

The following is an analysis of the valves and tubes produced and supplied in 1954:

	<i>Valves</i> millions	<i>Tubes</i> thousands
Total production in United Kingdom	54.2	1,640
Sales by manufacturers ex-Government stocks ...	1.2	negligible
Retained imports (Annual Statement of Trade) ...	8.5	404
Total supply	63.9	2,044
Total supply by BVA members and subsidiaries ...	58.2	1,797
Total supply by Mullard	38.1	1,000

Exports have been incorporated in the above figures because of the difficulty of isolating them accurately from the data available to us. The BVA say that their members exported 7.3 million valves and 17,000 tubes in 1954. These figures include valves and tubes sold to associate companies in the United Kingdom and incorporated in equipment exported by them; comparable sales to non-BVA set makers, however, might not be so classified.

Labour employed

63. In 1954 about 23,500 persons were employed in the industry on the production of valves and tubes of all kinds; of these about 20,000 were employed directly on production, nearly 2,000 on research, and the rest on distribution. The principal trade unions with members who are engaged in this industry are: Amalgamated Engineering Union, Association of Engineering and Shipbuilding Draughtsmen, Association of Scientific Workers, Association of Supervisory Staffs, Executives and Technicians, Electrical Trades Union, National Union of General and Municipal Workers, and Transport and General Workers Union.

CHAPTER 4. THE HISTORY AND PRESENT CONSTITUTION OF THE BVA

The Formation of the Association

64. The British Radio Valve Manufacturers' Association (BVA) was constituted in July, 1926 and registered as a trade union, and it has operated continuously since that date. The Association was reconstituted in 1932 and again in 1936; the present constitution is that adopted in 1936 with certain amendments. At its formation in 1926, the BVA had the following membership:

- British Thomson-Houston Co. Ltd.
- Burndep Wireless Ltd.
- Cleartron Radio Ltd.
- A.C. Cossor Ltd.
- Edison Swan Electric Co. Ltd.
- Electron Ltd.
- General Electric Co. Ltd.
- Marconi's Wireless Telegraph Co. Ltd. and Marconiphone Co. Ltd.
- Mullard Radio Valve Co. Ltd.
- Standard Telephones and Cables Ltd.

Two other manufacturers, Philips Lamps Ltd. and Ferranti Ltd., joined the BVA early in the 1930s when they began making valves. Metrovick were members between August, 1926 and 1932 and Standard were not members between 1929 and 1932. Three of the original members withdrew from the Association on closing their valve making departments. One other company, Lissen Ltd., was a member for a short period in 1934 and 1935 while planning to extend its activities to include valve manufacture, but ceased to be a member when these plans did not materialise. There have been various changes of name among the member companies but no other manufacturers have been admitted to membership by the Association.

65. As shown in paragraphs 25 to 36, most of the original members of the BVA were established companies which had wide experience and interests in other branches of the electrical industry. Their experience in the manufacture and distribution of electrical products, coupled with the problems arising in the growing valve industry, convinced them, we are told, of the necessity for a basis for the exchange of views on manufacturing and technical matters and also for some "orderly arrangement of commercial issues". The BVA was, therefore, formed "to promote, encourage, foster, develop and protect the interests of the public, the trade and the manufacturers of British-made valves". Throughout its history the BVA has regulated the prices, terms and conditions of sale of valves sold by its members, and has made agreements with the principal purchasers of valves, providing for exclusive buying and for the maintenance of resale prices.* Similar trading arrangements had been made by the Valve Manufacturers' Association which was founded in 1924 and was wound up in 1926 when all its members and one non-member (Cleartron Radio Ltd.) joined the newly formed BVA. Three of the members of the Valve Manufacturers' Association were also members of the Electric Lamp Manufacturers' Association of Great Britain Ltd., and the valve association used the lamp association's secretariat until early in 1927, when the BVA appointed its own secretariat and moved into separate premises. By this time valve technology had become distinct from lamp technology.

66. We are told that in 1926 the

"manufacturers were convinced of the desirability of proper wholesale and retail distribution and of taking all reasonable steps to encourage and ensure as far as possible that the public should buy from genuine retailers who would afford fair trading conditions and service."

The BVA laid down a definition of a radio retailer to which those claiming trade discounts should conform, and offered a form of retailer's agreement to those traders who desired it, although the holding of an agreement was not essential for securing recognised trade status. The retailer's agreement required the exclusive handling of valves made by BVA members and adherence to certain trading conditions in return for which the trader received a cash rebate on purchases by way of payments through the Association. These or similar arrangements for retailers continued until 1936 when they were allowed to lapse. The approved definition of a retailer eligible for trade terms is still generally acknowledged but is not enforced, and since 1936 there have been no restrictions on the range of valves which the ordinary radio retailer may sell.

First trading arrangements

67. Prior to 1936 members' production for the domestic market had to conform to standards drawn up by the Association which covered both the

* This was the position up to 1st September, 1956. See Introduction, paragraph (vii).

dimensional and electrical features of the valves. Each valve had its retail price. The first prices, issued in July, 1926, were about mid-way between those previously charged by the members of the Valve Manufacturers' Association and the lower prices charged by the non-member of the Association (Cleartron Radio Ltd.) which had joined the BVA on its formation. The three main classes of customer—set maker, wholesaler and retailer—were entitled to discounts on the list prices. Both set makers and retailers, but not wholesalers, were entitled to better terms if they signed exclusive buying agreements with the Association. Wholesale discounts were available only on exclusive buying terms.

Competition from imports

68. The BVA has told us that one of the major problems facing the valve manufacturers between the wars was how to meet competition from very low priced and even dumped imports from several European countries and the U.S.A. The policy was therefore to secure the set makers' business in face of competition from foreign valves and to prevent the subsequent encroachment of foreign valves on the maintenance market. Not only were the individual set makers encouraged to sign exclusive buying agreements but in 1927 an agreement was made between the BVA and the set makers' association*, which bound all the members of the latter association to use only valves made by BVA members. In 1931 the BVA was pressed by the set makers not to make American type valves. American type valves had at that time differently designed bases and operated on different voltages from the types covered by the BVA price lists. It was thought by both valve and set makers that, if the BVA changed its policy and members began to make American type valves, radio dealers would be more likely to handle American sets and this would lead in time to an increased demand for American type valves. The result would be both to increase the variety of types of valves which the manufacturers would have to make and to facilitate trade in American sets. At about the same time one or two important American set makers started making sets in this country, using imported valves. The BVA tried unsuccessfully to persuade these manufacturers to change to British types. The BVA maintained its policy of not making American type valves until 1936, when the Association was reconstituted and all restrictions on the types of valves which members might manufacture were removed. No member took advantage of the freedom to make American type valves for the domestic market until 1937, and great efforts were made by the BVA to persuade the principal American set maker established in this country to turn over to British types. He did so in 1938.

69. The reconstitution of the Association in 1932, and again in 1936, was preceded on each occasion by a period of intense price cutting, with prices which, we are told, were in some instances so low that the members themselves were thought to be infringing the price agreements, since otherwise the valves would not have been available for profitable resale by distributors at such low prices. At both periods there was great competition between members of the Association for the set makers' business, on which maintenance sales (the more profitable side) were necessarily based, and the Association found great difficulty in securing the observance by its members of the price agreements on sales to set makers. The agreed discounts off list prices which might be given to set makers were increased several times and finally, in 1936, any attempt at agreeing the prices for sales

* Then the Radio Manufacturers' Association.

to set makers for the first equipment of new apparatus was abandoned and the set makers were freed from their exclusive buying agreements. Various unsuccessful attempts have been made since to re-institute price control over these sales, which form the bulk of the valve manufacturers' business and provide the orders on which economical long runs of production can be based; in a small part of this field, however, there are today some minimum price agreements, which date from the immediate post-war period. Exclusive buying agreements with set makers were resumed after the war.

70. The main price competition from outside the BVA has always been provided by imports* and has been most effective in the maintenance trade handled by wholesalers and retailers. In 1934 the total number of valves imported equalled the number sold as maintenance valves by the BVA members. About this time the exclusive buying rebate given to retailers who signed an agreement was increased, and the discounts given to larger wholesalers, all of whom were bound by the exclusive buying agreements, were also increased. In 1936, when the retailers were freed from exclusive buying agreements, list prices were reduced and discounts to wholesalers further increased. The wholesalers remained dissatisfied and protested about their exclusive buying agreements applying not only to valves sold for maintenance purposes but also to valves sold in sets. The Radio Wholesalers' Federation pressed for permission for wholesalers to handle certain American sets and the corresponding American valves, and a few of the larger wholesalers gave up their BVA agreements in 1938 as a protest against the exclusive dealing clause. During these critical years many set makers began by-passing the wholesale trade by distributing their sets direct to retailers. This no doubt increased the wholesalers' anxiety to handle as wide a range of sets and valves as possible.

71. The picture we have, therefore, is that throughout the 1930s the BVA members struggled to maintain the agreed list prices and traders' discounts against increasing technical and price competition from imports. For example, the quantity of valves imported in 1937 was nearly 30 per cent. greater than the quantity imported in 1934. Although the expansion of the industry in the 1930s was accompanied by reductions in prices on the home market, American valves were entering the country in large quantities and at lower prices. The average price of a British valve in 1935 was 3s. 9d., compared with the average c.i.f. duty-paid price of 2s. 8d. for the American imports. The total sales of valves continued to increase but the BVA members' proportion of the total sales which were sold for maintenance purposes, always the most profitable class of sale, fell considerably.

72. During this period the BVA tried to check the growth in variety of valves made for the domestic market in order to hold down costs of production and distribution, and they held many discussions with set makers as to how they could act together to hold the market against increasing foreign competition. They tried to prevent the production of a multiplicity of types which did not carry any advantage in performance. They failed in 1936 to get the Key Industry Duty raised. They did prevent the sale to distributors of cut price valves by set makers who had bought large quantities of valves for the first equipment of new apparatus, and then found they had more than they needed. When in 1938 they finally persuaded the important American set maker established in this country to use British made valves the main grievance of the wholesalers was removed and those who had given up their BVA agreements were re-admitted to the BVA list. Others who had specialised in the distribution of the imported American makes were offered BVA wholesalers' agreements and put on the list. By 1939, therefore,

* Details of imports are given in Chapter 10 and Appendix 9 D.

the position seems to have been largely stabilised. Common distribution schemes with the set makers—including a common “white list”—and the re-introduction of preferential discounts for retailers who agreed to deal exclusively in BVA valves were still being actively considered up to the outbreak of war.

The war period (1939–1945)

73. During the war the BVA was principally concerned with technical matters and production difficulties in meeting Government requirements. Trade in civilian valves was much curtailed from the outbreak of war, and in February, 1941 all stocks of valves were frozen except for supply against Government requirements. A small volume of civilian production was permitted for maintenance purposes, and later the Government allowed a small production of new sets for civilian use. Manufacturing resources were largely pooled, and the BVA members began to buy substantial quantities of valves from each other, a practice which has continued to the present day. Imports were closely controlled by the Board of Trade, and this for the time being removed one of the main anxieties which had troubled the BVA in the 1930s.

74. Towards the end of 1942 the Association began to give consideration to its post-war plans. In 1943 it was decided that the BVA should enter into discussions with other associations in the electronics industry with a view to the formation of a federation embracing them all but within which the BVA should retain its identity. The upshot was the formation of the Radio Industry Council in 1945. The other members of the Council are the British Radio Equipment Manufacturers' Association and the Radio Communication and Electronic Engineering Association, which between them cover all types of equipment using valves and tubes, and the Radio and Electronic Component Manufacturers' Association, the members of which are makers of components other than valves and tubes. The Radio Industry Council acts as a central body in a variety of activities to foster the interests of the industry. It organises, for example, the annual Radio Show.

The proposed standard range

75. Prominent amongst the post-war plans discussed within the BVA was a return to some standardisation of production so that any one type of valve sold at a certain price would be virtually the same valve whichever member made it. The main object, the BVA has told us, was to make the British valve industry fully competitive, not only with imports but also in export markets, and the BVA drew up several possible plans for standardisation, most of which had important commercial implications. It was thought, for example, that a fully competitive position in relation to foreign valve industries could be achieved only by complete integration of all the engineering and manufacturing resources of the home industry, and that this would involve common prices for the home market and production quotas for the members. Technical consideration of a standard range, which began in 1943, dragged on without any marked results until the Spring of 1949. As the discussions proceeded it was generally agreed that complete control of the types of valves to be made carried with it the serious danger that technical development would be hampered. Because of the risks of inhibiting technical progress it was finally decided in 1949 to abandon attempts to agree on an obligatory standard range of valves and to proceed with standardisation on a purely voluntary basis.

Proposed extension of the scope of the Association

76. Soon after the end of the war discussions were started on proposals to bring every type of valve within the scope of the BVA with a consequent reconstitution of the Association allowing for two sections, one for industrial valves and the other for domestic valves, and a corresponding widening of membership. There was no association dealing with industrial valves, and both the BVA and other sections of the radio industry felt the lack of any competent association for these valves, which were of increasing importance. Certain constitutional difficulties were encountered as the possibilities of widening the scope of the BVA were explored but discussions within the BVA continued until we received our reference in December, 1954, when they were deferred pending the outcome of our inquiry. The constitution had, however, been widened in 1949 to include cathode ray tubes; these tubes had previously been subject to an informal agreement between the members.

Post-war distribution policy

77. In the middle of 1945 the distribution policy was settled on the present lines and there has been no change since.* The changes then made included a return to exclusive buying agreements with set makers; the initiation of exclusive buying agreements with chain stores; and a formal recognition of garages servicing car radios and of service engineers as categories of traders eligible for retailers' terms. There was an attempt to reduce the number of wholesalers, and a minimum stock requirement was introduced for recognised wholesalers. Once again there were inconclusive discussions with the set makers' association† on a common distribution scheme for valves and sets; the proposals included a "white list" of retailers who would undertake to deal exclusively in valves and sets made by the members of the two manufacturers' associations.

78. Although valve manufacture had continued throughout the war and indeed reached a higher rate than ever before, the switch from Government orders to civilian requirements gave rise to many production difficulties: severe reductions in Government orders were not matched by new orders from set makers, who were unable to switch over rapidly to peace-time activities. We are told that at first the demand for valves fell considerably and that the total requirements in 1946 were only about 45 per cent. of the total in 1944. There was, however, a pent-up demand for sound receivers, and within a year or so of the resumption of television programmes in 1946 there was a big demand for television sets. Techniques had changed during the six years of war, and television tubes had not been made in substantial quantities before the war. The art of mass producing television tubes did not develop smoothly, and in the early years of their production many of the manufacturers, we are told, sold all their tubes at a loss. Several manufacturers, and in particular Mullard, had to import additional valves and tubes to meet their customers' requirements. The great bulk of the imports in post-war years have in fact been by or on behalf of BVA members.

79. In 1948 and 1949 there were discussions with the set makers' association (BREMA) about the length of the guarantees on valves and tubes. By agreement the BVA members have always strictly limited their individual guarantees to three months for valves and six months for tubes. The set makers wanted the same period of guarantee for sets, valves and tubes,

* This was the position up to 1st September, 1956. See Introduction, paragraph (vii).

† Now the British Radio Equipment Manufacturers' Association (BREMA).

i.e. they asked that the guarantee periods for valves and tubes should be extended to the year customarily given for sets, but the BVA consistently refused to modify its arrangements. During the period 1947 to 1951 the BVA considered proposals to introduce an insurance scheme for the maintenance of television tubes and valves, since the costs of maintenance were thought to be likely to impede sales of television sets. The arrangements were worked out in some detail but the administrative complications were finally considered to be too great and the BVA abandoned the proposals.

80. Close consultation with Government Departments on their requirements has continued since the war, and over the years non-members of the BVA who are interested in the types of valves in question have been allowed to join in the Association's discussions on these valves. Virtually all the valve manufacturers are now represented on the BVA Technical Committee when Government type valves are discussed. A few of these non-members are allowed to use distributors on the BVA's lists for their relatively small production of valves and tubes. The principal non-members interested in the domestic market, Hivac and British Tungstam, are both represented on the BVA Technical Committee for Government items but neither is given access to BVA distributors.

81. During 1945 and 1946 the BVA co-operated in a Government inquiry into the prices of valves. The report*, made by the Central Price Regulation Committee in June, 1946, expressed the opinion that the profits of the valve manufacturers overall were fair and emphasised that high profits on maintenance sales were offset by the losses incurred on sales to set makers (see also paragraphs 221 and 224).

82. In 1951, on the publication of the White Paper on Resale Price Maintenance (Cmd. 8274), the BVA submitted to the Board of Trade a memorandum setting out in detail its reasons for the retention of the price maintenance of both valves and tubes. In 1952, on the publication of the Commission's report on Electric Lamps†, the BVA reviewed its need for exclusive dealing and resale price maintenance and decided that certain modifications could safely be made in its arrangements: it deleted from its constitution provisions for a stop list of traders and for the imposition of fines in cases of infringement of the price agreements.

The present Constitution of the BVA

This section takes no account of the amendments to the Constitution which were made at a late stage of our inquiry. (See Introduction paragraph (vii))

Membership

83. As explained in paragraph 64, the membership of the BVA has changed very little over the years. The present membership is as follows:

A.C. Cossor Ltd.
Edison Swan Electric Co. Ltd.
Ever Ready Radio Valve Co. Ltd.
Ferranti Ltd.
General Electric Co. Ltd.
Marconiphone Co. Ltd.
Mullard Ltd.
Phillips Electrical Ltd.
Standard Telephones & Cables Ltd.

* Extracts from the report are given in Appendix 10.

† Report on the Supply of Electric Lamps—H.M.S.O. 1951.

The rules provide that new members must actually manufacture valves and tubes. Neither Cossor, Ever Ready nor Philips actually manufactures valves or tubes and their reasons for retaining membership are largely historical.

Rules

84. The Objects, Rules, Byelaws and Regulations of the BVA are reproduced in full in Appendix 4. The Rules provide for matters of policy to be dealt with by a Council and for the executive committee to be a Board of Management with such other committees as may be constituted from time to time. The Rules provide for three main classes of membership each with their respective privileges and rates of subscription. Founder members have a vote on the Council, Ordinary members, including manufacturing and non-manufacturing members, may or may not have a vote on the Board of Management. There are five founder members (Cossor, Edison Swan, G.E.C., Marconiphone and Mullard) who acquired this status on the re-constitution of the Association in 1932 when the members who were then manufacturers were given certain special rights. The Council consists of the five founder members but in practice there is very little distinction between the founder members and the other manufacturing members, of whom there are two (Standard and Ferranti): both are represented on the Board of Management and have the same voting rights on it as the founder members. The Council has never been an active body, and has actually been called together only once, in October, 1952, when it discussed the proposals for widening the Association's scope, to which we have referred in paragraph 76. In practice, control of the affairs of the Association has remained with the Board of Management.

85. The non-manufacturing members (Philips and Ever Ready) are represented on the Board of Management but have no vote. They have equal rights on the various sub-committees. A new (manufacturing) member is entitled to the same rights as an ordinary non-manufacturing member. There is no member in this category. There is provision in the Rules for appointing new members to the Council, and giving members votes on the Board of Management, but these have never been invoked. At one time in the 1930s both Standard and Ferranti wanted to be appointed to the Council but since that time the matter has been of no practical importance and has not been pursued.

86. There are at present eight advisory committees (Policy, Finance, General Purposes, Special Purposes, Imports, Exports, Engineering Advisory, and Technical). All but the Special Purposes and the Exports Committees meet at regular intervals. Their deliberations are reported to the Board of Management and their decisions are subject to ratification by the Board. The Association is served by a Secretary and a staff of twelve, four of whom are concerned entirely with the Engineering and Technical Committees and allied activities. Both the Engineering and Technical Committees have sub-committees and panels for certain subjects. The Technical Committee was dormant for a few years before 1941, when it was revived to deal with problems arising on Government requirements. Since then it has remained active, particularly on Government requirements, and has not confined its activities to those valves which are formally within the scope of the Association. Nine non-member manufacturers who are interested in Government requirements attend the Technical Committee when relevant items are under discussion. The Engineering Advisory Committee was formed in 1942 to consider the proposal to have a standard range, discussion of which continued until the Spring of 1949. It has since concerned itself with the policy issues arising on standardisation and similar matters. The Imports Committee was formed only recently, in 1954,

to deal with the temporary relaxation of Byelaw 5, which affects imports by members of the Association.

Byelaws

87. The formal scope of the Association is set out in Byelaw 1. This relates partly to types of valves (all types of tubes are included) and partly to classes of customers. Broadly the scope of the Association covers all valves and tubes except (i) Government orders and (ii) most special valves which have little or no sale in the domestic market or through wholesale and retail channels, such as high-power transmitters, magnetrons, klystrons, photo-electric cells and cold cathode tubes. These special valves are mainly sold to approved equipment makers and prices to approved equipment makers are not in general controlled by the Association. Valves and tubes for export do not come under the Association's pricing arrangements.

88. The importance originally attached to the pricing activities of the Association is shown by the inclusion in the Rules (Rules 53 and 54) of the main provisions for fixing prices, discounts, terms and conditions of sale and observance of price maintenance. All the other trading arrangements are dealt with in the Byelaws and Regulations.

89. The Byelaws include the following provisions:—

- (a) All valves and tubes must be marked with members' trade names and no changes can be made in these names without the sanction of the Board of Management. Members need the permission of the Association to supply non-members with buyers' brand valves and there is provision for a member to resign at three months' notice* if he objects to another member being given permission to make valves with buyers' brands (Byelaws 4, and 23-27).
- (b) "Equipment" valves and tubes, i.e. those which are supplied for the first equipment of new sets and apparatus, are distinguished from "maintenance" valves and tubes (Byelaws 8, 10, 35).
- (c) Equipment supplies may, subject to certain safeguards, be sold at unregulated prices to certain buyers on the Association's approved lists (Byelaw 9).
- (d) Valves and tubes in kits, i.e. sold with other parts ready for assembly into sets, are specifically excluded from the provisions relating to equipment supplies, and approved buyers of equipment valves and tubes may not sell these goods in kits at all (Byelaw 11).
- (e) All valves and tubes except as specifically provided otherwise, must be sold at prices and discounts approved by the Association (Byelaws 6, 7).
- (f) Members may not take any interest in or give manufacturing assistance to non-members without the previous sanction of the Board of Management (Byelaw 34).
- (g) All new valves must be submitted to the Association for technical classification, pricing and approval before they are offered for sale. There is no restriction on the types of valves members may make (Byelaws 12-15).

The Byelaws also provide for the expulsion of members who commit breaches of any agreements (Byelaw 29) and for the co-operation of members in supplying information on the net amount of business done between them and any individual customer (Byelaw 33).

* Under Rule 17 the normal notice of resignation must be not less than 6 months.

90. Byelaw 5, which was extensively modified in 1954 as a temporary measure, deals with imports. In its old form it prevented members selling or dealing in valves from overseas except in "exceptional and special circumstances", although a limited number of experimental valves might be imported, and it provided for arbitration if imports reached such proportions "as are or seem likely to be a menace to the proper conduct of the Association as a Group of British Manufacturers". The present version of this Byelaw permits any member to import up to 10 per cent. of his home sales in any period and a further amount up to the level of his exports subject to a maximum of a further 10 per cent., and stipulates that any proposed imports in excess of this limitation must be notified to the BVA. It further requires that:

"New types of valves and tubes or series of types which are liable to introduce new techniques into the Home market shall be declared to the Association before actual importations take place."

The members agreed to review these arrangements in June, 1956. At the time of reporting this review had not taken place, but was expected to take place shortly.

Regulations

91. The Regulations define the terms, expressed as discounts off list prices, at which various classes of buyers may be supplied. The basic trade discount is 33½ per cent. off list prices for valves and 20 per cent. off list prices for tubes. These discounts may be given to "any genuine radio trader in whatever category". The regulations give general definitions of retailers, motor traders and auto-electrical engineers: concerns in these categories which do not comply with the definition may not be supplied at all—they would in practice be supplied at full list prices with the 2½ per cent. cash discount, since supplies are never wholly refused. The same basic trade discounts are given to listed cine dealers, listed service engineers, certain listed equipment makers buying valves and tubes for maintenance purposes, and listed miscellaneous buyers including nationalised industries, public utilities, aircraft manufacturers and hospitals.

92. Buyers who sign exclusive dealing agreements and are otherwise approved by the Association get discounts in addition to the basic trade discount, on at least part of their purchases. These agreements are made annually. Buyers with exclusive dealing agreements include wholesalers, chain stores, rental and relay companies, set and equipment makers and car manufacturers. A few old established set makers get the most favourable terms given to approved equipment makers, i.e. unregulated prices for new equipment, without undertaking to buy BVA valves exclusively. A few other equipment makers have dispensations to use non-BVA valves or tubes to a specified and limited extent.

93. The discounts obtained by wholesalers, chain stores and rental and relay companies with exclusive agreements are based on their purchases from all BVA members in the previous year. The terms given to equipment makers also vary according to a classification by the BVA which is, in very broad terms, related to the amount of business done in previous years.

94. Discounts on sales between members, sales to St. Dunstan's and certain other charitable institutions, supplies to Government Departments and exports are unregulated. Staff associations, mutual trading associations and clubs must be charged the full list prices without cash discount.

95. The Regulations also provide for guarantees to be in a common form and to be three months for valves and six months for cathode ray tubes and prescribe the way in which claims are to be handled and replacements made.

There are regulations restricting advertising and participation in exhibitions by members and preventing members from giving inducements to a customer which would relieve the customer of an expense he would normally incur. The regulations require that original equipment and maintenance valves and tubes shall each be packed in a distinctive manner. Certain customers are required to give assurances at the time of placing their orders as to the purposes to which they will put valves and tubes supplied to them on preferential terms. There is also a regulation prohibiting members from supplying C.V. valves* to the distributive trade, although there are arrangements for the disposal of surplus Government stocks. (See paragraph 61 (c)).

96. Both the Regulations and the Byelaws prohibit a member from contracting to supply valves and tubes to an agreement holder for a longer period than that of the customer's current agreement with the BVA.

97. Important amendments to the Byelaws and Regulations have been made in recent years. The stop list provisions, which had not been used since 1948, were deleted from the constitution in 1952, when, as we have explained in paragraph 82, the Association decided that it no longer needed them. Shortly afterwards the Association deleted Byelaws 9 (b) and 32 which dealt with fines upon members, and amended Byelaw 29 so that there ceased to be any provisions for fining members or customers. Other amendments include the widening, in 1949, of the scope of the Association to include cathode ray tubes and the deletion in 1953 of Byelaw 13, which dealt with the agreement not to introduce American type valves without prior notification to the Association.

Relations with non-members

98. Fourteen manufacturers have inquired about the possibility of membership of the BVA since the formation of the Association in 1926. Five have been admitted to membership; two of them remained members for relatively short periods.

99. Metrovick was a valve manufacturer at the time of the formation of the BVA in 1926 and joined the Association in August of that year, raising its prices to conform to the first price list issued by the BVA. At that time it had contracts to supply two set makers with valves branded with the set makers' names: these contracts were allowed to run out in November, 1927 as the manufacture of buyers' brand valves was contrary to the BVA's policy. Metrovick ceased to be a member of the BVA on the reconstitution of the Association in 1932, by which time it was no longer making ordinary receiving types of valves. It now makes, entirely for its own use, types of valves outside the scope of the BVA.

100. Standard became a member of the BVA on the formation of the Association but resigned in 1929 on ceasing to make valves for domestic receiving sets. In 1931, when it was contemplating resuming the manufacture of common types of receiving valves, it inquired about membership and the BVA agreed to re-admit it. It again became a member on the reconstitution of the BVA in 1932. Shortly before its re-admission to membership it had made a contract for supplying an American set maker established in this country with receiving sets. This contract was allowed to lapse in the middle of 1933 because the BVA was unable to persuade the set maker to change over to British valves.

101. Loewe Radio Ltd. applied for membership in 1931 and 1932 but its application was refused by the BVA because it was making only a narrow

* See paragraph 17.

range of valves of a type not then made by the members. In 1933 the BVA added some valves of a similar type to their range and Loewe Radio Ltd. re-applied for membership. The application was again refused on the grounds that the company was "not engaged in general valve manufacture, but only in a special type".

102. Philips (then Philips Lamps Ltd.) applied for membership in 1929 when the BVA extended its activities to include rectifying valves of a type Philips was then proposing to make. It was decided to offer it associate membership. On the reconstitution of the BVA in 1932 no provision was made for associate membership and Philips became an ordinary member without voting rights on the Board of Management.

103. Ferranti expressed interest in joining the BVA early in 1930, in which year it started to make electronic valves. It was admitted to membership in 1932 when the BVA was reconstituted.

104. An important set maker, Lissen Ltd., applied for membership towards the end of 1934, indicating that it was embarking on large-scale manufacture of receiving valves. It was admitted to full membership of the BVA and given a vote on the Board of Management. Very soon afterwards there was trouble over the brand names Lissen Ltd. intended to use on its valves and it appeared that it was intending to buy all its supplies from Ever Ready, a non-manufacturing member, which in turn bought all its supplies from Mullard. The BVA decided that the arrangements these three members were making about the brand names to be put on valves were a breach of the constitution and fined both Mullard and Ever Ready £250 each. In fact Lissen Ltd. did not proceed with the proposal to make valves and its membership was merged with that of Ever Ready as they both were part of the same group of companies.

105. British Tungram has inquired about possible membership on several occasions since 1935. Several applications were refused before the war, on the ground that as the company was only assembling imported parts it did not qualify for membership as a manufacturer. During the war the company was forced by the lack of imports to become a full manufacturer and worked with the BVA in meeting Government requirements. In 1942 and 1943 it renewed its application for membership but the BVA decided that its foreign ownership, which had resulted in its assets being taken over by the Custodian of Enemy Property, prevented its admission to membership. The application remained under consideration throughout the war. In the early post-war years, the company found difficulty in re-establishing its business because of political events in Hungary affecting its parent company. Later, after its ownership had changed hands, it found that it lacked the necessary know-how. In due course, as already explained in paragraph 49, British Tungram came under the management of Mullard and remained the principal non-member supplier of ordinary receiving valves. It has not applied for BVA membership since the war.

106. E. K. Cole Ltd., an important set maker, approached the BVA about membership in 1936, when it had embarked on the manufacture of receiving valves for its own sets. Negotiations continued for some time. The BVA favoured the application, but six months later E. K. Cole Ltd. asked the BVA to defer consideration of it in view of the unsettled state of the valve trade. Although it did not proceed with its application, it observed the same prices and trading terms as the members. Soon afterwards E. K. Cole Ltd. decided to buy all its valves from one of the principal valve manufacturers and ceased to manufacture valves itself.

107. Hivac applied for membership in 1943 and the application remained under consideration for several years. The BVA were favourably disposed to admitting Hivac to membership if the scope of the Association were widened to include industrial valves. Like most other non-members, Hivac sits on the BVA's Technical Committee when Government requirements are discussed. It was invited to send a representative to this Committee in 1952. Two hearing aid manufacturers who are holders of BVA set makers' agreements have dispensations to use Hivac valves in new equipment and all the hearing aid manufacturers with BVA agreements have dispensations to use Hivac valves for maintenance purposes.

108. Cinema-Television approached the BVA towards the end of 1943 to inquire about the possibilities of membership. No formal decision was reached but as the company made only cathode ray tubes and did not make valves, membership was felt to be dependent on the proposal to widen and reconstitute the Association. Cinema-Television has also sat, since 1952, on the BVA's Technical Committee when Government requirements are discussed. One of the BVA wholesalers is allowed to stock and sell its tubes.

109. In 1949 a request for membership from Televalves, a firm with a small factory at Croydon, was turned down by the BVA because of its very small-scale production and because all its products were of industrial types.

110. English Electric Co. Ltd. made informal inquiries about membership in 1950 and indicated that it was willing to co-operate with the BVA on commercial matters. Its direct interest in the BVA is confined to cathode ray tubes made by its subsidiary E.E. Valve. Several of the BVA wholesalers are permitted to stock and sell English Electric tubes. E.E. Valve has, since 1952, sat on the BVA's Technical Committee when Government requirements are discussed.

111. 20th Century inquired about membership in December, 1954, and was told that the tubes it made were not within the scope of the Association, but that an extension in the scope of the Association was under consideration and if this went through, membership might be appropriate. This company has, since January, 1955, sat on the BVA's Technical Committee when Government requirements are discussed.

112. Marconi does not make valves or tubes, but it has always had strong links with the valve manufacturing industry, and is an important customer of BVA members. As one of the earliest users of electronic valves (see paragraphs 28 to 30) it was associated with the G.E.C. in the founding, in 1919, of M.O. Valve, with which it has maintained close technical association; it has historical ties with Marconiphone, which originated as the Marconi set-making department and to which it sold its set-making interests; and, in recent years, it has had close commercial ties with its associate in the English Electric group, E.E. Valve. Between 1926 and 1932 Marconi was regarded as a joint member of the BVA with Marconiphone. Marconi says that as it does not make receiving valves nor trade in the domestic receiver field, it is not interested in membership. It has never made a formal application for membership but nevertheless has been considered as a possible candidate for membership of the industrial section of the BVA if the scope of the Association should be widened. It was invited, early in 1955, to sit on the BVA's Technical Committee when Government requirements were discussed.

113. British Tungstam has been the only maker of common types of receiving valves to establish itself since 1926 and remain outside the Association, whereas four firms which widened their activities to include valve manufacture have been admitted to membership of the BVA. On the other hand

several new companies established for the purpose of manufacturing television tubes (and in some cases special types of industrial valves) have not joined the BVA. We asked the BVA why they thought there should be this difference. They told us that it is easier to begin making television tubes than receiving valves because a manufacturer can operate successfully on a restricted range with common components, thus reducing considerably the amount of capital required and the production problems. A new entrant to the industry can therefore successfully conduct a business with only one or two types of tubes, particularly if it also manufactures television sets, whereas it could not enter the receiving valve field successfully unless it could offer a wide range of types from the start which would require a greater capital outlay and a much wider technical ability.

114. We also noticed that the manufacturers whose inquiries about membership have been sympathetically considered or who have been granted distribution facilities for their products by the BVA have been set makers or associated with important set makers. The Association however considers that any apparent discrimination in favour of applications from user manufacturers as distinct from purely valve makers is fortuitous. The Association's policy is to consider favourably applications from genuine manufacturers but the BVA interprets this as meaning manufacturers of a "reasonable" range of types falling within the scope of the Association. Only three manufacturers have satisfied these conditions: Lissen Ltd., E. K. Cole Ltd. and British Tungsram. Of these only Lissen Ltd. became a member.

CHAPTER 5. THE BVA'S SELLING SYSTEM

115. Over the years the Association has evolved a supply policy which is based fundamentally on the sharp distinction made throughout the industry between valves and tubes sold for "equipment" and those sold for "maintenance" purposes. In 1954 the number of valves and tubes sold by BVA members for equipment purposes was between seven and eight times the number sold for maintenance; the preponderance of equipment supplies was even greater in 1955.

Equipment supplies

116. Equipment valves and tubes for the first equipment of new apparatus are supplied to manufacturers of domestic radio and television receivers, radiograms, etc., and of industrial and other non-domestic equipment. The members and such associated companies as are equipment makers themselves also use large quantities of equipment valves and tubes. Terms for equipment supplies vary widely and the bulk of the trade is at freely competitive prices.

117. In February, 1955, there were 317 firms on the BVA's approved list of equipment makers, and these manufacturers are broadly divided into two main groups—those engaged primarily in the manufacture of domestic radio and television receivers, and those manufacturing primarily electronic equipment other than domestic radio and television receivers.

Competition

118. The BVA members compete for the business of the smaller set makers, who tend to draw their supplies from several sources. The larger set makers, on the other hand, have mostly bought all their valves and tubes from the