

# NATURE

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## PATENT LAW REFORM IN BRITAIN

THE second interim report of the Departmental Committee on the Patents and Designs Acts\*, appointed in April 1944 by the President of the Board of Trade, deals with the two aspects of the patent system of Great Britain on which public interest has been mainly concentrated during the past few years, namely, the alleged abuse of monopoly rights under our patent system and the grievance concerning the grant of worthless patents and the legal procedure for the determination of patent rights. In its first interim report the Committee recommended a modification of the procedure for making applications for extension of the term of patents in cases where the patentee has suffered loss or damage as a consequence of the War, and its recommendation has been implemented in the Patents and Designs Act, 1946, which has just received the Royal Assent.

Recommendations in the second interim report are based on the results of an inquiry by the Committee in which it considered first the broad fundamental question, whether the maintenance of the patent system of Great Britain upon its present basis is justified as being still conducive to the attainment of those objects for which it was originally designed. The theory upon which the present system is based is that the opportunity of acquiring exclusive rights in an invention stimulates technical progress mainly in four ways: first, that it encourages research and invention; secondly, that it induces an inventor to disclose his discoveries instead of keeping them as a trade secret; thirdly, that it offers a reward for the expense of developing inventions to the stage at which they are commercially practicable; and fourthly, that it provides an inducement to invest capital in new lines of production which might not appear profitable if many competing producers embarked on them simultaneously. The Committee expresses the opinion that the history of industrial development seems on the whole to have justified this theory, mainly because similar patent systems are in operation in almost all industrial countries, the only departure having been made by the Soviet Union. In the Soviet Union there is maintained, concurrently with the existence of a patent system of the usual type, an alternative method of encouraging and rewarding inventors by direct Government grants. The Committee is of opinion that this system is bound up with the particular economic system in which it operates, and has little bearing upon the problems of a country in which technical progress largely depends upon private initiative; and it seems to us probable that this opinion will be generally endorsed. The technical progress of Great Britain has coincided with our patent system operating in conjunction with industrial research organisations financed by large companies, and long-term research arrangements supported by Government and private benevolence.

\* Board of Trade. Patents and Designs Acts. Second Interim Report of the Departmental Committee. (Cmd. 6789.) Pp. 38. (London: H.M. Stationery Office, 1946.) 9d. net.

Several of those who had made public statements about the suppression of inventions were invited to give evidence, but did not accept the invitation; and the inquiry made by the Committee led to the opinion that the allegations of deliberate suppression of inventions and of other abuses of monopoly rights have been much exaggerated. The Committee favours the retention of the general frame of our patent system but recommends several important improvements. Under the existing provisions of the law relating to compulsory licensing of patents, an allegation of abuse of monopoly rights may be made to the Comptroller-General of the Patent Office, who determines the remedy most appropriate to the particular case—possibly a compulsory licence or even revocation of the patent. The Committee recommends some extension of these provisions so that facilities may be given for the grant of compulsory licences in cases where a more extended use of a patent could be made, even if no actual abuse of patent rights has taken place. In particular, where a patentee is exploiting a patent to the full extent of his ability but there are still other uses of the invention or potential demands for the patented article which remain undeveloped or unfulfilled, it would be in the public interest that an applicant who is in a position to open up a new field of manufacture should be at liberty to apply for a licence; equally, where the patentee is meeting the demand in the home market to the fullest extent but the export market is neglected or insufficiently supplied with the patented article.

Some of the evidence submitted to the Committee was directed towards advocating, as a remedy for the abuse of monopoly rights, that all patents when granted should be endorsed 'licences of right' in the same way as a particular patent may be endorsed if the patentee desires. If this proposal were adopted, it would reduce the patent grant to a right to receive royalties for the use of the patented invention, and the Committee considered how far this proposal would weaken the efficacy of our patent system in stimulating research, in promoting the disclosure and development of inventions, and in attracting investment for the working of inventions. It came to the conclusion that royalties would be an inadequate inducement to undertake heavy expenditure on development. It might be possible to fix royalties in such a way as to reimburse the patentee for the expense of development of the particular invention concerned; but much expense is incurred in following false trails, and it would be difficult to devise a system of royalties for making successful inventions carry the cost of useful but unremunerative research. On the evidence, the Committee does not recommend the adoption of the system of compulsory endorsing of all patents.

The proposed revision of the law concerning the grant of worthless patents and the legal procedure for the determination of patent rights is directed mainly to the second main public grievance. Under the existing law the Comptroller-General of the Patent Office has no power to refuse an application for a patent for an invention which obviously lacks

inventive merit or, as it is termed, 'subject-matter'. The grant of patents for such inventions is, *prima facie*, contrary to public policy and also contrary to the purpose of the patent law, the object of which has always been to encourage genuine inventions without imposing undue restraint upon normal industrial development. The Patent Offices of the principal industrial countries, such as those of the United States, Germany, Sweden and Holland, have power to refuse applications for patents which, in their opinion, are lacking in subject-matter. There is evidence that patents granted by the patent offices of such countries have a higher validity value, and therefore a better chance of commercial exploitation, than patents granted in countries where the question of subject-matter is not considered. The Committee, with two members dissenting, recommends that the Comptroller-General should be given power to refuse applications for patents on the ground of lack of subject-matter, and we believe this recommendation will be generally approved.

On the legal procedure for determination of patent rights, the Committee's recommendations may receive criticism, though there will be much support for the view that there is need for some amendment. The commonest and most familiar ground of complaint is the high cost of patent litigation; but there is also undoubtedly a very general lack of confidence in the adequacy of the tribunal before which these patent cases come, and the feeling that the judges charged with the task of deciding patent actions have not the necessary scientific or technical knowledge or experience to assess the value of the expert evidence or to arrive at sound conclusions, where the invention in question involves the discussion of highly complex chemical, electrical, mechanical or physical matters. Those who have knowledge of High Court procedure are aware that it is a common occurrence in patent actions that a considerable time, possibly some days, is taken in instructing the judge in the elements of technology with which the invention is concerned, in order that the specification can be made intelligible to him, and the retention of highly paid counsel and experts makes a very serious addition to the total costs of such actions. The Committee has come to the conclusion that the principal reform necessary in the trial of patent actions is that they should come before a judge appointed, as at present, from members of the Bar, but also possessing sufficient technical or scientific qualifications to enable him to grasp the broad technical principles of such cases without extensive preliminary explanation or instruction. It recommends that two special judges, possessing technical or scientific qualifications and experience in patent litigation, should be appointed to hear all patent actions: either judge to be available to act as the patents appeal judge to hear appeals from decisions of the Comptroller-General. A scientific assistant should sit on all occasions with the special judge to try patent actions unless the judge, after hearing the parties, decides that such assistance is unnecessary.

As a further means of reducing the cost of patent litigation, the Committee recommends that the Comptroller-General of the Patent Office should be

authorized to try cases of alleged infringement where the parties agree to adopt this course. In such a case the Comptroller-General would be authorized to grant damages up to £1,000, but he would not have power to grant an injunction.

It is possible that some of the proposed procedure is open to criticism in detail; but if its broad outlines can be put into practice it will, in our opinion, go far to remedy long-recognized defects and to simplify and cheapen legal procedure in connexion with the patent system of Great Britain.

## SCIENCE PRESENTS ITSELF

### Mr. Tompkins Explores the Atom

By G. Gamow. Pp. x + 97. (London: Cambridge University Press, 1945.) 10s. 6d. net.

### Electrons in Action

By James Stokley. (Whittlesey House Publication.) Pp. xi + 320 + 37 plates. (New York and London: McGraw-Hill Book Co. Inc., 1946.) 18s.

### Science in Progress

By Walter R. Miles, Selig Hecht, George D. Birkhoff, Henry Eyring, K. C. D. Hickman, Edwin J. Cohn, Detlev W. Bronk, Otto Loewi, Peter Debye, Isidore I. Rabi, and C. A. Elvehjem. Edited by George A. Baitzell. Fourth Series (Society of the Sigma Xi, National Lectureships 1943 and 1944). Pp. xvi + 331. (London: Oxford University Press, 1945.) 20s.

IF one may judge by the appearance of the bookshop windows and the bookstalls there is, at the moment, quite a minor boom in popular science in the publishing world. The part played by science in the Second World War and the publicity given to it in the Press have made science 'news' to an unprecedented degree, and authors and publishers seem to have guessed that the man in the street will want to know more about it. As might have been expected, in the circumstances, some of the resulting volumes bear every mark of having been hurriedly put together to catch the market—ephemera, for which no long-continued existence can be prophesied. In the meantime, the output of more authoritative and serious works has not slackened; three of these form the subject of this review. Science, we all know, is, or at any rate used to be, international; but a British reviewer may be pardoned a little quite friendly envy that all three books should have been written in the United States, and two of them published there. One would wish, out of sheer gratitude if for no other reason, that more could be done to put this form of 'lease-lend' into reverse.

Since Aristotle drew the distinction between 'productive science' and the science which 'exists for itself' each has had its devotees among men of science; and, no doubt, the same division of interest may be found among the readers of popular science books. It is to the latter class that Prof. Gamow addresses himself in "Mr. Tompkins Explores the Atom". One feels that Prof. Gamow loves his atoms—he has spent much of his life investigating them—as the devout lover worships his mistress; not for their utility, but for themselves alone. They are so fascinating that he wants to tell the world about them; hence this quite delightful little book.

This is not Mr. Tompkins' first appearance in scientific literature. Readers fortunate enough to

have met this engaging little bank clerk in the early days of the War will scarcely have forgotten the fantastic adventures (induced by a rash decision to substitute the heady excitement of the physics lecture room for the more soothing solace of the cinema) he was fated to undergo in those strange quantum lands in which mathematical physicists live and move and have their being during working hours. Not only did they serve to while away the tedium and the terror of some anxious hours; they left, one may frankly confess it, a clearer picture of relativity and quantum theory than one had gathered from far more portentous expositions. In the present volume Mr. Tompkins, now happily married to the professor's daughter, Maud, is thereby exposed to still further draughts of the physical intoxicant. The three dreams which ensued, the three lectures by which they were stimulated, and a further lecture—thrown in as a make-weight so to speak—which Mr. Tompkins did not attend because his father-in-law advised him that it would be well over his head, made up the book.

In the first chapter Mrs. Tompkins, with Maxwell's demon for cicerone, is taken for a tour among the molecules of her husband's whisky and soda. In the second Mr. Tompkins, transformed into an electron, finds himself odd-man-out (or valency electron) on a sodium atom. Finding it rather lonely he transfers to the *M*-shell of a neighbouring chlorine atom, meets his partner of 'opposite spin', and has some high old times ("How am I going to explain this to Maud when I see her again?"), until he is ejected by a photon, to be finally annihilated by a savage positive electron. The final dream introduces us, and Mr. Tompkins, to the dear old gentleman (in appearance, if we may trust the author's sketch, a cross between old man Gepetto from "Pinocchio" and the late Lord Rutherford) who makes the atomic nuclei. The extra lecture deals with the Dirac theory of the positron, and so clear is the exposition that I see no reason why Mr. Tompkins should have been warned off it.

Sequels are notoriously apt to be disappointing; and it cannot truthfully be said that in the present volume Prof. Gamow quite recaptures the wild raptures of his earlier book. The genial humour, the flashes of insight, and the author's almost uncanny skill in making difficult matters plain are in no way diminished. The conceptions in terms of which modern science interprets atomic phenomena are, however, not so remote from everyday experience as those in which the mathematician interprets time and space; and so offer less scope to the author's imagination. Since the first atom bomb startled the world, the atom has become definitely 'news'. The manuscript of "Mr. Tompkins" was completed before Hiroshima put atoms in the headlines; there are no atom bombs in the book. One cannot imagine, however, that the book would have been essentially different had it been written three years later. It is the atom itself and not merely one of its more unpleasant potentialities which interests Prof. Gamow, and all the scientific background to the release of atomic energy is already in the text. The non-technical reader who wishes to appreciate something of this background cannot do better than accompany Mr. Tompkins in his explorations. He will not find a pleasanter, more authoritative or more illuminating guide.

In our enthusiasm for Prof. Gamow's book we have kept the practical man waiting for a rather unconscionable time. Mr. James Stokley's book will