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the radio. The university teacher and the school-master went on teaching in the class-room and checking his results by a written examination. It is as if one attempted to satisfy the traffic needs of greater New York or London or Western Europe by a monstrous increase in horses and carts and nothing else. The universities go out to meet the tremendous challenges of our social and political life, like men who go out in armour with bows and arrows to meet a bombing aeroplane. They are pushed aside by men like Hitler, Mussolini creates academies in their despite, Stalin sends party commissars to regulate their researches. It is beyond dispute that there has been a great increase in the research work of universities; that pedantry and mere scholarship in spite of an obstinate defence have declined relatively to keen inquiry, but the specialist is by his nature a pre-occupied man. He can increase knowledge, but without a modern organization backing him he cannot put it over. He can increase knowledge which ultimately is power, but he cannot at the same time control and spread this power that he creates. It has to be made generally available if it is not to be monopolized in the wrong hands.

There, I take it, is the gist of the problem of World Knowledge that has to be solved. A great new world is struggling into existence. But its struggle

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remains catastrophic until it can produce an adequate knowledge organization. It is a giant birth and it is mentally defective and blind. An immense and ever-increasing wealth of knowledge is scattered about the world today, a wealth of knowledge and suggestion **that**-systematically ordered and generally disseminated-would probably give this giant vision and direction and suffice to solve all the mighty difficulties of our age, but that knowledge is still dispersed, unorganized, impotent in the face of adventurous violence and mass excitement. In some way we want to modernize our World Knowledge Apparatus so that it may really bring what is thought and known within reach of all active and intelligent men. So that we shall know-with some certainty. So that we shall not be all at sixes and sevens about matters that have already been thoroughly explored and worked out.

How is that likely to be done?

Not of course in a hurry. . . .

It would be very easy to do a number of stupid things about it-futile or even disastrous things. I can imagine quite a number of obvious preposterous mischievous experiments, a terrible sort of world university consolidation, an improvised knowledge dictatorship. Heaven save us from that! We want nothing that will in any sense override the autonomy

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of institutions or the independence of individual intellectual workers. We want nothing that will invade the precious time and attempt to control the resources of the gifted individual specialist. He is too much distracted by elementary teaching and college administration already. We do not want to magnify and stereotype universities. Most of them with their gowns and degrees, their slavish imitation of the past, are too stereotyped already.

But here it is that the idea I want to put before you comes in, this idea of a greater encyclopaedism—with a permanent organism and a definite form and aim. I put forward the development of this new encyclopaedism as a possible method, the only possible method I can imagine, of bringing the universities and research institutions of the world into effective co-operation and creating an intellectual authority sufficient to control and direct our collective life. I imagine it as a permanent **institution**—untrammelled by precedent, a new institution—something added to the world network of universities, linking and co-ordinating them with one another and with the general intelligence of the world. Manifestly as my title for it shows, it arises out of the experience of the French Encyclopaedia, but the form it is taking in the minds of those who have become interested in the idea, is of something vastly more

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elaborate, more institutional and far-reaching than Diderot's row of volumes. The immense effect of Diderot's effort in establishing the frame of the progressive world of the nineteenth century, is certainly the inspiration of this new idea. The great rôle played in stabilizing and equipping the general intelligence of the nineteenth-century world by the French, the British and the German and other encyclopaedias that followed it, is what gives confidence and substance to this new conception. But what we want today to hold the modern mind together in common sanity is something far greater and infinitely more substantial than those earlier encyclopaedias. They served their purpose at the time, but they are not equal to our current needs. A World Encyclopaedia no longer presents itself to a modern imagination as a row of volumes printed and published once for all, but as a sort of mental clearing house for the mind, a depot where knowledge and ideas are received, sorted, summarized, digested, clarified and compared. It would be in continual correspondence with every university, every research institution, every competent discussion, every survey, every statistical bureau in the world. It would develop a directorate and a staff of men of its own type, specialized editors and summarists. They would be very important and distinguished men in the new

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world. This Encyclopaedic organization need not be concentrated now in one place; it might have the form of a network. It would centralize mentally but perhaps not physically. Quite possibly it might to a large extent be duplicated. It is its files and its conference rooms which would be the core of its being, the essential Encyclopaedia. It would constitute the material beginning of a real World Brain.

Then from this centre of reception and assembly, would proceed what we may call the Standard Encyclopaedia, the primary distributing element, the row of volumes. This would become the common backbone as it were of general human knowledge. It might take the form of twenty or thirty or forty volumes and it would go to libraries, colleges, schools, institutions, newspaper offices, ministries and so on all over the world. It would be undergoing continual revision. Its various volumes would be in process of replacement, more or less frequently according to the permanence or impermanence of their contents. And from this Standard Encyclopaedia would be drawn a series of text-books and shorter reference encyclopaedias and encyclopaedic dictionaries for individual and casual use.

That crudely is the gist of what I am submitting to you. A double-faced organization, a perpetual digest and conference on the one hand and a system

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of publication and distribution on the other. It would be a clearing house for universities and research institutions; it would play the role of a cerebral cortex to these essential ganglia. On the one hand this organization should be in direct touch with all the original thought and research in the world; on the other it should extend its informing tentacles to every intelligent individual in the community-the new world community.

In that little world of the eighteenth century, what we may call the mind of the community scarcely extended below the gentlefolk, the clergy and the professions. There was no primary education for the common man at all. He did not even read. He was a mere toiler. It hardly mattered how little he knew-and the less he thought the better for social order. But machinery abolishes mere toil altogether. The new world has to consist of a world community-say of 2,000 million educated individuals-and the influence of the central encyclopaedic organization, informing, suggesting, directing, unifying, has to extend to every rank of society and to every corner of the world. The new encyclopaedism is merely the central problem of world education.

Perhaps I should explain that when I speak in this connexion of universities, what I have in mind is primarily assemblies of learned men or men rehears-

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ing their ripe scholarship or conducting original research with such advanced students and student helpers as have been attracted by them and are sharing their fresh and inspiring thoughts and methods. This is a return to the original university idea. The original universities were gatherings of eager people who wanted to know-and who clustered round the teachers who did seem to know. They gathered about these teachers because that was the only way in which they could get their learning. I am talking of that sort of university. That is the primary form of a university. I am not talking here of the collegiate side of a contemporary university, the superficial finishing-school exercises of sportive young people mostly of the wealthier classes who don't want to know-young people who mean very little and who have been sent to the university to make useful friendships and get pass-degrees that mean hardly anything at all. These mere finishing-school students are a modern addition, a transitory encumbrance of the halls of learning. I suppose that before very long much of this undergraduate life will merge with the general upward extension of educational facilities to all classes of the community. I assume that the tentacles of this Encyclopaedia we are anticipating, with its comprehensive and orderly supply of knowledge, would intervene beneficially between the special-

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ized research and learning which is the living reality in the university and this really quite modern finishing-school side. The time is rapidly returning when men of outstanding mental quality will consent to teach only such students as show themselves capable of and willing to follow up their distinctive work. The mere graduating crowd with their games and their yells and so forth, will go back to the mere teaching institutions where they properly belong.

But I will not spend the few minutes remaining to me upon which is after all a side issue in this discussion. University organization is not now my subject. I am talking of an essentially new organization -an *addition* to the intellectual apparatus of the world. The more important thing now is to emphasize this need-a need the world is likely to realize more and more acutely in the coming years-for such a concentration, which will assemble, co-ordinate and distribute accumulated knowledge. It will link, supplement and no doubt modify profoundly, the universities, schools and other educational organizations we possess already, but it will not in itself be a part of them.

Let me make it perfectly clear that for the present it is desirable to leave this project of a World Encyclopaedic organization vague-in all but its essential form and function. It might prove disastrous to have

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it crystallize out prematurely. Such premature crystallization of a thing needed by the world can produce, we now realize, a rigid obstructive *reality*, just *like enough* to our actual requirements to cripple every effort to replace it later by a more efficient organization. Explicit constitutions for social and political institutions, are always dangerous things if these institutions are to live for any length of time. If a thing is really to live it should grow rather than be made. It should never be something cut and dried. It should be the survivor of a series of trials and fresh beginnings- and it should always be amenable to further amendment.

So that while I believe that ultimately the knowledge systems of the world must be concentrated in this world brain, this permanent central Encyclopaedic organization with a local habitat and a world-wide range-just as I believe that ultimately the advance of aviation *must* lead, however painfully and tortuously by way of World Air Control, to the political, economic and financial federation of the world-yet nevertheless I suggest that to begin with, the evocation of this World Encyclopaedia may begin at divergent points and will be all the better for beginning at divergent points.

Of the demand for it, and of the readiness for it in our world today, I have no sort of doubt. Ask the

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book-selling trade. Any books that give or even seem to give, any sort of conspectus of philosophy, of science, of general knowledge, have a sure abundant sale. We have the fullest encouragement for bolder and more strenuous efforts in the same direction. People *want* this assembling of knowledge and ideas. Our modern community is mind-starved and mind-hungry. It is justifiably uneasy and suspicious of the quality of what it gets. The hungry sheep look up and are not fed-at least they are not fed properly. They want to know. One of the next steps to take, it seems to me, is to concentrate this diffused demand, to set about the definite organization of a sustained movement, of perhaps a special association or so, to bring a World Encyclopaedia into being. And while on the one hand we have this world-wide receptivity to work upon, on the other hand we have among the men of science in particular a very full realization of the need for a more effective correlation of their work. It is not only that they cannot communicate their results to the world; they find great difficulty in communicating their results to one another. Among other collateral growths of the League of Nations is a certain Committee of Intellectual Co-operation which has now an official seat in Paris. Its existence shows that even as early as **1919**, someone had realized the need for some such synthesis of mental

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activities as we are now discussing. But in timid, politic and scholarly hands the Committee of Intellectual Co-operation has so far achieved little more than a building, a secretary and a few salaries. The bare idea of a World Encyclopaedia in its present delicate state would give it heart failure. Still there it is, a sort of seed that has still to germinate, waiting for some vitalizing influence to stir it to action and growth. And going on at present, among scientific workers, library workers, bibliographers and so forth, there is a very considerable activity for an assembling and indexing of knowledge. An important World Congress of Documentation took place this August in Paris. I was there as an English delegate and I met representatives of forty countries-and my eyes were opened to the very considerable amount of such harvesting and storage that has already been done. From assembling to digesting is only a **step**-a considerable and difficult step but, none the less, an obvious step.

In addition to these indexing activities there has recently been a great deal of experimentation with the microfilm. It seems possible that in the near future, we shall have microscopic libraries of record, in which a photograph of every important book and document in the world will be stowed away and made easily available for the inspection of the student. The

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British Museum library is making microfilms of the 4,000 books it possesses that were published before 1550 and parallel work is being done here in America. Cheap standardized projectors offer no difficulties. The bearing of this upon the material form of a World Encyclopaedia is obvious. The general public has still to realize how much has been done in this field and how many competent and disinterested men and women are giving themselves to this task. The time is close at hand when any student, in any part of the world, will be able to sit with his projector in his own study at his or her convenience to examine **any** book, **any** document, in an exact replica.

Concurrently with this movement towards documentation, we may very possibly have a phase when publishers will be experimenting in the production of larger and better **Encyclopaedias**, all consciously or unconsciously attempting to realize the final world form. And satisfy a profitable demand. The book salesman from the days of Diderot onward has shown an extraordinary knack for lowering the quality of this sort of enterprise, but I do not see why groups of publishers throughout the world should not presently help very considerably in the beginning of a permanent Encyclopaedic foundation. But such questions of ways and means of distribution belong to a

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later stage of this great intellectual development which lies ahead of us. I merely glance at them here.

There are certain responses that I have observed crop up almost automatically in people's minds when they are confronted with this project of a world-wide organization of all that is thought and known. They will say that an Encyclopaedia must always be **tendentious** and within certain limits-but they are very wide **limits**—that must be true. A World Encyclopaedia will have by its very nature to be what is called *liberal*. An Encyclopaedia appealing to all mankind can admit no narrowing dogmas without at the same time admitting corrective criticism. It will have to be guarded editorially and with the utmost jealousy against the incessant invasion of narrowing propaganda. It will have a general flavour of what many people will call scepticism. Myth, however venerated, it must treat as myth and not as a symbolical rendering of some higher truth or any such evasion. Visions and projects and theories it must distinguish from bed-rock fact. It will necessarily press strongly against national delusions of grandeur, and against all sectarian assumptions. It will necessarily be *for* and not indifferent to that world community of which it must become at last an essential part. If that is what you call bias, bias the World Encyclopaedia will certainly have. It will have, and it

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cannot help but have, a bias for organization, comparison, construction and creation. It is an essentially creative project. It has to be the dominant factor in directing the growth of a new world.

Well, there you have my anticipation of the primary institution which has to appear if that world-wide community towards which mankind, willy-nilly, is being impelled, is ever to be effectively attained. The only alternative I can see is social dissolution and either the evolution of a new, more powerful type of man, or the extinction of our species. I sketch roughly-it seems to be my particular role in life to do these broad sketches and outlines and then stand aside-but I do my best to make the picture plain and understandable. And for me at any rate this is no Utopian dream. It is a forecast, however inaccurate and insufficient, of an absolutely essential part of that world community to which I believe we are driving now. I do not believe there is any emergence for mankind from this age of disorder, distress and fear in which we are living, except by way of such a deliberate vast reorganization of our intellectual life and our educational methods as I have outlined here. I have been talking of real intellectual forces and foreshadowing the emergence of a vital reality. I have been talking of something which may even be recognizably in active operation within

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a lifetime-or *a* lifetime or so, from now-this consciously and deliberately organized brain for all mankind.

In a few score years there will be thousands of workers at this business of ordering and digesting knowledge where now you have one. There will be a teacher for every dozen children and schools as unlike the schools of today as a liner is unlike the Mayflower. There will not be an illiterate left in the world. There will hardly be an uninformed or misinformed person. And the brain of the whole mental network will be the Permanent World Encyclopaedia.

Well, I have designedly put much controversial matter before you, and I have not hesitated to put it in a provocative manner. You will, I know, understand that every new thing is apt to seem crude at first. Forgive my crudities. But my time has been short for what I had to say, and I have said it in the way that seemed most challenging and most likely to produce further discussion.