transportation of foodstuffs, together with things like the electric light and the telephone or radio, which might be classed rather as luxuries than necessities. These would never have arisen but for the developments of pure science, which is primarily an intellectual pursuit, studied for its own interest rather than for any intention of benefiting humanity. It is fortunate that there are many men who are driven by this purely intellectual urge, for knowledge would never have advanced far if it had only been stimulated by the motive of practical benefit to humanity. It is the pure scientist who has opened up new realms of thought to the rest of the world, and the advance continues.

There seems to be no bound to the field of scientific thought, but nevertheless in an opposite sense every new discovery does set a bound by excluding alternatives which had before been regarded as admissible. In this second sense the field narrows; for example, it is not permitted now to doubt the validity of the laws of thermodynamics—laws which were quite unknown little more than a century ago. But this is not the occasion for a technical discussion on the future of the physical sciences and I will only say that, whatever new ideas may come up—and there is every sign that there will be many of them—there is still plenty of room for improvement inside the known fields. In the hard times to come it is not to be expected that the remoter speculations of pure science will be pursued as energetically as its practical applications; for example, metallurgy and chemistry will appear more important than astronomy, and fortunately there seem great possibilities for development for a long

time in these practical sciences. Nevertheless we may confidently expect that there will be some who, like Faraday, still hear the call of pure science, for it is from them that the really great advances will originate.

It is in the biological sciences that the most exciting possibilities suggest themselves, perhaps because biology has only recently shown rapid advances like those made earlier in the inorganic sciences. I will only speculate on a few among these possibilities which might have great effects on human life. I have already referred to the possibility of quite new sources of food, and I need not enlarge on that further. Another type of discovery may be connected with hormones, those internal chemical secretions which so largely regulate the operations of the human body. The artificial use of hormones has already been shown to have profound effects on the behaviour of animals, and it seems quite possible that hormones, or perhaps drugs, might have similar effects on man. For example, there might be a drug, which, without other harmful effects, removed the urgency of sexual desire, and so reproduced in humanity the status of workers in a beehive. Or there might be another drug that produced a permanent state of contentment in the recipient—after all alcohol does something like this already, though it has other disadvantages and is only temporary in its effects. A dictator would certainly welcome the compulsory administration of the "contentment drug" to his subjects.

Another possible, though rather remoter, discovery suggests the most curious consequences; this is the control of the relative numbers of the two sexes. It is known