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EDUCATION FOR THE SOCIAL SCIENCE STUDENT[1]

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WHEN the Roman Republic passed its apogee near the beginning of our era, one symptom of its condition was the decline of learning. The sciences were marked out by formal boundaries, but, as Macaulay notes, there was little cultivation within the walls and no flowers and no fruit. In our times the social sciences are similarly set off from one another, and one looks nearly in vain for flowers and fruit in spite of a rather assiduous cultivation. Political science is a realm by itself, unconnected with economics and history. History has its own domain, independent of economics, political science and geography. Economics, anthropology and psychology, which should contribute to one another, pursue their separate ways, without interrelations, without mutual understanding and without purpose.

The failure of the social sciences has been a part of the failure of our whole scheme of education, and what I have to say about them might be said of other studies with only a few changes. Failure to improve the social sciences now may mean that they will sink to that level of utter futility which characterized the world of learning in Roman days. Two related troubles may be separated out for discussion. Each social science has developed a jargon of its own to so high a degree that mutual understanding is impossible. Jargon should be eradicated. If this were done, the social sciences might be able to take the next step, which is union in a common purpose.

Though the students of one science ought to be able to understand those of another, economists write an

[1] Address of the vice-president of Section K—Social and Economic Sciences, American Association for the Advancement of Science, Cleveland, Ohio, September 12, 1944.

economics jargon and sociologists a sociological jargon, instead of in terms the historian, the political scientist and the layman can understand. This statement is not intended to imply that economists and sociologists are the only sinners. Until about a century ago, books in all fields were written in language open to the layman. Hume wrote simply and clearly even about recondite matters, there is no misunderstanding what he meant. The *Essay Concerning Population* of Malthus may be read easily even by the non-specialist. Now all that is gone. Jargon has been so highly developed that each writer tends to express himself in words which he alone knows the meaning of. For a remedy, either each reader must learn the language of each writer, or, what is simpler, each writer must be familiar enough with one common language to know how to avoid jargon. The best test of language is that intelligibility to the layman which the latter alternative implies. This means that each student must know English through and through. He must be familiar with the great literary masterpieces, for these were written for the layman. If the student takes account of what makes that kind of writing effective, he too may learn to write clearly and simply. It would seem wise, that is, to concentrate the attention of students, not on the latest books and articles written in the latest jargon, but on the best books written in the best language, even though they may not be up to the minute with the latest discoveries. By the time the student has read the latest books, new discoveries will have been made out of date anyway.

By reading what had been written clearly, students may learn not only how to write well, but also how to make their ideas clearer to themselves. It has been said truly by Malherbes, that:

> Ce que l'on conçoit bien s'ennonce clairement
> Et les mots pour le dire arrivent aisement.

There is no clear writing and no mutual understanding, then, without clear ideas. In the United States, the processes by which ideas are sorted out and made clear have been neglected. This is one reason for the rise of jargon; it tends to conceal imperfections of thought. It creates an illusion of profundity where there is none. Many students are unaware that clear-cut ideas are possible. Teachers could hardly do better than to start the social science student on a course which might lead from the "Republic" of Plato, through the "Organon" of Aristotle, to Bacon, Hume and Mill, and then back again to Aristotle. These would lay foundations for a clarification of ideas, out of which mutual understanding might soon come.

A further advantage of a literary course is that the great works of literature embody ideas which have changed, or which are changing, the world. They do not deal with picayune matters. Reading them may inculcate a largeness of view which the ordinary social science student now lacks, for they embody purposeful ideas. One hardly needs to be reminded of the significance of "The Spirit of the Laws," of the "Social Contract" and of the economic writings of Mill and Marx.

Through clarification of thought and enlargement of view students would, at the same time, learn how to recognize real problems, how to formulate them and how to deal with them. We talk a lot about the Negro "problem" and about the labor "problem." What do we do with these "problems"? We accumulate data. What do we do with the data? We can hardly do anything with them; they are much more likely to do something to us. An accumulation of data can do little more than stultify the accumulator. But, what would the case be if the student knew how to formulate genuine problems? He would know then that a problem is nothing more than an unanswered question. There is no Negro "problem"; there is no labor "problem." There are, however, problems concerning Negroes and problems concerning laborers, as there are problems concerning many other matters. One such problem might be "Are Negro factory workers more or less susceptible to industrial diseases than other classes of workers?" To this there should be a simple statistical solution, after the terms have been defined. Once clear-cut problems are set up, once clear-cut questions are asked, the methods of the social sciences are adequate, if a solution be possible at all.

The second need in the rehabilitation of the social sciences is the union of them in a common purpose, and an avoidance of cross purpose. If the "Republic" of Plato were used as a start for instruction in the social sciences, the student would be helped not only in clarifying his ideas and all that that entails, but also in becoming aware of the common purpose of the social sciences. That the same book should serve both ends can scarcely be a matter of wonder. The Greeks of the age of Plato were struggling both with the clarification of ideas and with those problems of good government which form the beginnings of the social sciences. Good government may be said to be good management by the people of their joint affairs, government itself, economic life, social life and the interests of private leisure. To the truth of these concerns the social scientist should be dedicated.

This leads, of course, to the question of what is meant by truth. Now-a-days people quote glibly the first line of Bacon's aphorism:

> What is Truth, said jesting Pilate, and would not stay for an answer.

They assume that there is, indeed, no answer. They forget the second line:

Surely there be that delight in Giddiness, and count it bondage to hold a fixed belief.

A fixed belief! Before men began to arrange the state on a money basis, before the advent of capitalism, that is, a sure belief in the Universal Christian Commonwealth determined, in part at least, what men did. The organization of the world and of men's places in the world seemed settled by status, and, within the church, by ability. There was not room, however, in terms of the belief, to benefit an increasing number of people. A new belief was needed. It was created under the name of Liberalism; but it, in its turn, has proved inadequate to the needs of increasing numbers. Another fixed belief is needed, one to which men may attach themselves passionately and in terms of which they may act for the common good. We need a new fixed belief made up of the cumulative experience of mankind as expressed by its seers and prophets, its poets and its philosophers. What the foundations of the state should be has been said many times. Donne had a vision of it when he wrote "For Whom the Bell Tolls . . ."; Hobbes, confusedly, when he penned the lines for which he is justly famous; Lincoln and Pericles, in their funeral speeches; Maritain, when he wrote of education; and Jaeger, in what is, in sharp contrast to "Mein Kampf," perhaps the greatest document to come out of the Weimar Republic. Where "Mein Kampf" carries on the tradition of Thrasymachus, Jaeger's "Paideia" follows that of Socrates. The first is easy and the second difficult, yet it is the tradition of Socrates, and his impatience with buncombe, that needs to be revived to-day.

Instead of moving in this proper sphere, social scientists have aped the natural scientists. The amazing success of the natural sciences in establishing useful laws has blinded social scientists to the fundamental difference between the world of nature and the world of man. Kepler may determine the orbit of Mars to be an ellipse, and Mars continues in spite of it to move about the sun as usual. Galilei may describe the motion of the earth, recant and then mutter under his breath that it is so, but the diurnal motion of the planet is unperturbed. When Hegel said that there could not possibly be more than seven planets, he had already been gainsaid by the discovery of the first asteroid. When, however, he pronounced that the Prussian State was the acme of political development, he made a statement the consequences of which are still plaguing us. However accurately Marx may have described the economic facts in what are known as the laws of motion of capital, his enunciation of them and the predications he made on the basis of them have shaped the motion of capital ever since. One can talk about nature without disturbing nature, but one can not talk about society without changing, in some measure, the whole course of social development.

The social scientist thus needs to know what kind of society he should teach about, for the course of human events is not independent of what he teaches. The social scientist needs to concern himself not so much with societies as with society or, to use the proper term, with the state. Since in this proper sense the state is not something imposed on individuals, but something formed by them and of them for their own benefit, the social scientist needs to know a great deal more about the nature of those composing it than can be taught him by the economist, the anthropologist or the psychologist.

Economists, by imaging a pecuniary man, have played such havoc with the understanding of the state that much that might be done has escaped them. They have been able to ameliorate neither the pecuniary lot of the majority nor the pecuniary ignorance of the minority. The central problem of the present world revolution is how to distribute equitably what it is now possible to produce. Two solutions are offered. One group of economists says that it can not be done at all, or rather that the present distribution is in itself equitable since it is in accord with economic law. The other group says that, on the contrary, the laws "discovered" by the first group are not an adequate account of what happens in the world, that with new assumptions a description can be given which is adequate because it provides a basis for positive action, as the natural sciences do. I fear that men will not wait long for a reconciliation of theories, but will press on to desired goals as fast as they may. It is for this reason that social scientists need to know what kind of state they should teach about. They need to be able to distinguish between justice and injustices in the larger political sense.

The danger of relying on anthropologists for knowledge of the nature of man resides in the fact that their knowledge of primitive man transcends their understanding of man himself. It has been a tendency among anthropologists to view their imaginary man as representing the upper limit of possible human development, instead of as a lower limit from which the whole of human civilization has been built up.

Similarly, psychologists have barely succeeded in doing more than inverting the picture of man drawn by the ancient Greeks. New terms (jargon, that is) do not mean necessarily that new facts have been discovered. It is a mistake to think that the current psychological view must be the correct one. Though psychologists have done much to promote an understanding of what Leibnitz more than two hundred years ago called the "unconscious," their emphasis on it does little more than justify the prolongation of an infantile state of mind beyond the point at which normal people used to begin to act in an adult way.

The "unconscious" does not represent an upper limit to possible human mental development, but rather a lower limit, above which in the process of becoming civilized, mankind has raised itself, slowly to be sure, and not without backslidings, but nevertheless with some notable successes.

It is necessary for social scientists to see to it that at their hands the world does not perish. They need to learn the lesson of history told by Gibbon:

> If a man were called to fix the period in the history of the world during which the condition of the human race was most happy and prosperous, he would, without hesitation, name that which elapsed from the death of Domitian to the accession of Commodus. The vast extent of the Roman Empire was governed by absolute power, under the guidance of virtue and wisdom. The armies were restrained by the firm but gentle hand of four successive emperors, whose character and authority commanded involuntary respect. The forms of the civil administration were carefully preserved by Nerva, Trajan, Hadrian, and the Antonines, who delighted in the image of liberty, and were pleased with considering themselves as the accountable ministers of the laws. Such princes deserved the honor of restoring the republic, had the Romans of their day been capable of enjoying a rational freedom.

The historian will note the circumstances of the subsequent decline and fall of the Roman Empire; how for a long period the Roman emperors were without virtue or wisdom or that character which elicits involuntary respect; how they were unable or unwilling to control the evils of military power; how they ignored the abuses of public and of private revenues; how they were indifferent to the corruption of morals and the decline of learning. He will note, too, the circumstances of reform; how a new and uncorrupted people, whose character has been delineated by Tacitus and by Kingsley, brought the evils of the Roman system to an end; how a new and uncorrupt religion smoothed, in some measure, the processes of reform. If he does this he will add that the historian may yet again speak, in virtue of his profession, with all the moral authority that Gibbon was capable of. If the historian and the other social scientists are unable or unwilling to do this, others will, even though they may be less capable than social scientists might become. Socrates will be ignored and Thrasymachus exalted. Learning in the social sciences, indeed in all the sciences, will then undergo its last and inevitable eclipse.

What is needed is a genuine science of politics. The political scientist can not build such a science alone, for he is too much concerned with the empty formulae of constitutions. A genuine science of politics would have as its ideal a community, a commonwealth or a state, of free men cooperating in all the great concerns of life, achieving, that is, a rational freedom. It would so order its component sciences that each would be at once a support of the central idea and a system of thought useful in the solution of practical problems. It would not concern itself with the perpetuation of sophisms, but, undisturbed by shibboleths, it would deal in a realistic way with the work, wealth, health and happiness of mankind.

THE SIGNIFICANCE OF BIOCHEMICAL UNITS IN INFLAMMATORY EXUDATES[1,2]

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VARIOUS observations made in the last few years indicate the presence of some biochemical units in exudates, capable in turn of reasonably explaining a number of basic mechanisms concerned in the development of the inflammatory reaction.[3]

Inflammation is a fundamental phenomenon occurring in higher animals. It involves lymphatic structures, vascular channels and the locally affected tissue. It is initiated by a disturbance in fluid exchange. The normal capillary filtration equilibrium is markedly deranged. One of the major changes is an increase in capillary permeability. This is readily demonstrable by the seepage of material introduced into the circulation. Diazo dyes (*e.g.*, trypan blue), ferric chloride, graphite particles and bacteria will readily concentrate from the circulation into acutely inflamed foci.[3] Since the increased capillary permeability is an initial stage in the progress of inflammation it is of prime importance to obtain some understanding of the mechanism involved in order to clarify somewhat the development of subsequent sequences.

The early work of Lewis postulated that the increased capillary permeability in inflammation is referable to the presence in wheal fluid of a hypothetical H-substance which presumably is histamine

[1] From the Department of Pathology, Duke University School of Medicine, Durham, N. C.

[2] An address presented at the University of North Carolina Medical School on December 13, 1944.

[3] Valy Menkin, "Dynamics of Inflammation." New York: Macmillan Company. 1940.