CHAPTER IV

POST OFFICE TELEGRAPHS AND TELEPHONES

IMPORTANCE OF THE POST OFFICE

Measured by the number of its employees, the impressiveness of its financial responsibilities, the variety and importance of its functions, and the use made of its services by all classes of the population, the Post Office is one of the most significant undertakings, either public or private, in Great Britain. In 1932, following a twelve-year period of severe retrenchment, the Post Office staff still numbered around 230,000. Almost two-thirds of the British Civil Service are engaged in this enormous public commercial undertaking. The effects of Post Office policy are far-reaching, because every remote part of Great Britain is served by the postal organization.

The Post Office, as in many other countries, possesses a monopoly of all forms of communication. Any communication service that the Post Office does not operate itself, therefore, can merely be secured by others in the form of a concession. With the exception of broadcasting and international cables, all of the communication facilities of the country are administered by the Post Office. The importance of efficient postal, telephone, telegraph, and wireless services to the business and social life of the nation requires no explanation. The functions performed by the Post Office enter so closely into the lives of the people that the department's successful operation under popular control is a matter of major significance.

An idea of the size and complexity of the undertaking may be suggested by figures recently published by the Post Office. The financial importance of the telephone and the telegraph services is indicated by the fact that out of a total capital of over £152 millions, telephone expenditures

have accounted for more than £118 millions, and telegraphs represent a capital sum of almost £10 millions. Revenues collected on all services for the year 1931–32 amounted to more than £71 millions, and the net surplus contributed to the Exchequer was £10,631,794. Each year the Post Office transmits about 7 billion postal communications, 160 million parcels, 56 million telegrams, and handles almost 1½ billion telephone calls. Post Office Savings Bank deposits amount to almost £300 millions: and these are simply the department's major functions!

The British Post Office renders a more numerous and important group of services than any other national postal organization, with the possible exception of the German. The ambit of its present functions may be visualized by reference to the principal stages of its expansion.[1] A brief historical survey will also show how the telegraph and telephone services were absorbed by the Post Office. Since we are not attempting to study all branches of the Post Office, however, many points which might otherwise be of interest may be disregarded.

In 1482 the King's dispatches were carried for the first time by arrangements made by officers of his household. Although the posts were "farmed" to private entrepreneurs until 1677, an Act of 1609 made the carriage of letters a State monopoly. In 1657 the office of Postmaster-General of England and Comptroller of the Post Office was created for the first time, and by an Act of 1711 a General Post Office was established for the three Kingdoms and the Colonies. Shortly after this, part of the revenues of the Post Office began to flow into the general funds of the Government, whereas formerly they were either farmed by individuals or were the King's revenue.

The Money Order system was put into operation at an early period, in 1792, and for many years it was carried

[1] *The Post Office: An Historical Summary*, Stationery Office, 1911. Sir Evelyn Murray, *The Post Office*, ch. i, London, 1927.

on as a private concession. The Treasury, in 1839, was given the important power of fixing Post Office rates. Two years later provision was made for Registered Mail. In 1861 the Post Office Savings Bank was established, and in 1864 the department was given the responsibility for a State system of Annuities and Life Insurance.

By the Telegraph Act of 1868, the Postmaster-General was authorized to acquire the inland telegraphs. This same Act was the foundation of an extremely important court decision in 1880 which held that telephones are a State monopoly.[1] Soon after this the Post Office began to operate a limited telephone service, but licensed private companies and municipalities were also permitted to establish exchanges. In 1896 the State purchased all of the trunk lines, giving the Post Office control over future expansion. Not until 1905, however, was agreement reached to take over the operation of the private combine, the National Telephone Company, and the actual administration of a nation-wide service by the Post Office did not commence until 1912.

The parcel post was started in 1883, and three years later insured letters were added to the facilities offered the public. Finally, in 1909 the Postmaster-General was ordered to administer old-age pension payments.

Although the above dates provide the high-lights of Post Office expansion, the list of its present duties is not entirely complete. Within this supplementary list there should be included the telegraph service with the Continent; telegraph money orders; postal orders; postal drafts; the cash on delivery system; the inspection of ships' wireless installations and wireless operators; the Post Office register of government stocks and bonds for small investors; the payment of widows', orphans', and Army and Navy pensions; the sale and management of national savings certificates (of which £381 millions have been issued); the sale of unem-

[1] Attorney-General *v.* Edison Bell Telephone Co. of London, *Law Reports*, (1880) 6 Q.B.D., 244.

ployment insurance stamps; and the sale and issue of local taxation licenses, wireless receiving licenses, and motor licenses.

In addition, as has been suggested, the Postmaster-General has important powers and duties in relation to the British Broadcasting Corporation.

The above enumeration of functions reveals the comprehensive and vital nature of the services performed by the Post Office. Moreover, it should be observed that the citizen must pay for services rendered, and that in some cases the services are competitive and the demand for them is elastic. This is especially true of telephones and telegrams. These are factors which clearly establish the commercial character of the Post Office.

In this chapter the relationships, organization, problems, and accomplishments of the telegraph and telephone services will be considered. The Beam wireless controversy will be discussed incidentally, as it bears upon the problem of the telegraph service. In the next chapter, the general constitutional and administrative problems of the Post Office as a national public utility will be more fully examined. Does the Post Office, the only Department of State supplying commercial services to the public, require reform, and if so, what should be the nature of the changes? The merits or demerits of the communication services will furnish a sound basis upon which to formulate a valid judgment.

CONTROL AND ORGANIZATION

Since the Post Office is clearly a public commercial undertaking, in most of its important functions at least, many people believe that it does not possess the administrative and financial autonomy which such an enterprise should have. Ministerial control of the Post Office has been increasingly criticized in recent years, and it has been suggested that the Post Office should be completely trans-

ferred from government operation. This proposal of certain Members of Parliament led to the first general examination in British history of Post Office organization and administrative principles—the recent Bridgeman Committee inquiry.[1] The committee concluded that the constitutional status of the Post Office should not be altered, but that it should be given greater freedom along certain lines.

The ultimate master of the Post Office is the House of Commons, which exercises control by means of the annual debate on the Estimates and by questions addressed to the Postmaster-General. These instruments of control are based upon the underlying reality of the Postmaster-General's responsibility to Parliament.

From the standpoint of constitutional theory and practice the position of the Post Office does not differ materially from that of any other government department. The Postmaster-General is a member of the Ministry, and occasionally he is admitted to the Cabinet. The Cabinet's control is largely exercised through the Treasury, which acts upon rates of charge, fixes the amount of all appropriations, determines all salaries, and approves the amount and the more important items of proposed capital outlay. This is done in cooperation with Post Office officials.

One of the important points that should be comprehended is that the Post Office is treated by the Government as a Revenue Department. No other factor raises more problems concerning the future of the Post Office than the use of a public commercial undertaking as a means of balancing the national budget. Revenue and expenditure are kept entirely separate, the former being paid over intact to the Exchequer, and the latter, with certain exceptions, being voted by Parliament on the Annual Estimates. Moreover, no payment is made to the Post Office for most of the services it renders to other departments, and correspondingly it is not debited for work done by them.

[1] Cmd. 4149, Stationery Office, 1932.

As a going concern the Post Office relies upon other services of the central government in two very important respects. Private businesses are also dependent upon outside concerns, for that matter, but this point is usually overlooked in discussions of the Post Office and its relations. The Office of Works is responsible for the provision and maintenance of Post Office sites and buildings of the first class and the larger rented premises. The Stationery Office has been given most of the department's printing, and the transference of postage stamp and security printing is being considered.

The supreme head of the Post Office is the Postmaster-General, who, as a member of the Government of the day, is responsible for carrying out the general policies of the Cabinet in so far as they relate to the Post Office. Men who have attained considerable prominence, such as Sir Austen Chamberlain, Sir Herbert Samuel, Lord Stanley, Mr. Neville Chamberlain, and Major C. R. Attlee, have occupied the office within the last generation. Inasmuch as the responsibilities of the Postmaster-General do not usually involve broad political questions or controversial issues, it must be said that promising men rather than distinguished figures are generally given the post. The degree of influence which the Postmaster-General is able to exercise depends largely upon the personality of the individual occupying the office. Postmasters-General come to the office without previous special training: frequently it is their first ministerial position; and the average tenure is less than two years. As Lord Wolmer concludes, "He must be a remarkable man if he is to master and bend the machine in that period." On the other hand, it may be noted that the Postmaster-General has more time to devote to departmental work than many other Ministers. Since 1909, except for a few intervals, the Postmaster-General has been aided by a politically appointed Assistant Postmaster-General.

The Post Office Advisory Council, which was originated

a few years ago, is an additional connecting link between the department and the public. Prior to its reorganization in January 1933, the Council represented commercial interests only, met infrequently, and had no authority to determine the agenda of the meetings, which were presided over by the Postmaster-General, Since the recent reform the board has been made more representative by the inclusion of labor and women members. It will meet regularly, and members will be expected to raise suggestions and criticisms. This alteration is one of the first constructive results of the Bridgeman Committee Report of 1932.

The foundation of the Post Office structure consists of Civil Service employees. The Secretary is the permanent head of the organization. He is the principal adviser to the Postmaster-General and, assisted by the Second Secretary and the Headquarters Staff, is responsible for the entire organization and the functioning of its component parts. Since 1899 there have been only five Secretaries, and the present incumbent, Sir Evelyn Murray, has been in office since 1914.

Under the Secretary and his deputy, the Second Secretary, there are two Directors, the Director of Postal Services and the Director of Telegraphs and Telephones, the latter of whom controls the telephone, telegraph, and wireless services. The Secretary's Office is divided into eight Divisions, each under an Assistant Secretary who is responsible either to the Second Secretary or to one of the Directors. The division is as follows:

1. Mails.
2. Inland Telegraphs.
3. Overseas Telegraphs.
4. Telephones.
5. Establishments (numbers, organization, and pay of staff).
6. Staff (personnel, recruitment, promotion, discipline).
7. Buildings and Supplies.
8. Chief Clerk.

The Second Secretary is in direct charge of the four last-named Divisions, which are really the only functional units in the Secretarial organization. The eight Divisions, plus the Investigation (detective) service, the Publicity bureau, the Solicitor, and the Chief Medical Officer, complete the Secretariat Branch proper.

In addition, there are Headquarters Departments which are parallel with the Secretariat branches, but, in some respects, subject to their general authority. These are headed by the Comptroller and Accountant-General, the Engineer-in-Chief, the Controller of the Savings Bank, and the Controller of the Money Order Department.

These officials constitute the hierarchy at Headquarters, St. Martin's-le-Grand. There are two additional systems of organization, the metropolitan and the provincial. In London the three services, namely Posts, Telegraphs, and Telephones, operate along independent lines. Each is headed by a Controller, who is subject to the authority of the Secretary at St. Martin's-le-Grand, acting through the Directors of Postal Services and of Telegraphs and Telephones.

In contrast with the organization at Headquarters and in London, the provincial administration is based upon geographical considerations, wherein the same official is responsible for all three services, namely, postal, telegraph, and telephone. There are thirteen Surveyors in charge of country districts and nine Postmaster-Surveyors in charge of large towns. A special administration has been provided for Scotland. The provincial administrations are subject to a large degree of control from the Secretary's Office.[1]

It must be admitted that the outline of Post Office organization appears to be somewhat complicated and illogical. Perhaps it is. But paper organizations sometimes create a more unfavorable impression than is warranted by the facts of the actual administration. Yet, if unsound basic

[1] See diagram on page 127.

principles are incorporated into an organization, no amount of tinkering will rectify the weakness. In the following pages we shall see how the administrative system works out in the two great Post Office utilities, telegraphs and telephones.

TELEGRAPH ADMINISTRATION

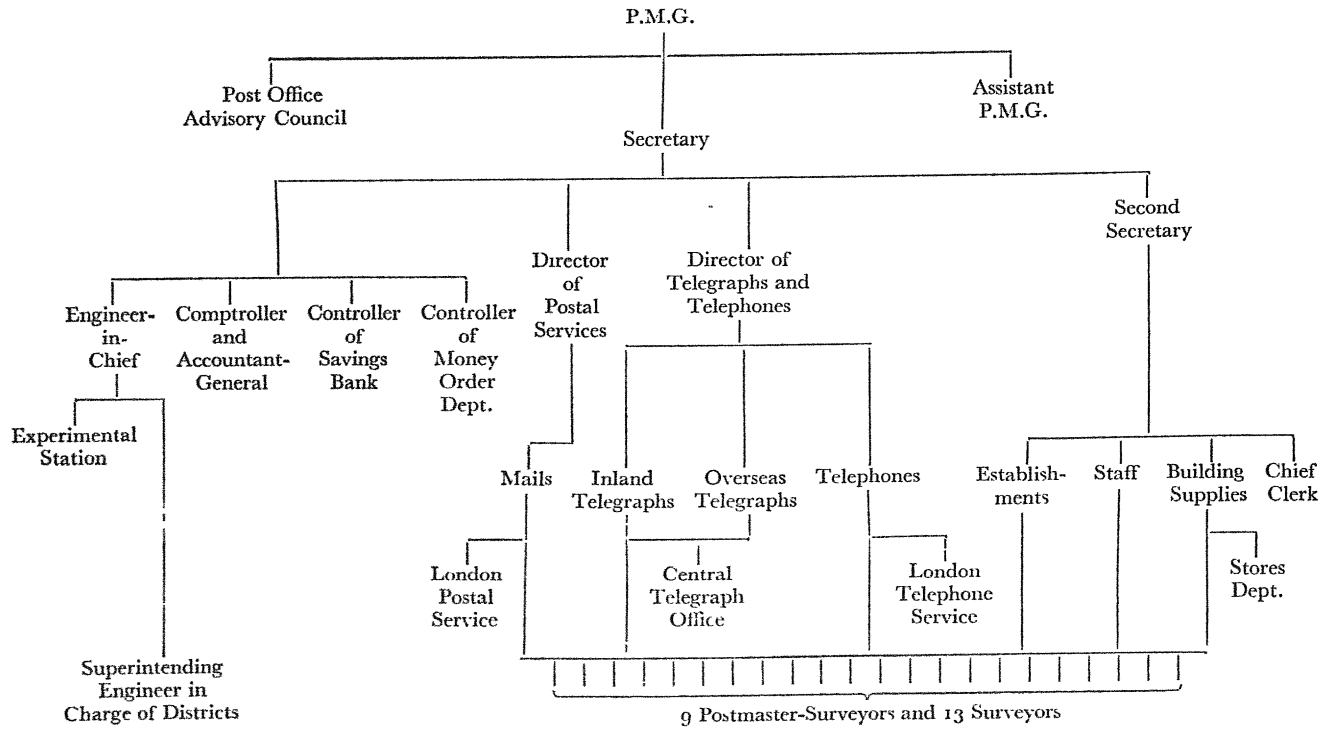
Although the telegraph and telephone organizations are unified at the top by the Director of Telegraphs and Telephones, as operating services they are almost entirely independent of each other. Even if the telegraph and telephone divisions were amalgamated on the operating side, as the Bridgeman Committee proposed, it would be necessary to consider each administration separately in order to understand the basic problems of the Post Office communication services.

In recent years the telegraph branch has attracted attention primarily because of the financial losses sustained by its operation. Although its annual deficit is more than offset each year by the earnings of the postal and the telephone services, the problem of putting the telegraph service on a paying basis has been, during the past ten years in particular, the subject of frequent internal and external investigations. The deficit of the telegraph service, which stood at £1,380,000 in 1927–28, was reduced to £1,005,000 in 1930–31, and to £809,000 in 1931–32. Although traffic has continued to decline, the telegraph service has brought about very noteworthy efficiencies.

An understanding of the present and of the future problems of the telegraph administration will be best obtained by reference to the outstanding factors in its development.[1] As has been stated, the telegraph companies were taken over by the State in 1870, at a cost of about

[1] *Bridgeman Committee Report*, op. cit., 10–12; *Report of the Lever Committee on the Inland Telegraph Service*, Cmd. 3058, Stationery Office, 1928; *The Post Office: An Historical Summary*, op. cit., 66–88.

ADMINISTRATIVE ORGANIZATION OF THE GENERAL POST OFFICE



£8,000,000. However, in the next three years it was necessary to spend an additional £2,130,000 on extensions and improvements. The cost of the subsequent capital outlay has been voted annually by Parliament on the Post Office Estimates.

In addition to the original cost of acquisition, the Post Office assumed an added liability which has had an important bearing upon later financial difficulties. When the telegraph companies and the railway companies, which had formerly operated the service, were bought out, contractual liabilities in perpetuity were entered into with the railway companies. It was agreed that the railway undertakings should enjoy a perpetual right to send annually without payment a fixed number of messages subject to a limit placed on the number of words. It is estimated that these messages, if paid for, would provide a revenue of £94,000 a year.

It has sometimes been asserted that the later difficulties of the telegraph service were due in large part to the excessive purchase price paid to the former owners. Sir Evelyn Murray has replied to this allegation as follows:

> "The compensation terms were certainly liberal, and in many cases excessive. But it is fair to remember that the companies had been operating, not as licensees, but as pioneers in a free market, and that they had successfully tided over the lean years and were reluctant vendors of a business which was showing rapid expansion and growing dividends. Contemporary estimates indicated that even allowing for the inflated purchase price, the tariff could be reduced and a satisfactory service still maintained. What was not foreseen was the rising curve of operating expenses, and particularly wages, which, combined with the introduction of the sixpenny telegram, converted the anticipated profit into a permanent deficit. But it is a fallacy to suppose that the existing telegraph deficit is attributable to the excessive price paid for the system; it has in fact nothing to do with it. The plant was revalued in 1912 and for the last fifteen years the capital charges debited in the telegraph accounts have been based upon the value of the plant so ascertained, as modified by subsequent additions."

For the first ten years the business expanded and operated at a profit, but in 1883 the introduction of the 6d. telegram

turned the profit into a loss. The number of telegrams rose from 30 millions to 50 millions, but it involved a loss of revenue of at least £170,000 a year, and a capital expenditure of £500,000. The 6d. charge was not altered until 1915, when it was raised to 9d. and finally in 1920 to 1s. for 12 words with an extra penny for each additional word. Between £7,000,000 and £8,000,000 of the capital costs were written off in 1912, leaving a depreciated value of approximately £4,800,000.

Frequent comparisons have been made between the British and American telegraph services, the purpose usually being to show the vast superiority of the latter. Such a comparison will prove very little, due to the important differences between the two countries. In America there are great distances to be covered, making the telegram an indispensable means of communication. In Great Britain a letter will be delivered anywhere within the country in less than twenty-four hours, at a fraction of the cost of a telegram. In 1900 the local or short-distance telegram constituted an important part of telegraph traffic. Today that business has practically disappeared owing partly to the telephone and partly to the excellence of the mail service. Due to the efficiency of the postal service, a letter posted in the inner London area at noon will be delivered in the London area by tea-time, and one dispatched before four o'clock will be delivered the same evening.

There are many factors, other than those mentioned, which account for telegraph deficits. In past years a substantial loss of revenue has been caused by the exceptionally low rates granted to newspaper telegrams. The estimated annual loss from the press traffic in 1888 was £200,000, in 1895 it had reached £300,000, and in 1931 it was still £230,000. The loss will clearly diminish, but only because the newspapers are relying more and more on the telephone. There is a wide-spread belief that any government which attempted to raise rates on newspaper traffic would be swept out of

power. There can be no doubt that the cheap rates granted to newspapers have resulted in a certain amount of public benefit, viz. more complete news, but the policy is hard to justify on the basis of business principles.

A flat rate is charged on all inland telegrams, irrespective of distance. After frequent investigations it has invariably appeared that, for a small country like Great Britain, the flat rate is to be preferred to a zoned rate. The consensus of opinion indicates that the existing charging practice on ordinary telegrams is not a cause of telegraph deficits.

The telephone has made serious inroads upon telegraph traffic. Due to its speed, convenience, intimacy, relatively small cost, and the short distance to be covered, the telephone has constantly won public preference. It is a significant fact that in a country as small as Great Britain the distance covered by the average telegram should be 140 miles. The distance has constantly grown, thereby reducing telegraph receipts.

Will the telegraph service never be reestablished on a paying basis, it will be asked? Until recent years the continuance of the subsidy system was taken as a matter of course. The indirect benefits of a cheap and a more extended telegraph service than can be found in any other country were said to benefit business and all classes of the population to such an extent that the intangible assets clearly offset the liabilities. To-day there exists a constantly growing demand that the service should not operate at a financial loss.

An official of the telegraph service stated a few years ago that "there is not the slightest doubt that the service could be turned into a revenue-earning concern."[1] What changes would be entailed? It might mean the closing of a large number of country and suburban telegraph offices. At the present time the Post Office maintains approximately 11,000 offices from which telegrams are received. Over a thousand

[1] G. T. Archibald, "Notes on telegraph practice," (1925) 11 *Telegraph and Telephone Journal*, 59.

of these offices do not pay their way. However, an analysis made by the Accountant-General's Department reveals that only £20,000 a year could be saved by retrenchment at this point. Prior to 1870 the private company worked only the richest fields and neglected the rest of the country. This, in a general way, is true wherever private companies are in operation. Telegraph offices are still opened in Great Britain where the average annual demand for telegrams is in the neighborhood of 300. "No other country is so solicitous for the telegraphing public." When service and not profit is the consideration, who can say categorically if the indirect benefits to trade and to national development make a system which purposely loses money, defensible?

It is sometimes asserted that the telegraph service could be made to pay, if only certain resources were tapped which have not been exploited to the fullest extent heretofore. This could be done, it is argued, by developing new forms of business, largely in accordance with the recommendations which were made by the Post Office delegation which visited the American telegraph companies in 1928. The night letter could probably be made more popular, as illustrated by American experience. Special holiday and greeting telegrams have not been exploited, although they have proved immensely successful in the United States. The letter form and envelope of the British telegram are unattractive, but so far the 1928 commission's recommendation that they should be made more suitable has not received favorable action. A more cheerful color might help to dispel the popular prejudice that a telegram means bad news. Finally, the telegraph service does not receive its proportionate share of Post Office advertising, which, as will be pointed out, has become extremely effective in the promotion of telephone sales. However, it seems too optimistic to suppose that an annual deficit amounting to over £800,000 could be absorbed by the methods which have been suggested.

In contrast with this rather disappointing picture, the improvement of the internal efficiency of the British telegraph service is a matter of proper pride. As the Bridgeman Committee pointed out, the public is not generally aware of the degree of technical progress that has been made by the Post Office in the last ten years. In the case of the telegraph service the period of outstanding internal development is much less, more like three or four years. The best place to discover what has occurred with respect to operating efficiency is in the Central Telegraph Office, where all of the foreign communications and the greater part of the inland traffic are handled.

THE CENTRAL TELEGRAPH OFFICE

The Central Telegraph Office (C.T.O.) is the nerve center of the British telegraph system. At the present time the C.T.O. employs a staff of 3,300, and although traffic has fallen considerably during the past ten years, it deals with a daily average of about 160,000 telegram transactions during the summer and approximately 130,000 during the winter. All of the foreign business is carried on from the central office, the average number of daily messages being 20,000. About 750 telegraph offices are in direct communication with the C.T.O., either by direct wire connection or through the telephone system. The C.T.O. is connected with the chief telegraph offices of inner London by pneumatic tubes, of which there are seventy-three, with a total of seventy-one miles.

The telegraph service has greatly improved its efficiency in recent years, in line with a general quickening of initiative throughout the Post Office. Although technical discussions are to be avoided, it will be interesting to consider some of the readily appreciated respects in which the telegraph service has progressed in just the last three or four years. The record of the C.T.O. points to the potential improve-

ment as well as to the shortcomings of governmental administration.

In 1928 the British telegraph service compared very unfavorably with the American companies because of the great variety of apparatus employed by the former. Prior to the close of the war a dozen or more types and makes of machine had been introduced, and until recently different forms of apparatus existed side by side. About ten years ago the teleprinter came into operation. The history of the last ten years consists of the replacement of all other forms of apparatus by the teleprinter, and at present the inland telegraph system is operated entirely by teleprinter and telephone.

Since 1923 there has been a rapid development of the phonogram and the telephone-telegram, thereby necessitating important internal changes. Obsolescence has been a chronic problem. About 9 million telegrams a year are now accepted from the public by telephone and about 7 million a year are now delivered by telephone. Many smaller Post Offices—about 9,000 in all—conduct their telegraph business entirely by telephone. This will give some idea of the close relations which may be expected in the future between the telegraph and the telephone.

Additional illustrations of rationalization and of improved operating efficiency prove that progress has been rapid in recent years and that the British telegraph service now compares favorably with the best foreign administrations.

Whereas in 1871 the average delay in London was 90 minutes per telegram, it is now only 10 minutes, and when improvements now in progress have been completed it is anticipated that the "internal drag" will be reduced to below three minutes. Within the past year the average speed per operator has increased from 62 to 70 words a minute. Service complaints received in 1925 were in the ratio of 1 to 1,500 telegrams handled. In 1930 complaints from customers were 17 per cent less than in 1929, and in 1931

they were 28 per cent less than in 1930, although 1931 traffic was 5 per cent less than in 1930.

The recent history of operating economy is reassuring, because it reveals a progressive policy on the part of the telegraph administration. Between 1928 and 1932 the operating costs, including supervision, had been reduced by almost a million pounds. However, more than half of the saving was achieved by means of wage and salary reductions. Between 1928 and 1932 the cost of living index bonus had declined from 250 to 239 a year for men telegraphists, and from 163 to 151 a year in the case of women telegraphists.

Rationalization on such a scale cannot help but have a serious effect upon the vocational opportunities in the telegraph service. Retrenchment not only involves a continuous reduction of staff, but it makes promotion prospects appear discouraging. For several years the telegraph traffic has fallen off from 5 to 7 per cent a year. Only a significant improvement in trade conditions would bring about any substantial encouragement. When it is learned that a telegraphist usually has little chance of promotion out of his class until he is about forty-five years of age, it is not surprising that a depressed atmosphere is found among many of the employees. It is a tribute to the officials and the staff of the telegraph service that so much improvement has been made in operating efficiency while traffic and pay have been falling.

In recent years more attention has been given to public relations. All complaints are immediately investigated either by the Assistant Controller or by the Outdoor Representative, an office which has been created in late years. In addition to his investigatory duties the Outdoor Representative is responsible for soliciting business, and for sending out advertising for display purposes. For example, a complete telegraph set is sent round to public exhibitions, such as those held at Olympia. The public is given an opportunity to operate the set, hence revealing to them the complicated

character of the work done by the telegraph service. This alone has greatly increased public understanding and interest. When it is realized that a comprehensive public relations program is a development of the last few years—just as Post Office advertising is—an additional reason will appear for believing that in the future a more aggressive commercial attitude may be expected from the telegraph service.

THE IMPERIAL BEAMS

Closely connected with the future of the telegraph service is the bitter controversy which took place in 1928 over the leasing of the Post Office Beam service. A great deal of feeling was aroused when the Conservative party, then in power, turned over to a private combine not only the government-operated Imperial and Continental cables, but also the Imperial Beam service, which had been operated up to that time by the C.T.O. The question deserves consideration at this point for several reasons. In the first place, the alienation of the Beams dealt a severe blow to the financial future of the Post Office telegraph service. The earnings of the Beam service would have substantially reduced the loss on the telegraph service. The first year's profit amounted to £166,000 on an investment of only £240,000. When the foreign branch of the C.T.O. lost the Beams the demoralizing effect was very great. There are now three services to the Continent, namely, the Post Office cables, the Post Office wireless, and the Communications Company's wireless. In February 1928 the Post Office had nineteen wireless stations in operation and several stand-by stations for emergencies.

The action taken by the Government at that time reveals the powerful clash of forces which are at work determining the future of British public utility control. The alienation of the Beam service is one of the few instances in British history of the handing over of a national asset to a profit-making enterprise. Finally, the Act of 1928 created a more

or less distinctive type of public utility undertaking, the Imperial and International Communications Company.

As early as the Imperial Conference of 1911 it was agreed that the Dominions should be connected to Great Britain by a chain of powerful wireless stations. The war intervened. In 1924 a special commission on imperial communications recommended that the imperial wireless service should be undertaken by the Post Office.[1] Parliament gave its approval, and negotiations were entered into with the Marconi Company to instal transmitting stations. Soon afterwards the "Beam" principle was announced. The British and Dominion Governments contracted to try the new discovery. The distinctive feature of the Beam is that it is a directive short-wave system of wireless communication. Great distance can be covered with a minute fraction of the power required by long-wave stations. Hence, as experience proved, the advance of science made the new service so cheap that nothing else could compete with it.

The Beam station to Canada was completed in 1926, and those to Australia, South Africa, and India began to operate in 1927. By 1928 it began to appear that at last the Post Office had pioneered an asset which might help to pull the telegraph service out of a financial hole. Astonishing speeds running up to 250 words a minute in both directions simultaneously were obtained, and the development was still in its infancy. The invention was employed with success for foreign and overseas telephone communication. The privately owned cable companies could not compete with such service and were said to be facing a hopeless financial future.[2] In 1927–28 the Beam service was said to have caused a reduction of revenue on the Pacific cable alone of £80,000. Deficits on two other cables amounted to £27,000 and £40,000 in the same year. They had found it necessary

[1] *Report of the Imperial Wireless Telegraphy Committee*, Cmd. 2060, Stationery Office, 1924.

[2] *H.C. Debates*, vol. 223, col. 1803, December 10, 1928.

to reduce their rates in order to compete at all. Hence, as Mr. Ramsay MacDonald said in debate, the Post Office held "the key of the whole situation—the economic key, the business key, and the scientific key." If the cables were not to fail it meant that either the Beam service would have to absorb the private cables, or that the private companies would have to get the key to the situation—the Beams. As late as the Imperial Conference of 1926 government operation had been consistently favored.

The lease of the Beam service to the Cable-Marconi merger was recommended by the Report of the Imperial Wireless and Cable Conference,[1] which represented the British and Dominion Governments. The British Parliament was asked to pass an Enabling Act providing for the sale of the Post Office cables and the lease of the Beam stations, which it did in December 1928. The Beam stations have been leased for a term of twenty-five years, with a basic rental of £250,000 a year. It was stipulated that if, after three years, the profits of the Imperial and International Communications Company exceeded 6 per cent (a fixed standard of £1,865,000), the British Government was to receive 12 per cent of such excess profit, and of the remaining balance one-half was to go to the company and the other half to reductions in rates or improved services. In addition, the Communications Company agreed to a single payment of £60,000, for the costs of disturbance. The Post Office has retained the overseas telephone service. The British and Dominion Governments sold outright three cables: the Pacific, the Imperial, and the West Indian, all of which had usually earned a small profit.

The new company, Imperial and International Communications, Ltd., therefore merged government cables, government wireless, private cables, and private wireless facilities. The sale of the government services was no doubt influenced by the fact that the Dominion Governments were

[1] Cmd. 3163, Stationery Office, 1927.

opposed, at the time, to complete government operation. The private combine was able to buy the government cables at cost less depreciation, with no provision for goodwill or future profits; the private companies were turned into the merger on the basis of their outstanding securities, irrespective of the real value of the properties, i.e. with no consideration of the obsolescence of the cables or of their earning power. The new operating company was capitalized at £30,000,000, from which the British Government received only £2,500,000 on an alleged original cost of £7,000,000. The total capitalization of the merger company, £53,000,000, represented in addition the assets of a manufacturing company which was to work in conjunction with the Communications Company.

One of the most interesting angles of the case was the pressure group motivation. The House of Commons heard a great deal about the alleged influences behind the Bill, but many of these statements were undoubtedly exaggerated. The main point seemed to be missed by most speakers. This was that a revolutionary scientific discovery necessitated some method of rationalization. However, some characteristic criticisms of the Bill will indicate the vital clash of interests underlying the controversy. For example, Lieut.-Commander Kenworthy, referring to the Parliamentary majority, said in the House of Commons, "they looked after their friends. At all costs private enterprise was bolstered up, and the only private interests concerned, the cable companies and the Marconi Company, were allowed to make their own terms. They know how to govern, and how to govern in the interests of their friends, not their personal friends, but the directors and shareholders of the private companies." "Look at the list of directorships held by Members sitting on the Government side of the House," stated a Member of Parliament. "We find that 106 Members hold 568 directorships." Other speakers were more specific in their reference to lobbies. One speaker contended that

the financial and chain newspaper interests had most to gain, and that the combination was operating in such a powerful way that it was almost impossible to know where their influence extended. The new monopoly will mean, it was said, that "in addition to the controlling of the press you are going to place the supplying of news into the hands of a few people."[1]

Champions of the Bill replied that government ownership should not be permitted to supplant private business, but should merely supplement it; that Canada had suggested the plan originally; and that the British Government was honor-bound to follow the desires of the Imperial Conference. Furthermore, it was argued that the Beam Service could not guarantee secrecy. Hence, in time of war it would be necessary to rely on the cables, and therefore they should be sustained.

The question of public control raised a vital issue. The Bill provided that the company should nominate and the Government approve two out of the twelve directors. As a writer on the subject has recently said, apart from the unimportant fact that two of the directors, one being the Chairman, are approved by the Government on the nomination of the board, there is nothing to distinguish the merger from an ordinary limited liability company. An Advisory Committee, composed of representatives of the British and of the Dominion Governments, was created, with power to consult concerning general policies and with specific authority to act upon applications for increased rates, the scrapping of any service, and the handling of excess profits. The advisory body has no authority to order lower rates. Although it was provided that the Advisory Committee should have access to information in the hands of the Communications Company, when necessary to carry out its duties, it was agreed that "such information will, of

[1] *H.C. Debates*, vol. 223, col. 1837, December 10, 1928; Ibid., vol. 222, col. 1851, December 6, 1928.

course, be treated as entirely confidential." Moreover, no supervisory power was given to the Postmaster-General or to any other Minister of State, and hence the House of Commons possesses no opportunity to question the policies or the conduct of the company.

What has happened to the interest of the consumer as a result of the transfer? Has the linking up of the inexpensive but very efficient Beam service with the very costly but less efficient cables resulted in any appreciable increase of rates? The following table, which compares the full-rate cost per word for the Beam service under Post Office management and under the present control, tells the story:

London to	Post Office	Communications Company
Canada ..	.. 9d.	9d.
Australia ..	.. 1s. 8d.	1s. 8d.
South Africa	.. 1s. 4d.	1s. 3d.
India ..	.. 1s. 1d.	1s. 3d.

It will be observed that the rate has remained the same on full-rate messages to Canada and to Australia, but that the increased rate to India more than offsets the reduction in the South African tariff. However, this does not tell the full story. In the first year of operation the Post Office paid off out of revenue something over two-thirds of the cost involved in the installation of the Beam service. There had been very valuable rate reductions. In regard to India, for instance, the press message rate had been reduced from 4d. to 2½d., and there was a reduction of 8d. on full-rate messages. Charges for government wireless, with the exception of the Canadian rates, were as much as 4d. a word cheaper than for cable telegrams on the Empire routes. In the first year of operation 30,000,000 words were sent over the Beam service. There is little doubt that still greater rate reductions would have been possible.

Imperial and International Communications, Ltd., perhaps to an even greater extent than most undertakings, has been hard struck by the depression. The dividend for the

year 1930 was only $1\frac{3}{4}$ per cent. A sum of £216,047 which had been paid by the company on account of unextinguished formation expenses was refunded by the Government to the amount of £216,000 under the Finance Act, 1930. The Imperial Communications Advisory Committee in June 1930, in consultation with the company, appointed a committee "to inquire into the position of this company including the causes and consequences of the discrepancy between standard revenue and current earnings, and to suggest measures to remedy the situation." It may be noted in passing that the "merger" or holding company, namely Cables and Wireless, Ltd., which was formed at the same time, includes among its assets, amounting to approximately £53,000,000, a sum of £11,898,894 for "Goodwill, etc."[1] The two companies have interlocking directorates.

In future years it will be interesting to discover whether the opposition to the solution effected in 1928 will die out, or whether additional chapters will be written in the struggle for control over imperial and international communications.

THE TELEPHONE SERVICE

Since the transference of the Imperial Beams, the telephone has occupied an unrivalled position as the center of Post Office interest. Every effort is put forth to make the Post Office staff 100 per cent "telephone minded." An aggressive campaign, the object of which is to popularize the use of the telephone, has been one of the outstanding features of Post Office policy during the last few years. The most noticeable change has occurred since the establishment of the Publicity Bureau in the Secretary's Office three years ago. Where formerly there was practically no advertising, today the canvassing and publicity campaign of

[1] (1932) *Stock Exchange Year Book*, 1399. The controversy which has taken place between the Post Office and the Imperial and International Communications Company since 1929 nas been discussed in (1930) 110 *Economist*, 312, 515, 699.

the Post Office is one of the most effective in the entire country.

An understanding of the new atmosphere is vital to a comprehension of current problems of telephone administration. The secret of the viewpoint of earlier years is explained by the policy which until recently the Government and the public expected the Post Office to follow. It is expressed in the advice given to the Post Office by the Treasury in 1883, in answer to a proposal that the telephone business should be popularized. The Treasury, stated the memorandum, objects "to anything in the nature of solicitation, and above all personal solicitation." The Post Office must be content to bring its offers "fairly within the knowledge of the public" and thereafter to wait for its demands. What a difference there is today! The technique of the telephone sales force compares favorably with the methods of the most progressive private companies. The results have proved encouraging. During 1931, a year of most intense industrial distress, the British Post Office produced a net gain of 2 per cent in telephone rentals. During the same period most foreign telephone systems sustained heavy net losses. It may be replied that the Post Office telephones could not have progressed if the expansion of the service had been more vigorously exploited in previous years. There is some truth in this criticism, but it may also be stated, as the Post Office contends, that slow, stable growth is preferable to mushroom development, with its severe periodic fluctuations.

The Post Office telephone system has grown into a vigorous maturity, although its formative years were difficult. Only since the war has it had a chance to show what it can really do. The period from the telephone's introduction in 1877 until the establishment of a unified service under the Post Office in 1912 was characterized by competition for local monopolies between the Post Office, the private companies, and municipalities, and the oscilla-

tion between one policy and another by Parliament. Briefly, the situation was as follows. The Post Office possessed the legal monopoly, and all other undertakers had to obtain licenses. Moreover, the Post Office controlled all transfer and toll circuits. Although exchanges were established in certain places, Parliament, for thirty years, refused to adopt State operation over the whole country. In 1905 Parliament finally formulated a definite program, namely the purchase of the private company and the establishment of a unified service under the Post Office. The situation at that time has been described by Lord Wolmer as follows: "The Post Office owned and was operating the whole of the trunk lines, under the provision of the Act of 1892; the great bulk of the local exchanges were owned and operated by the National Telephone Company under a license expiring in 1911; in London and in certain provincial centres there were also Post Office exchanges with about 10 per cent of the total subscribers; under the Act of 1899 a limited number of municipalities were experimenting with systems of their own." The National Telephone Company's system began to be operated by the Post Office in January 1912. Only one municipality, Hull, continues to operate its own local exchange.

During the war the consumer's demand increased more rapidly than the Post Office could instal new service, because materials could not be spared. Renewals, estimated to cost £3,000,000, had been deferred; and spare plant in about three-fourths of the country was exhausted. As a result of the fictitious trade boom of 1919–21, thousands of applications from new subscribers could not be met. By the time telephone manufacturers had caught up with the demand the bubble had burst, but many people had formed an unfavorable impression of Post Office service—a misunderstanding that has had to be undone by the slow process of providing a constantly more efficient service. High prices and heavy capital expenditure in conjunction

ruled from 1919 to about 1925, and during four years of this period the telephone administration sustained heavy deficits.

The expansion of the business since the war is revealed in the following table:

In Thousands

Year	Number of Telephone Stations	Telephone Calls		
		Local	Trunk	
			Inland	International
1920–21	979·6	785,500	57,417	185
1921–22	995·4	629,000	51,998	213
1922–23	1,050·7	671,000	58,842	314
1923–24	1,158·5	762,000	69,608	355
1924–25	1,273·8	851,500	77,288	432
1925–26	1,390·2	930,000	86,001	490
1926–27	1,508·8	1,006,000	94,661	598
1927–28	1,631·2	1,070,500	102,207	702
1928–29	1,754·6	1,155,000	109,554	950
1929–30	1,882·1	1,204,500	117,130	1,125
1930–31	1,982·2	1,248,000	121,670	1,139
1931–32	2,054·2	1,305,000	124,462	1,227

It will be observed that the progress if not spectacular, has been remarkably constant. In January 1912 Great Britain had only 700,000 telephone subscribers; in 1922 the number had increased to a million; in 1927 it stood close to 1,500,000; and the two million mark has now been passed.

The United States, with about three times the population, has over nine times as many telephone subscribers as Great Britain. This has been a common cause of criticism in the British press. Such comparisons usually possess little intrinsic value. For example, it may be noted that America has about ten times as many automobiles as Great Britain. There are important differences of social structure and consumers' habits which should be weighed before com-

paring British and American public utility developments. Because the standard of living has been higher in America than in Great Britain, the telephone has been widely adopted by the lower middle class in the United States. It is not so in Great Britain, where, as a rule, only the wealthy and the upper middle classes instal residential telephones. Then, too, manners and traditions have caused an important difference in the acceptance of the telephone. The use of the telephone for social purposes has not progressed nearly so far in Great Britain as in the United States. One of the most striking differences arises over the relative use of the party-line. The British exalt privacy to such an extent that there are only 9,000 party-lines in the entire country. In America the party-line is the most popular form of residential service. This factor alone makes a great difference in comparisons of cost and of relative efficiency.

TELEPHONE FINANCE

The profitability and the success of any business which is expropriated depends in large part upon the price and the efficiency of the assets acquired. In the early years of the Post Office telephones, much of the blame which was showered on the Post Office was really the fault of the private company from which the service was acquired.

The purchase price of the National Telephone Company, as fixed by the Railway and Canal Commission's arbitration, was £12,470,264, as compared with the company's original claim of £20,934,100.[1] Although it is usually agreed that the price paid was not excessive, it is true that the Post Office found the company's system in a bad condition. Arrears of renewal and extension were still being made when the war occurred. "While *in articulo mortis*," states Sir Evelyn Murray, "the company had naturally been

[1] For the theory and the terms of the valuation, see National Telephone Co. *v.* Postmaster-General, 29 *T.L.R.*, 190, appealed 29 *T.L.R.*, 624.

chary of spending capital on additional plant, where it was not immediately revenue-producing, and of replacing material which the Post Office was bound to take over. Consequently a considerable portion of the transferred plant was not of a modern or efficient type, renewals on a large scale were necessary, and in many areas there was little or no margin of spare wires or switchboard accommodation." The Chairman of the National Telephone Company admitted that a great deal of the business was conducted "monstrously badly," and yet original investors were making 15 per cent on their investment.[1] Despite the handicap, Post Office telephones have made up a great deal of ground since the war.

Between 1912 and 1931 the Post Office had lost, on balance, about £1,000,000 net during the nineteen years it had operated the telephone service. Most of the gross loss was sustained between 1919 and 1922 when prices went sky-high, with little corresponding increase in rates of charge. However, the annual surplus in the last ten years has averaged around £560,000.

The latest study of telephone finance reveals some extremely interesting data.[2] The balance for 1931, despite the stringency of economic conditions, was £557,000. This represented a return of 5·15 per cent on the capital invested, as compared with an estimated 7·37 per cent on the American Bell System. The American administrative and incidental expenses amounted to 43·8 per cent of the total and absorbed 34·7 per cent of the revenue, as compared with the corresponding British figures of 36·0 per cent and 27·0 per cent, notwithstanding that the British expenses included a sum (£939,000) for pension liability which was, relatively, four times as great as the American companies expended on pensions, sickness, death, and compensation

[1] The best historical treatment has been written by A. N. Holcombe, "The Telephone in Great Britain," (1906) 21 *Quarterly Jour. Economics*, 96.

[2] A. J. Waldegrave, "British and American telephone accounts, 1931," (1932) 19 *Telegraph and Telephone Journal*, 30, 50.

benefits. The British Post Office put aside for depreciation 4·45 per cent as compared with 4·67 per cent in the case of the American companies. "For several years the British telephone revenue has been growing at the rate of about £1½ millions a year, but in 1931–32 it fell to £700,000, an indication that the industrial slump has had a serious effect on the telephone service," states Mr. Waldegrave. However, the Bell System was even more severely hit. There was an actual decrease of nearly twenty-eight million dollars in the operating income, which reflected a decrease of 292,000 in the number of stations and of 393,000 in the average daily number of calls. In the British service there was an increase of 73,000 in the number of stations and of 207,000 in the average daily number of calls, but to achieve a net increase of 73,000 stations, 183,000 cessations had to be made good.

The profit of the American companies was accounted for in part by earnings on the accumulated surpluses of past years. The British telephone service must turn over its balance to the Treasury, which also makes good any losses. This is a feature of Post Office administration which has been severely criticized.

There continues to be a great deal of speculation as to whether the British telephone service is costlier or cheaper than the American. This factor is usually uppermost in the minds of subscribers and of Post Office critics. As in so many other cases, comparisons are hazardous because there are so many differing factors to be considered. The general impression of the British public is that its telephone service costs much more than that of other countries. As a matter of fact, this opinion appears to be unfounded, and the Post Office has now taken steps to rectify the false impression. For example, Mr. H. B. Lees-Smith, a former Postmaster-General, stated in the House of Commons,

"I have been told that the average capital cost of a telephone in the United States is £47 and that in this country it is £76; and I have been told that that is the acid test of the relative efficiency of the two

countries in this respect. But the House must take this into account, that undoubtedly the original capital cost is greater in this country than in the United States, largely because the United States has a material part of its system above ground, whereas six-sevenths of our telephones are underground, and the initial cost is very much higher. I would point out, however, that we get the advantage of that initial increased expenditure in smaller depreciation costs and our operating costs are less, so that if you take the all-in annual cost, allowing for depreciation and interest of a telephone in the United States and a telephone in this country, it works out at £9·17 in this country and £10·97 in the United States."

The following comparison, based upon official reports from the countries concerned, appears in the sales booklet issued by the London Telephone Service:

	Charge for Installation	Minimum Annual Charge	Number of Calls included in Annual Charge	Charge per Local Call over the Number included in Minimum Annual Charge
	£ s. d.	£ s. d		
London ..	Nil.	6 10 0	None	1d.
New York..	1 0 7	10 9 7	792	2d. to 2½d.
Paris ..	8 5 0	8 10 0	1,500	¾d.
Berlin ..	4 0 0	4 4 0	480	1¼d.
Stockholm..	1 7 6	4 8 0	1,200	½d.[1]

The reader will observe that British charges appear favorably in an international comparison. The advantage indicated over American telephone tariffs is probably applicable to most sections of the United States.

When the National Telephone Company was taken over, the flat rate, i.e. a fixed annual payment independent of the number of calls, was in common use, as well as the measured rate. The Post Office considered this "inequitable as between the small user and the large because it entailed overcharging the former to compensate for undercharging the latter." The message rate, i.e. a fixed annual charge

[1] Extra calls in Stockholm must be paid for in blocks of at least 1,300 at a time.

for the installation, together with a uniform fee for each effective local call, was introduced throughout the country in 1921, and it is considered unlikely that the telephone service would ever revert to the old plan. Reductions in the unit charges between 1921 and 1927 resulted in an estimated initial saving to users amounting to £3,000,000. Several years ago Sir Evelyn Murray stated that "The experience of all telephone administrations is that the cost tends to grow rather than to diminish as the system develops. The subscriber gets the advantage, not in the reduction of his charges, but in the greater number of persons with whom he can communicate." The fall in prices and interest, and the technical developments of recent years, have encouraged subscribers to hope for a further reduction of telephone rates.

TELEPHONE OPERATING EFFICIENCY

In recent years a large part of the criticism of the Post Office has been directed at the telephone service. The reasons for public dissatisfaction are complicated and seemingly deep-rooted. The telephone received such a bad reputation under private operation that many years have been required to overcome the popular prejudice. Then, too, the disastrous experience during the post-war boom has already been mentioned. One of the principal causes of dissatisfaction is the mistaken view that the British telephone service is greatly inferior to most foreign systems. Finally, defects of operating efficiency have caused justifiable irritation and resentment. The public attitude has been improved considerably in recent months as a result of operating improvements and because of greater attention to public relations and publicity.

In certain respects the service rendered by the British telephone administration is outstanding, just as in other respects it falls short of the standard set in other countries. In connection with the comparative tariffs referred to above,

for instance, the Post Office emphasizes the following advantages: (1) the initial installation is done absolutely free. The practice of making a charge for installation is common outside Great Britain. (2) No subscriber is asked to pay for any more calls than the exact number which he makes. In most other countries the subscriber must pay for a certain number of calls whether he uses them or not. (3) Ninety-nine per cent of the subscribers in Great Britain are given continuous day-and-night service. In most Continental countries night service is given only in the larger towns. In small and middle-sized towns not only is no night service given but the day service is also restricted. This means that the night service in larger towns is less valuable because fewer places outside can be reached. (4) Practically every rural subscriber in Great Britain is given a service equal in every respect to that given to subscribers in the largest cities. Rural companies abroad which offer very low rates often operate systems of poor construction, employing single wires with earth returns, and giving an inefficient and unreliable service. In some cases the subscribers themselves have to supply part of the plant or arrange for the operating.

Considering the high standard of construction maintained throughout the country, it is surprising that the cost of the telephone to the British subscriber compares so favorably with foreign charges. The Post Office will establish and operate a rural exchange whenever eight subscribers desire it. No other country is nearly so generous. The average loss on these new exchanges for the first few years is £50 to £60 per annum. A private company would undoubtedly close hundreds of these rural exchanges.

Telephone poles and overhead cables have been reduced to a minimum in Great Britain, where six-sevenths of the wiring is underground. The amenities of the country-side are dominant considerations in Great Britain. Post Office cabling has been very expensive. There are few rectangular streets such as are commonly found in America. The tele-

phone cables taper down to the smallest circuit, instead of being transferred to poles. The City of London is built on a watery foundation. Streets are old and costly to replace. These factors largely account for the higher capital cost per telephone as compared with the United States.

The principal difference between British and American commercial efficiency was stated as follows by Mr. William O'Brien, an American expert on public utilities, who, after observing British methods, said,

> "But, after all is said and done, it is probably true that there are other reasons than the question of government or private operation. There is the matter of fundamental difference in methods of business in different countries, some rapid, and some easy-going. My experience in England has been that there is no great pressure anywhere at any time. . . . Probably that is one of the strongest reasons why England . . . is still at the foot of the ladder of telephone development."

Direct labor employed by the Post Office accounts for only one-fifth of the capital expenditure of the Post Office construction work. Steps have been taken by the Post Office to reduce telephone construction and maintenance labor costs between 30 per cent and 40 per cent.

The Post Office engineers have won deserved recognition at home and abroad. Several recent technical improvements in the telephone service are due to their efforts. Perhaps the best evidence of the progressive attitude of the Engineer-in-Chief's department is found at the Dollis Hill Experimental Station. This engineering laboratory and training school employs a full-time staff of over 200 and has an annual budget of £75,000. It gives instruction to 1,600 students at the present time. Pure research is emphasized, but specific problems of the postal, telegraph, telephone, and wireless services are also solved. In 1930 the staff undertook 550 experiments and 15 were put into commercial operation. The inventions of the single year resulted in an annual operating saving of £150,000, a 100 per cent return on the research investment. All patents go to the Government, but the individual may sell the foreign rights.

All of the staff are civil servants and there seems to be plenty of incentive despite the absence of the profit motive. For example, a device has been perfected which will automatically turn on a large fan in underground passages and cause a red light to burn in the nearest telephone exchange whenever an underground main contains more than 2 per cent of escaped gas. If this invention had been perfected a few years ago an explosion in the Holborn district which resulted in terrific damage might have been prevented.

Telephone apparatus companies are permitted to instal exhibits at Dollis Hill, and tests are then made to determine whether the Post Office will adopt new forms of equipment. Telephone receivers and other forms of apparatus are similarly tested before installation. Although the Post Office could undoubtedly manufacture much of its own apparatus, it has never done so. The possibility of turning to manufacture has no doubt assisted the Post Office to obtain better terms from the "loose ring" of international manufacturers.

The improvement of the telephone service in recent years has been very pronounced. Not only has the efficiency of the system been improved, but the management has learned to anticipate the desires of subscribers. An aggressive commercial policy and a successful public relations policy have emerged. Instances of these developments may be of interest.

The transformation of manual exchanges to the automatic principle has made rapid progress in late years. The telephone service opened its first automatic exchange in 1912.

"The Post Office policy," Sir Evelyn Murray has stated, "is to instal automatics where new exchanges are required either to provide for expansion or in substitution of manual exchanges which are worn out and due for replacement in the normal course but not to scrap manual exchanges of a modern type which still have an effective life before them. It will therefore be some twenty or twenty-five years before the conversion of the London area is complete. In the transition stage automatic and manual exchanges will be working side by side, and an ingenious apparatus, installed in the manual exchanges, will give

intercommunication between them, just as if the whole system was of a uniform type."

So much progress has been made since Sir Evelyn Murray wrote, that present estimates for London provide for the conversion of the remaining manual exchanges in less than ten years. During 1931–32 no less than fifteen automatic exchanges commenced operation in London, including the largest exchange in the country, Mayfair. The accomplishment of the London Engineering Department received just commendation from engineering experts in all parts of the world.

The quality of the telephone service is ultimately determined by the efficiency of its staff. In recent years a great deal of progress has been brought about by giving greater attention to training. A central training school is maintained in London, where advanced as well as elementary instruction is afforded by a full-time staff. It is interesting to note that the student's attitude toward the public and voice training are two important aspects of the course.

Careful tests of operating efficiency are carried out constantly in each exchange. At the present time about 90 per cent of calls are effective at the first attempt, as compared with 75 per cent in 1920; and the answering time, i.e. the elapsed time between taking up the receiver and the telephonist's answer, averages 5 seconds. These results compare favorably with any foreign system which might be mentioned.

Service complaints are now attributable in large part to engineering difficulties, especially where changes to the automatic system are taking place. Probably the chief weakness of the telephone administration at the present time is inadequate coordination between the engineering and the operating divisions of the service. In other words, the principal fault of the telephone service is an administrative defect.

The modern commercial outlook of the telephone administration may be suggested by some recent examples. Three

or four years ago the London Telephone Service opened a new exchange in Chelsea, the artistic center of London. The action taken by the management at that time is an interesting index of the public relations psychology which has developed in the service. Because the residents of Chelsea are different and because they were inclined to frown upon anything as mechanical as a telephone, the establishment of a new exchange in their midst required finesse. The new exchange was named Flaxman, in honor of the artist who, among other things, designed Wedgwood pottery. The halls of the exchange have been decorated with his works. This policy has not only resulted in cordial relations with the community, but it has established an admirable *esprit de corps* among the staff. The idea of developing local traditions and atmosphere has begun to spread to other exchanges.

Arrangements have recently been completed for a service which will enable a subscriber to leave his office or his home with the certainty that he will receive all telephone messages that have matured during his absence. Each subscriber to this service will provide a list of friends and business concerns with whom he has dealings, and a licensed company will inform them that, failing a reply to his number, all messages in his absence will be faithfully delivered. Other illustrations of the same sort of thing might be given. The important point to note is that the telephone administration has not only improved its technical efficiency, but its technique of approaching the public has also made considerable headway.

TELEPHONE ORGANIZATION AND SALES METHODS

The head of the British telephone administration is the Director of Telegraphs and Telephones. His deputy is the Assistant Secretary in charge of the Telephone Service. The London Telephone Service is directed by a Controller, and

the twenty-two provincial areas into which the country is divided are supervised by District Managers, who are assistants to the thirteen Surveyors and the nine Postmaster-Surveyors. Parallel to, but apart from the operating administration, there is the engineering organization, which is directed by the Engineer-in-Chief. At the present time cooperation between the operating and the engineering officials depends either upon voluntary consultation or upon cooperation brought about through the Secretary's Office. Greater collaboration between the engineering and the commercial officials is one of the greatest needs of the telephone organization. The Bridgeman Committee concluded that,

> "much of the dissatisfaction with the telephone system is due to the general diffusion of responsibility and absence of coordination between those concerned with the various elements involved in the provision and conduct of the service. While the District Manager is, broadly speaking, responsible for the telephone service in his area he has no jurisdiction over engineering and little disciplinary control over the operating staff. The general public imagine that the District Manager is responsible for all questions affecting the telephone, and are not unnaturally exasperated when they find that there is no one authority who can deal with complaints, or ensure that orders are promptly and satisfactorily executed."

Other administrative changes have been proposed. The Bridgeman Committee strongly recommended that the telegraph service should be amalgamated with the telephone service. The writer cannot see how this would improve operating efficiency and it might easily have the opposite effect. Amalgamation would convert the telephone service's surplus into a deficit. Interchange of operating staff would not be feasible. Administrative coordination has already been secured at Headquarters. However, it will be suggested in the following chapter that greater autonomy should be given to the telephone administration as a whole and to its several geographical areas.

The first recommendation of the Select Committee on the Telephone Service, 1922, was that reorganization

should take place "on more commercial lines." Until comparatively recent years, failure to adopt a commercial policy had been the greatest defect of the Post Office. This failure to stress sales, advertising, and public relations has now been rectified in the telephone service.

With the establishment of a separate Sales and Publicity Department in the Headquarters Secretariat, the local Contract Branch in each telephone center was renamed the Sales Department—a significant change in viewpoint. In the London Telephone Service the Chief Sales Officer now ranks as an Assistant Controller. He has two chief assistants, one dealing with development and publicity, the other with sales office methods and control. The salesmen have throughout been granted a small commission on the new business obtained by them, in addition to their salary. Special Post Office display rooms have been opened to promote the use of the most modern forms of telephone instrument. All of the salesmen are put through a rigid training at the Sales School which has been created especially for the purpose. The course is conducted by a private concern which specializes in sales and advertising methods. Prospective canvassers are recruited from other divisions of the Post Office, many of them coming from the telegraph branch. One of the best advertising agencies in London has been secured as consultant. The results speak for themselves. It has been revealed that in London alone, despite depression conditions, there was a net increase of 52,581 stations between September 1931 and September 1932.

During the depression years, the British telephone service has outstripped every other country in the extension of its business. Some of its accomplishments may be summarized as follows: during the past year telephone calls increased by fifty millions; public call stations are being established at the rate of two hundred a month; subscribers have been saved £6,000,000 per annum as a result of reductions which have taken place during the past ten years; and it is now

possible to communicate by telephone from Great Britain with approximately 95 per cent of the telephone subscribers of the world. A business which can progress in times like these must be on a sound footing!

CONCLUSION

The writer's general conclusion regarding the Post Office telegraphs and telephones is that very considerable progress has been made in the past three or four years, whilst prior to that time the respective organizations were lacking in salesmanship and in a public relations technique. The change began to occur about the time Major Attlee was Postmaster-General, and he undoubtedly had a great deal to do with it. The new attitude can be strikingly observed by anyone who will take the trouble to go down to the Post Office counter training school, where, among other things, employees are taught to meet the public in the best commercial manner.

It has long been recognized that the Post Office possesses certain valuable assets, such as the high standard of education and the fine traditions of its officials. Candid observers have been ready to admit that the Post Office has many qualities which business firms lack and which they would find difficult to acquire. An official of the National Institute of Industrial Psychology, after having made comprehensive investigations in the Post Office and in many private and public utility concerns, concluded that "Business houses ought to follow the example of the Post Office in its methods and the Post Office ought to follow the example of business houses in making the best of itself" (i.e. in salesmanship and public relations). May it not be possible that Civil Service personnel and methods plus commercial advertising and technique (the latter to be supplied by outside experts as at present), will produce the future's most effective form of public service enterprise?