and Education

The Scientific Outlook Part 3

Brent Jessop - [Knowledge Driven Revolution.com](http://KnowledgeDrivenRevolution.com)

July 13, 2008



"Although this science will be diligently studied, **it will be rigidly confined to the governing class. The populace will not be allowed to know how its convictions were generated.** When the technique has been perfected, every government that has been in charge of education for a generation will be able to control its subjects securely without the need of armies or policemen..." - Bertrand Russell, 1952 (p41)

Education for the Working Class

From *The Scientific Outlook*:

[*Italicised text* is original emphasis and **bolded text** is added by author.]

"Education has two purposes: on the one hand to form the mind, on the other hand to train the citizen. [...]"

Education in a scientific society may, I think, be best conceived after the analogy of the education provided by the Jesuits. The Jesuits provided one sort of education for the boys who were to become ordinary men of the world, and another for those who were to become members of the Society of Jesus. In like manner, the scientific rulers will provide one kind of education for ordinary men and women, and another for those who are to become holders of scientific power. **Ordinary men and women will be expected to be docile, industrious, punctual, thoughtless, and contented.** Of these qualities probably

contentment will be considered the most important. In order to produce it, all the researches of psycho-analysis, behaviourism, and biochemistry will be brought into play. Children will be educated from their earliest years in the manner which is found least likely to produce complexes. Almost all will be normal, happy, healthy boys or girls. **Their diet will not be left to the caprices of parents, but will be such as the best biochemists recommend.** They will spend much time in the open air, and **will be given no more book-learning than is absolutely necessary.** Upon the temperament so formed, **docility** will be imposed by the methods of the drill-sergeant, or perhaps by the softer methods employed upon Boy Scouts. **All the boys and girls will learn from an early age to be what is called "co-operative," i.e., to do exactly what everybody is doing. Initiative will be discouraged in these children, and insubordination, without being punished, will be scientifically trained out of them.** Their education though will be in great part manual, and when their school years come to an end they will be taught a trade. In deciding what trade they are to adopt, experts will appraise their aptitudes. Formal lessons, in so far as they exist, will be conducted by means of the cinema or the radio, so that one teacher can give simultaneous lessons in all the classes throughout a whole country. **The giving of these lessons will, of course, be recognized as a highly skilled undertaking, reserved for the members of the governing class.** All that will be required locally to replace the present-day school-teacher will be a lady to keep order, though it is hoped that the children will be so well-behaved that they will seldom require this estimable person's services." - 243

"As for the manual workers, they will be discouraged from serious thought: they will be made as comfortable as possible, and their hours of work will be much shorter than they are at present; they will have no fear of destitution or of misfortune to their children. **As soon as working hours are over, amusements will be provided, or a sort calculated to cause wholesome mirth, and to prevent any thoughts of discontent which otherwise might cloud their happiness.**

On those rare occasions when a boy or girl who has passed the age at which it is usual to determine social status shows such marked ability as to seem the intellectual equal of the rulers, a difficult situation will arise, requiring serious consideration. If the youth is content to abandon his previous associates and to throw in his lot whole-heartedly with the rulers, he may, after suitable tests, be promoted, but **if he shows any regrettable solidarity with his previous associates, the rulers will reluctantly conclude that there is nothing to be done with him except to send him to the lethal chamber before his ill-disciplined intelligence has had time to spread revolt.** This will be a painful duty to the rulers, but I think they will not shrink from performing it." - 248

Education for the Governing Class

"Those children, on the other hand, who are destined to become members of the governing class will have a very different education. They will be selected, some before birth, some during the first three years of life, and a few between the ages of three and six. All the best-known science will be applied to the simultaneous development of **intelligence and will-power.**

Eugenics, chemical and thermal treatment of the embryo, and diet in early years will be used with a view to the production of the highest possible ultimate ability. The scientific outlook will be instilled from the moment that a child can talk, and throughout the early impressionable years the child will be carefully guarded from contact with the ignorant and unscientific. From infancy up to twenty-one, scientific knowledge will be poured into him, and at any rate from the age of twelve upwards he will specialize in those sciences for which he shows the most aptitude. At the same time he will be taught physical toughness; he will be encouraged to roll naked in the snow, to fast occasionally for twenty-four, to run many miles on hot days, to be bold in all physical adventures and uncomplaining when he suffers physical pain. From the age of twelve upwards he will be taught to organize children slightly younger than himself, and will suffer severe censure if groups of such children fail to follow his lead. A sense of his high destiny will be constantly set before him, and **loyalty towards his order will be so axiomatic that it will never occur to him to question it. Every youth will thus be subjected to a threefold training: in intelligence, in self-command, and in command over others. If he should fail in any one of these three, he will suffer the terrible penalty of degradation to the ranks of common workers, and will be condemned for the rest of his life to associate with men and women vastly inferior to himself in education and probably in intelligence.** The spur of this fear will suffice to produce industry in all but a very small minority of boys and girls of the governing class.

Except for the one matter of loyalty to the world State and to their own order, members of the governing class will be encouraged to be adventurous and full of initiative. It will be recognized that it is their business to improve scientific technique, and to keep the manual workers contented by means of continual new amusements. As those upon whom all progress depends, they must not be unduly tame, nor so drilled as to be incapable of new ideas. **Unlike the children destined to be manual workers,** they will have personal contact with their teacher, and will be encouraged to argue with him. It will be his business to prove himself in the right if he can, and, if not, to acknowledge his error gracefully. There will, however, be limits to intellectual freedom, even among the children of the governing class. They will not be allowed to question the value of science, or the division of the population into manual workers and experts. They will not be allowed to coquette with the idea that perhaps poetry is as valuable as machinery, or love as good a thing as scientific research. **If such ideas do occur to any venturesome spirit, they will be received in a pained silence, and there will be a pretence that they have not been heard.**

A profound sense of public duty will be instilled into boys and girls of the governing class as soon as they are able to understand such an idea. They will be taught to feel that mankind depends upon them, and that they owe benevolent service especially to the less fortunate classes beneath them. But let it not be supposed that they will be prigs - far from it. They will turn off with a deprecating laugh any too portentous remark that puts into explicit words what they will all believe in their hearts. Their manners will be easy and pleasant, and their sense of humour unflinching." - 244

"Education used to begin at eight years old with the learning of the Latin declensions; now, under the influence of psycho-analysis, it begins at birth. It is to be expected that with the advance of experimental embryology the important part of education will be found to be pre-natal. This is already the case with fishes and newts, but in regard to them the scientist is not hampered by education authorities." - 185

"In normal cases, children of sufficiently excellent heredity will be admitted to the governing class from the moment of conception. I start with this moment rather than with birth, since it is from this moment and not merely from the moment of birth that the treatment of the two classes will be different. If, however, by the time the child reaches the age of three, it is fairly clear that he does not attain the required standard, he will be degraded at that point. I assume that by that time it will be possible to judge of the intelligence of a child of three with a fair measure of accuracy. Cases in which there is doubt, which should, however, be few, will be subjected to careful observation up to the age of six, at which moment one supposes the official decision will be possible except in a few rare instances. Conversely, children born of manual workers may be promoted at any moment between the age of three and six, but only in quite rare instances at later ages. **I think it maybe assumed, however, that there would be a very strong tendency for the governing class to become hereditary**, and that after a few generations not many children would be moved from either class into the other. This is especially likely to be the case if embryological methods of improving the breed are applied to the governing class, but not to the others. **In this way the gulf between the two classes as regards native intelligence may become continually wider and wider. This will not lead to the abolition of the less intelligent class, since the rulers will not wish to undertake uninteresting manual work, or to be deprived of the opportunity for exercising benevolence and public spirit which they derive from the management of the manual workers.**" - 249

Education for the Priestly Class

"The latest stage in the education of the most intellectual of the governing class will consist of training for research. Research will be highly organized, and young people will not be allowed to choose what particular piece of research they shall do. They will, of course, be directed to research in those subjects for which they have shown special ability. **A great deal of scientific knowledge will be concealed from all but a few. There will be arcane reserved for a priestly class of researchers, who will be carefully selected for their combination of brains with loyalty.** One may, I think, expect that research will be much more technical than fundamental. The men at the head of any department of research will be elderly, and content to think that the fundamentals of their subject are sufficiently known. Discoveries which upset the official view of fundamentals, if they are made by young men, will incur disfavour, and if rashly published will lead to degradation. Young men to whom any fundamental innovation occurs will make cautious attempts to persuade their professors to view the new ideas with favour, but if these attempts fail they will conceal their new ideas until they themselves have acquired positions of authority, by which time they will probably have forgotten them. The atmosphere of authority and organization will be extremely favourable to technical research, but somewhat inimical to such subversive innovations as have been seen, for example, in physics during the present

century. There will be, of course, an official metaphysic, which will be regarded as intellectually unimportant but politically sacrosanct. In the long run, the rate of scientific progress will diminish, and discovery will be killed by respect for authority." - 247

Propaganda: From the Class Room to Hollywood

The Scientific Outlook Part 4

Brent Jessop - [Knowledge Driven Revolution.com](http://KnowledgeDrivenRevolution.com)

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"I think the subject which will be of most importance politically is mass psychology. Mass psychology is, scientifically speaking, not a very advanced study... This study is immensely useful to practical men, whether they wish to become rich or to acquire the government. It is, of course, as a science, founded upon individual psychology, but hitherto it has employed rule-of-thumb methods which were based upon a kind of intuitive common sense. Its importance has been enormously increased by the growth of **modern methods of propaganda. Of these the most influential is what is called 'education'**. Religion plays a part, though a diminishing one; the Press, the cinema and the radio play an increasing part." - Bertrand Russell, 1952 (p40)

Mass Psychology

From *The Scientific Outlook*:

[*Italicised text* is original emphasis and **bolded text** is added by author.]

"There is, however, a large amount of genuine experimental science in social affairs. Perhaps the most important set of experiments in this realm is that which we owe to advertisers. This material, valuable as it is, has not been utilized by experimental psychologists, because it belongs to a region remote from the Universities, and they would feel themselves vulgarized by contact with anything so gross. But anybody who is in earnest in studying the psychology of belief cannot do better than consult the great advertising firms. No test of belief is so searching as the financial one. When a man is willing to back his belief by spending money in accordance with it, his belief must be regarded as genuine. Now this is precisely the test which the advertiser is perpetually applying. Various people's soaps are recommended in various ways; some of these ways produce the desired result, others do not, or at any rate not to the same degree. Clearly the advertisement which causes a man's soap to be bought is more effective in creating belief than the one which does not. I do not think any experienced advertiser would suggest that the merits of the respective soaps had any share whatever in bringing about the result. Very large sums of money are paid to the men who invent good advertisements, and rightly so, **for the power to cause large numbers of people to believe what you assert is a very valuable power**. Consider its importance, for example, to the founders of religions. In the past they often had to adopt the most painful forms of publicity. How much pleasanter their lives would have been if they could have gone to an agent who would have purchased the respect of their disciples in return for a percentage on the ecclesiastical revenues!

From the technique of advertising it seems to follow that in the great majority of mankind any proposition will win acceptance if it is reiterated in such a way as to remain in the memory. Most of the things that we believe we believe because we have heard them affirmed; we do not remember where or why they were affirmed, and we are therefore unable to be critical even when the affirmation was made by a man whose income would be increased by its acceptance and was not backed by any evidence whatever. Advertisements tend, therefore, **as the technique becomes perfected, to be less and less argumentative, and more and more merely striking. So long as an impression is made, the desired result is achieved.**

Considered scientifically, advertisements have another great merit, which is that their effects, so far as is known through the receipts of the advertisers, are mass effects, not effects upon individuals, so that the data acquired are data as to mass psychology. For the purposes of studying society rather than individuals, advertisements are therefore invaluable. Unfortunately their purpose is practical rather than scientific. For scientific purposes I suggest the following experiment. Let two soaps, A and B, be manufactured, of which A is excellent and B abominable; let A be advertised by stating its chemical composition and by testimonials from eminent chemists; let B be advertised by the bare statement that it is the best, accompanied by the portraits of famous Hollywood beauties. If man is a rational animal, more of A will be sold than of B. Does anyone, in fact, believe that this would be the result?

The advantages of advertisement have come to be realized pretty fully by politicians, but are only beginning to be realized by the Churches; when the Churches become more fully alive to its advantages as compared with the traditional religious technique (which dates from before the invention of printing), we may hope for a great revival of faith. **On the whole, the Soviet Government and the Communist religion are those which hitherto have best understood the use of advertisement. They are, it is true, somewhat hampered by the fact that most Russians cannot read; this obstacle, however, they are doing their best to remove.**" - 187

Education as Propaganda

"This consideration brings us naturally to the subject of education, which is the second great method of public propaganda. Education has two very different purposes; on the one hand it aims at developing the individual and giving him knowledge which will be useful to him; **on the other hand it aims at producing citizens who will be convenient for the State or the Church which is educating them.** Up to a point these two purposes coincide in practice: it is convenient to the State that citizens should be able to read, and that they should possess some technical skill in virtue of which they are able to do productive work; it is convenient that they should possess sufficient moral character to abstain from unsuccessful crime, and sufficient intelligence to be able to direct their own lives. But when we pass beyond these elementary requirements, the interests of the individual may often conflict with those of the State or the Church. This is especially the case in regard to credulity. To those who control publicity, credulity is an advantage, while to the individual a power of critical judgment is likely to be beneficial; consequently the State does not aim at producing a scientific habit of mind, except in a small minority of experts, who are well paid, and therefore, as a rule, supporters of the *status quo*. Among those who are not well paid credulity is more advantageous to the State; consequently children in school are taught what they are told and are punished if they express disbelief. **In this way a conditioned reflex is established, leading to a belief in anything said authoritatively by elderly persons of importance.** You and I, reader, owe out immunity from spoliation to this beneficent precaution on the part of our respective Governments.

One of the purposes of the State in education is certainly, on the whole, beneficent. The purpose in question is that of producing social coherence. In mediaeval Europe, as in modern China, the lack of social coherence proved disastrous. It is difficult for large masses of men to co-operate as much as is necessary for their own welfare. The tendency to anarchy and civil war is always one to be guarded against, except on those rare occasions when some great principle is at stake which is of sufficient importance to make civil war worth while. For this reason that part of education which aims at producing loyalty to the State is to be praised in so far as it is directed against internal anarchy. But in so far as it is directed to the perpetuation of international anarchy, it is bad. On the whole, at present in education, the form of loyalty to the State which is most emphasized is hostility to its enemies." -190

Uniformity of Opinion - The Press

"Modern inventions and modern technique have had a powerful influence in promoting uniformity of opinion and making men less individual than they used to be. [...] But in the modern world there are three great sources of uniformity in addition to education: these are the Press, the cinema, and the radio.

The Press has become an agent of uniformity as a result of technical and financial causes: the larger the circulation of a newspaper, the higher the rate it can charge for its advertisements and the lower the cost of printing per copy. A foreign correspondent costs just as much whether his newspaper has a large or a small circulation; therefore his relative cost is diminished by every increase in circulation. A newspaper with a large circulation can hire the most expensive legal talent to defend it against libel suits, **and can often conceal from all but serious students its misstatements of facts.** For all these reasons, of which advertisements are the chief, big newspapers tend to please small sets of cranks or high-brows, and there are journals devoted to special interests, such as yachting or fly-fishing, but the immense majority of newspaper readers confine themselves either, as in England, to a small number of newspapers, or, as in America, to a small number of syndicated groups of newspapers. The difference between England and America in this respect is, of course, due to size. **In England, if Lord Rothermere and Lord Beaverbrook desire anything to be known, it will be known; if they desire it to be unknown, it will be unknown** except to a few pertinacious busybodies. Although there are rival groups in the newspaper world, there are, of course, many matters as to which the rival groups are agreed. In a suburban train in the morning, one man may be reading the *Daily Mail* and another the *Daily Express*, but if by some miracle they should fall into conversation **they would not find much divergence in the opinions they had imbibed or in the facts of which they had been informed. Thus for reasons which are ultimately technical and scientific, the newspapers have become an influence tending to uniformity and increasing the rarity of unusual opinions.**" - 191

Uniformity of Opinion - The Radio

"Another modern invention tending towards uniformity is the radio. This, of course, is more the case in England, where it is a Government monopoly, than in America, where it is free. During the General Strike in 1926 it afforded practically the only method of disseminating news. This method was utilized by the Government to state its own case and conceal that of the strikers. I was myself at the time in a remote village, almost the furthest from London, I believe, of any village in England. All the villagers, including myself, assembled in the Post Office every evening to hear the news. A pompous voice would announce: "It is the Home Secretary who has come to make a statement." I regret to say that the villagers all laughed, but if they had been less remote they would probably have been more respectful. In America, where the Government has not interfered with broadcasting, one must expect, if the same policy continues, that there will be a gradual growth of big interests analogous to the big newspapers, and that these will cover as large a proportion of the ground as does the syndicated Press." - 193

Uniformity of Opinion - The Cinema

"But perhaps the most important of all the modern agents of propaganda is the cinema. Where the cinema is concerned, the technical reasons for large-scale organizations leading to **almost world-wide uniformity** are over-whelming. The costs of a good production are colossal, but are no less if it is exhibited seldom than if it is exhibited often and everywhere. The Germans and the Russians have their own productions, and those of the Russians are, of course, an important part of the Soviet Government's propaganda. **In the rest of the civilized world the products of Hollywood preponderate. The great majority of young people in almost all civilized countries derive their ideas of love, of honour, of the way to make money, and of the importance of good clothes, from the evenings spent in seeing what Hollywood thinks good for them.** I doubt whether all the schools and churches combined have as much influence as the cinema upon the opinions of the young in regard to such intimate matters as love and marriage and money-making. **The producers of Hollywood are the high-priests of a new religion.** Let us be thankful for the lofty purity of their sentiments. We learn from them that sin is always punished, and virtue is always rewarded. True, the reward is rather gross, and such as a more old-fashioned virtue might not wholly appreciate. But what of that? We know from the cinema that wealth comes to the virtuous, and from real life that old So-and-so has wealth. It follows that old So-and-so is virtuous, and that the people who say he exploits his employees are slanderers and trouble-makers. **The cinema therefore plays a useful part in safeguarding the rich from the envy of the poor.**

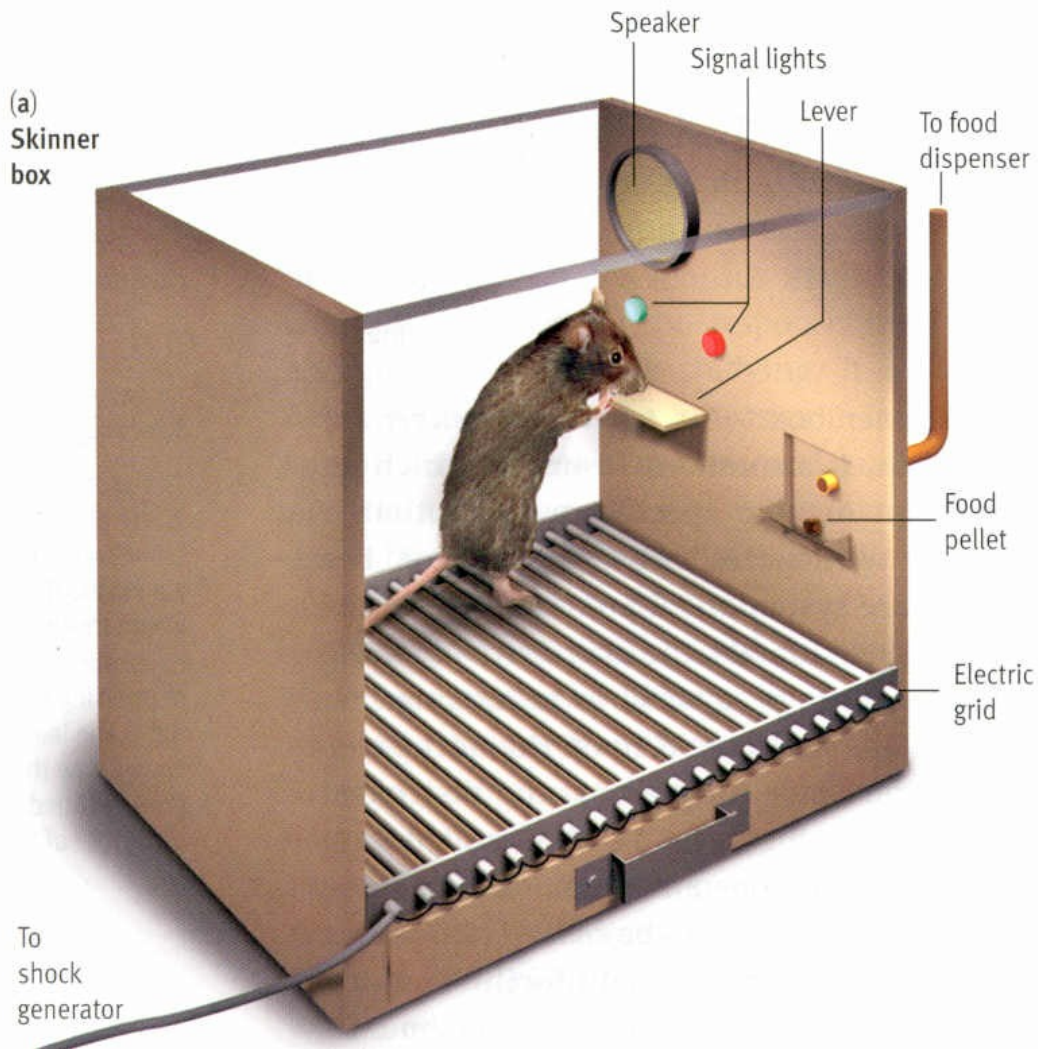
It is undoubtedly an important fact in the modern world that almost all the pleasures of the poor can only be provided by men possessed of vast capital or by Governments. The reasons for this, as we have seen, are technical, but the result is that any defects in the *status quo* become known only to those who are willing to spend their leisure time otherwise than in amusement; these are, of course, a small minority, and from a political point of view they are at most times negligible. There is, however, a certain instability about the whole system. In the event of unsuccessful war it might break down, and **the population, which had grown accustomed to amusements, might be driven by boredom into serious thought.** The Russians, when deprived of vodka by war-time prohibition, made the Russian Revolution. What would Western Europeans do if deprived of their nightly drug from Hollywood? The moral of this for Western European Governments is that they must keep on good terms with America. **In the American imperialism of the future it may turn out that the producers of cinemas have been the pioneers."** - 194

Behaviourism, Psycho-Analysis and Physiological Manipulation in Education

The Scientific Outlook Part 5

Brent Jessop - [Knowledge Driven Revolution.com](http://KnowledgeDrivenRevolution.com)

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"Education in a scientific society may, I think, be best conceived after the analogy of the education provided by the Jesuits. The Jesuits provided one sort of education for the boys who were to become ordinary men of the world, and another for those who were to become members of the Society of Jesus. In like manner, the scientific rulers will provide one kind of education for ordinary men and women, and another for those who are to become holders of scientific power. **Ordinary men and women will be expected to be docile, industrious, punctual, thoughtless, and contented. Of these qualities probably contentment will be considered the most important.** In order to produce it, all the researches of psycho-analysis, behaviourism, and biochemistry will be brought into play." - Bertrand Russell, 1931 (p243)

Behaviourism and Psycho-Analysis

From *The Scientific Outlook*:

[*Italicised text* is original emphasis and **bolded text** is added by author.]

"As a technique for acquiring power, behaviourism is, I think, superior to psycho-analysis: it embodies the methods which have always been adopted by those who train animals or drill soldiers; it utilizes the force of habit, the strength of which has always been recognized; and, as we saw when we were considering Pavlov, it makes it possible both to cause and to cure neurasthenia and hysteria. The conflicts which appear in psycho-analysis as emotional re-appear in behaviourism as conflicts between habits, or between a habit and a reflex. If a child were severely beaten every time it sneezed, it is probable that a phantasy world would in time build itself up in his mind around the conception of sneezing; he would dream of Heaven as a place where the spirits of the blest sneeze unceasingly, or on the contrary he might think of Hell as a place of punishment for those who live in open sternutation. In this sort of way the problems brought to the fore by psycho-analysis can, I think, be dealt with on behaviourist lines. At the same time it should be admitted that these problems, whose importance is very great, would probably not have come to the fore but for the psycho-analytic approach. For the practical purposes of educational technique, I think it will be found that the educator should behave as a psycho-analyst when he is concerned with matters touching powerful instincts, but as a behaviourist in matters which a child views as emotionally unimportant. For example, affection for parents should be viewed in the psycho-analytic manner, but brushing teeth in the behaviourist manner." - 182

"The most important applications of psycho-analytic theory are to education. These applications are as yet in an experimental stage, and owing to the hostility of the authorities they can only be made on a very small scale. It is, however, already evident that moral and emotional education has hitherto been conducted on wrong lines, and has produced maladjustments which have been sources of cruelty, timidity, stupidity, and other unfortunate mental characteristics. I think it possible that psycho-analytic theory may be absorbed into something more scientific, but I do not doubt that something of what psycho-analysis has to suggest in regard to education will be found permanently valid and of immense importance." - 181

Physiological Manipulation

"So far, no experiments have been made to test the effect of X-rays on the human embryo. I imagine that such experiments would be illegal, in common with many others that might make valuable additions to our knowledge. Sooner or later, however, probably in Russia, such experiments will be made. If science continues to advance as fast as it has done recently, we may hope, before the end of the present century, to discover ways of beneficially influencing the human embryo, not only as regards those acquired characters which cannot be inherited because they do not affect the chromosomes, but also as regards the chromosomes themselves. It is likely that this result will only be achieved after a

number of unsuccessful experiments leading to the birth of idiots and monstrosities. But would this be too high a price to pay for the discovery of a method by which, within one generation, the whole human race could be rendered intelligent? **Perhaps by a suitable choice of chemicals to be injected into the uterus it may become possible to turn a child into a mathematician, a poet, a biologist, or even a politician, and to ensure that all his posterity shall do likewise unless prevented by counter-irritant chemicals.**" - 172

"So far we have been considering those ways of influencing the mental life which proceed by mental means as in psycho-analysis, or by means of the conditioned reflex as in behaviourism. There are, however, other methods which may in time prove of immense importance. These are the methods which operate through physiological means, such as the administering of drugs. The curing of cretinism by means of iodine is so far the most remarkable of these methods. In Switzerland all salt for human consumption is obliged by law to be iodized, and this measure has been found adequate as a preventive of cretinism. **The work of Cannon and others concerning the influence of the ductless glands upon the emotions has become widely known, and it is clear that by administering artificially the substances which the ductless glands provide, a profound effect can be produced upon temperament and character.** The effects of alcohol, opium, and various other drugs have long been familiar, but these effects are on the balance harmful unless the drug is taken with unusual moderation. There is, however, no *a priori* reason why drugs should not be discovered which have a wholly beneficial effect. I have never myself observed any but good effects to flow from the drinking of tea, at any rate if it is China tea. It is possible also that psychological marvels may become possible through pre-natal treatment. One of the most eminent philosophers of our day regards his superiority to his brothers, perhaps humorously, as due to the fact that shortly before his birth his mother was in a carriage which rolled down the Simplon in an accident. I do not suggest that this method should be adopted in the hope of turning us all into philosophers, but perhaps in time we shall discover some more peaceable means of endowing the foetus with intelligence. **Education used to begin at eight years old with the learning of the Latin declensions; now, under the influence of psycho-analysis, it begins at birth. It is to be expected that with the advance of experimental embryology the important part of education will be found to be pre-natal. This is already the case with fishes and newts, but in regard to them the scientist is not hampered by education authorities.**

The power of psychological technique to mould the mentality of the individual is still in its infancy, and is not yet fully realized. There can, I think, be little doubt that it will increase enormously in the near future. **Science has given us, in succession, power over inanimate nature, power over plants and animals, and finally power over human beings.** Each power involves its own kinds of dangers, and perhaps the dangers involved in power over human beings are the greatest, but that is a matter that we will consider at a later stage." - 183

"Whether men will be happy in the Paradise I do not know. **Perhaps biochemistry will show us how to make any man happy, provided he has the necessaries of life;** perhaps dangerous sports will be organized for those whom boredom would otherwise turn into

anarchists; perhaps sport will take over the cruelty which will have been banished from politics; perhaps football will be replaced by play battles in the air in which death will be the penalty of defeat, they will not mind having to seek it in a trivial cause: to fall through the air before a million spectators may come to be thought a glorious death even if it may be that in some such way a safety valve can be provided for the anarchic and violent forces in human nature; or again, **it may be that by wise education and suitable diet men may be cured of all their unruly impulses, and all life may become as quiet as a Sunday school.**" 214

Bertrand Russell would later write in a similar book entitled *The Impact of Science on Society* (1952) [2] that:

"It is to be expected that advances in physiology and psychology will give governments much more control over individual mentality than they now have even in totalitarian countries. Fichte laid it down that **education should aim at destroying free will, so that, after pupils have left school, they shall be incapable, throughout the rest of their lives, of thinking or acting otherwise than as their schoolmasters would have wished.** But in his day this was an unattainable ideal: what he regarded as the best system in existence produced Karl Marx. In future such failures are not likely to occur where there is dictatorship. **Diet, injections, and injunctions will combine, from a very early age, to produce the sort of character and the sort of beliefs that the authorities consider desirable, and any serious criticism of the powers that be will become psychologically impossible.** Even if all are miserable, all will believe themselves happy, because the government will tell them that they are so." - 61

Scientific Technique and Human Reproduction

The Scientific Outlook Part 6

Brent Jessop - [Knowledge Driven Revolution.com](http://KnowledgeDrivenRevolution.com)

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"While it is rather rash to make detailed prophecies, it is, I think, fairly clear that in future a human body, from the moment of conception, will not be regarded merely as something which must be left to grow in accordance with natural forces, with no human interference beyond what is required for the preservation of health. The tendency of scientific technique is to cause everything to be regarded as not just a brute datum, but raw material for the carrying out of some human purpose. The child, and even the embryo, will come to be viewed more and more in this way as the mentality connected with scientific technique becomes more dominant. In this, as in all other forms of scientific power, there are possibilities of good and possibilities of evil. Science alone will not decide which is to prevail." - Bertrand Russell, 1931 (p172)

Breeding the Governing Class

From *The Scientific Outlook*:

[*Italicised text* is original emphasis and **bolded text** is added by author.]

"Science, when it has once acquired a firm hold upon social organization, is hardly likely to stop short at those biological aspects of human life which have hitherto been left to the joint guidance of religion and instinct. **We may, I think, assume that both the quantity and the quality of the population will be carefully regulated by the State, but that sexual intercourse apart from children will be regarded as a private matter so long as it is not allowed to interfere with work.** As regards quantity, the State statisticians will determine as carefully as they can whether the population of the world at the moment is above or below the number which leads to the greatest material comfort per head. They will also take account of all such changes of technique as can be foreseen. No doubt the usual rule will be to aim at a stationary population, but if some important invention, such as artificial food, should greatly cheapen the production of necessaries, an increase of population might for a time be thought wise. I shall, however, assume that, in normal times, the world government will decree a stationary population.

If we were right in supposing that the scientific society will have different social grades

according to the kind of work to be performed, we may assume also that it will have uses for human beings who are not of the highest grade of intelligence. It is probable that there will be certain kinds of labour mainly performed by negroes, and that **manual workers in general will be bred for patience and muscle rather than for brains. The governors and experts, on the contrary, will be bred chiefly for their intellectual powers and their strength of character. Assuming that both kinds of breeding are scientifically carried out, there will come to be an increasing divergence between the two types, making them in the end almost different species.**

Scientific breeding, in any truly scientific form, would at present encounter insuperable obstacles both from religion and from sentiment. To carry it out scientifically it would be necessary, as among domestic animals, to employ only a small percentage of males for purposes of breeding. It may be thought that religion and sentiment will always succeed in opposing an immovable veto to such a system. I wish I could think so. But I believe that **sentiment is quite extraordinarily plastic, and that the individualistic religion to which we have been accustomed is likely to be increasingly replaced by a religion of devotion to the State.** Among Russian Communists this has already happened. In any case, what is demanded is scarcely as difficult a control of natural impulses as is involved in the celibacy of the Catholic priesthood. Wherever remarkable achievements are possible and are at the same time such as to satisfy men's moral idealism, the love of power, is capable of swallowing up the instinctive life of the affections, especially if an outlet is permitted to purely physical sexual impulses. Traditional religion, which has been violently dispossessed in Russia, will suffer a setback everywhere if the Russian experiment proves successful. In any case its outlook is difficult to reconcile with that of industrialism and scientific technique. Traditional religion was based upon a sense of man's impotence in the face of natural forces, whereas scientific technique induces a sense of the impotence of natural forces in the face of man's intelligence. Combined with this sense of power, a certain degree of austerity in regard to the softer pleasures is quite natural. One sees it already in many of those who are creating the mechanistic society of the future. In America this austerity has taken the form of Protestant piety, in Russia of devotion to Communism.

I think, therefore, that there is hardly any limit to the departures from traditional sentiment which science may introduce into the question of reproduction. If the simultaneous regulation of quantity and quality is taken seriously in the future, we may expect that in each generation some 25 per cent. of women and some 5 per cent. of men will be selected to be the parents of the next generation, while the remainder of the population will be sterilized, which will in no way interfere with their sexual pleasures, but will merely render these pleasures destitute of social importance. The women who are selected for breeding will have to have eight or nine children each, but will not be expected to perform any other work except the suckling of the children for a suitable number of months. No obstacles will be placed upon their relations with sterile men, or upon the relations of sterile men and women with each other, but **reproduction will be regarded as a matter which concerns the State, and will not be left to the free choice of the persons concerned.** Perhaps it will be found that artificial impregnation is more certain and less embarrassing, since it will obviate the need of any personal contact between the father and mother of the prospective child. Sentiments of personal affection may still be connected with intercourse not intended

to be fruitful, while impregnation will be regarded in an entirely different manner, more in the light of a surgical operation, so that it will be thought not ladylike to have it performed in the natural manner. **The qualities for which parents will be chosen will differ greatly according to the status which it is hoped the child will occupy. In the governing class a considerable degree of intelligence will be demanded of parents; perfect health will, of course, be indispensable.** So long as gestation is allowed to persist to its natural period, mothers will also have to be selected by their capacity for easy delivery, and will therefore have to be free from an unduly narrow pelvis. It is probable, however, that as time goes on the period of gestation will be shortened, and that later months of foetal development will take place in an incubator. This would also free mothers from the need of suckling their children, and would thus make maternity a not very onerous matter. The care of infants intended to belong to the governing class would seldom be left to the mothers. Mothers would be selected by their eugenic qualities, and these would not necessarily be the qualities required in a nurse. On the other hand, the early months of pregnancy might be more burdensome than at present, since the foetus would be subjected to various kinds of scientific treatment intended to affect beneficially not only its own characteristics but those of its possible descendants.

Fathers would, of course, have nothing to do with their own children. There would be in general only one father to every five mothers, and it is quite likely that he would never have even seen the mothers of his children. The sentiment of paternity would thus disappear completely. Probably in time the same thing would happen, though to a slightly less degree, in regard to mothers. If birth were prematurely induced, and the child separated from its mother at birth, maternal sentiment would have little chance to develop." - 251

Breeding the Working Class

"Among the workers it is probable that less elaborate care would be taken, since it is easier to breed for muscle than to breed for brains, and **it is not unlikely that women would be allowed to bring up their own children in the old-fashioned natural manner.** There would not be, among the workers, the same need as among the governors for fanatical devotion to the State, and there would not be, therefore, on the part of the government, the same jealousy of the private affections. Among the governors, one must suppose, all private sentiments would be viewed with suspicion. A man and woman who showed any ardent devotion to each other would be regarded as they are at present regarded by moralists when they are not married. There would be professional nurses in *crèches*, and professional teachers in nursery schools, but they would be considered to be failing in their duty if they felt any special affection for special children. Children who showed any special affection for a particular adult would be separated from that adult. Ideas of this kind are already widespread; they will be found suggested, for example, in Dr. John B. Watson's book on education. **The tendency of the scientific manipulator is to regard all private affections as unfortunate.** Freudians have shown us that they are the sources of complexes. Administrators realize that they stand in the way of a whole-hearted devotion to business. The Church sanctioned certain kinds of love while condemning others, but the modern ascetic is more thoroughgoing, and condemns all kinds of love equally as mere folly and waste of time." - 255

The Psychological Makeup

"What should we expect of the mental make-up of people in such a world? **The manual workers may, I think, be fairly happy. One may assume that the rulers will be successful in making the manual workers foolish and frivolous; work will not be too severe, and there will be endless amusements of a trivial sort. Owing to sterilization, love affairs need not have awkward consequences so long as they are not between a man and woman who are both of them unsterilized. In this way a life of easygoing and frivolous pleasure may be provided for the manual workers, combined of course with a superstitious reverence for the governors instilled in childhood and prolonged by the propaganda to which adults will be exposed.**

The psychology of the governors will be a more difficult matter. **They will be expected to display an arduous and hard-working devotion to the ideal of the scientific State, and to sacrifice to this ideal all the softer sentiments such as love of wife and children.** Friendships between fellow-workers, whether of the same or of different sexes, will tend to become ardent, and will not infrequently overstep the limits which the public moralists will have fixed. In such a case the authorities will separate the friends, unless in doing so they will interrupt some important research or administrative undertaking. When for some such public reason friends are not separated, they will be admonished. **By means of governmental microphones the censors will listen-in to their conversations, and if these should at any time become tinged with sentiment, disciplinary measures will be adopted. All the deeper feelings will be frustrated, with the sole exception of devotion to science and the State.**

The governors will, of course, have their amusements for leisure hours. I do not see how art or literature could flourish in such a world, nor do I think that the emotions from which they spring and to which they appeal would meet with governmental approval, but athletics of a strenuous kind will be encouraged among the young of the governing class, and dangerous sports will be considered valuable as a training in those habits of mind and body by which authority over the manual workers will be maintained. Love-making among the sterilized will be subjected to no restrictions either of law or of public opinion, but it will be casual and temporary, involving none of the deeper feelings and no serious affection. Persons suffering from unendurable boredom will be encouraged to ascend Mount Everest or fly over the South Pole, but the need for such distractions will be regarded as a sign of mental or physical ill-health.

In such a world, though there may be pleasure, there will be no joy. The result will be a type displaying the usual characteristics of vigorous ascetics. **They will be harsh and unbending, tending towards cruelty in their ideals and their readiness to consider that the infliction of pain is necessary for the public good. I do not imagine that pain will be much inflicted as punishment for sin, since no sin will be recognized except insubordination and failure to carry out the purposes of the State. It is more probable that the sadistic impulses which the asceticism will generate will find their outlet in scientific experiment. The advancement of knowledge will be held to justify much torture of individuals by surgeons, biochemists, and experimental psychologists. As**

time goes on the amount of added knowledge required to justify a given amount of pain will diminish, and the number of governors attracted to the kinds of research necessitating cruel experiments will increase. Just as the sun worship of the Aztecs demanded the painful death of thousands of human beings annually, so the new scientific religion will demand its holocausts of sacred victims. Gradually the world will grow more dark and more terrible. Strange perversions of instinct will first lurk in the dark corners and then gradually overwhelm the men in high places. Sadistic pleasures will not suffer the moral condemnation that will be meted out to the softer joys, since, like the persecutions of the Inquisition, they will be found in harmony with the prevailing asceticism. In the end such a system must break down either in an orgy of bloodshed or in the rediscovery of joy.

Such at least is the only ray of hope to lighten the darkness of these visions of Cassandra, but perhaps in permitting this ray of hope we have allowed ourselves to yield to a foolish optimism. **Perhaps by means of injections and drugs and chemicals the population could be induced to bear whatever its scientific masters may decide to be for its good.** New forms of drunkenness involving no subsequent headache may be discovered, and new forms of intoxication may be invented so delicious that for their sakes these are possibilities in a world governed by knowledge without love, and power without delight. The man drunk with power is destitute of wisdom, and so long as he rules the world, the world will be a place devoid of beauty and of joy." - 256

Scientific Technique and the Abolition of the Family

"Take again such a matter as housing. In England individualism leads most families to prefer a small house of their own rather than an apartment in a large house. The result is that the suburbs of London are spread out through mile after mile of dreariness, to the immense detriment of the women and children. Each housewife cooks an abominable dinner at great expenditure of labour for an infuriated husband. The children, when they come home from school, or while they are too young to go to school, find themselves cooped up in small stuffy premises where either they are a nuisance to their parents or their parents are a nuisance to them. **In a more sensible community, each family would occupy a part of an immense building with a courtyard in the middle; there would be no individual cooking, but only communal meals. Children, as soon as they were no longer at the breast, would spend their day in large airy halls under the care of women possessing the knowledge, the training, and the temperament required for making young children happy. The wives, who at present drudge all day doing wasteful work badly, would be set free to earn their living outside the home.** The benefit of such a system to the mothers, and still more to the children, would be incalculable. At the Rachel Macmillan nursery school it was found that about 90 per cent. of the children had rickets when they first came, and almost all were cured at the end of the first year in the school. In the ordinary home the necessary modicum of light and air and good food cannot be provided, whereas all these things can be provided quite cheaply if they are provided for many children at once. The freedom to cause one's children to grow up stunted and crippled on the ground that one is too fond of them to part with them is a freedom which is certainly not in the public interest." - 219

This very same idea was put into action by Mao Zedong and the Communist Chinese during their "Great Leap Forward". This was another step towards creating a truly global scientific society. The below quote is from historian Carroll Quigley in his 1966 book *Tragedy and Hope: A History of the World in Our Time* [2]:

"The third stage of agrarian reform, constituting the basic feature of the "Great Leap Forward," merged the 750 thousand collective farms into about 26,000 agrarian communes of about 5,000 families each. This was a **social** rather than simply an agrarian revolution, since its **aims included the destruction of the family household and the peasant village**. All activities of the members, **including child rearing, education, entertainment, social life, the militia, and all economic and intellectual life came under the control of the commune**. In some areas the previous villages were destroyed and the peasants were housed in dormitories, with **communal kitchens and mess halls, nurseries for the children, and separation of these children under the communes' control in isolation from their parents at an early age**. One purpose of this drastic change was to **release large numbers of women from domestic activities so that they could labor in fields or factories**. In the first year of the "Great Leap Forward," 90 million peasant women were relieved of their domestic duties and became available to work for the state. In many cases, factories and craft centers were established in the communes to use this labor, manufacturing goods not only for the commune but for sale in the outside market.

One of the chief aims of this total reorganization of rural life was to make available, for savings and investment, surpluses of agricultural income from the rural sector of Chinese society in order to build up the industrial sector. The regime estimated that it could reverse the previous division of agricultural incomes, under which 70 percent was consumed by the agricultural population and only 30 percent was available to the non-agricultural sectors of Chinese society. At the same time, it was expected that the communes would totally shatter the resistant social structure of Chinese society, leaving isolated individuals to face the power of the state. Finally, it was expected that these isolated individuals could be mobilized along military lines to carry out agricultural duties in squads and platoons assigned to specific fields and tasks." - 1159

Freedom and Equality in a Scientific Society

The Scientific Outlook Part 7

Brent Jessop - [Knowledge Driven Revolution.com](http://KnowledgeDrivenRevolution.com)

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"There will, of course, be a universal language, which will be either Esperanto or pidgin-English. The literature of the past will for the most part not be translated into this language, since its outlook and emotional background will be considered unsettling: serious students of history will be able to obtain a permit from the Government to study such works as *Hamlet* and *Othello*, but the general public will be forbidden access to them on the ground that they glorify private murder; boys will not be allowed to read books about pirates or Red Indians; love themes will be discouraged on the ground that love, being anarchic, is silly, if not wicked. All this will make life very pleasant for the virtuous." - Bertrand Russell, 1931 (p214)



Individual Freedom versus the Collective

From *The Scientific Outlook*:

[*Italicised text* is original emphasis and **bolded text** is added by author.]

"The nineteenth century suffered from a curious division between its political ideas and its economic practice. In politics it carried out the Liberal ideas of Locke and Rousseau, which were adapted to a society of small peasant proprietors. Its watchwords were Liberty and Equality, but meantime it was inventing the technique which is leading the twentieth century to destroy liberty and to replace equality by new forms of oligarchy. The prevalence of Liberal thought has been in some ways a misfortune, since it has prevented men of large vision from thinking out in an impersonal manner the problems raised by industrialism. Socialism and Communism, it is true, are essentially industrial creeds, but their outlook is so much dominated by the class war that they have little leisure to give to anything but the means of achieving political victory. Traditional morality gives very little help in the modern world. A rich man may plunge millions into destitution by some act which not even the severest Catholic confessor would consider sinful, while he will need absolution for a trivial sexual aberration which, at the worst, has wasted an hour that might

have been more usefully employed. **There is need of a new doctrine on the subject of my duty to my neighbour.** It is not only traditional religious teaching that fails to give adequate guidance on this subject, but also the teaching of nineteenth-century Liberalism. Take, for example, such a book as Mill on Liberty. Mill maintains that while the State has a right to interfere with those of my actions that have serious consequences to others, it should leave me free where the effects of my actions are mainly confined to myself. Such a principle, however, in the modern world, leaves hardly any scope for individual freedom. As society becomes more organic, the effects of men upon each other become more and more numerous and important, so that there remains hardly anything in regard to which Mill's defence of liberty is applicable. **Take, for example, freedom of speech and of the Press. It is clear that a society that permits these is thereby precluded from various achievements which are possible to a society that forbids them.** In time of war this is obvious to everybody, because in war-time the national purpose is simple, and the causation involved is obvious. Hitherto it has not been customary for a nation in peace-time to have any national purpose except the preservation of its territory and its constitution. A government which, like that of Soviet Russia, has a purpose in peace-time as ardent and definite as that of other nations in war-time, is compelled to curtail freedom of speech and of the Press as much while it is at peace as other nations do when they are at war.

The diminution of individual liberty which has been taking place during the last twenty years is likely to continue, since it has two continuing causes. On the one hand, modern technique makes society more organic; on the other hand, modern sociology makes men more and more aware of the causal laws in virtue of which one man's acts are useful or harmful to another man. **If we are to justify any particular form of individual liberty in the scientific society of the future, we shall have to do it on the ground that that form of liberty is for the good of society as a whole,** but not in most cases on the ground that the acts concerned affect nobody but the agent." 216

"The man who dreams of a scientifically organized world and wishes to translate his dream into practice finds himself faced with many obstacles. **There is the opposition of inertia and habit: people wish to continue behaving as they always have behaved, and living as they always have lived.** There is the opposition of vested interest: an economic system inherited from feudal times gives advantages to men who have done nothing to deserve them, and these men, being rich and powerful, are able to place formidable obstacles in the way of fundamental change. In addition to these forces, there are also hostile idealisms. Christian ethics is in certain fundamental respects opposed to the scientific ethic which is gradually growing up. Christianity emphasizes the importance of the individual soul, and is not prepared to sanction the sacrifice of an innocent man for the sake of some ulterior good to the majority. Christianity, in a word, is unpolitical, as is natural since it grew up among men devoid of political power. **The new ethic which is gradually growing in connexion with scientific technique will have its eye upon society rather than upon the individual. It will have little use for the superstition of guilt and punishment, but will be prepared to make individuals suffer for the public good without inventing reasons purporting to show that they deserve to suffer.** In this sense it will be ruthless, and according to traditional ideas immoral, **but the change will have come about naturally through the habit of viewing society as a whole rather than as a collection of**

individuals. We view a human body as a whole, and if, for example, it is necessary to amputate a limb we do not consider it necessary to prove first that the limb is wicked. We consider the good of the whole body a quite sufficient argument. Similarly the man who thinks of society as a whole will sacrifice a member of society for the good of the whole, without much consideration for that individual's welfare. This has always been the practice in war, because war is a collective enterprise. Soldiers are exposed to the risk of death for the public good, although no one suggests that they deserve death. But men have not hitherto attached the same importance to social purposes other than war, and have therefore shrunk from inflicting sacrifices which were felt to be unjust. **I think it probable that the scientific idealists of the future will be free from this scruple, not only in time of war, but in time of peace also.** In overcoming the difficulties of the opposition that they will encounter, they will find themselves organized into an oligarchy of opinion such as is formed by the Communist Party in the U.S.S.R." - 233

Freedom in a Scientific Society

"In suggesting any curtailment of liberty there are always two quite distinct questions to be considered. The first is whether such a curtailment would be in the public interest if it were wisely carried out, and the second is whether it will be in the public interest when it is carried out with a certain measure of ignorance and perversity. These two questions are in theory quite distinct, but from the point of view of the government the second question does not exist, since every government believes itself entirely free from both ignorance and perversity. Every government, consequently, in so far as it is not restrained by traditional prejudices, will advocate more interference with liberty than is wise. When, therefore, as in this chapter, we are considering what interferences with liberty might be theoretically justified, we must hesitate to draw the conclusion that they should be advocated in practice. I think it probable, however, that **almost all interferences with liberty for which there is a theoretical justification will, in time, be carried out in practice, because scientific technique is gradually making governments so strong that they need not consider outside opinion.** The result of this will be that governments will be able to interfere with individual liberty wherever in their opinion there is a sound reason for so doing, and for the reason just given, this will be much more often than it should be. For this reason scientific technique is likely to lead to a governmental tyranny which may in time prove disastrous." - 223

"Let us take some examples of traditional principles which appear no longer defensible. [...] To take a more important illustration: consider the immense sums of money that are spent on advertising. It cannot possibly be maintained that these bring any but the most meagre return to the community. The principle of permitting each capitalist to invest his money as he chooses is not, therefore, socially defensible." - 218

"Take again the question of work, both the kind of work and the method of performing it. At present young people choose their own trade or profession, usually because at the moment of their choice it seems to afford a good opening. A well-informed person possessed of foresight might know that the particular line in question was going to be much less profitable a few years hence. In such a case some public guidance to the young might

prove extremely useful. And as regards technical methods, it is seldom in the public interest that an antiquated or wasteful technique should be allowed to persist when a more economical technique is known. At present, owing to the irrational character of the capitalist system, the interest of the individual wage-earner is very often opposed to the interest of the community, since economical methods may cause him to lose his job. This is due to the survival of capitalistic principles in a society which has grown so organic that it ought not to tolerate them. It is obvious that in a well-organized community it should be impossible for a large body of individuals to profit by preserving an inefficient technique. It is clear that the use of the most efficient technique should be enforced, and no wage-earner should be allowed to suffer by its enforcement." - 220

"I come now to a matter which touches the individual more intimately: I mean the question of propagation. It has hitherto been considered that any man and woman not within the prohibited degrees have a right to marry, and having married have a right, if not a duty, to have as many children as nature may decree. **This is a right which the scientific society of the future is not likely to tolerate.** In any given state of industrial and agricultural technique there is an optimum density of population which ensures a greater degree of material well-being than would result from either an increase or a diminution of numbers. As a general rule, except in new countries, the density of population has been beyond this optimum, though perhaps France, in recent decades, has been an exception. Except where there is property to be inherited, the member of a small family suffers almost as much from over-population as the member of a large family. Those who cause over-population are therefore doing an injury not only to their own children, but to the community. It may therefore be assumed that society will discourage them if necessary, as soon as religious prejudices no longer stand in the way of such action. The same question will arise in a more dangerous form as between different nations and different races. If a nation finds that it is losing military superiority through a lower birth-rate than that of a rival, it may attempt, as has already been done in such cases, to stimulate its own birth-rate; but when this proves ineffective, as it probably will, there will be a tendency to demand a limitation in the birth-rate of the rival nation. **An international government, if it ever comes into being, will have to take account of such matters, and just as there is at present a quota of national immigrants into the United States, so in future there will be a quota of national immigrants into the world. Children in excess of the licensed figure will presumably be subjected to infanticide. This would be less cruel than the present method, which is to kill them by war or starvation.** I am, however, only prophesying a certain future, not advocating it.

Quality as well as quantity of population is likely to become a matter for public regulation. Already in many States of America it is permissible to sterilized the mentally defective, and a similar proposal in England is in the domain of practical politics. This is only the first step. As time goes on we may expect a greater and greater percentage of the population to be regarded as mentally defective from the point of view of parenthood. However that may be, it is clear that the parents who have a child when there is every likelihood of its being mentally defective are doing a wrong both to the child and to the community. No defensible principle of liberty therefore stands in the way of preventing them from such behaviour." - 221

Equality in a Scientific Society

"Equality, like liberty, is difficult to reconcile with scientific technique, since this involves a great apparatus of experts and officials inspiring and controlling vast organizations. **Democratic forms may be preserved in politics, but they will not have as much reality as in a community of small peasant proprietors.** Officials unavoidably have power. And where many vital questions are so technical that the ordinary man cannot hope to understand them, experts must inevitably acquire a considerable measure of control. Take the question of currency and credit as an example. William Jennings Bryan, it is true, made currency an electoral issue in 1896, **but the men who voted for him were men who would have voted for him whatever issue he had selected.** At the present time, calculable misery is being caused by a wrong handling of the question of currency and credit, **but it is impossible to submit this question to the electorate except in some passionate and unscientific form;** the only way in which anything can be done is to convince the officials who control the great central banks. So long as these men act honestly and in accordance with tradition, the community cannot control them, since if they are mistaken very few people will know it. To take a less important illustration: everyone who has ever compared British and American methods of handling goods traffic on railways knows that the American methods are infinitely superior. There are no private trucks, and the trucks of the railways are of standard size capable of carrying forty tons. In England everything is higgledy-piggledy and unsystematic, and the use of private trucks causes great waste. If this were put right, freights could be reduced and consumers would benefit, since there would be no obvious gain either to railway companies or to railway workers. If a more uniform system is ever imposed, it will be done not as a result of a democratic demand, but by government officials.

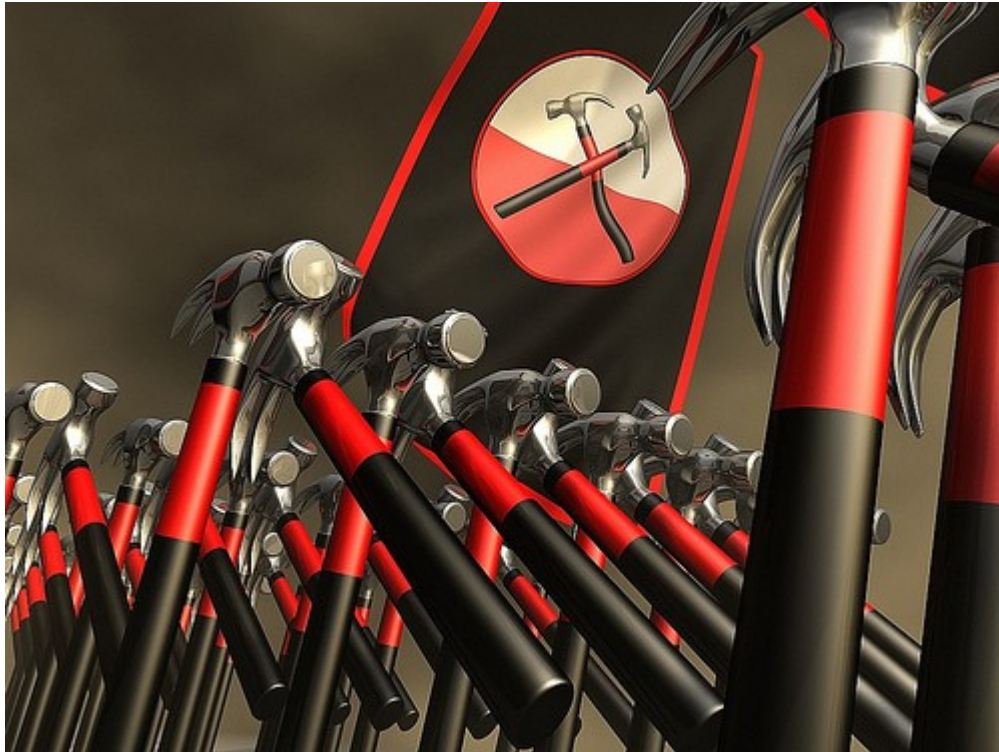
The scientific society will be just as oligarchic under socialism or communism as under capitalism, for even where the forms of democracy exist they cannot supply the ordinary voter with the requisite knowledge, nor enable him to be on the spot at the crucial moment. The men who understand the complicated mechanism of a modern community and who have the habit of initiative and decision must inevitably control the course of events to a very great extent. Perhaps this is even more true in a socialistic State than in any other, for in a socialistic State economic and political power are concentrated in the same hands, and the national organization of the economic life is more complete than in a State where private enterprise exists. Moreover, a socialistic State is likely to have more perfect control than any other over the organs of publicity and propaganda, so that it will have more power of causing men to know what it wishes known, and not to know what it wishes unknown. Equality, therefore, like liberty, is, I fear, no more than a nineteenth-century dream. The world of the future will contain a governing class, probably not hereditary, but more analogous to the government of the Catholic Church. **And this governing class, as they acquire increasing knowledge and confidence, will interfere more and more with the life of the individual, and will learn more and more the technique of causing this interference to be tolerated.** It may be assumed that their purposes will be excellent, and their conduct honourable; it may be assumed that they will be well informed and industrious; but it cannot, I think, be assumed that they will abstain from the exercise of power merely on the ground that individual initiative is a good thing, or on the ground that

an oligarchy is unlikely to consider the true interests of its slaves, for men capable of such self-restraint will not rise to positions of power which, except when they are hereditary, are attained only by those who are energetic and untroubled by doubt." - 224

Free Trade and Labour in a Scientific Society

The Scientific Outlook Part 8

*Brent Jessop - [Knowledge Driven Revolution.com](http://KnowledgeDrivenRevolution.com)
August 17, 2008*



"In the old days it was expected that about half the children in a family would die before they grew up; this involved pain, illness, and sorrow to the mother, often great suffering to the children, and a waste of natural resources in the care of children who never lived to become productive." - Bertrand Russell, 1931 (p196)

The Scientific Society and the Enlargement of Organization

From *The Scientific Outlook*:

[*Italicised text* is original emphasis and **bolded text** is added by author.]

"Such a state of affairs will have both merits and demerits; more important than either, however, is the fact that nothing less will enable a society imbued with scientific technique to survive. Scientific technique demands organization, and the more it becomes perfected, the larger are the organizations that it demands. Quite apart from war, the present depression has made it evident that an international organization of credit and banking is necessary to the prosperity not only of some countries, but of all. The international organization of industrial production is being rendered necessary by the efficiency of modern methods. Modern industrial plants can easily supply, in many directions, much more than the total needs of the world. The result of this, which should be wealth, is in fact poverty, owing to competition. In the absence of competition, the immensely enhanced productivity of labour would enable men to arrive at a just compromise between leisure and goods: they could choose whether they would work six hours a day and be rich, or four hours a day and enjoy only moderate comfort. The advantages of world-wide organization, both in preventing the waste of economic competition and in removing the danger of war, are so great as to be becoming an essential condition for the survival of societies possessing scientific technique. This argument is overwhelming in comparison with all counterarguments, and renders almost unimportant the question whether life in an organized world State will be more or less satisfactory than life at the present day. For it is only in the direction of an organized world State that the human race can develop unless it abandons scientific technique, and it will not do this except as the result of a cataclysm so severe as to lower the whole level of civilization.

The advantages to be derived from an organized world State are great and obvious. There will be, in the first place, security against war and a saving of almost the whole effort and expense now devoted to competitive armaments: there will be, one must suppose, a single, highly efficient fighting machine, employing mainly aeroplanes and chemical methods of warfare, which will be quite obviously irresistible, and will therefore not be resisted. **The central government may be changed from time to time by a palace revolution, but this will only alter the personnel of the figure-heads, not the essential organization of government.** The central government will, of course, forbid the propaganda of nationalism, by means of which at present anarchy is maintained, and will put in its place a propaganda of loyalty to the world State." - 212

Free Trade

"We have seen that scientific civilization demands world-wide organization if it is to be stable. We have considered the possibility of such an organization in matters of government. We shall now consider it in the economic sphere. At present, production is organized as far as possible nationally by means of tariff walls; every nation tries to produce at home as much as possible of the goods that it consumes. This tendency is on the increase, and even Great Britain, which has hitherto aimed at maximizing its exports by means of Free Trade, appears to be on the point of abandoning this policy in favour of comparative economic isolation.

It is, of course, clear that, from a purely economic point of view, it is wasteful to organize production nationally rather than internationally. It would be an economy if all the motor-cars used throughout the world were manufactured in Detroit. That is to say, a car of given excellence could be produced with less expense of human labour in that case than it can at present. In a world scientifically organized most industrial products would be thus localized. There would be one place for making pins and needles, another place for making scissors and knives, another place for making aeroplanes, and yet another for agricultural machinery. When, if ever, the world government that we have considered comes into being, one of its first tasks will be the international organization of production. Production will no longer be left, as at present, to private enterprise, but will be undertaken solely in accordance with government orders. This is already the case with such things as battleships, because in regard to war efficiency is thought to be important; but in most matters production is left to the chaotic impulses of private manufacturers, who make too much of some things and too little of others, with the result that there is poverty in the midst of unused plenty. The industrial plant at present existing in the world is in many directions far in excess of the world's needs. By eliminating competition and concentrating production in a single concern, all this waste could be avoided.

The control of raw materials is a matter which in any scientific society would be governed by a central authority. At present the important raw materials are controlled by military power. The weak nation possessed of oil soon finds itself under suzerainty of some stronger nation. The Transvaal lost its independence because it contained gold. Raw material ought not to belong to those who, by conquest or diplomacy, have happened to acquire the territory in which they are; **they ought to belong to a world authority which would ration them to those who had the most skill in utilizing them.** Moreover, our present economic system causes everybody to be wasteful of raw materials, since there is no motive for foresight. In a scientific world the supply of any vital raw material will be carefully estimated, and as the moment of its exhaustion approaches scientific research will be directed to the discovery of a substitute.

Agriculture, for reasons which we considered in an earlier chapter, may have less importance in the future than it has at present, and has had in the past. We shall have not only artificial silk but artificial wool and artificial timber and artificial rubber. In time we may have artificial food. But in the meantime agriculture will become more and more industrialized, both in its methods and in the mentality of those who practise it. American and Canadian agriculturists have already the industrial mentality, not the mentality of the patient peasant. Machinery will, of course, be increasingly employed. In the neighbourhood of large urban markets intensive cultivation with artificial methods of warming the soil will yield many crops every year. Here and there throughout the country-side there will be large power stations forming the nucleus around which the population will cluster. Of agricultural mentality, as it has been known since ancient times, nothing will survive, since the soil and even the climate will be subject to human control." - 239

Labour in a Scientific Society

"The gain from an economic point of view will be enormous: there will be no waste in competitive production, no uncertainty as to employment, no poverty, no sudden alternations of good and bad times; **every man willing to work will be kept in comfort, and every man unwilling to work will be kept in prison.** When owing to any circumstances the work upon which a man has hitherto been employed is no longer required, he will be taught some new kind of work, and will be adequately maintained while he is learning his new trade. **Economic motives will be employed to regulate population, which will probably be kept stationary.** Almost all that is tragic in human life will be eliminated, and even death will seldom come before old age." - 213

"It may be assumed that every man and woman will be obliged to work, and will be taught a new trade if for any reason work at the old trade is no longer required. The pleasantest work, of course, will be that which gives the most control over the mechanism. The posts giving most power will presumably be awarded to the ablest men as a result of intelligence tests. For entirely inferior work negroes will be employed wherever possible. One may, I suppose, assume that the most desirable kinds of work will be more highly paid than the less desirable kinds, since they require more skill. The society will not be one in which there is equality, although I doubt whether the inequalities will be hereditary except as between different races, i.e., between white and coloured labour. Everybody will be comfortable, and those who occupy the better-paid posts will be able to enjoy considerable luxury. There will not be, as at present, fluctuations of good and bad times, for these are merely the result of our anarchic economic system. Nobody will starve, and nobody will suffer the economic anxieties which at present beset rich and poor alike. On the other hand, life will be destitute of adventure except for the most highly paid experts. Ever since civilization began men have been seeking security more avidly than they have sought anything else. In such a world they will have it, but I am not quite sure whether they will think it worth the price that they will have paid for it." - 242

"Take again the question of work, both the kind of work and the method of performing it. At present young people choose their own trade or profession, usually because at the moment of their choice it seems to afford a good opening. A well-informed person possessed of foresight might know that the particular line in question was going to be much less profitable a few years hence. In such a case some public guidance to the young might prove extremely useful. And as regards technical methods, it is seldom in the public interest that an antiquated or wasteful technique should be allowed to persist when a more economical technique is known. At present, owing to the irrational character of the capitalist system, the interest of the individual wage-earner is very often opposed to the interest of the community, since economical methods may cause him to lose his job. This is due to the survival of capitalistic principles in a society which has grown so organic that it ought not to tolerate them. It is obvious that in a well-organized community it should be impossible for a large body of individuals to profit by preserving an inefficient technique. It is clear that the use of the most efficient technique should be enforced, and no wage-earner should be allowed to suffer by its enforcement." - 220

Two Examples of Scientifically Created Artificial Societies: Japan and Soviet Russia

The Scientific Outlook Part 9

Brent Jessop - [Knowledge Driven Revolution.com](http://KnowledgeDrivenRevolution.com)
August 24, 2008



"No sharp line can be drawn between scientific technique and traditional arts and crafts. The essential characteristic of scientific technique is the utilization of natural forces in ways not evident to the totally uninstructed." - Bertrand Russell, 1931 (p137)

From *The Scientific Outlook*:

[*Italicised text* is original emphasis and **bolded text** is added by author.]

"As we approach modern times, the changes deliberately brought about in social structure become greater. This is especially the case where revolutions are concerned. The American Revolution and the French Revolution deliberately created certain societies with certain characteristics, but in the main these characteristics were political, and their effects in other directions formed no part of the primary intentions of the revolutionaries. But scientific technique has so enormously increased the power of governments that it has now become possible to produce much more profound and intimate changes in social structure than any that were contemplated by Jefferson or Robespierre. Science first taught us to create

machines; it is now teaching us by Mendelian breeding and experimental embryology to create new plants and animals. There can be little doubt that similar methods will before long give us power, within wide limits, to create new human individuals differing in predetermined ways from the individuals produced by unaided nature. And by means of psychological and economic technique it is becoming possible to create societies as artificial as the steam engine, and as different from anything that would grow up of its own accord without deliberate intention on the part of human agents.

Such artificial societies will, of course, until social science is much more perfected than it is at present, have many unintended characteristics, even if their creators succeed in giving them all the characteristics that were intended. The unintended characteristics may easily prove more important than those that were foreseen, and may cause the artificially constructed societies to break down in one way or another. But I do not think it is open to doubt that the artificial creation of societies will continue and increase so long as scientific technique persists. The pleasure in planned construction is one of the most powerful motives in men who combine intelligence with energy; whatever can be constructed according to a plan, such men will endeavour to construct. So long as the technique for creating a new type of society exists there will be men seeking to employ this technique. They are likely to suppose themselves actuated by some idealistic motive, and it is possible that such motives may play a part in determining what sort of society they shall aim at creating. But the desire to create is not itself idealistic, since it is a form of the love of power, and while the power to create exists there will be men desirous of using this power even if unaided nature would produce a better result than any that can be brought about by deliberate intention." - 204

"There are in the world at the present time two Powers which illustrate the possibility of artificial creation. The two Powers in question are Japan and Soviet Russia." - 206

Japan

"Modern Japan [1930] is almost exactly what it was intended to be by the men who made the revolution in 1867. This is one of the most remarkable political achievements in all history, in spite of the fact that the purpose which inspired the innovators was simple and such as every Japanese might be expected to sympathize with. The purpose was, in fact, nothing more recondite than the preservation of national independence. China had been found impotent to resist the Western Powers, and Japan appeared to be in like case. Certain Japanese statesman perceived that the military and naval power of the Western nations rested upon Western education and Western industrial technique. They decided to introduce both, with such modifications as Japanese history and circumstances demanded. But whereas industrialism had grown up in the West with very little assistance from the State, and scientific knowledge had developed very far before the Western Governments undertook the task of universal education, Japan, being pressed for time, was obliged to impose education and science and industrialism by governmental pressure. **It was clearly impossible to effect so great a change in the mentality of the average citizen by mere appeals to reason and self-interest. The reformers, therefore, skilfully enlisted the divine person of the Mikado and the divine authority of the Shinto religion on the side**

of modern science. The Mikado had been for centuries obscure and unimportant, but he had already been restored to power once before in the year A.D. 645, so that there was a precedent of respectable antiquity for what was being done. The Shinto religion, unlike Buddhism, was indigenous to Japan, but had been for ages thrust into the background by the foreign religion imported from China and Korea. **The reformers very wisely decided that in introducing Christian military technique they would not attempt to introduce the theology with which it had hitherto been correlated, but would have a nationalistic theology of their own, Shinto, as now taught by the State in Japan, is a powerful weapon of nationalism; its gods are Japanese, and its cosmogony teaches that Japan was created sooner than other countries. The Mikado is descended from the Sun Goddess, and is therefore superior to the mere earthly rulers of other States. Shinto, as now taught, is so different from the old indigenous beliefs that competent students have described it as a new religion. As a result of this skilful combination of enlightened technique with unenlightened theology, the Japanese have succeeded not merely in repelling the Western menace, but in becoming one of the Great Powers and achieving the third place on the sea.**

Japan has shown extraordinary sagacity in the adaptation of science to political needs. Science as an intellectual force is sceptical and somewhat destructive of social coherence, while as a technical force it has precisely the opposite qualities. The technical developments due to science have increased the size and intensity of organizations, and have more particularly greatly augmented the power of Governments. **Governments have, therefore, good reason to be friendly to science, so long as it can be kept from dangerous and subversive speculations. In the main the men of science have shown themselves amenable. The State favours one set of superstitions in Japan, and another in the West, but the scientists both in Japan and of the West have, with some exceptions, been willing to acquiesce in governmental doctrines, because most of them are citizens first, and servants of truth only in the second place.**

In spite of the extraordinary success of Japanese policy, there are certain unintended effects which are likely in time to cause serious difficulties. The sudden change of habits and of conscious opinions has induced a certain nervous strain, at any rate in the urban part of the population. This may produce a tendency to hysteria in time of national stress; indeed, such a tendency was shown in the massacres of Koreans that occurred after the earthquake of Tokio. What is more serious, the position of Japan demands the growth of both industrialism and armaments. Owing to the expense of the latter the industrial workers are poor; they tend, consequently, to acquire a rebellious mentality, and the circumstances of their work make it difficult for them to preserve that close family organization upon which Japanese society is built. If Japan should become engaged in an unsuccessful war, these stances might produce a revolution analogous to the Russian Revolution. **The present social structure in Japan is likely therefore in time to become unstable, but it may be that the same skill which has rendered possible the triumphant career of Japan throughout the last seventy years will enable the Japanese to adapt themselves to changing circumstances gradually without any violent upheaval.** The one thing that seems fairly certain is that, whether gradually or by revolution, the social structure in Japan will have to be profoundly modified. Remarkable as it is, therefore, it is not a perfect

example of scientific construction. I do not mean by this that it could have been bettered at the time, but only that it is not in all respects a model for the future." - 206

Soviet Russia

"The attempt at scientific construction which is being made by the Soviet Government is more ambitious than that which was carried through by the Japanese innovators in 1867; it aims at a much greater change in social institutions, and at the creation of a society far more different from anything previously known than is that of Japan. The experiment is still in progress, and only a rash man would venture to predict whether it will succeed or fail; the attitude both of friends and enemies towards it has been singularly unscientific. For my part, I am not anxious to appraise the good or evil in the Soviet system, **but merely to point out those elements of deliberate planning which make it so far the most complete example of a scientific society. In the first place, all the major factors of production and distribution are controlled by the State; in the second place, all education is designed to stimulate activity in support of the official experiment; in the third place, the State does what it can to substitute its religion for the various traditional beliefs which have existed within the territory of the U.S.S.R.; in the fourth place, literature and the Press are controlled by the Government, and are such as are thought likely to help it in its constructive purposes; in the fifth place, the family, in so far as it represents a loyalty which competes with loyalty to the State, is being gradually weakened; in the sixth place, the Five Year Plan is bending the whole constructive energies of the nation to the realization of a certain economic balance and productive efficiency, by means of which it is hoped that a sufficient degree of material comfort will be secured for everyone.** In every other society of the world there is enormously less central direction than under the Soviet Government. It is true that during the war the energies of the nations were, to a considerable extent, centrally organized, but everyone knew that this was temporary, and even at its height the organization was not so all-pervasive as it is in Russia. The Five Year Plan, as its name implies, is supposed to be temporary, and to belong to a time of stress not wholly unlike that of the Great War, but it is to be expected that if it succeeds, other plans will take its place, since the central organization of the vast nation's activities is too attractive to the organizers to be abandoned readily.

The Russian experiment may succeed or may fail, but even if it fails, it will be followed by others which will share its most interesting characteristic, namely, the unitary direction of a whole nation's activities. **This was impossible in earlier days, since it depends upon the technique of propaganda, i.e., upon universal education, newspapers, the cinema, and the wireless.** The State had already been strengthened by railways and the telegraph, which made possible the rapid transmission of news and concentration of troops. In addition to modern methods of propaganda, modern methods of warfare have strengthened the State as against discontented elements; aeroplanes and poison gasses have made revolt difficult unless it obtains the support of aeronauts and chemists. Any prudent Government will favour these two classes and take pains to secure their loyalty. As the example of Russia has shown, it is now possible for men of energy and intelligence, if they once become possessed of the governmental machine, to retain power even though at first they may have

to face the opposition of the majority of the population. We must therefore increasingly expect to see government falling into the hands of oligarchies, not of birth but of opinion. **In countries long accustomed to democracy, the empire of these oligarchies may be concealed behind democratic forms, as was that of Augustus in Rome, but elsewhere their rule will be undisguised. If there is to be scientific experimentation in the construction of new kinds of societies, the rule of an oligarchy of opinion is essential. It may be expected that there will be conflicts between different oligarchies, but that ultimately some one oligarchy will acquire world dominion, and will produce a world-wide organization as complete and elaborate as that now existing in the U.S.S.R."** - 209



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