

other five members had stopped making lamps—three of them under agreements with the principal members—and had dropped out of the Association: the fifth, Pope's Electric Lamp Co. Ltd., was for all practical purposes absorbed by G.E.C. and had also ceased to be a member (see footnote (d) in paragraph 2): and the only new members were Cryselco and B.E.L.L. On the formation of E.L.M.A. in 1933 the seven* members of the former Association were joined by the British Philips Company, Stella and A.C. Cossor Ltd., all of whom had in the meantime become parties, directly or indirectly, to the Phoebus Agreement. Since that date two members have been admitted, Aurora in 1936 and Crompton in 1937, and we describe in Chapter 5 the circumstances of these admissions. A.C. Cossor Ltd. has in the meantime stopped making lamps and withdrawn, so that there are now eleven members, as set out in (a) of paragraph 2.

43. We are told that during the past ten years only two formal applications for membership have been received and that, since neither applicant was making a wide range of lamps, both were refused; on the other hand offers of membership by E.L.M.A. to British Luma have been consistently refused because British Luma objects to some of the principles and methods by which E.L.M.A. operates.

(iii) Financial Links of E.L.M.A. Members

44. We reproduce at Appendix 7 a chart showing the known financial links between the members of E.L.M.A. It will be seen that there are five main companies or groups, namely G.E.C., the British Philips Company (with Stella), the A.E.I. Group, Siemens and Crompton; in relation to these the two independently-owned members, Aurora and B.E.L.L. are very small, while Cryselco, which is jointly-owned by G.E.C. and Philips, is managed commercially by the former and technically by the latter.

45. The only financial link known at present† between any of the five main companies or groups—apart from their common ownership of certain companies—is the American G.E.C. through its wholly-owned subsidiary, the International General Electric Company Inc. (referred to in this report as "I.G.E.C."), which was formed to deal with the interests of the parent corporation outside the United States. I.G.E.C. owns a little more than one-quarter of the ordinary and about 10 per cent. of the preference capital of A.E.I. and it also has, indirectly through Philips (Holland), a small interest in the British Philips Company and Stella. We have seen nothing to indicate that the policy of E.L.M.A. is influenced by these American connections of some of its members.

CHAPTER 4: INTERNATIONAL AGREEMENTS

46. The activities of E.L.M.A. are confined to the United Kingdom market but we find that they have been co-ordinated with and to some extent conditioned by the international agreements of its members, which in effect have created a complementary system. The collective international agreements indeed have set up a succession of virtual international associations of lamp manufacturers which in particular fields have exercised just as close a control as E.L.M.A. over the trade of their members; it is these international associations which have arranged the division between the members of the total business in the markets with which they were concerned,

* B.E.L.L. is not named in the Regulations as one of the first members of E.L.M.A. (see Appendix 4 and footnote to paragraph 34) but was admitted immediately afterwards.

† On the 30th July, 1951, the Board of Trade announced that A.E.I.'s offer to purchase the minority holding of stock in Siemens Brothers & Co. Ltd., now vested in the Custodian of Enemy Property, had been accepted.

including the United Kingdom market. Until 1939 nearly all the big lamp manufacturers of the world were parties to these arrangements, which applied to all markets except the United States and Canada* ; now they are confined to the principal members of E.L.M.A. with Philips (Holland) and to certain areas which include the United Kingdom (see Appendix 9, Annex A).

The Period before the Phoebus Agreement

47. By the early 1920's there were, outside the United Kingdom, four major lamp manufacturers in the world, namely, the American G.E.C., Osram G.m.b.H. Kommanditgesellschaft, of Berlin (referred to in this report as "O.K. "), Philips (Holland), and Vereinigte Glühlampen und Elektrizitäts A.G., of Ujpest, Hungary (referred to in this report as "the Hungarian Company"). The relations between individual British manufacturers and the American G.E.C. and O.K. were already close, but Philips (Holland) and the Hungarian Company, who were later in the field and do not appear to have controlled any fundamental inventions, were commercial competitors with whom there were no arrangements.

48. The present B.T.H. was formed in 1896 with exclusive rights to make and sell in the United Kingdom machinery and apparatus made under the patents of a predecessor of the American G.E.C. By 1905 the American G.E.C. held a controlling interest in B.T.H. and the two companies made an agreement for inter-change of patents. Under this agreement, B.T.H. retained exclusive rights under the American G.E.C.'s lamp patents in the United Kingdom, thus keeping the American G.E.C.'s lamps out of the United Kingdom market: only subsequently and gradually was it given certain non-exclusive rights to export, but not to the exclusive markets of the American G.E.C. In 1919 the American G.E.C. transferred its interests outside the United States to its wholly-owned subsidiary, I.G.E.C. Under an agreement between B.T.H. and I.G.E.C. the former's rights to export were further extended, there was to be exchange of manufacturing information as well as patents and a fee became payable by B.T.H. calculated as a percentage of its output. It was accordingly through B.T.H. that the American inventions in the field of tungsten lamps, and particularly the drawn tungsten filament and the gas-filled lamp, were exploited in this country.

49. G.E.C. on the other hand was a British-owned company which made a similar series of agreements with the German manufacturers, the most important of whom merged their lamp interests after the 1914-18 war to form O.K. G.E.C. and O.K. recognised one another's exclusive rights, as to the former in the United Kingdom and the rest of the British Empire† except Canada, and as to the latter in the rest of the world except North America: patents and manufacturing information were exchanged and a royalty was payable by G.E.C.

50. G.E.C. also made an agreement with I.G.E.C. in 1922 under which G.E.C. was excluded from the American market, I.G.E.C. having exclusive use of G.E.C.'s patents there. There was non-exclusive cross-licensing in the British Empire, except the United Kingdom and Canada, and exchange of manufacturing information. G.E.C. was to pay a royalty on all its sales in the non-exclusive territory.

51. In 1921 B.T.H. and G.E.C. had concluded an agreement providing for non-exclusive cross-licensing in the United Kingdom of all patents owned or controlled by each party and for exchange of information. It follows

* But certain parties to the Phoebus Agreement, including the British parties, refrained from exporting to the United States or Canada under separate agreements—see paragraph 24.

† The use of the term "British Empire" is explained in the Introduction.

that G.E.C. had the benefit of the I.G.E.C. information and patents in the United Kingdom through B.T.H. Thus from an early date B.T.H. and G.E.C. had the benefit of the inventions of the principal American and German manufacturers respectively and a guarantee against competition from them in their own home market: in return each of the British manufacturers undertook to keep out of the much larger exclusive market of its foreign partner and imparted its own inventions and paid a royalty to that partner.

52. Similar individual cross-licensing arrangements between lamp manufacturers are understood to have existed in Europe as far back as the early 1900's, and were supplemented there by agreements of a more general nature, including joint selling arrangements with fixed prices and terms. The various sales syndicates, however, broke down successively because there were always outside manufacturers to undercut them. By 1918 the pre-1914 pattern had greatly altered and the market had expanded and was continuing to expand. New productive capacity had been developed in neutral countries, and Philips (Holland) in particular had been able to create a world wide market. Elsewhere, new frontiers, soon to be protected by tariff walls, had separated manufacturers from their normal markets. There was probably, in any case, a considerable surplus of productive capacity in Europe and we are informed that as a result dumping at prices representing cost or less was a common occurrence. By 1924 the United Kingdom was open to imports from all sources, except the American G.E.C. and O.K. under the agreements described above; but the valuable patent rights held by the E.L.M.A. members afforded considerable protection.

The Period of the Phoebus Agreement

53. The American G.E.C. was particularly concerned to retain its hold on its incomparable home market. It had also invested widely through I.G.E.C. in lamp-manufacturing concerns in Europe and elsewhere and had agreements with them which were similar in nature to the agreement between I.G.E.C. and B.T.H. The American G.E.C. was accordingly as much interested as the European manufacturers themselves in putting a stop to what all regarded as the menace of cut-throat competition.

54. Negotiations, primarily between I.G.E.C., O.K., Philips (Holland) and the Hungarian Company, led in 1924 to the signature of the Phoebus Agreement. I.G.E.C. did not ratify its representative's signature, but was effectively represented by the "Overseas Group" of I.G.E.C.-controlled companies located outside the United States who jointly became a party to the agreement. The British companies were not brought in until the arrangements were virtually completed: the American representatives appear to have assumed their compliance during the negotiations with O.K.*

55. The Phoebus Agreement is substantially reproduced in Appendix 8 and its effects may be summarised briefly as follows:—

(a) The principal lamp manufacturers of the world† agreed to regulate their trade outside North America by preserving the existing pattern in any given territory by means of percentage quotas.

* See *United States of America v. General Electric Company et al.*, Civil Action No. 1364, 82 F. Supp. 753, page 833, letter of April, 1924, from the European representative to the Chairman of I.G.E.C.: "The intention is to leave the business of any important country in the hands of the organization of that country if it is in position to hold a substantial portion of it. This . . . will be a matter of considerable importance to us if we undertake to bring the English group in". At one point the European representative of I.G.E.C. appears to have considered the possibility of diverting Philips (Holland) from the American markets by offering the British market as "bait".

† The number of initial signatories is not known, but see Appendix 8 for a full list of those who had signed the agreement by 1937. The list also shows the composition of the "Overseas Group".

(b) No party could oppose another party's patents and any party was entitled to be licensed under another's patents on normal commercial terms if these patents would otherwise prevent it reaping the benefits of the agreement.

(c) A permanent central organisation was set up at Geneva to administer the agreement generally, including the highly complex provisions dealing with quotas as well as standardisation and other technical matters and arbitration in disputes between the parties: there were also provisions in the agreement prohibiting the giving of aid to non-party lamp manufacturers and providing for the joint acquisition of outside lamp businesses, provisions which, among other things, enabled a joint attack to be made on so-called "outsider" manufacturers.

(d) Sales committees ("Local Meetings"), representing the parties trading there, were set up in each country to fix obligatory prices and terms of sale.

(e) A party was not to try to gain any undue advantage, immediate or ultimate, over other parties, by actions not in accordance with the letter or spirit of the agreement.

56. Although neither the American G.E.C. nor I.G.E.C. was formally a party to the Phoebus Agreement it was said in the judgment in the recent action* against the American G.E.C. and others under the anti-trust laws of the United States that the American G.E.C. was the hub of "a gigantic world cartel", having regard to the prominent part played by I.G.E.C. in the negotiations, the complementary agreements made by I.G.E.C. with various parties to the Phoebus Agreement and the actual adherence to that agreement of the "Overseas Group". After the conclusion of the Phoebus Agreement I.G.E.C. made new agreements with most of the principal Phoebus parties providing for exchange of patents and technical information, the recognition of the United States and Canada as the exclusive territory of I.G.E.C., the grant of exclusive rights to the other parties in their own territories so far as I.G.E.C. was concerned and the mutual grant of non-exclusive rights in common markets.

57. One such agreement was that between I.G.E.C. and A.E.I. and its subsidiaries, including B.T.H., Ediswan and Metrovick. This agreement made in 1930 superseded the agreement between I.G.E.C. and B.T.H. to which we have referred in paragraph 48; it was in turn replaced by a new agreement in 1939. The main effects of this, so far as this report is concerned, are that (a) I.G.E.C. may not manufacture or sell in the United Kingdom market, (b) A.E.I. and its subsidiaries may not manufacture or sell in North America, (c) the parties license one another exclusively in their respective exclusive territories and non-exclusively elsewhere, except in so far as I.G.E.C. has already granted exclusive rights to other manufacturers, (d) there is complete exchange of manufacturing information and (e) A.E.I. and its subsidiaries pay I.G.E.C. a fee based on the factory cost of the lamps they make in the United Kingdom.

58. Thus at the outbreak of the 1939-45 war all the principal lamp manufacturers of the world except the independent Japanese manufacturers, whose output and exports increased greatly between the wars, were associated by a network of agreements. The American G.E.C. was protected in its home market by the individual agreements between I.G.E.C. and the other manufacturers, who were protected in their own home markets from the competi-

* United States of America v. General Electric Company et al., Civil Action No. 1364. The action is not completed and the judgment referred to is the "opinion" of the judge in the District Court.

tion of American G.E.C. and its subsidiaries. Some of these other manufacturers, e.g., G.E.C. and O.K., had similar agreements with one another. The effect of the Phoebus Agreement, superimposed on the individual agreements, was to extend universal mutual recognition to the reservation of home markets to home manufacturers and to regulate competition in common markets by stabilizing the pattern of trade there: this latter effect applied equally to the American G.E.C. whose interests in non-American territories were represented by the participation of the Overseas Group in the Phoebus Agreement.

59. In the United Kingdom those members of E.L.M.A. who were parties to the Phoebus Agreement, namely G.E.C., B.T.H., Ediswan, Metrovick, Siemens and Cryselco, formed the "British Group" which enjoyed a block quota based on the aggregate sales of the six members.* The sharing of that quota between the six members was a matter for private settlement and we deal with it in some detail in Chapter 6. These companies by acting as a group under the joint leadership of G.E.C. and B.T.H. were able to deal on more or less equal terms with the other principal Phoebus members.

60. In the United Kingdom market accordingly the British Group retained under the quota arrangements its dominant position, including control of prices and terms of sale, and the interest of Philips (Holland) was limited and stabilized; the rights of other foreign manufacturers in the market, including O.K., were very small. The adherence of Crompton to the Phoebus Agreement in 1937 did not substantially alter this position, although it amounted to a recognition of Crompton's right to retain the share of the trade it had built up in opposition to the Phoebus parties. The American G.E.C. was prevented from competing in the United Kingdom by individual agreements. The members of the British Group also had the benefit of the patents and manufacturing experience of the American G.E.C. and O.K., but in exchange not only imparted their own knowledge and inventions to those companies but also paid them fees or royalties. With Philips (Holland), however, they made no such agreements until 1938, when they made a very limited agreement providing for cross-licensing without royalty on either side under United Kingdom patents for filament lamps only, and setting up a committee for joint litigation under such patents.

The Period after the Phoebus Agreement

61. The outbreak of the war in 1939 made the Phoebus Agreement ineffective and terminated the agreement between G.E.C. and O.K. By 1941 the British Group with A.C. Cossor Ltd., Crompton, Philips (Holland),† Stella and the (American) Overseas Group had entered into another agreement, called the "New General Agreement", which substantially maintained the Phoebus arrangements except in enemy-occupied and certain neutral territories. In 1945 the (American) Overseas Group withdrew from that agreement,‡ and a new agreement has since been made and is now in operation. The agreement, called the "1948 Lamp Agreement",§ is substantially reproduced in Appendix 9. The parties to it are the members of the British

* A. C. Cossor Ltd. did not become a member of E.L.M.A. until after it became a party to the Phoebus Agreement. It was never a member of the British Group, but its small quota was in effect transferred to the British Group. The British Philips Company had not been formed in 1924 and that company and Stella were not admitted to E.L.M.A. until 1933. They continued thereafter to enjoy individual Phoebus quotas as did Crompton when it joined E.L.M.A. and became a party to the Phoebus Agreement in 1937.

† Then located in the Dutch West Indies and the United States.

‡ We have not seen any document stating specifically the reason for withdrawal but the decision is assumed to have been connected with the action against the American G.E.C. under the anti-trust laws in the United States.

§ It was signed in June, 1950 but was deemed to have come into force in 1948 (Article 15).

Group, Crompton, Philips (Holland) and Stella, and it applies only to their trading in the United Kingdom and the rest of the British Empire excluding Canada. The relationship between participation in this agreement and membership of E.L.M.A. is as follows:—

Companies in both E.L.M.A. and the 1948 Lamp Agreement

G.E.C.	Metrovick	Crompton
B.T.H.	Siemens	Stella
Ediswan	Cryselco	

Companies in E.L.M.A. but not in the 1948 Lamp Agreement

The British Philips Company—(but see Philips (Holland) below).
B.E.L.L. }
Aurora }—(but see paragraph 103).

Companies not in E.L.M.A. but in the 1948 Lamp Agreement

Philips (Holland)—(but see the British Philips Company above).

62. The agreement maintains the quota arrangements for those territories to which it applies as between the signatory parties and most of the other provisions of the Phoebus Agreement in so far as they are applicable. It establishes separate quotas for the United Kingdom market. Representatives of the parties to the agreement assemble from time to time in General Meetings and in meetings of the Executive Committee and of standing committees appointed to give advice on matters of accountancy and statistics, the "unit" valuation of the various classes of lamps (see paragraph 91), legal matters, standardisation and technical development. The parties also control the Electric Lamps Statistical Office Ltd., referred to in the agreement as the "Administrative Office", which assembles statistics particularly but not exclusively for the purpose of calculating quotas, penalties and compensation (see Chapter 6). The organisation created in London by the parties to this agreement is in fact similar to that formerly set up in Geneva under the Phoebus Agreement, subject to the diminished scope of the present agreement. As is explained in later chapters, however, many of the practices of the parties under the Phoebus organisation have been modified or dropped. "Local Meetings" continue to control prices and terms in all the countries covered by the agreement: the functions of the Local Meeting for the United Kingdom market accordingly overlap those of E.L.M.A., although in practice the largely common membership prevents the possibility of conflict.

63. Under existing agreements accordingly the British manufacturers are still precluded from trading in North America and are protected from the competition of the American G.E.C. in the United Kingdom. In June 1951, however, new agreements were made with I.G.E.C. which provide for the termination of the existing agreements when the current United States action against the American G.E.C. and I.G.E.C. under the anti-trust laws is concluded. They leave the United Kingdom market open to the American G.E.C., and the North American market to the British manufacturers. In the United Kingdom and the rest of the British Empire, except Canada, competition with Philips (Holland) is regulated and limited by percentage quotas. We are told that there are no agreements or understandings which limit or regulate competition with the British manufacturers by the American G.E.C. or its subsidiaries elsewhere than in the United Kingdom, North America and Japan or by Philips (Holland) outside the United Kingdom and British Empire. There are no arrangements with the German, Hungarian

and Japanese manufacturers, who have not so far recovered their pre-war importance in world markets.

64. The British manufacturers continue to exchange patents, research and manufacturing information with, and to pay royalties or fees to, the American G.E.C. but the complementary agreement between G.E.C. and O.K. terminated in 1939. When the existing agreements with I.G.E.C. are terminated, however (see paragraph 63), these exchanges will cease, but non-exclusive licences under existing patents will be exchanged. We note that the British manufacturers receive a monetary payment as part consideration for the termination of the existing agreements. G.E.C. and B.T.H. have also recently concluded an agreement with Philips (Holland) for exchange of manufacturing information and research and non-exclusive cross-licensing in the United Kingdom and elsewhere: no royalty is payable on either side. The agreement appears to envisage a more intimate relationship of the British parties with Philips (Holland) than has hitherto existed. Unlike any members of the British Group, Crompton made an agreement with Philips (Holland) before the war under which Crompton paid a royalty in return for non-exclusive licences under the Philips patents for all types of lamps in the United Kingdom and elsewhere. This agreement is still in operation.

CHAPTER 5 : PATENTS AND INVENTIONS

(i) Introductory Note

65. Patents, and the use made of them, have played a large part in the development of the lamp industry and bear a close relation to the matters into which we are inquiring. Before we describe the arrangements in the industry we give a very brief introduction in order that our description may be better understood by those not familiar with the subject of patent law.

66. A United Kingdom patent gives the patentee the sole right in law to "make use exercise and vend" an invention for a term of sixteen years. Maintenance of the patents beyond an initial period of four years is dependent only on the payment of annual renewal fees but in practice only a small proportion of the patents granted each year are renewed by the patentee so as to extend for the full period of sixteen years. When the patent expires the invention is public property. The right applies in the United Kingdom only but applies to manufacture in the United Kingdom even for export. Patents for the same invention may, however, be taken out in other countries simultaneously, in accordance with the laws of those countries. There is an International Convention facilitating this. The validity of a patent can be contested in the Courts at any time and the Courts can declare a patent invalid on various grounds such as that there is no real invention. A patentee may assign his rights, or may license another person to use the invention exclusively, or may give non-exclusive licences to as many people as he likes. He may attach conditions to a licence, and it is common to fix the price at which the patented article is to be sold. He may retain his patent rights in one country and dispose of them in another. He has no rights in countries in which he has not taken out a patent, though he may be able to prevent that market from being supplied by a manufacturer located in another country where he holds a patent. Under United Kingdom law, he is under no obligation to give a licence to anyone, but a compulsory licence may be granted by the Comptroller-General on application by an interested person who can show that the patentee has not adequately used the invention. In essence, therefore, a patent is a limited form of monopoly protected by law. The