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## EDUCATION AND RESEARCH

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A general State education is a mere contrivance for moulding people to be exactly like one another: and as the mould in which it casts them is that which pleases the predominant power in the government, whether this be a monarch, a priesthood, an aristocracy, or the majority of the existing generation; in proportion as it is efficient and successful, it establishes a despotism over the mind, leading by natural tendency to one over the body.

—John Stuart Mill

1. Knowledge is perhaps the chief good that can be had at a price, but those who do not already possess it often cannot recognize its usefulness. More important still, access to the sources of knowledge necessary for the working of modern society presupposes the command of certain techniques—above all, that of reading—which people must acquire before they can judge well for themselves what will be useful to them. Though our case for freedom rests to a great extent on the contention that competition is one of the most powerful instruments for the dissemination of knowledge and that it will usually demonstrate the value of knowledge to those who do not possess it, there is no doubt that the utilization of knowledge can be greatly increased by deliberate

The quotation at the head of the chapter is taken from John Stuart Mill, “On Liberty,” in *On Liberty and Considerations on Representative Government*, Ronald Buchanan McCallum, ed. (Oxford: B. Blackwell, 1946), p. 95. Cf. also Bertrand Russell, commenting on the same problem ninety-five years later in his lecture, “John Stuart Mill,” *Proceedings of the British Academy*, 41 (1955): 57: “State education, in the countries which adopt [Johann Gottfried Fichte’s] principles, produces, so far as it is successful, a herd of ignorant fanatics, ready at the word of command to engage in war or persecution as may be required of them. So great is this evil that the world would be a better place (at any rate, in my opinion) if State education had never been inaugurated.” [At the heart of Fichte’s philosophical system is a passion for a system of universal education that will liberate all men from their instincts to a life based on reason.—Ed.] Also consider the directives issued by one of Napoleon’s ministers (quoted in Pieter Ge yl, *The Revolt of the Netherlands, 1555–1609* [London: Williams and Norgate Ltd., 1932], p. 140): “Education must impart the same knowledge and the same principles to all individuals living in the same society, so that they will make, as a whole, one body, informed with one and the same understanding, and working for the common good, on the basis of uniformity of views and desires.”

efforts. Ignorance is one of the chief reasons why men’s endeavors are often not channeled so that they are most useful to their fellows; and there are various reasons why it may be in the interest of the whole community that knowledge be brought to people who have little incentive to seek it or to make some sacrifice to acquire it. These reasons are particularly compelling in the case of children, but some of the arguments apply no less to adults.

With regard to children the important fact is, of course, that they are not responsible individuals to whom the argument for freedom fully applies. Though it is generally in the best interest of children that their bodily and mental welfare be left in the care of their parents or guardians, this does not mean that parents should have unrestricted liberty to treat their children as they like. The other members of the community have a genuine stake in the welfare of the children. The case for requiring parents or guardians to provide for those under their care a certain minimum of education is clearly very strong.<sup>1</sup>

In contemporary society, the case for compulsory education up to a certain minimum standard is twofold. There is the general argument that all of us will be exposed to fewer risks and will receive more benefits from our fellows if they share with us certain basic knowledge and beliefs. And in a country with democratic institutions there is the further important consideration that democracy is not likely to work, except on the smallest local scale, with a partly illiterate people.<sup>2</sup>

<sup>1</sup>Cf. Mill, “On Liberty,” pp. 94–95: “It is in the case of children that misapplied notions of liberty are a real obstacle to the fulfilment by the State of its duties. One would almost think that a man’s children were supposed to be literally, and not metaphorically, a part of himself, so jealous is opinion of the smallest interference of law with his absolute and exclusive control over them; more jealous than of almost any interference with his own freedom of action; so much less do the generality of mankind value liberty than power. Consider, for example the case of education. Is it not almost a self-evident axiom, that the State should require and compel the education, up to a certain standard, of every human being who is born its citizen? . . . If the government would make up its mind to require for every child a good education, it might save itself the trouble of providing one. It might leave to parents to obtain the education where and how they pleased, and content itself with helping to pay the school fees of the poorer classes of children, and defraying the entire school expenses of those who have no one else to pay for them. The objections which are argued with reason against State education do not apply to the enforcement of education by the State, but to the State’s taking upon itself to direct that education; which is a totally different thing.”

<sup>2</sup>Historically, the needs of universal military service were probably much more decisive in leading most governments to make education compulsory than the needs of universal suffrage. It is also significant that (according to Max Pohlenz, *Griechische Freiheit: Wesen und Werden eines Lebensideals* [Heidelberg: Quelle und Meyer, 1955], p. 42): “es unter den Bürgern des alten Athen keine Analphabeten gegeben haben soll, obwohl dessen ‘freie Demokratie jede Einmischung in das Privatleben [vermied]. Es gab keinen Schulzwang und keine staatlichen Schulen.” [“There were allegedly no illiterate persons among the citizens of ancient Athens, though their ‘free democracy

It is important to recognize that general education is not solely, and perhaps not even mainly, a matter of communicating knowledge. There is a need for certain common standards of values, and, though too great emphasis on this need may lead to very illiberal consequences, peaceful common existence would be clearly impossible without any such standards. If in long-settled communities with a predominantly indigenous population, this is not likely to be a serious problem, there are instances, such as the United States during the period of large immigration, where it may well be one. That the United States would not have become such an effective “melting pot” and would probably have faced extremely difficult problems if it had not been for a deliberate policy of “Americanization” through the public school system seems fairly certain.

The fact that all education must be and ought to be guided by definite values is, however, also the source of real dangers in any system of public education. One has to admit that in this respect most nineteenth-century liberals were guided by a naïve overconfidence in what mere communication of knowledge could achieve. In their rationalistic liberalism they often presented the case for general education as though the dispersion of knowledge would solve all major problems and as though it were necessary only to convey to the masses that little extra knowledge which the educated already possessed in order that this “conquest of ignorance” should initiate a new era. There is not much reason to believe that, if at any one time the best knowledge which some possess were made available to all, the result would be a much better society. Knowledge and ignorance are very relative concepts, and there is little evidence that the difference in knowledge which at any one time exists between the more and the less educated of a society can have such a decisive influence on its character.

2. If we accept the general argument for compulsory education, there remain these chief problems: How is this education to be provided? How much of it is to be provided for all? How are those who are to be given more to be selected and at whose expense? It is probably a necessary consequence of the adoption of compulsory education that for those families to whom the cost would be a severe burden it should be defrayed out of public funds. There is still the question, however, how much education should be provided at public expense and in what manner it should be provided. It is true that, historically, compulsory education was usually preceded by the governments’ increasing opportunities by providing state schools. The earliest experiments with making education compulsory, those in Prussia at the beginning of the eighteenth century, were in fact confined to those districts where the govern-

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also avoided all interference with private life. There was no compulsory education nor state schools.”—Ed.]

ment had provided schools. There can be little doubt that in this manner the process of making education general was greatly facilitated. Imposing general education on a people largely unfamiliar with its institutions and advantages would indeed be difficult. This does not mean, however, that compulsory education or even government-financed general education today requires the educational institutions to be run by the government.

It is a curious fact that one of the first effective systems under which compulsory education was combined with the provision of most educational institutions by the government was created by one of the great advocates of individual liberty, Wilhelm von Humboldt, only fifteen years after he had argued that public education was harmful because it prevented variety in accomplishments and unnecessary because in a free nation there would be no lack of educational institutions. “Education,” he had said, “seems to me to lie wholly beyond the limits within which political agency should be properly confined.”<sup>3</sup> It was the plight of Prussia during the Napoleonic wars and the needs of national defense that made him abandon his earlier position. The desire for “the development of the individual personalities in their greatest variety” which had inspired his earlier work became secondary when desire for a strong organized state led him to devote much of his later life to the building of a system of state education that became a model for the rest of the world. It can scarcely be denied that the general level of education which Prussia thus

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<sup>3</sup>Wilhelm von Humboldt, *Über die Grenzen der Wirksamkeit des Staates* (Nuremberg: Verlag Hans Carl, 1946) (written in 1792, but first completely published in Breslau in 1851 under the title *Ideen zu einem Versuch, die Grenzen der Wirksamkeit des Staats zu bestimmen*), chap. 6, summary at the beginning and the concluding sentence. [The English quotation can be found in the standard English edition, *The Sphere and Duties of Government*, Joseph Coulthard, Jr., trans. (London: John Chapman, 1854), p. 71 (Liberty Fund edition, p. 52). The sentence Hayek here quotes is indeed the concluding sentence of chapter 6, which in German reads: “Öffentliche Erziehung scheint mir daher ganz außerhalb der Schranken zu liegen, in welchen der Staat seine Wirksamkeit halten muß” (*Über die Grenzen*, p. 85). The summary reads: “Having seen in a preceding chapter that it is not only a justifiable but necessary end of Government to provide for the mutual security of the citizens, it here becomes our duty to enter on a more profound and explicit investigation into the nature of such a solicitude, and the means through which it acts. For it does not seem enough merely to commit the care for security to the political power as a general and unconditional duty, but it further becomes us to define the especial limits of its activity in this respect or, at least, should this general definition be difficult, or wholly impossible, to exhibit the reasons for that impossibility, and discover the characteristics by which these limits may, in given cases, be recognized” (p. 62; Liberty Fund edition, p.46). (“Eine tiefere und ausführlichere Prüfung erfordert die Sorgfalt des Staats für die innere Sicherheit der Bürger unter einander, zu der ich mich jetzt wende. Denn es scheint mir nicht hinlänglich, demselben bloß allgemein die Erhaltung derselben zur Pflicht zu machen, sondern ich halte es vielmehr für notwendig, die besondern Grenzen dabei zu bestimmen oder wenn dies allgemein nicht möglich sein sollte, wenigstens die Gründe dieser Unmöglichkeit auseinanderzusetzen und die Merkmale anzugeben, an welchen sie in gegebenen Fällen zu erkennen sein möchten.” The quotation falls on p. 77 of the 1946 German edition.)—Ed.]

attained was one of the chief causes of her rapid economic rise and later that of all Germany. One may well ask, however, whether this success was not bought at too high a price. The role played by Prussia during the succeeding generations may make one doubt whether the much lauded Prussian schoolmaster was an unmixed blessing for the world, or even for Prussia.

The very magnitude of the power over men's minds that a highly centralized and government-dominated system of education places in the hands of the authorities ought to make one hesitate before accepting it too readily. Up to a point, the arguments that justify compulsory education also require that government should prescribe some of the content of this education. As we have already mentioned, there may be circumstances in which the case for authority's providing a common cultural background for all citizens becomes very strong. Yet we must remember that it is the provision of education by government which creates such problems as that of the segregation of Negroes in the United States—difficult problems of ethnic or religious minorities which are bound to arise where government takes control of the chief instruments of transmitting culture. In multinational states the problem of who is to control the school system tends to become the chief source of friction between nationalities. To one who has seen this happen in countries like the old Austria-Hungary, there is much force in the argument that it may be better even that some children should go without formal education than that they should be killed in fighting over who is to control that education.<sup>4</sup>

Even in ethnically homogeneous states, however, there are strong arguments against entrusting to government that degree of control of the contents of education which it will possess if it directly manages most of the schools that are accessible to the great masses. Even if education were a science which provided us with the best of methods of achieving certain goals, we could hardly wish the latest methods to be applied universally and to the complete exclusion of others—still less that the aims should be uniform. Very few of the problems of education, however, are scientific questions in the sense that they can be decided by any objective tests. They are mostly either outright questions of value, or at least the kind of questions concerning which the only ground for trusting the judgment of some people rather than that of others is that the former have shown more good sense in other respects. Indeed, the very possibility that, with a system of government education, all elementary education may come to be dominated by the theories of a particular group who genuinely believe that they have scientific answers to those prob-

<sup>4</sup>Cf. Ludwig von Mises, *Nation, Staat und Wirtschaft. Beiträge zur Politik und Geschichte der Zeit* (Vienna and Leipzig: Manzschner Verlag, 1919). [This work was translated into English as *Nation, State, and Economy: Contributions to the Politics and History of Our Time*, Leland B. Yeager, trans. (New York: New York University Press, 1983). A Liberty Fund edition was released in 2006.—Ed.]

lems (as has happened to a large extent in the United States during the last thirty years) should be sufficient to warn us of the risks involved in subjecting the whole educational system to central direction.

3. In fact, the more highly one rates the power that education can have over men's minds, the more convinced one should be of the danger of placing this power in the hands of any single authority. But even if one does not rate its power to do good as highly as did some of the rationalistic liberals of the nineteenth century, however, the mere recognition of this power should lead us to conclusions almost the opposite of theirs. And if, at present, one of the reasons why there should be the greatest variety of educational opportunities is that we really know so little about what different educational techniques may achieve, the argument for variety would be even stronger if we knew more about the methods of producing certain types of results—as we soon may.

In the field of education perhaps more than in any other, the greatest dangers to freedom are likely to come from the development of psychological techniques which may soon give us far greater power than we ever had to shape men's minds deliberately. But knowledge of what we can make of human beings if we can control the essential conditions of their development, though it will offer a frightful temptation, does not necessarily mean that we shall by its use improve upon the human being who has been allowed to develop freely. It is by no means clear that it would be a gain if we could produce the human types that it was generally thought we needed. It is not at all unlikely that the great problem in this field will soon be that of preventing the use of powers which we do possess and which may present a strong temptation to all those who regard a controlled result as invariably superior to an uncontrolled one. Indeed, we may soon find that the solution has to lie in government ceasing to be the chief dispenser of education and becoming the impartial protector of the individual against all uses of such newly found powers.

Not only is the case against the management of schools by government now stronger than ever, but most of the reasons which in the past could have been advanced in its favor have disappeared. Whatever may have been true then, there can be little doubt that today, with the traditions and institutions of universal education firmly established and with modern transportation solving most of the difficulties of distance, it is no longer necessary that education be not only financed but also provided by government.

As has been shown by Professor Milton Friedman,<sup>5</sup> it would now be entirely practicable to defray the costs of general education out of the public purse

<sup>5</sup>Milton Friedman, "The Role of Government Education," in *Economics and the Public Interest*, Robert Alexander Solo, ed. (New Brunswick, NJ: Rutgers University Press, 1955), pp. 123–44, and Friedman, *Capitalism and Freedom* (Chicago: University of Chicago Press, 1962).

without maintaining government schools, by giving the parents vouchers covering the cost of education of each child which they could hand over to schools of their choice. It may still be desirable that government directly provide schools in a few isolated communities where the number of children is too small (and the average cost of education therefore too high) for privately run schools. But with respect to the great majority of the population, it would undoubtedly be possible to leave the organization and management of education entirely to private efforts, with the government providing merely the basic finance and ensuring a minimum standard for all schools where the vouchers could be spent. Another great advantage of this plan is that parents would no longer be faced with the alternative of having to accept whatever education the government provides or of paying the entire cost of a different and slightly more expensive education themselves; and if they should choose a school out of the common run, they would be required to pay only the additional cost.

4. A more difficult problem is how much education is to be provided at public expense and for whom such education is to be provided beyond the minimum assured to all. It can hardly be doubted that the number of those whose contribution to the common needs will be increased by education extended beyond a certain stage sufficiently to justify the cost will always be only a small proportion of the total population. Also, it is probably undeniable that we have no certain methods of ascertaining beforehand who among the young people will derive the greatest benefit from an advanced education. Moreover, whatever we do, it seems inevitable that many of those who get an advanced education will later enjoy material advantages over their fellows only because someone else felt it worthwhile to invest more in their education, and not because of any greater natural capacity or greater effort on their part.

We shall not stop to consider how much education is to be provided for all or how long all children should be required to attend school. The answer must depend in part on particular circumstances, such as the general wealth of the community, the character of its economy, and perhaps even climatic conditions affecting the age of adolescence. In wealthier communities the problem usually is no longer one of what schooling will increase economic efficiency but rather one of how to occupy children, until they are allowed to earn a living, in a manner that will later assist them in better using their leisure.

The really important issue is that of the manner in which those whose education is to be prolonged beyond the general minimum are to be selected. The costs of a prolonged education, in terms of material resources and still more of human ones, are so considerable even for a rich country that the desire to give a large fraction of the population an advanced education will always in some degree conflict with the desire to prolong the education for all. It also seems probable that a society that wishes to get a maximum economic return

from a limited expenditure on education should concentrate on the higher education of a comparatively small elite,<sup>6</sup> which today would mean increasing that part of the population getting the most advanced type of education rather than prolonging education for large numbers. Yet, with government education, this would not seem practicable in a democracy, nor would it be desirable that authority should determine who is to get such an education.

As in all other fields, the case for subsidization of higher education (and of research) must rest not on the benefit it confers on the recipient but on the resulting advantages for the community at large. There is, therefore, little case for subsidizing any kind of vocational training, where the greater proficiency acquired will be reflected in greater earning power, which will constitute a fairly adequate measure of the desirability of investing in training of this kind. Much of the increased earnings in occupations requiring such training will be merely a return on the capital invested in it. The best solution would seem to be that those in whom such investment would appear to promise the largest return should be enabled to borrow the capital and later repay it out of their increased earnings, though such an arrangement would meet with considerable practical difficulties.<sup>7</sup>

The situation is somewhat different, however, where the costs of a higher education are not likely to result in a corresponding increase in the price at which the services of the better-trained man can be sold to other individuals (as is the case in the professions of medicine, the law, engineering, and so on) but where the aim is the further dispersion and increase in knowledge throughout the community at large. The benefits that a community receives from its scientists and scholars cannot be measured by the price at which these men can sell particular services, since much of their contribution becomes freely available to all. There is therefore a strong case for assisting at least some of those who show promise and inclination for the pursuit of such studies.

It is a different matter, however, to assume that all who are intellectually capable of acquiring a higher education have a claim to it. That it is in the general interest to enable all the specially intelligent to become learned is by no means evident or that all of them would materially profit by such an advanced education, or even that such an education should be restricted to those who have an unquestionable capacity for it and be made the normal or perhaps the exclusive path to higher positions. As has been pointed out recently, a much sharper division between classes might come to exist, and the less fortunate might become seriously neglected, if all the more intelli-

<sup>6</sup>Cf. George Joseph Stigler, "The Economic Theory of Education" [in an unpublished essay]. [This brief essay, twelve pages in typescript, was written in 1957. It has never appeared in print.—Ed.]

<sup>7</sup>See the interesting proposals suggested by Milton Friedman in "The Role of Government Education," which deserve careful study, though one may feel doubt about their practicability.

gent were deliberately and successfully brought into the wealthy group and it became not only a general presumption but a universal fact that the relatively poor were less intelligent. There is also another problem which has assumed serious proportions in some European countries and which we ought to keep in mind, and this is the problem of having more intellectuals than we can profitably employ. There are few greater dangers to political stability than the existence of an intellectual proletariat who find no outlet for their learning.

The general problem we are faced with in all higher education, then, is this: by some method, certain young people must be selected, at an age when one cannot know with any certainty who will profit most, to be given an education that will enable them to earn a higher income than the rest; and to justify the investment, they must be selected so that, on the whole, they will be qualified to earn a higher income. Finally, we have to accept the fact that, since as a rule somebody else will have to pay for the education, those who benefit from it will thus be enjoying an “unearned” advantage.

5. In recent times the difficulties of this problem have been greatly increased and a reasonable solution made almost impossible by the increasing use of government education as an instrument for egalitarian aims. Though a case can be made for assuring opportunities for an advanced education as far as possible to those most likely to profit from them, the control of government over education has in large measure been used to equalize the prospects of all, which is something very different. Though egalitarians usually protest against the imputation that their goal is any sort of mechanical equality which would deprive some people of advantages which cannot be provided for all, there is in education a clear indication that such is the tendency. This egalitarian stand is usually not so explicitly argued as in R. H. Tawney’s *Equality*, in which influential tract the author contends that it would be unjust “to spend less liberally on the education of the slow than on that of the intelligent.”<sup>8</sup> But to some extent the two conflicting desires of equalizing opportunity and of adjusting opportunity to capacity (which, as we know, has little to do with merit in any moral sense) have become everywhere confused.

It should be admitted that, so far as education at public expense is concerned, the argument for equal treatment of all is strong. When it is combined, however, with an argument against permitting any special advantages to the more fortunate ones, it means in effect that all must be given what any child gets and that none should have what cannot be provided for all. Consistently pursued, it would mean that no more must be spent on the education of any child than can be spent on the education of every child. If this were the necessary consequence of public education, it would constitute a strong argu-

ment against government’s concerning itself with education beyond the elementary level, which can indeed be given to all, and for leaving all advanced education in private hands.

At any rate, the fact that certain advantages must be limited to some does not mean that a single authority should have exclusive power to decide to whom they should go. It is not likely that such power in the hands of authority would in the long run really advance education or that it would create social conditions that would be felt to be more satisfactory or just than they would otherwise have been. On the first point it should be clear that no single authority should have the monopoly of judging how valuable a particular kind of education is and how much should be invested in more education or in which of the different kinds of education. There is not—and cannot be in a free society—a single standard by which we can decide on the relative importance of different aims or the relative desirability of different methods. Perhaps in no other field is the continued availability of alternative ways as important as in that of education, where the task is to prepare young people for an ever changing world.

So far as justice is concerned, we should be clear that those who in the general interest most “deserve” an advanced education are not necessarily those who by effort and sacrifice have earned the greatest subjective merit. Natural capacity and inborn aptitude are as much “unfair advantages” as accidents of environment, and to confine the advantages of higher education to those that we can confidently foresee profiting most from them will necessarily increase rather than decrease the discrepancy between economic status and subjective merit.

The desire to eliminate the effects of accident, which lies at the root of the demand for “social justice,” can be satisfied in the field of education, as elsewhere, only by eliminating all those opportunities which are not subject to deliberate control. But the growth of civilization rests largely on the individuals’ making the best use of whatever accidents they encounter, of the essentially unpredictable advantages that one kind of knowledge will in new circumstances confer on one individual over others.

However commendable may be the motives of those who fervently desire that, in the interest of justice, all should be made to start with the same chances, theirs is an ideal that is literally impossible to realize. Furthermore, any pretense that it has been achieved or even closely approached can only make matters worse for the less successful. Though there is every case for removing whatever special obstacles existing institutions may put in the way of some, it is neither possible nor desirable to make all start with the same chances, since this can be achieved only by depriving some of possibilities that cannot be provided for all. While we wish everybody’s opportunities to be as great as possible, we should certainly decrease those of most if we were

<sup>8</sup>Richard Henry Tawney, *Equality*, Halley Stewart Lectures, 1929 (London: Allen and Unwin, 1931), p. 52.

to prevent them from being any greater than those of the least fortunate. To say that all who live at the same time in any given country should start at the same place is no more reconcilable with a developing civilization than to say that this kind of equality should be assured to people living at different times or at different places.

It may be in the interest of the community that some who show exceptional capacities for scholarly or scientific pursuits should be given an opportunity to follow them irrespective of family means. But this does not confer a right on anyone to such opportunity; nor does it mean that only those whose exceptional capacities can be ascertained ought to have the opportunity or that nobody should have it unless it can be assured to all who can pass the same objective tests.

Not all the qualities which enable one to make special contributions are ascertainable by examinations or tests, and it is more important that at least some of those who possess such qualities have an opportunity than that it be given to all who satisfy the same requirements. A passionate desire for knowledge or an unusual combination of interests may be more important than the more visible gifts or any testable capacities; and a background of general knowledge and interests or a high esteem for knowledge produced by family environment often contributes more to achievement than natural capacity. That there are some people who enjoy the advantages of a favorable home atmosphere is an asset to society which egalitarian policies can destroy but which cannot be utilized without the appearance of unmerited inequalities. And since a desire for knowledge is a bent that is likely to be transmitted through the family, there is a strong case for enabling parents who greatly care for education to secure it for their children by a material sacrifice, even if on other grounds these children may appear less deserving than others who will not get it.<sup>9</sup>

6. The insistence that education should be given only to those of proved capacity produces a situation in which the whole population is graded according to some objective test and in which one set of opinions as to what kind of person qualifies for the benefits of an advanced education prevails throughout. This means an official ranking of people into a hierarchy, with the cer-

<sup>9</sup>A problem which is not taken care of in present conditions is that presented by the occasional young person in whom a passionate desire for knowledge appears without any recognizable special gifts in the standard subjects of instruction. Such a desire ought to count for much more than it does, and the opportunity of working through college does not really solve the problem on a higher level. It has always seemed to me that there is a strong case for institutions which fulfill the functions that the monasteries fulfilled in the past, where those who cared enough could, at the price of renouncing many of the comforts and pleasures of life, earn the opportunity of devoting all the formative period of their development to the pursuit of knowledge.

tified genius on top and the certified moron at the bottom, a hierarchy made much worse by the fact that it is presumed to express “merit” and will determine access to the opportunities in which value can show itself. Where exclusive reliance on a system of government education is intended to serve “social justice,” a single view of what constitutes an advanced education—and then of the capacities which qualify for it—will apply throughout, and the fact that somebody has received an advanced education will be presumed to indicate that he had “deserved” it.

In education, as in other fields, the admitted fact that the public has an interest in assisting some must not be taken to mean that only those who are judged by some agreed view to deserve assistance out of public funds should be allowed access to an advanced education, or that nobody should be allowed to assist specific individuals on other grounds. There is probably much to be said for some members of each of the different groups of the population being given a chance, even if the best from some groups seem less qualified than members of other groups who do not get it. For this reason, different local, religious, occupational, or ethnic groups should be able to assist some of the young members, so that those who receive a higher education will represent their respective group somewhat in proportion to the esteem in which the latter hold education.

It must at least seem doubtful that a society in which educational opportunities were universally awarded according to presumed capacity would be more tolerable for the unsuccessful ones than one in which accidents of birth admittedly played a great role. In Britain, where the postwar reform of education has gone a long way toward establishing a system based on presumed capacity, the consequences already cause concern. A recent study of social mobility suggests that it now “will be the grammar schools which will furnish the new *elite*, an elite apparently much less assailable because it is selected for ‘measured intelligence.’” The selection process will tend to reinforce the prestige of occupations already high in social status and to divide the population into streams which many may come to regard, indeed already regard, as distinct as sheep and goats. Not to have been to a grammar school will be a more serious disqualification than in the past, when social inequality in the educational system was known to exist. And the feeling of resentment may become more rather than less acute just because the individual concerned realizes that there is some validity in the selection process which has kept him out of grammar school. In this respect apparent justice may be more difficult to bear than injustice.<sup>10</sup> Or, as another British writer has observed more generally, “it is

<sup>10</sup>David Victor Glass, “Introduction,” in the volume edited by him and entitled *Social Mobility in Britain* (London: Routledge and Kegan Paul, 1954), pp. 25–26; see also the review of this

one unexpected result of the Welfare State that it should make the social pattern not less rigid but more so.”<sup>11</sup>

Let us by all means endeavor to increase opportunities for all. But we ought to do so in the full knowledge that to increase opportunities for all is likely to favor those better able to take advantage of them and may often at first increase inequalities. Where the demand for “equality of opportunity” leads to attempts to eliminate such “unfair advantages,” it is only likely to do harm. All human differences, whether they are differences in natural gifts or in opportunities, create unfair advantages. But, since the chief contribution of any individual is to make the best use of the accidents he encounters, success must to a great extent be a matter of chance.

7. On the highest level the dissemination of knowledge by instruction becomes inseparable from the advance of knowledge by research. The introduction to those problems which are on the boundaries of knowledge can be given only by men whose main occupation is research. During the nineteenth century the universities, particularly those on the European Continent, in fact developed into institutions which, at their best, provided education as a by-product of research and where the student acquired knowledge by working as an apprentice to the creative scientist or scholar. Since then, because of the increased amount of knowledge that must be mastered before the boundaries of knowledge are reached, and because of the increasing numbers receiving a university education without any intention of ever reaching that stage, the character of the universities has greatly changed. The greater part of what is still called “university work” is today in character and substance merely a continuation of school instruction. Only the “graduate” or “postgraduate” schools—in fact, only the best of these—are still mainly devoted to the kind of work that characterized the Continental universities of the last century.

There is no reason to think, however, that we are not as much in need of the more advanced type of work. It is still this kind of work on which the general level of the intellectual life of a country chiefly depends. And while in the experimental sciences research institutes in which the young scientists serve

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work by Adam Curle, “The Scale of Prestige: Review of D. V. Glass, *Social Mobility in Britain*,” in *The New Statesman and Nation*, n.s., 48 (August 14, 1954): 190, col. 2, where it is suggested that “the educational dilemma is that the desire to produce a more ‘open’ society may simply end in one which, while flexible so far as individuals are concerned, is just as rigidly stratified on an I.Q. basis as it was once by birth.” Cf. also Michael Young, *The Rise of the Meritocracy, 1870–2033: An Essay on Education and Equality* (London: Thames and Hudson, 1958).

<sup>11</sup>Sir Charles Percy Snow, quoted in *Time*, May 27, 1957, p. 106. [The quotation originates in a letter by Snow to the (London) *Sunday Times* of January 8, 1956. The original reads: “it is an unexpected result of the Welfare State that in this sense it should make the social pattern not less rigid but much more so.” The quotation as Hayek has it is an exact transcription of the *Time* article.—Ed.]

their apprenticeship are in some measure fulfilling this need, there is danger that in some fields of scholarship the democratic broadening of education may be detrimental to the pursuit of that original work that keeps knowledge alive.

There is probably less cause for concern about the supposedly inadequate number of university-trained specialists that are currently being produced in the Western world<sup>12</sup> than about the inadequate output of men of really top quality. And though, at least in the United States, and to an increasing extent also elsewhere, the responsibility for this rests mainly with the inadequate preparation by the schools and with the utilitarian bias of institutions concerned primarily with conferring professional qualifications, we must not overlook the democratic preference for providing better material opportunities for large numbers over the advancement of knowledge, which will always be the work of the relatively few and which indeed has the strongest claim for public support.

The reason why it still seems probable that institutions like the old universities, devoted to research and teaching at the boundaries of knowledge, will continue to remain the chief sources of new knowledge is that only such institutions can offer that freedom in the choice of problems and those contacts between representatives of the different disciplines that provide the best conditions for the conception and pursuit of new ideas. However greatly progress in a known direction may be accelerated by the deliberate organization of work aiming at some known goal, the decisive and unforeseeable steps in the general advance usually occur not in the pursuit of specific ends but in the exploitation of those opportunities which the accidental combination of particular knowledge and gifts and special circumstances and contacts have placed in the way of some individual. Though the specialized research institution may be the most efficient for all tasks that are of an “applied” character, such institutional research is always in some measure directed research, the aim of which is determined by the specialized equipment, the particular team assembled, and the concrete purpose to which the institution is dedicated. But in “fundamental” research on the outskirts of knowledge there are often no fixed subjects or fields, and the decisive advances will frequently be due to the disregard of the conventional division of disciplines.

8. The problem of supporting the advance of knowledge in the most effective manner is therefore closely connected with the issue of “academic freedom.” The conceptions for which this term stands were developed in the countries of the European Continent, where the universities were generally state

<sup>12</sup>David Mordecai Blank and George Joseph Stigler, *The Demand and Supply of Scientific Personnel* (New York: National Bureau of Economic Research, 1957).

institutions; thus they were directed almost entirely against political interference with the work of these institutions.<sup>13</sup> The real issue, however, is a much wider one. There would be nearly as strong a case against any unitary planning and direction of all research by a senate composed of the most highly reputed scientists and scholars as there is against such direction by more extraneous authorities. Though it is natural that the individual scientist should most resent interference with his choice or pursuit of problems when it is motivated by what to him seem irrelevant considerations, it might be still less harmful if there were a multiplicity of such institutions, each subject to different outside pressures, than if they were all under the unified control of one single conception of what at a given moment was in the best scientific interest.

Academic freedom cannot mean, of course, that every scientist should do what seems most desirable to him. Nor does it mean self-government of science as a whole. It means rather that there should be as many independent centers of work as possible, in which at least those men who have proved their capacity to advance knowledge and their devotion to their task can themselves determine the problems on which they are to spend their energies and where they can expound the conclusions they have reached, whether or not these conclusions are palatable to their employer or the public at large.<sup>14</sup>

In practice, this means that those men who have already proved themselves in the eyes of their peers, and who, for this reason, have been given senior positions in which they can determine both their own work and that of their juniors, should be given security of tenure. This is a privilege conferred for reason similar to those which have made it desirable to make the position of judges secure, and it is conferred not in the interest of the individual but because it is rightly believed that persons in such positions will, on the whole, serve the public interest best if they are protected against pressure from outside opinion. It is of course not an unlimited privilege, and it means merely that, once it is granted, it cannot be withdrawn except for reasons specifically provided for in the original appointment.

There is no reason why these terms should not be altered for new appointments as we gain new experience, though such new conditions cannot apply to those who already possess what in the United States is called “tenure.” For example, recent experience seems to suggest that the terms of appointment should specify that the occupant of such a position forfeits the privilege if he

<sup>13</sup> It is significant that in England, where the universities were endowed corporations, each consisting of a large number of self-governing bodies, academic freedom has never become a serious issue in the manner in which it did where universities were government institutions.

<sup>14</sup> Cf. Michael Polanyi, *The Logic of Liberty: Reflections and Rejoinders* (London: Routledge and Kegan Paul, 1951), p. 33: “Academic freedom consists in the right to choose one’s own problems for investigation, to conduct research free from any outside control, and to teach one’s subject in the light of one’s own opinion.”

knowingly joins or supports any movement that is opposed to the very principles on which this privilege rests. Tolerance should not include the advocacy of intolerance. On this ground I feel that a Communist should not be given “tenure,” though, once he has been given it without such explicit limitations, it would have to be respected like any other similar appointment.

All this applies, however, only to the special privilege of “tenure.” Apart from these considerations pertinent to tenure, there exists little justification for anyone claiming as a matter of right the freedom to do or teach what he likes or, on the other hand, for any hard-and-fast rule stating that anyone holding a particular opinion should be universally excluded. Though an institution aiming at high standards will soon discover that it can attract first-class talent only if it grants even its youngest members a wide choice of pursuits and opinions, no one has the right to be employed by an institution irrespective of the interests and views he holds.

9. The need for protecting institutions of learning against the cruder kind of interference by political or economic interests is so well recognized today that there is not much danger of its being successfully exercised in reputable institutions. There is still need for watchfulness, especially in the social sciences, where the pressure is often exercised in the name of highly idealistic and widely approved aims. Pressure against an unpopular view is more harmful than opposition to a popular one. It should certainly be a warning to us that even Thomas Jefferson argued that in the field of government the principles taught and the texts to be followed in the University of Virginia should be prescribed by authority, because the next professor might be “one of the school of quondam federalism!”<sup>15</sup>

Today the danger lies, however, not so much in obvious outside interference as in the increased control which the growing financial needs of research give to those who hold the purse strings. It constitutes a real threat to the interests of scientific advance because the ideal of a unified and centralized direction of all scientific efforts which it might be made to serve is shared by some of the scientists themselves. Although the first great attack which, in the name of

<sup>15</sup> Thomas Jefferson [to Joseph Carrington Cabell], February 3, 1825, in *The Writings of Thomas Jefferson: Being his Autobiography, Correspondence, Reports, Messages, Addresses, and Other Writings, Official and Private*, Henry Augustine Washington, ed. [Published by the Order of the Joint Committee of Congress on the Library, from the original manuscripts, deposited in the Department of State] (9 vols.; New York: J. C. Riker, 1853–54), vol. 7, p. 397. It should be said that Jefferson’s opposition to academic freedom was quite consistent with his general position on such matters, which, in the manner of most doctrinaire democrats, made him equally oppose the independence of judges. See also his report to the President and Directors of the Literary Fund, October 5, 1824, in *Early History of the University of Virginia, as Contained in the Letters of Thomas Jefferson and Joseph C. Cabell*, Nathaniel Francis Cabell, ed. (Richmond, VA: J. W. Randolph, 1856), p. 482. See also *Letters and Other Writings of James Madison, Fourth president of the United States, Published by Order of Congress* (4 vols.; Philadelphia: J. B. Lippincott and Co., 1865), vol. 3, pp. 481–83.



planning of science and under strong Marxist influence, was launched in the 1930s has been successfully repelled,<sup>16</sup> and the discussions to which it gave rise have created a greater awareness of the importance of freedom in this field, it seems probable that the attempts to “organize” scientific effort and to direct it to particular goals will reappear in new forms.

The conspicuous successes which the Russians have achieved in certain fields and which are the cause of the renewed interest in the deliberate organization of scientific effort should not have surprised us and should give us no reason for altering our opinion about the importance of freedom. That any one goal, or any limited number of objectives, which are already known to be achievable, are likely to be reached sooner if they are given priority in a central allocation of all resources cannot be disputed. This is the reason why a totalitarian organization is indeed likely to be more effective in a short war—and why such a government is so dangerous to the others when it is in a position to choose the most favorable moment for war. But this does not mean that the advance of knowledge in general is likely to be faster if all efforts are directed to what now seem the most important goals or that, in the long run, the nation that has more deliberately organized its efforts will be the stronger.<sup>17</sup>

Another factor that has contributed to the belief in the superiority of directed research is the somewhat exaggerated conception of the extent to which modern industry owes its progress to the organized teamwork of the great industrial laboratories. In fact, as has been shown recently in some detail,<sup>18</sup> a much greater proportion than is generally believed even of the chief technological advances of recent times has come from individual efforts, often from men pursuing an amateur interest or who were led to their problems by accident. And what appears to be true of the more applied fields is certainly even more true of basic research, where the important advances are, by their nature, more difficult to foresee. In this field there may indeed be danger in the current emphasis on teamwork and co-operation, and it may well be the greater individualism of the European (which is partly owing to his being less used to and therefore less dependent on ample material support) which still seems to give him some advantage over the American scientist in the most original sphere of fundamental research.

<sup>16</sup> Cf. John Randal Baker, *Science and the Planned State* (London: Allen and Unwin, 1945).

<sup>17</sup> This is not the place to enter into a discussion of the Russian educational system. But it may be briefly mentioned that its chief differences from the American system have little to do with the different social order and that, in fact, the Russians are merely following a Continental European tradition. In the critical aspects the achievements of the German or French or Scandinavian schools would repay study as much as the Russian ones.

<sup>18</sup> See John Jewkes, David Sawers, and Richard Stillerman, *The Sources of Invention* (London: Macmillan, 1958), esp. pp. 197–222.

There is perhaps no more important application of our main theses than that the advance of knowledge is likely to be fastest where scientific pursuits are not determined by some unified conception of their social utility, and where each proved man can devote himself to the tasks in which he sees the best chance of making a contribution. Where, as is increasingly the case in all the experimental fields, this opportunity can no longer be given by assuring to every qualified student the possibility of deciding how to use his own time, but where large material means are required for most kinds of work, the prospects of advance would be most favorable if, instead of the control of funds being in the hands of a single authority proceeding according to a unitary plan, there were a multiplicity of independent sources so that even the unorthodox thinker would have a chance of finding a sympathetic ear.

Though we still have much to learn about the best manner of managing independent funds devoted to the support of research and though it may not be certain whether the influence of the very large foundations (with their inevitable dependence on majority opinion and consequent tendency to accentuate the swings of scientific fashion) has always been as beneficial as it might have been, there can be little doubt that the multiplicity of private endowments interested in limited fields is one of the most promising features of the American situation. But though present tax laws may have temporarily increased the flow of such funds, we should also remember that the same laws make the accumulation of new fortunes more difficult, and that to that extent these sources are likely to dry up in the future. As elsewhere, the preservation of freedom in the spheres of the mind and of the spirit will depend, in the long run, on the dispersal of the control of the material means and on the continued existence of individuals who are in a position to devote large funds to purposes which seem important to them.

10. Nowhere is freedom more important than where our ignorance is greatest—at the boundaries of knowledge, in other words, where nobody can predict what lies a step ahead. Though freedom has been threatened even there, it is still the field where we can count on most men rallying to its defense when they recognize the threat. If in this book we have been concerned mainly with freedom in other fields, it is because we so often forget today that intellectual freedom rests on a much wider foundation of freedom and cannot exist without it. But the ultimate aim of freedom is the enlargement of those capacities in which man surpasses his ancestors and to which each generation must endeavor to add its share—its share in the growth of knowledge and the gradual advance of moral and aesthetic beliefs, where no superior must be allowed to enforce one set of views of what is right or good and where only further experience can decide what should prevail.

It is wherever man reaches beyond his present self, where the new emerges and assessment lies in the future, that liberty ultimately shows its value. The

problems of education and research have thus brought us back to the leading theme of this book, from where the consequences of freedom and restriction are more remote and less visible to where they most directly affect the ultimate values. And we cannot think of better words to conclude than those of Wilhelm von Humboldt which a hundred years ago John Stuart Mill put in front of his essay *On Liberty*: “The grand, leading principle, towards which every argument hitherto unfolded in these pages directly converges, is the absolute and essential importance of human development in its richest diversity.”<sup>19</sup>

<sup>19</sup> Wilhelm von Humboldt, *The Sphere and Duties of Government*, Joseph Coulthard, Jr., trans. (London: John Chapman, 1854), p. 65 [Liberty Fund edition, p. 48]. [The German reads: “Nach dem ganzen vorigen Rasonnement kommt schlechterdings alles auf Ausbildung des Menschen in der höchsten Mannigfaltigkeit an.” (*Über die Grenzen der Wirksamkeit des Staates* [Nuremberg: Verlag Hans Carl, 1946], p. 80)—Ed.] John Stuart Mill took the quotation from this translation.