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Science and the public welfare

We've long felt in England that there's a vacant chair in the Councils of the allied scientists now meeting together in the West—for consultation, co-operation and research in connection with the war and for the reconstruction which will follow some day. That chair belongs to Indian scientists and we want them to come and fill it. I've said so myself a good many times. For some curious reason which I can't understand, because I'd never taken part in politics before, I became a member of Parliament in 1940, for Cambridge University: and in the very first speech I made in the House—I confess I was very frightened—I said in a debate on India that if by some chance my voice were heard there I hoped it might help a little to make people realise that however difficult in some fields co-operation might be, in the scientific field it was easy, practical and of great importance for our common welfare. . . .

In what ways can science help us directly in promoting human betterment? In England now we are contemplating a vast expenditure on housing, in the next twenty years, £ 2000 million or 2600 crores of rupees. One per cent of that spent on research, on design, materials, building, heating, lighting, ventilation and amenities, will certainly make the new houses many times one per cent better, healthier

and more efficient. We are, in fact, already devoting whatever effort we can spare from the war to research on building. We mine 20 crores of tons of coal annually—1 per cent of its cost spent every year on research will certainly improve the efficiency of its utilisation by many times 1 per cent; we're intending to spend half at least of that by a joint co-operative effort between Government and the industry. There are 60 million people in the Colonial Empire. The Colonial Research Committee, under the Chairmanship of Lord Hailey, is able to spend £ 500,000 or 6½ million rupees annually of Government money as soon as research workers are free from their war duties. Its purpose is by research to improve the welfare of the Colonial peoples. It sounds a lot but it only comes to one or two annas a head. Your Department of Scientific and Industrial Research is allowed to spend 10 lakhs of rupees per annum. It's doing very fine work for your country, as I've seen already for myself, but the cost is only 1/25th of an anna for each inhabitant of India. It could usefully spend ten times as much. Your annual budget now I'm told is 600 crores of rupees; 1 per cent of that's 6 crores. My scientific friends in India would be very happy indeed if they could look forward to anything like that. In England I suppose we spend £ 50 million a year on medical treatment and to this might be added several times the amount for time and health wasted owing to preventable disease. Medical research in all its forms does not spend more than 1 per cent of that. The Industrial Research Associations in England spent in 1938 about half a million pounds—a very small fraction of 1 per cent of the annual value of British industrial production. I want my listeners to get one very simple idea into their heads—1 per cent. It doesn't sound very much. Let us aim at giving 1 per cent of our national budget, 1 per

cent of the value of our industrial and agricultural production, 1 per cent of the loss due to ill-health, 1 per cent of the cost of our food, our transport, our houses, our water, our coal, even our broadcasting, to research—and in ten years we shall find that we're getting back not 1 per cent, but 10 or 20 or 40 or 200 per cent in dividends. During the last War there was a picture in '*Punch*' showing the proprietor of a sweet shop changing the label of his Turkish Delight to British Delight. It was called 'Honesty is the best policy'. Research is like honesty—the best policy. . . .

I cannot claim as yet to have much direct knowledge of Indian problems but it's clear to me that three of the greatest problems of India—really they make a single problem—are biological ones, those of agriculture, health and population. These all act and react on one another and they react with the other scientific and technical problems of industrialisation, transport, communications and—not least—education. We've failed too often in Europe to look at our problems objectively, and it has been too easy to get excited about political differences when fundamentally our real needs were common ones which we could have solved in co-operation. I should not dare, as a scientist, to intervene in Indian political problems, and our own behaviour in Europe does not entitle a European to point at our own history as a very good example. It should, however, be possible to learn from failure and disaster and *our* failure has been too often that we have refused to recognise our common needs because of political differences. 'Perhaps in India you'll be able to profit by our mistakes. One piece of advice, however, I'm confident in giving, namely, that it's worthwhile devoting a greater fraction of your national effort to scientific research and technical development: and I'd like to leave you with the three words—'one per cent.'