

THE National Telephone Journal

Vol. VI.

MAY, 1911.

No. 62.

TELEPHONE MEN.

LX—ARCHER WELLEN SMITH.

ARCHER WELLEN SMITH was born in North London in 1865, and was educated first privately at Valencia Island and Milltown, county Kerry, and afterwards at the Islington Proprietary School, London. He then had a short office and commercial training, continuing his studies by attending evening lectures at King's College. Thereafter he removed to Yorkshire, and attended classes at Firth College and the Technical School, Sheffield. His connection with telephone work commenced in 1891, when the late Mr. William Johnson, then Secretary and Engineer of the Sheffield Telephone Exchange and Electric Light Company, Limited (better known as Tasker's), appointed him Engineer's Clerk and Draughtsman. A strenuous battle for supremacy was being waged between Tasker's and the National Telephone Company; there was no intercommunication between the two systems, with the usual result that nearly every firm of importance had to subscribe for two telephones, one on each system, and so in spite of competitive rates the telephone service was expensive and unsatisfactory to the users. The staff on each side entered into the fight with great keenness while this state of affairs lasted. In 1892, however, the exchange portion of Tasker's telephone business was absorbed by the National Company under the District Managership of Mr. G. F. Preston. Mr. John McFee was Engineer, and Mr. Smith was appointed Sub-Engineer. The first work tackled was a reconstruction scheme, involving the closing of Tasker's Angel Street Exchange and the National Change Alley Exchange, and the transfer of the subscribers to the present central building in Commercial Street, which had been previously erected by Tasker's. The smoothness and rapidity of the actual transfer at that date formed quite a smart feat of telephone engineering.

In 1893 Mr. Smith was appointed Local Manager at Chesterfield. During his stay there the task of cancelling by notice all agreements (which then included free trunk communication with Sheffield) and altering the competitive tariff to the ordinary basis

was faced, and notwithstanding the handicap of the alterations a net gain of subscribers was secured. New central premises were taken, and the exchange removed from the old congested quarters at Irongate. At the trunk transfer in 1896 a greater amount of preparatory work devolved on this small centre than in most other places of the same size, because of its intermediate position on trunk lines. In the same year the Matlock Exchange was opened, the work of wayleaving and engineering, including some awkward construction problems on the junction routes, falling on Mr. Smith's shoulders.

In 1896 Mr. Smith was transferred to Northampton as Local Manager, and, while here, was successful in obtaining, amidst rumours of municipal telephones, the wayleaves for the underground scheme in that town, and supervised the opening of Rothwell and Market Harbro' Exchanges.

Early in 1899 further promotion came to Mr. Smith, and he was appointed Local Manager at Birmingham, where he saw the closing of the old Bennett's Hill Exchange and the completion of the opening of Barnt Green, Bromsgrove and Halesowen Exchanges. The building of Birmingham Central Exchange was then pushed on with, and the old Selly Oak, Aston and Moseley Exchanges were closed, and the subscribers and staff transferred to the central.

Late in the same year, Mr. Smith was appointed District Manager for the Potteries. The district office, the exchange and the stores, were then in three different places in the town, and the building of the present central premises had just been commenced.



The result of work here was the completion of the scheme previously decided on of laying cables to centralise Hanley, Stoke, Burslem and Tunstall Exchanges, all then working with overhead earth circuits and call wire system. It may be noted as a matter of interest that the Company's scheme of centralising the telephone service of the places above named anticipated the federation of the Potteries towns into one borough, the arrangements for which were completed only last year. At the time of centralising, lamp relay calling and clearing was introduced, and all lines were metallic circuited. When completed the exchange system was thought worthy of special remark, and many telephone men visited Hanley to see it in operation, and it was the subject of a descriptive paper read by Mr. Smith and discussed at the Officers' Meeting of May, 1902.

In October, 1902, Mr. Smith was transferred as District Manager to Wolverhampton. Shortly after his appointment the Company decided to secure premises of its own as headquarters for the district, and the present building known as "Telephone House" was purchased. In August, 1905, the subscribers were transferred from Lichfield Street to the new central exchange. Since Mr. Smith took up duty in Wolverhampton underground systems have been completed and brought into use in six towns, with large extensions to older systems, while four exchanges have been entirely reconstructed, three being removed to new premises and twelve new exchanges have been opened.

A successful scheme of contiguous area direct trunk working, first tried experimentally on Mr. Smith's suggestion, has been largely developed.

From the above particulars it will be seen that Mr. Smith's telephone career of twenty years has been entirely spent in the Midland Province, but he has had varied experience in five districts of the province. For all but one year of his twenty years' service he has been under Mr. Coleman as Superintendent, and has served under Mr. Preston, Mr. Bennett, Mr. Mewburn and Mr. Cotterell as District Managers, and has himself been District Manager in two districts. He was elected an Associate of the I.E.E. in 1898, and A.M.I.E.E. in 1900.

Mr. Smith as a manager is keen, but cautious. Hardworking himself, he inspires his staff to emulate his example, and by his sympathetic interest in all educational and social efforts made by the staff, or on their behalf, he has gained a secure place in their affections. The North Midland Telephone Society was started on Mr. Smith's initiative in October, 1907, and it is worthy of note that he has not been absent from one meeting of the society since it was started.

Mr. Smith is quite a good French linguist, and his favourite recreations are gardening, amateur photography and music.

HUNTING FOR LODGINGS.

BY AN INVENTORY STAFF CORRESPONDENT.

THE Inventory staff, with the experience they are having, will certainly be able to claim one and all the title of "expert" in the "art of choosing apartments."

That discrimination which is necessary, and is only born of experience, to be successful in separating the "sheep from the goats," was brought to the notice of the writer recently. The facility with which the list of ladies willing—nay, eager—to "take in" one, two or more, was disposed of by the old hands was really remarkable. It was perhaps not so remarkable that, at the end of the week, on comparing notes it was found that I, who by the way secured the first choice, was the only one who expressed any desire to leave.

A few of the replies which did not "take in" any of the staff are appended.

1. *Re* your advertisement—I have excellent accommodation available and should be glad if you would make an appointment to call. I may say I am not in the habit of taking in boarders, but as you are probably acquainted with my husband, no doubt we could talk the matter over.

2. Mrs. Potts, an elderly widow of no family, offers comfortable board with home comforts in detached house, situated pleasantly, not too near the tram terminus.

3. With reference to your advertisement I should like to know if you are the same gentleman who called to see me on Tuesday evening; if so I should be very pleased if you would call again. Please call whether you are or not.

TIME AND MONEY.

BY EUSTACE HARE.

(Concluded from page 4.)

INDIRECTLY the Company pays us for our work, but, primarily, it pays us for our time; for whether it receives full measure of both is known only to ourselves, and we even may be steeped in ignorance in regard to our capabilities. No precaution in the way of supervision will assure the full output or the best output of the individual. Even the officer in immediate control may err in his preconceived notions of what a man can bring forth in his day's work; and it is needless to say that, as a whole, the measure of work of a particular department is largely governed by the expectations of its chief. The means of comparison may be at hand, and if he is wise he will make use of them; quietly and unostentatiously, avoiding any undue and extravagant prominence to the more meritorious, lest it provoke resentment rather than emulation. On the other hand the chief of a department may attempt to judge his staff by his own capacity for speed and accuracy of detail; and this may be a doubtful standard, for these are not necessarily the qualities which fit him for his post. In fact, his duties lying in quite another direction, he may, if he relies solely on his own personal experience, be led to mistake pure diligence and zeal for abnormal ability. He can, of course, prevent sheer idleness, but he cannot alter temperaments nor control the action of a man who is determined to finish daily his tale of bricks and no more. But what he *can* do is to see that the best measure of work in the time paid for, obtains the best reward; and by so doing establishes the most direct and most practical method for inviting not only the strict observation of the bargain between employer and employed, but a little more.

We know that no two things in this world are precisely alike and the quality and quantity of work produced by any two persons is no exception. It is true that in routine work or in articles made to pattern the products of two individuals in a given hour may be identical, but it is almost impossible to conceive that in each case every minute in that hour was occupied. If this is so, it is clear that the average price of the work is artificially enhanced, for it follows that one individual has brought his output down to the level of the other, assuming the reverse to be an improbability. This involves waste both in time and money, of time to the employer and of money to the eventual purchaser of the articles produced. The employer requires a certain profit on the time he pays for, and takes care he gets it; the purchaser requires the article and has to pay the manufacturer's price. And here you have three degrees of comparison: the workman who is paid for wasted time, the manufacturer who gets the bare return on his outlay and the purchaser who pays more than the real value of the article. There is therefore one in this trio who may crow if he choose, in the satisfaction of having secured more than his share of the transaction—but it is more than possible that his triumph will be short-lived. He has sacrificed the future to present gain, unheeding the retaliation that invariably follows forced and artificial conditions. The laws of supply and demand and the exigencies of competition will eventually reduce the price of the commodity to its true market value, and this reduction will react first on the employer and then on the employee, who, in the end will probably find all his time converted into leisure.

Now, I have no intention of suggesting that the Company's staff underworks itself; my knowledge and experience has taught me otherwise, but is it not, at the first blush a remarkable fact that not only in ours but in any great commercial undertaking, it would be a rare thing to find an office totally deranged by occasional calls upon it for some special and additional work? You may say this is accounted for by a precautionary margin of safety, and this no doubt does partly explain this seeming phenomenon—as phenomenon it would be if every minute of every man's time were fully occupied—but it is not all. The "all" lies in the unknown, untold resources of every man's and every woman's capacity for work. If, for example, you needed legal or business advice, to whom would you go? Not to the man with abundance of leisure and spare time

whom you might reasonably suppose could devote his whole energies to your service; but to a man with a hundred other interests and cares on his shoulders, and to whom the addition of another burden merely means some further activity in his business or legal mind. In like manner, if a sudden demand is made upon one of our offices for some special work, the aid is sought, not of the man whose paucity of output proclaims his limitations, but of him whose active brain and hand has again and again proved responsive to the calls made upon them.

And this is the type of employee who, though ostensibly paid by time, does not trammel himself with time limits, does not circumscribe his services within what he considers to be the strict letter of his compact, and in whom the Company recognises that it is not he, but they, who have got the best of the bargain. There have been and are many such men and women in the telephone service, in every branch and every grade of it, and it is greatly owing to this class that the Company has achieved its success and surmounted its many difficulties.

Arising out of this suggestion of what we may call *infertile or undeveloped time* let me give you an illustration of what might be done to improve matters in a hypothetical situation of a hypothetical staff. Suppose that 100 clerks averaging £100 per annum salary distributed over ten departments in the same business, by reasoning among themselves, discovered that on an average each one of them could increase his output by 10 per cent.; or, in other words, that nine of them in the aggregate were, theoretically, superfluties—theoretically only, be it observed, not practically—because owing to the division of offices it might be impossible to reduce the staff even by one. They then put this proposition to their employer: There is the equivalent of ten men among us for whom you provide no work; that is to say you are incurring an annual charge of £900 which produces nothing. It is not possible to denude each or any one department of a single clerk, but each department can increase its output by 10 per cent. Capitalised at 5 per cent. this saving represents £18,000. Increase our salaries by 2½ per cent., or £250 per annum, and you will still have £13,000 for the extension of your business. And if any employer were so unenterprising as to reject such an overture, the next sensible recommendation might be that he should retire from business to grow cabbages. The picture may seem crude or exaggerated, but it will serve to emphasise the intimate relationship of time and money and what might be accomplished by taking thought to enhance the mutual interests of employer and employed.

But there is another side to the picture. To be miserly of time, to live in that feverishly impatient state that chafes at obstacles and slurs rather than attempts to overcome them; to grudge the period of growth in over-eagerness to see the result is as inimical to financial economy as the habits of the loungers. Probably more so; more difficult to cure and productive of greater waste. For to try and complete a thing by hurried workmanship or half-baked ideas may mean that the whole must be undone to find the flaws, and then be reconstructed by surer work at slower steps. The slothful man may be sound in his work and produce sound results, whereas the man of haste, though possibly brilliant, is frequently unsound and consequently unreliable. And therefore while you may count with some certainty on the ultimate results of the one, those of the other are far more speculative, leading you perchance into unknown and far-reaching difficulties and expense. The employer who suffers from a lethargic staff may perhaps be himself the cause of it. A too niggardly outlay in supervision, a want of scientific arrangement of duties, an obstinate and ignorant clinging to effete and obsolete methods may all have contributed to failure; for with all his shortcomings the idler is quick to recognise and appreciate such weaknesses and to trade upon them. So that an unbusinesslike parsimony and its attendant causes usually bear a double edge, in that not only do they in themselves defeat their own purpose—which is to earn a little more profit—but they encourage among workers a multiplication of their worst qualities.

But although the man who is slow, sure and expensive may be less expensive in the end than he who is quick but erratic, the latter, nevertheless, has his uses and is therefore to be reckoned with rather than despised. The two are extreme shades, incapable of abrupt blending, with many tones between. Whether there is room for both, whether it pays to employ a man who displays

spasmodic bursts of creativeness, and to judiciously use his antithesis as a drag upon him is a matter for thought and of management. The ideal is to be found somewhere between, but a dead level of excellence is scarcely conceivable, and an army of ideals might become tiresome; like the sparrow with the dead hawk we might be puzzled to know what to do with it when we had got it. So that, abilities and characteristics being so unevenly dispensed, we can, after all, only blend them to the best advantage.

There is nothing so common as the misuse of time and its usual concomitant the misuse of money; and yet there is nothing so incomprehensible when we consider that the majority of us have very little of either to spare. The man who squanders the one, whether in his work or leisure, is most likely to squander the other whether it is his own or is held in trust for others. I do not mean necessarily in sheer dishonesty, but in pure heedlessness, though the two things are closely allied. For us, however, there is no excuse when we consider that the very essence of our work is the development of the last word in practical time-saving, money-saving, and I may add life and property-saving appliances yet devised by man. In this atmosphere of active economy, we, of all people, should find it easy to recognise the enormous possibilities of a scientific frugality in the time that is not ours and the money of others entrusted to our charge.

I have now a word or two to say on what we, as a staff, produce in relation to its value in time and money to the public.

In its early existence the telephone was regarded as a luxury, and, in the phrase of the day, to "rent" a telephone was symbolic of the happy renter's opulence. The times have changed, the same article has become a necessity, and for that reason alone is expected to become cheap. In other words, the more useful a thing becomes the cheaper it ought to be! Surely an illogical conclusion. A taxi-cab is more useful than an omnibus, but no one expects it to be cheaper. A letter, with its answer, costs twopence in postage, besides expenditure in paper and ink and time in writing and delivery, and yet a telephone message, without these disadvantages, is expected to cost less. The price of an article must be governed by the cost of production, and the cost of production must include the cost of development and improvement, the necessary brains for which are not to be had for nothing. To fix an arbitrary price, and then attempt to fit the cost of production to it, would be to court failure and invite inferiority—bad for the producer and worse for the consumer.

The object of the telephone is rapid and effectual oral communication; to save time and annihilate space; and who can reckon the value of these capabilities? If put only to frivolous uses the value of a telephone call is admittedly small, but if time is important, if life, death or property are at stake, what is its worth in money? I will give you a case in point. A friend of my own, living seventeen miles from London, was suffering from appendicitis, and late at night it was discovered that if he was to recover an immediate operation was imperative. There was no train to London, and the telegraph office was closed; but the telephone was available, and within an hour the surgeon arrived by motor. What the fee for the operation was I do not know, but I do know what was the cost of the agency without which the surgeon could not have arrived in time—it was fourpence. Whether fourpence was the real value of that telephone call I leave to your imaginations, and you may associate with it the grotesque proposition that a service with these untold possibilities should be supplied at an inclusive rate.

Now it is quite true that communication by telephone is a service, but the same term is applied to a collection of plates and dishes, and, like a plate, each telephone call has to be manufactured. The man who expected to get a dinner service of 100 pieces for the same price as one of 50 would, to put it mildly, lay himself open to ridicule, but the humour of demanding 3,000 manufactured telephone calls of varying value to the purchaser at the price of 500 is not so readily appreciated.

Perhaps you will say that this comparison is far-fetched. Very well; we will turn to another which, on the surface, seems more analogous—our water supply. Without doubt water is usually supplied at a flat rate; but suppose that every pint, or any unit you like, of water had to be manufactured; suppose that, in addition to

laying it on (which has, by the way, to be paid for separately) a separate operation took place at the works of the water authority every time a tap was turned on, and then wonder how long the flat rate would endure!

Take another example—our railway season tickets. True, this is a sort of flat rate system; but is it not a fact that the railway management can calculate to a nicety how many times a day the ticket is made use of; and is it not also a fact that the larger the payment the less often is the ticket used? Further, the longer the journey the higher is the cost, so that this is not a genuine flat rate after all. And what would the abolition of the season ticket mean to the railway company? It would mean an enormous increase in booking office accommodation, booking clerks, or additional trains with a general slowing down of the service. In telephony the position is exactly the reverse. A flat rate means a greater number of calls and hence a larger staff to deal with them, and greater switchroom accommodation.

There is no analogy, whatsoever, between either a water supply or a railway season ticket and telephone calls, as regards the manner of payment therefor.

Better similes are to be found in the postal and telegraph services and the gas supply; for here you are dealing with something that involves a separate cost every time you make use of them. Every thousand feet of gas you use has to be manufactured, every telegram and letter you send has to be dealt with separately and costs something to deliver, and consequently, you have to pay for each separate unit, that is, you pay by the piece and not by time.

But again, this system is not quite analogous with that under which the public is asked to pay for telephone calls. No matter how many letters you send or how many thousand feet of gas you consume, you pay the same price per unit. This method coincides with our, now obsolete, message rate. The measured rate makes a concession by providing that the more units you use the less is the cost per unit, and could anything be fairer, more reasonable or more consistent with commercial equity?

In contemplating the cost of his calls, the telephone user is apt, I think, to look upon it as something purely additional to his business or private expenses, forgetting that it is largely a substitute for other and slower methods of communication. And when I speak of slower methods of communication I include, besides such tangible things as postage, telegrams, stationery and cab fares, the extra time which these media formerly consumed. It would perhaps not be difficult, if anyone took the trouble, to trace how much was saved in the actual money cost of these things by the introduction of a telephone, but it would be more difficult to arrive at the amount of time which formerly had to be spent upon them and which time has now become a source of additional business activities. What the value of this reclaimed waste is, is so vague and indefinite that it is ignored altogether, but it is there nevertheless. So that the installation of a telephone means the ascertainable saving in the cost of slower methods, in the time those methods involved and in the unknown value of the time thus saved.

To conclude. There is something more than nursery nonsense underlying the remark made by the Mad Hatter to Alice in Wonderland, to the effect that if you only keep on good terms with Time, he will do almost anything you like. To keep on good terms with anybody you must not only deal fairly and squarely with them, but there must exist some sort of attractive sympathy between the two. In this respect time never fails: whatever your mood, he will keep up with you. To the busy man he seems to fly, while he will keep the indolent man company at a snail's pace to the extent of boredom.

With regard to money, no perfectly satisfactory answer has perhaps ever been found to that innocent but deep query propounded by the presumptuous Paul Dombey to his wealthy father, "What is money?" From our point of view, possibly as good a reply as another would be "a product of well-spent time."

MR. F. GILL and Mr. W. W. COOK have been elected Members of the Institution of Civil Engineers.

THE AMERICAN TELEPHONE AND TELEGRAPH COMPANY'S ANNUAL REPORT.

THE annual report of the directors of this company contains, besides the usual statements of earnings and expenses and statistical matter, the following very interesting paragraphs on telephone politics and economics:—

PUBLIC RELATIONS.

It is believed that the telephone system should be universal, interdependent and intercommunicating, affording opportunity for any subscriber of any exchange to communicate with any other subscriber of any other exchange within the limits of speaking distance, giving to every subscriber every possible additional facility for annihilating time or distance by use of electrical transmission of intelligence or personal communication. It is believed that some sort of a connection with the telephone system should be within reach of all. It is believed further that this idea of universality can be broadened and applied to a universal wire system for the electrical transmission of intelligence (written or personal communication), from every one in every place to every one in every other place—a system as universal and as extensive as the highway system of the country which extends from every man's door to every other man's door.

It is not believed that this can be accomplished by separately controlled or distinct systems, nor that there can be competition in the accepted sense of competition.

It is believed that all this can be accomplished to the reasonable satisfaction of the public with its acquiescence, under such control and regulation as will afford the public much better service at less cost than any competition or Government-owned monopoly could permanently afford and at the same time be self-sustaining.

The Bell system as at present constituted was evolved first through the local exchange.

In the beginning of the business it was impossible to get the necessary capital for development in any large amount. In the place of large capital, small capital and the optimism of individuals had to be utilised. Small capital, large hopes and individual effort brought about a development by limiting the size of the exchange territory given to each individual to his possibilities. In this way the country and smaller cities were largely developed before much was done in the larger cities. The capital to develop New York was estimated at less than \$100,000, yet it was a long time before even that could be raised. Even if it had been possible to raise capital to exploit the whole country through one company, it would have been impossible to use it properly. The business was new; those who constructed and operated it had to be educated. The policy of small units and individual effort, with concentration, application and resourcefulness brought a more rapid development and education than could have been had in any other way.

In this formative period, when the business was new, before distant speaking possibilities were shown, all communication was local. No two exchanges were either equipped or operated on the same lines or under the same methods, nor did they need to be; service, judged by present standards, was poor, but satisfied the local use; better service was not known. Later development of the toll line, of lines connecting exchanges, and of long-distance service made the deficiencies of the service glaring and the necessity of improvement imperative.

It will be remembered by many when the long-distance service was first introduced special connections had to be built for the users. Now every telephone station or line can be equally well used for long-distance speaking.

With the extension of the speaking limits of the telephone over connecting lines came also the necessity for the extension of the territorial limits of the exchange systems, the necessity of standardisation, uniformity of apparatus and operating methods, and an effective common control over all. The necessity for system was the beginning of the Bell system. The combination of the separate exchanges and lines into larger aggregations or organisations followed. It was necessary to have more effective organisation with more effective administration and management, and with resources sufficient to make the changes which experiment and experience had found necessary.

It is impossible to define the territorial limitations of a tele-

phone system because from every exchange centre communication is wanted up to the talking limits in every direction.

This process of combination will continue until all telephone exchanges and lines will be merged either into one company owning and operating the whole system, or until a number of companies with territories determined by political, business or geographical conditions, each performing all functions pertaining to local management and operation, will be closely associated under the control of one central organisation exercising all the functions of centralised general administration. But whatever may be the form of the operating organisation, there is bound to be for legal purposes and the holding of franchises, some sort of subordinate state organisation which will bring the business and property in each locality under the jurisdiction of the state in which it is situated and operated.

The American Telephone and Telegraph Company, which is the owner of all or part of each company forming the Bell system, is not simply a holding company. It is not a combination that has eliminated competition between the companies controlled by it. There can be no rivalry or competition between local exchanges in adjacent territory. Those desiring the service of exchanges in adjacent territory in addition to their own can get it much better and cheaper through their local exchange. To give direct individual wires from one exchange territory into another would be impractical from the multiplication of lines, and prohibitive on account of cost. The American Telephone and Telegraph Company is a centralised general administration for all the companies. It does the financing for the extension of the business. It furnishes the engineering, operating and other experts. It maintains a productive and protective organisation so far as patents are concerned. It defends all the companies against all infringements. It undertakes to bring about improvements by working out the ideas and suggestions of others, both in and out of the business. Its agents keep each company fully informed of all that is going on in the field. It avoids all duplication of efforts, of experiments, of trial of new methods, apparatus, etc. It looks after the public relations of the companies. In other words, it performs all that service which is common to all, leaving to the local companies the local management. The organisation is not unlike that of the United States, each local company occupying its own territory and performing all local functions, the American Telephone and Telegraph Company binding them all together with its long-distance lines and looking after all the relations between the local companies and between local companies and other companies. To have developed the telephone industry to its present state of efficiency would have been beyond the ability of any one of the local companies.

All independent systems which have been started have more or less followed the same lines, but within restricted areas, whether built by one company or interest or by several. First, the local exchange, then the toll line to outlying points, and then the long-distance line connecting with other independent exchanges, tying them together to form a system affording facilities for communication between the subscribers of one exchange and the subscribers of the other, but limited in scope, and without the community of interest necessary to a common system.

In other words, we have the Bell system on the one side, developed on the lines of a universal, intercommunicating and interdependent service. We have the opposition on the other side, segregated exchanges or limited systems without universality incomplete and inefficient, neither interdependent nor intercommunicating except to a limited extent.

CORPORATE ORGANISATION AND COMBINATION.

There is nothing of greater common interest, nothing which is exciting more comment and discussion at the present moment, than the questions of state control of corporate organisations and of combinations, especially of those controlling public utilities.

Corporate organisation and combination are the necessary and logical solution of the problem of caring for the wonderful development which has been going on all over the world, and particularly in this country, in the recent past.

Combination only can cope with that industrial development of the present time which is far beyond the scope of individual effort or capital. In those good old times one man, with his own capital,

could carry on even the largest operations. The margin of profits due to low wages and large selling prices enabled the owners of such individual establishments to live and enjoy the best to be had in those times, and amass fortunes—fortunes relatively as large as any of the present—from an amount of gross business, the profits from which to-day would not be sufficient to pay the wages of a shop superintendent.

The development of the arts, the necessity of extensive laboratories and experimental departments, with technical staffs competent to keep abreast of modern progress and find out how to *utilise all of everything*, the large gross production at small margin of profit, the large capital requirements necessary to conduct business on these lines; all these place modern industrial enterprises either beyond the financial ability of any one individual, or far beyond the amount that any one individual wishes to have in any one venture.

Without attempting to discuss the history or evolution of "company," "corporation," or "monopoly," and similar organisations or combinations of trade, it can be said that the first and oldest step towards corporate organisation was partnership. Corporate combination is but a partnership wherein the partners are represented by shares held in various amounts by the various investors.

These corporate organisations and combinations have become a permanent part of our business machinery; the public would not, if it could, abolish them.

Who would ever consent, or would the requirements of business allow, that the railroads between the great sections of our country revert to the independent lines that once existed, with all the consequential delays, inconveniences and disadvantages to traffic and travel? Who would be content if the telegraph business should be carried on by the transfer of messages from one to another of the numerous companies, formerly independent, but now combined and giving direct transit over the whole country?

That there has been in large measure reason or cause for the existing unfavourable public opinion as to corporations, trusts and combinations is beyond question, but it does not follow that there is reason or cause for the wholesale denunciation and condemnation of all corporations, trusts and combinations. Nor does it follow that all that is bad is centred in or confined to those prominent in the public eye.

Many of the practices most severely condemned are but the amplification or continuance of practices or customs common in the current affairs of business, practices or customs which were not wrong in themselves, but wrong in the abuse of them.

Public utility corporations and other combinations have too frequently assumed that new laws and regulations were disastrous and ruinous without first giving them a fair trial, and legislators too often have displayed an ignorance or disregard of existing laws, spreading the idea that new legislation was a cure-all for any undesirable condition, while it was often only a political play, and the enforcement of the existing laws was utterly neglected. The results have been bad. While business will adjust itself to any condition if given time and opportunity, sudden change of conditions will result in disaster to some interest, but not as a rule to those at which the change was aimed.

There is too little consideration given to the fact, based on all experience, that no one interest can permanently prosper unless all other interests are in a prosperous condition, and to the fact that any sudden change in existing conditions will always be taken advantage of by some one interest to the detriment of other interests in general.

The proper use of corporate organisation or combination under proper regulation or control cannot be objected to.

What is and should be condemned, prevented and punished, is the abuse made of corporate machinery to the detriment of public welfare and such abuse as has been and is being practised so extensively for purely speculative and oftentimes swindling enterprises.

PUBLIC CONTROL.

Public control or regulation of public service corporations by permanent commissions, has come and come to stay. Control or regulation exercised through such a body has many advantages over that exercised through regular legislative bodies or committees. The permanent commission will be a quasi-judicial body. It

BELL TELEPHONE SYSTEM IN THE UNITED STATES.

	Dec. 31, 1895.	Dec. 31, 1900.	Dec. 31, 1905.	Dec. 31, 1909.	Dec. 31, 1910.	Increase, 1910.
Total Exchange circuits	237,837	508,262	1,135,449	1,829,942	2,082,960	253,018
Number of Central offices	1,613	2,775	4,532	4,968	4,933	35†
Number of Bell stations	281,695	800,880	2,241,367	3,588,247	4,030,668	442,421
Number of Bell connected stations*	27,807	55,031	287,348	1,554,445	1,852,051	297,606
Total stations	309,502	855,911	2,528,715	5,142,692	5,882,719	740,027
Number of employees... ..	14,517	37,067	89,661	104,956	120,311	15,355
Number of connecting companies ... ..	...	...	...	10,354	12,300	1,946
Exchange connections daily	2,351,420	5,668,986	13,543,468	19,925,194	21,681,471	1,756,277
Toll connections daily... ..	51,123	148,528	368,083	517,341	602,539	85,198

* Includes private line stations.

† Decrease.

should be made up of members whose duty it will be, and who will have the desire, the time and the opportunity, to familiarise themselves with the questions coming before them. It should act only after thorough investigation and be governed by the equities of each case. It would in time establish a course of practice and precedent for the guidance of all concerned.

Experience has also demonstrated that this "supervision" should stop at "control" and "regulation" and not "manage," "operate" nor dictate what the management or operation should be beyond the requirements of the greatest efficiency and economy.

Management or operation requires intimate knowledge and experience which can only be gained by continuous, active and practical participation in actual working, while control or regulation can be intelligently exercised, after judicial hearing, by those who have not the knowledge or experience to operate.

State control or regulation should be of such character as to encourage the highest possible standard in plant, the utmost extension of facilities, the highest efficiency in service, rigid economy in operation, and to that end should allow rates that will warrant the highest wages for the best service, some reward for high efficiency in administration, and such certainty of return on investment as will induce investors not only to retain their securities, but to supply at all times all the capital needed to meet the demands of the public.

Such "control" and "regulation" can and should stop all abuses of capitalisation, of extortion, or of overcharges, of unreasonable division of profits.

If there is to be State control and regulation, there should also be State protection—protection to a corporation striving to serve the whole community (some part of whose service must necessarily be unprofitable) from aggressive competition which covers only that part which is profitable.

Governmental control should protect the investor as well as the public. It should ensure to the public good service and fair rates. It should also ensure fair returns to the investor.

A public utility giving good service at fair rates should not be subject to competition at unfair rates.

It is not that all competition should be suppressed, but that all competition should be regulated and controlled. That competition should be suppressed which arises out of the promotion of unnecessary duplication, which gives no additional facilities or service, which is in no sense either extension or improvement, which without initiative or enterprise tries to take advantage of the initiative and enterprise of others by sharing the profitable without assuming any of the burden of the unprofitable parts or which has only the selfishly speculative object of forcing a consolidation or purchase.

If any company gives good service, meets all the reasonable demands of the public, does not earn more than sufficient to provide for the maintenance of its plant up to the latest standard and for reconstruction of plant when worn out or obsolete, pays only fair dividends to its shareholders—if a company is only doing this its rates and charges to the public cannot be unreasonable.

COMPETITION *versus* CONTROL OR REGULATION.

Effective, aggressive competition, and regulation and control are inconsistent with each other, and cannot be had at the same time.

Control or regulation, to be effective, means publicity; it means semi-public discussion and consideration before action; it means deliberation, non-discrimination; it means everything which is the opposite of and inconsistent with effective competition.

Competition—aggressive, effective competition—means *strife*, industrial warfare; it means contention; it oftentimes means taking advantage of or resorting to any means that the conscience of the contestants or the degree of the enforcement of the laws will permit. To make competition effective great and uncontrolled latitude of action is necessary; action must be prompt and secret.

Aggressive competition means duplication of plant and investment. The ultimate object of such competition is the possession of the field wholly or partially; therefore it means either ultimate combination on such basis and with such prices as will cover past losses, or it means loss of return on investment and eventual loss of capital. However it results, all costs of aggressive, uncontrolled competition are eventually borne, directly or indirectly, by the public.

Competition which is not aggressive, presupposes co-operative action, understandings, agreements, which result in general uniformity or harmony of action, which, in fact, is not competition but is combination, unstable but for the time effective.

COMPETING EXCHANGES.

Two local telephone exchanges in the same community are regarded as competing exchanges, and the public tolerates this dual service only in the fast disappearing idea that through competition in the telephone service some benefit may be obtained both as to rate and efficiency. Competition means that the same thing, or a satisfactory substitute, is offered. In this sense there can be no competing exchanges unless each exchange has substantially the same list of subscribers, which is in itself inconceivable.

It is not telephone service *per se* that an exchange affords; it is a particular, definite telephone connection between two people which can only be given between two parties connected with the same exchange or the same system. Each of the several independent exchanges in the same community offers you telephone service, but telephone service only with its particular list of subscribers.

Opposition exchanges compete in the same way as do two street railway lines, each starting in the centre of the city, running a short distance through the same main street, and then branching off, each supplying an entirely different district of the city. Those travelling only from point to point on the main street can use either line, pay one fare; there is to this extent competition—there is a choice. Beyond that, to reach the other districts, there is no choice, there is no competition; one line or the other must be taken, depending on the particular district wished to be reached.

In the case of the street car service, payment is made only to the line used, when used.

To be in a position to obtain full telephone service where there are opposition exchanges, subscriptions to all are necessary.

In all other opposition utilities, to get the full service one or the other is paid—not both.

As before said, the purpose and object of an exchange is to afford a direct speaking circuit between parties at points distant from each other, to afford a highway for personal communication between any two. The exchange gives nothing but that connection, does nothing but provide that highway of communication, and place it at the service of the two parties desiring to communicate. The actual communicating is done by the parties themselves over this circuit placed at their exclusive service for the time being. To get this service, however, both parties must be connected with the same system; if not, the telephone circuit between the two parties cannot be made.

In two exchanges each having 2,000 subscribers, Messrs. A, B, C, D, E, F, G, H, I, J, K, L, M, N, are connected with one, and Messrs. A, B, C, O, P, Q, R, S, T, U, V, X, Y, Z, connected with the other. Messrs. A, B and C can use either exchange to connect with each other, but to connect with each other one exchange with one subscription and with but one payment would be sufficient. This is not competition, this is duplication.

Messrs. A, B, C can connect with all the others on both exchanges only by two subscriptions and two payments. There is no choice; there is no competition.

Any competition between opposition exchanges is confined to obtaining new subscribers—to increasing their subscription lists. Neither the same thing nor what could possibly be called a substitute is offered. Each exchange affords that connection between the subscribers on its particular list and that is all—between A, B, C, D, E, F, G, H, etc., or between Messrs. A, B, C, O, P, Q, R, S, T, etc. A subscription to only one exchange is of no benefit when a connection with the other exchange is wanted, subscription to the other exchange is also necessary. This is not competition in any beneficial or any other sense.

The annexed table shows the progress of the Bell system from 1895 to 1910.

TELEPHONE WOMEN.

XC.—ADA ELLIS.

ADA ELLIS, Chief Operator, Newcastle-under-Lyme Exchange, entered the National Telephone Company's service at Newcastle in November, 1894.



ADA ELLIS.

At that time the call wire system was in use, and the service instrument for operating purposes consisted of the old Blake transmitter suspended by tinsel cords. It was also the practice at that

time for callers at the call office to be supplied with a service stamp which was affixed to a printed sheet, and the caller had to sign across the stamp in the ordinary receipt style, threepence being the charge for a local call.

At the time Miss Ellis started with the Company there were about 32 subscribers on the Newcastle board, whilst at the present time there are upwards of 240.

The directory consisted at that time of a sheet of cardboard which was hung up in the call office for the use of subscribers and the general public. This card sheet contained not only the list of subscribers at Newcastle, but the whole of the subscribers in the Potteries area.

Miss Ellis has served under four district managers, and was promoted to the position of Chief Operator in October, 1904.

Miss Ellis has endeared herself to all the staff, including her fellow operators, by her unfailing courtesy and tact, and these qualities have also made her many friends amongst her subscribers.

Miss Ellis has no pronounced hobbies, but is very fond of reading and chess. It is believed also that she holds advanced views as to the rights of women, though it is difficult to get her to express any strong opinion on the subject.

XCI.—ELSIE MAY WALKER.

ELSIE MAY WALKER entered the Company's service in August, 1902, as Operator at Dover, and became Chief Operator in October, 1905. She has always taken a keen interest in her work, is a good disciplinarian, and has done much to produce a good feeling between the exchange and the subscribers.



ELSIE MAY WALKER.

Miss Walker takes great interest in all social matters connected with the staff, and has been a keen supporter of the telephone society.

Her chief recreations are rowing and tennis.

COLLECTOR: I represent the telephone company. Here is your bill
 Subscriber: What, three months gone again!
 Collector: One advantage of the telephone; it annihilates time.

"I HAVE decided to get out of society," said the subscriber, as he changed his service from a party to a single line.

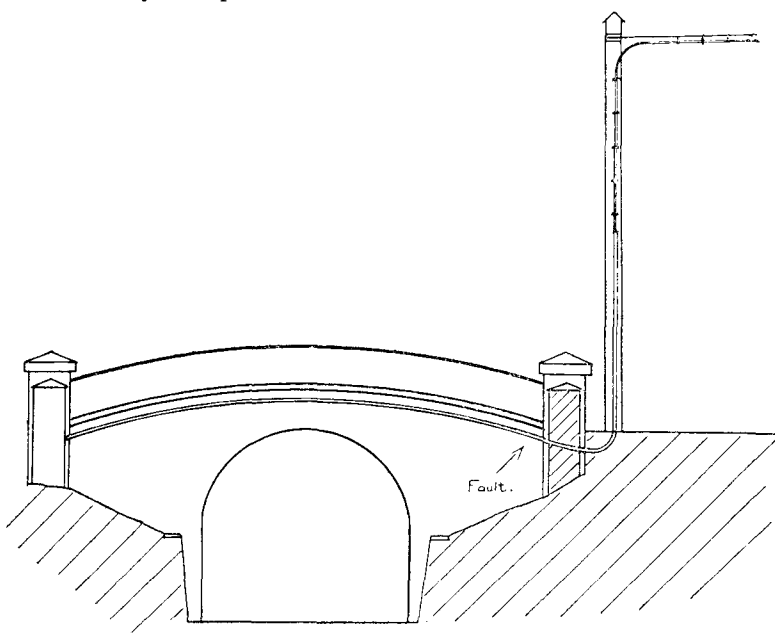
AN UNUSUAL CABLE BREAKDOWN.

By J. B. SALMON, *Local Manager, Wrexham.*

DAMAGE to cable by frost is fortunately rare in this country, but two cases occurred at Ruabon, North Wales, and a third in a neighbouring centre, during a severe frost at the beginning of February.

The breakdowns at Ruabon were in 15-pair and 50-pair dry-core lead-covered cable, 10-lb. conductors, laid in gas pipes fixed to the faces of two railway bridges, the continuation of cables at each side of the bridges being overhead, as shown in the sketch.

Water had entered both pipes by draining down the cables and through the caulking which were not sufficiently weatherproof. The water in each case lay in a part of pipe which was exposed, and during one night's severe frost froze, and, of course, in freezing expanded and compressed the cable almost flat, short circuiting practically every pair in each cable and causing many contacts between adjacent pairs.



The faults caused practically cut off four exchanges and a number of subscribers. The positions of the faults were located by the usual loop test, and proving to be in the pipes the faulty sections were cut out by means of running temporary cables over the bridges and cutting out faulty portions. Afterwards cables were permanently repaired and temporary cables cut out.

To prevent future trouble the tops of the pipes were capped over with lead soldered to the cable, while the lower parts of the pipes were drilled with a few holes to allow of drainage. In the light of the above breakdown these precautions seem very necessary generally wherever pipes are at all exposed.

In connection with the use of the loop test for locating faults my experience is that it is more satisfactory where possible to obtain the end to end resistance of the wire under test, divide it by its length (say) in yards, and use that figure per yard in preference to standard figures given in tables. In the present case one faulty part was located within a foot by this method.

HOBBIES FOR TELEPHONE MEN,

By F. H. LANGDON-DAVIES, F.R.P.S.

THE present time has seen the advancement and development of so many great enterprises that to circumscribe its achievements by limiting it as the age of any particular one would appear entirely inadequate. Yet there is one term which may assuredly be applied

to it without monopolising the epoch-marking prerogatives of any other enterprise, and that is the "age of competition." For it is this stupendous force that has successfully floated the marvellous aeroplane—the culmination of many wild dreams of the past—that has launched the mighty Dreadnoughts upon our seas, sent the motor car careering through the length and breadth of the land, and developed the telephone system with a rapidity unparalleled in the annals of any other industry. In short, competition has been the lever to many important, though not always salutary issues, which may rightly claim to mark a peculiar era in the life of a nation.

Yet competition, deemed so essential in developing the wealth and resources of a country and business, frequently exerts a far from beneficial influence upon the life of the individual, who, making futile efforts to meet the insatiable demands of this powerful factor of the labour market, finds himself branded as too old and useless at 40. Nervous breakdowns, general incapacity and even insanity, attributed solely to its source, are of daily occurrence, particularly in such employments as require great concentration and intricate thought.

So apparent, indeed, has this deteriorating influence of competition upon the nervous organisation become, so grave and pressing an aspect has it assumed, that to mitigate its ill-effects relaxation, in some form or other, is now widely recognised as an absolute necessity. The week-end on the river or the golf links, the fortnight at the sea, or, in the case of the more highly favoured, the month in Switzerland or the Ardennes, though regarded with deep suspicion by the pessimist, are but necessary innovations, now firmly established, upon ante-competitive times and permitted by all great employers of labour to ameliorate the injurious effects of excessive competition. Indeed, so universal has this practise become, that the "general" considers her "day off" as of equal importance with liberality of wages, whilst in some neighbourhoods the weary dustman may be seen, when summer outings are in vogue, performing his arduous labours, subscription list in hand, demanding the wherewithal for "his outing" from bewildered and possibly angry ratepayers.

Undoubtedly, there are numerous people who have discovered in the holiday form of relaxation, the much-desired panacea for the evils resulting from business overstrain. Nevertheless, there are other more unfortunate sufferers who have voted the popular cure to be but an alluring delusion, rendering them more jaded, more run-down at its expiration, than at the beginning. The truth of this assertion is conclusively proved by the number of letters that annually appear in the Press relating to this topic.

That this should be so, even without considering the injudicious and novel practices to which many health-seekers resort during their holidays is not altogether a matter for astonishment. For the annual outing appears but another case of the patient who drank his bottle of medicine at one draught, and then sadly wondered why he was no better but rather the reverse.

But since the fallacy of the recuperating power of the holiday scheme has been tacitly admitted to be a failure in so many cases, members of the medical profession are now widely advocating the merits of the "hobby" as a counter-balance to business strain and its attendant evils. So strongly, in fact, has this hobby cure or "craze"—as it has been disparagingly named by some—taken hold, that among the sundry epithets applied to the present time, that of the "age of hobbies" may possibly be more descriptive than many others ascribed to it. For the devotees of this perennial cure are as plentiful as the proverbial blackberry, and abound in every station of life, from great statesmen who have numbered the hewing of wood, the rearing of cattle, and the cultivation of the orchid among their hobby antidotes to political strife down to the humble telephone employees, who forget the irascible subscriber, the difficult wayleave, or the drudgery of stool and ledger in boasting of their prize roses and monstrous cabbages.

But restored vitality is not the sole benefit derived from what appears to the sceptic to be "unprofitable diligence." Besides adding greater enjoyment to life—and there are few happier individuals than the enthusiastic amateur—widening and extending the knowledge and strengthening the character, instances are not wanting where the hobbyist, approaching his subject from a different standpoint from that of the professional, has made momentous discoveries which have eventually led to wealth and fame.

Yet, for the hobby to prove advantageous, obviously much depends on a judicious choice. For it is undoubtedly highly essential that it should be one that will lead the mind into grooves untraversed during business hours, permitting the faculties then unduly overtaxed to remain dormant and to recuperate.

Whilst inclination and means will doubtless prove the dominant factors in influencing the telephone man in the choice of a hobby, surroundings and position too will have to be considered. It would hardly be advisable for him to indulge in woodturning as a relaxation if the only vacant wall in his house against which he places his lathe is also that of a neighbour's, especially if that wall be of the thickness now deemed substantial by the jerry builder of to-day. The much-discussed hobby of goat keeping, too, might be considered somewhat of a nuisance by a fastidious neighbourhood, whilst a man with a musical ear might justly consider the trombone enthusiast an undesirable nextdoor resident.

Some pursuits, too, are almost entirely restricted either to town or country. But there is one hobby against which none of these drawbacks can be urged, and which undoubtedly is an ideal hobby for the telephone man, and that is the art or science of photography.

In the first place, it can be pursued anywhere and amid any surroundings, and, being so widely divergent from the daily routine of the service, affords the chief essential of a hobby—relaxation.

It is also so many-sided that it can be followed equally well by the indoor or outdoor worker. For the indoor man there are the long tramps in search of picturesque landscapes or crumbling ruins.

To the lover of architecture there is nothing so useful as a camera for recording the massive grandeur of our old castles and cathedrals, or the homely outlines of the Elizabethan manor house.

To the tired outdoor worker to whom a long tramp would afford little pleasure, "at home" portraiture is a never-failing source of interest, both to the photographer and his household.

The initial expense in commencing photography need not necessarily be large or the apparatus elaborate. For the modest sum of ten shillings, though possibly not providing the wherewithal for an exhibition picture, will go far on the way to purchase a beginner's outfit. Indeed, some of the most successful photographers habitually make use of the simplest apparatus and commenced with a home-made camera, costing less than one-half of the sum previously mentioned.

This apparatus, too, is of an extremely portable nature, a qualification which is of considerable importance to the migratory telephone man, who might easily find the requisites of some hobbies, such as bees and pigeons, a source of much worry and anxiety when the much-looked-for "move" was notified. The regrets, too, of leaving old acquaintances will in this case be modified by the anticipation of finding fresh fields for further photographic achievements.

But besides affording an interesting form of relaxation, the business value of photographic knowledge in some departments of the service is of sufficient importance to be worthy of notice. The ravages of flood, snow, or wind may be more graphically and truthfully portrayed by its aid than by the most lucid pen, whilst photographic records of the progress of some important scheme may prove very valuable in days to come. Then the instructive "lecture on the telephone, illustrated by lantern slides," possibly owes as much of its popularity and success to the aid of the camera as to the clever discourse of the lecturer.

Frequently, too, business negotiations with the public may be brought to a successful and amicable issue with the help of a mutual interest apart from the question involved. For, undoubtedly, a man's most vulnerable point is his favourite pursuit, and a few tactful and intelligent observations in reference to it have often been known to turn the scale in favour of a petitioner when an important wayleave has been hanging in the balance. To the man who knows little or nothing of the inner workings of an exchange, a few photographs depicting the manipulations required at the switchboard will often prove more convincing than an hour's argument over some disputed call and leave the subscriber in a much more satisfactory frame of mind.

When the day comes on which a beneficent Government dispenses with the telephone man's services and allows him to retire on a handsome pension the possession of a hobby will be an

invaluable acquisition. Without its aid, the chances of a long life of retirement are very remote, for illustrations occur every day in which a pensioner "goes under" because he has nothing further to interest or occupy his mind. The average life of retired men on the Government list is but a year or so, and this is due in a great measure to a lack of some strong interest in life when "the trivial round, the common task is over." It is the man of many interests who reaches a ripe old age, retaining his faculties to the last and obtaining a full measure of all the good that this world has to offer.

NOTE ON MEASUREMENT OF IMPEDANCE AND EFFECTIVE RESISTANCE BY MEANS OF THE BARRETTER.

BY B. S. COHEN, A.M.I.E.E.

THE barretter has been used in the Investigation Department for measuring impedance by balancing the apparatus under test with pure resistance, and the measurement also of the components of the impedance had been tried by taking impedance readings with different shunts. The instrument has not, however, recently been used for the determination of effective resistance and inductance, as the bridge method, described in the NATIONAL TELEPHONE JOURNAL, September, 1909, using an inductometer, was considered far more expeditious and accurate, and it was not until the question of using the barretter for this purpose was raised by Dr. J. A. Fleming during his course of lectures on "Electrical Measurements" (1911), that further practical tests were made in this direction. It was then decided to try a determination of the effective resistance R_o of an unknown piece of apparatus by taking two balances, one of the unknown impedance alone, and one of the unknown with a known ohmic resistance added in series.

If R_o = unknown effective resistance.

L = unknown inductance.

s = effective resistance of barretter, shunt, etc., together.

r = ohmic resistance added to R_o .

R_1 = balancing resistance for $R_o + pL$

R_2 = balancing resistance for $(R_o + r) + pL$

$$\text{then } (R_1 + S)^2 = (R_o + S)^2 + p^2 L^2$$

$$\text{and } (R_2 + S)^2 = (R_o + S + r)^2 + p^2 L^2$$

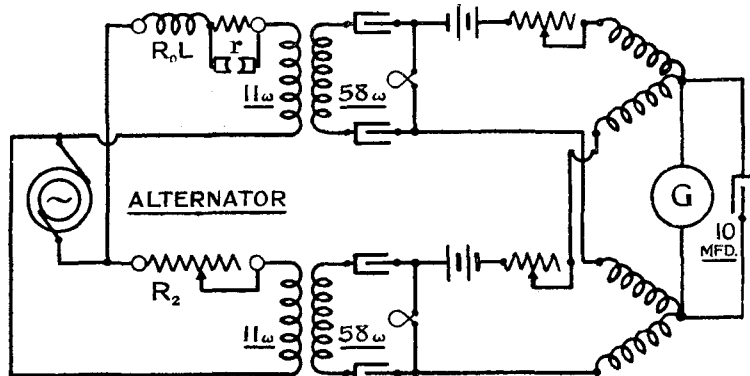
$$\text{from which } R_o = \frac{R_2^2 - R_1^2 - r^2 + 2s(R_2 - R_1 - r)}{2r}$$

In order to verify the method some measurements were made on coils whose inductance and effective resistance had been previously measured by the bridge method. A sine-wave alternator giving about 6.5 volts at about 800 \sim was used as the A.C. supply. In certain cases, such as those of tubular retards, and generally coils having iron cores and a high ratio of effective resistance to inductance, figures for R_o were obtained which agreed fairly well with the known values, having regard to a possible difference in the current through them. Tests with air-core coils, however, gave such unreasonable results that the presence of disturbing effects in the barretter itself was suspected. For instance, balance having been obtained with the unknown impedance alone, on unplugging resistance in series, it became necessary to reduce the balancing resistance, showing that apparently the impedance was reduced by an addition of ohmic resistance. It was at first thought that this was due to the capacity of the resistance coils used, but the same fact was observed when anti-capacious resistance was substituted.

After a number of further experiments were carried out, it was found that the error was chiefly due to the fact that the particular form of D'Arsonval galvanometer used in conjunction with the barretter was capable of being deflected by the small alternating current which leaked past the retard coils inserted in the barretter circuit. The reason for the deflection of a D'Arsonval galvanometer with alternating current of telephonic frequency has not been so far investigated. It may possibly be due to an electrostatic effect.

Only one very sensitive pattern of galvanometer gave this effect. This trouble was, however, obviated by shunting the galvanometer with a large condenser. A 10-mfd. condenser was found to shunt the leakage alternating current so that its effect became negligible. Another method of eliminating this trouble would be to increase the impedance of the existing retard coils, but this was not considered desirable.

If in addition to the condenser across the galvanometer the barretters are shunted by small transformers of the telephone induction coil type, measurements of both the inductance and effective resistance of any piece of apparatus can be satisfactorily determined under telephonic conditions.



The figure shows the complete connections for such a measurement. The method given in the first part of this note is used. As an example, a coil was measured which had an inductance of 1.074 henry and an effective resistance of 340 ohms by the bridge method, using alternating current at 800 c/s. By repeating the measurements of this coil by the barretter method the effective resistance was found to be 336 ohms and the inductance 1.09 henry.

As mentioned before, the bridge method, using an inductometer, is undoubtedly the most expeditious and direct method of measuring inductance and effective resistance. When however a barretter is available, but no inductometer, the method described in this note is capable of giving satisfactory results. The writer expresses his indebtedness to Mr. H. Kingsbury who carried out the investigations involved.

RECEPTION OF OPERATORS AT THE LIVERPOOL TOWN HALL.

RECOGNITION of telephone employees as public servants, which they undoubtedly are, has always been of the slightest. It is, therefore, very gratifying to be able to record a special recognition of their services in Liverpool. The Lord Mayor of Liverpool, Mr. S. Mason Hutchinson, who takes a great interest in telephone matters, set a good example when he invited the District Manager, Mr. E. J. Hidder, to find out whether, if he gave a reception to the operators at the Town Hall, it would be acceptable. The prompt response, to the number of about 300 of the operating staff, soon put any doubts at rest, and as it had also been arranged for the nurses connected with the Liverpool institutions to be invited, it became rather a question as to whether the Town Hall, which has a suite of reception rooms of very fine proportions, would be able to accommodate this very large number.

The reception took place on March 31, the guests being received by the Lord Mayor and his daughter, in the absence of the Lady Mayoress. Several well-known Liverpool citizens were present, and the Telephone Company was represented by Mr. Shepherd, the Provincial Superintendent, and Mr. Hidden. The Lord Mayor was most assiduous in his attention to his guests, for whose entertainment three short plays were provided, a stage having been erected for the purpose, and in addition, there was a very fine band. After the first two plays refreshments were served, followed by a sketch of a topical nature, in which the telephone played a very important part, and gave ample opportunity for topical allusions. This closed a most enjoyable and memorable evening.

SUCCESS.*

By A. K. MURRAY, *Contract Manager, Hull.*

WHILE the subject of my literary effort is one which lends itself to devious roads and might be enlarged to interminable lengths, I only propose dealing with the subjoined items, "economy" and "co-operation," yet I would ask your consideration if at any time a deviation should occur.

My idea in giving the paper is to broaden the views of those who, so far, have not realised what importance economy and co-operation play in business success.

(A) "ECONOMY."

First of all, you will readily agree that there are few men of business who could carry on any concern successfully without supervision and scrutiny.

Happy, indeed, is the chief if he can sit in his private room and say to himself that all is well, and that there is nothing further on which economy can be practised.

This man must have worked hard to bring about such a satisfactory state of matters, and yet, although he may take things more easily, his work is not done, for work, unfortunately, has a trick of going back if left to take care of itself, and a rude awakening will be the result some fine day if things are allowed to drift. Therefore, it behoves all those who have charge of any staff to realise their responsibilities, otherwise, there will be deterioration of work and a slackening off on the part of assistants. The latter is important, for human nature is a peculiar quantity, and the making or breaking of man is usually accomplished in the youthful stages; so that the easy-going individual has much to answer for, especially where there is a large staff of young men beginning life.

Lax habits beget carelessness, and carelessness ruins many a promising career.

In our school days, if we but let our memories go back so far, we may get many instances of this. Can you recollect some boys who were constantly outstanding figures for clever work, while at the same time there were boys who always seemed dull, and did not make progress? Yet no sooner is the business arena entered than the positions were entirely reversed, the dull boy making a good man in the commercial world, the clever boy losing headway. Why is it?

I suggest that the clever school lad has had a mighty notion of himself, and starting business under a well-meaning but easy dispositioned chief, loses ground by being allowed practically a free hand.

The dull lad at school often only awakens up when successful in securing a situation. He realises his failure as a schoolboy and makes up his mind to pay attention to his duties. He knows full well that his reputation has to be made and decides to do his best and keep his eyes open concerning all matters of expense, etc., and if cause arises, to draw his chief's notice to apparently trivial but, nevertheless, useless expenditure, thereby drawing credit upon himself. In our own line of business we cannot have too many of this kind of boy.

Too many of our staff stick to routine duties. Initiative never seems to enter their minds.

Their one idea is to do what has been done by predecessors in the same old way. The chances of improving or bettering the existing methods evidently do not concern them.

Consider for a few moments the number of changes in the methods of working in all departments of the Company during the past few years, and it must be galling to you if you have not contributed one iota towards the improved conditions.

It is not too late to begin, for there are numberless changes that might be made to simplify work even at this late date.

Machine-like work suits in many cases, but the man doing certain work may by thinking a little shorten labour when nobody else can.

It is he who has certain duties to perform and is acquainted with the details that ought, with his knowledge, to recommend

*Prize paper read before the Hull Telephone Society, Session 1909-10.

short cuts. Such suggestions show that he is thinking, and thus he is helped to the front.

Francis Bacon says: "A wise man will make more opportunities than he finds."

Get an orator on this subject of Bacon's words, and I feel that a wonderful lecture would be given, especially on the words, "A wise man will make opportunities."

Let us show our wisdom by making opportunities, therefore, and not waiting until a circular letter is received from Head Office pointing out improvements which, to all intents and purposes, might have been suggested earlier by any of us. How often have you been struck by the simplicity of new ideas sent by Head Office?

Have you ever found yourself saying, "Well, why did I not think of that?" I suppose that you did have a hazy idea of it, but were too lazy or indifferent to work it out, and thus were forestalled by someone who did not let his or her brain rest until he or she got the solution. Much can be gained by concentration of thought on the particular work on which we are engaged.

Now, there are numerous methods of economising and it is for one and all to consider in what respect that saving can be done.

The linemen can do much to lengthen the life of tools and the Company's plant generally.

By care on roofs the repairs account may be reduced. By accuracy in making the best of joints faultsmen may be saved needness repairs, and so on. The members of the Company's staff who meet the public may be saved many a fruitless journey (and so get on with other work) by finding by telephone if the person wanted may be seen at a certain time. Operators, by gentle handling, can reduce expenses on cords, plugs and jacks, as well as by tact and control be ready to meet the demands of a not over-indulgent public in the matter of getting connections made quietly and swiftly.

Inside staff may economise in a dozen ways, e.g., in useless burning of artificial light, in stationery and in furniture waste.

In short, all the Company's belongings should be treated as if they were our own.

Perhaps some of you might suggest a quicker and less costly means of collecting the coppers from money boxes. (This has given me food for reflection.) Please do not dismiss the suggestion from your minds as impracticable, but just think a little. A motor car would cover centres quickly, but what about cost? These things must all be considered.

Years ago nearly all letters were posted—now, youths deliver them where convenient, as this procedure is found to be less expensive.

A simple but striking illustration may be quoted of how money may be saved.

I was signing some letters recently, and four of them referred to "notices to cease," which had been received from "omnibus" subscribers, and which were all in order. The thought occurred to me that the pennies for stamps in each case, as well as the stationery and time spent in typing the replies, might be saved by acknowledging receipt by telephone. No sooner said than done. This applies principally to "omnibus" subscribers, where we must count every penny or there would be loss, and not to higher rated people. I may mention here that the feeling is often with me that too much attention and equality has been granted these low-rented telephone users. (I am one, but no matter.) Little things like these count, so look around, cease wastefulness and guard the Company's interests, for on the success of the Company depends our wages.

Before concluding the first portion of my paper let me suggest some further methods whereby the Company might economise.

(1) *Solicitors' Fees.*—In large districts there are usually large sums of money spent in defraying the expenses of solicitors who carry the Company's cases into court. Would the expenditure warrant the Company engaging a solicitor as a member of the staff and, besides dealing with rentals and monies outstanding, he might give useful advice on many questions arising from time to time?

(2) *Lighting of Premises.*—How much money is lost annually through needless artificial lighting of premises? If the office hours of from 8.30 a.m. to 5.30 p.m. were altered to, say, from 8 a.m. to till 5 p.m., would there not be a saving?

In mid-winter, artificial light is necessary from about 3.30 p.m., whereas it is seldom required at eight in the morning. On the one hand expense of lighting is incurred between 5 and 5.30 p.m., whereas it is an exceptional morning that the same cost would be involved between 8 and 8.30 a.m.

When this idea occurred to me the office hours were 9 a.m. till 6 p.m., so that I had a stronger case. Since then the hours have been altered. I wonder if Head Office officials saw the economic point and altered accordingly?

(3) *Reduction of Working Hours.*—Would it be policy to reduce the existing working hours? Now, you will notice that I put this suggestion in the form of a question, and I expect on the first thought you will condemn the idea, but please consider. Second thoughts are always best and I have every confidence that if our worthy chief clerks were to ask each of their clerks if they could accomplish their present duties in less time than at present allowed, he would find that the shortening of official hours would stimulate and give an impetus to getting the work done quicker.

Incidentally, I might mention that the Government clerical staff, as a rule, work less hours than we do, and as we hope to be taken over by the State in 1912, it perhaps would upset our equilibrium if shorter working hours were thrust upon us without a trial.

(4) *Are Copies of Contracts Absolutely Necessary?*—Those of you who are conversant with legal points will probably say that to supply subscribers with copies of contracts is according to law. I merely raise the point to find out if it is not possible to prevent the enormous cost of:

- A. Stationery (copies of agreements and envelopes).
- B. Postage charges.
- C. Time making out copies.

One can hardly imagine our head officers allowing the drain on the finances of the Company, if it could be avoided. By all means supply copies on request, but should we do so if unasked?

(5) *Empty Premises where Telephone has previously been Fitted.*—A suggestion was recently made that where a subscriber removed and left the premises empty, a label be attached to the end of the wires where the instrument had been fixed, with the following wording:—

"This line runs to the National Telephone Exchange and the service can be restored at short notice.

For particulars apply....."

This useful method of advertising should be made known to every district, and the label made a stock article of stationery.

Permit me to mention at this juncture, that contract office clerks should immediately a disconnection order is issued, the reason of which is "premises empty," make out a card giving particulars of the nature of the line existing, which should be handed to the contract officer for that particular locality. Every argument and lever should be brought to bear on the new tenant of premises where a telephone is or has been previously installed, for besides being spare, the wires are depreciating in value. It is always more profitable to use up spare wires than to run out new lines.

(6) *Idle Wires on Railway Property.*—Wayleave rentals are heavy and get heavier year by year. Often we are paying charges for wires that are earning nothing.

Has it been proved whether it is more profitable to let the wires remain idle and pay wayleave charges than to go to the cost of recovering them?

In finishing the "economy" part of my paper on "Success," I suggest that the Company has numberless small losses.

When a works order is issued to instal a call office with signs, does the Company always recover the accessories issued against the works order? And similarly with many other jobs. This latter query is brought up to raise discussion. Expression of one's thoughts oft taps fresh ideas, or to put it more pithily:

"As a bell in a chime
Sets its relative ringing,
So one poet's rhyme
Wakes his comrade to singing."

(To be concluded.)

The National Telephone Journal.

"BY THE STAFF FOR THE STAFF."

Published Monthly at

TELEPHONE HOUSE, VICTORIA EMBANKMENT, LONDON, E.C.

NOTICES.

All communications to be addressed—The Editing Committee, "NATIONAL TELEPHONE JOURNAL," 41, Telephone House, Victoria Embankment, London, E.C.

The Editor will not undertake to be responsible for any rejected MS. All photographs will be returned if the sender desires.

Subscription: To the general public, 4s. per annum, including postage to Great Britain or abroad.

To the Staff, 2s. 6d. per annum, with free delivery to the Offices of the Company. Single copies may be obtained, 3d. each, or 4½d. post free.

For rates for the insertion of Advertisements apply to H. SELL, 167-168, Fleet Street, E.C.

VOL. VI.]

MAY, 1911.

[No. 62.]

THE OPERATORS' WORKING CONDITIONS.

THE health and general working conditions of the operating staff have lately come in for some criticism by a section of the Press. The question, stripped of its inevitable concomitants of sensationalism and exaggeration, certainly merits sympathetic consideration. As regards health, we find that out of 1,924 operators in the London service only 2.5 per cent. resigned during 1910 on account of ill-health, a figure which we think can be equalled in very few occupations pursued by women, and, as showing that the tendency has been in the direction of improved health, and not the contrary as one had been led to suppose, the number in 1905 was 4.5 per cent.—a proportion nearly double as great.

That the conditions of service have been steadily improving for many years past is indubitable. To careful readers of the JOURNAL it is needless to labour the point; numerous descriptions and photographs of well-appointed dining and sitting-rooms will be fresh in their memories, and the appreciative testimony of operators themselves who have seen long service in the Company has again and again been spontaneously expressed in articles dealing with traffic questions. It is invariably to the effect that the comfort of operators is now better cared for and more studied than ever it was. Dealing with those exchanges employing four or five operators and above, it is found that 45 per cent. of them work in exchanges operated on the common battery system—that is to say, in specially designed buildings where well-equipped dining and sitting-rooms are provided. But this by no means implies that magneto exchanges are not provided with these conveniences. At all important exchanges dining and sitting-rooms exist, and in many of them the accommodation for the operators is fully equal to that of the most modern common battery exchanges.

A point raised was the injurious effect on supervisors of standing for considerable periods of time. The question is receiving the careful consideration of Head Office. But it may be pointed out that the position of supervisor is not awarded as a rule to young and growing girls. It is not until an operator has been five or six years in the service that she is promoted to this position, and she has then reached an age when, as medical authorities affirm, she is fitted to undertake the conditions of her work.

At no time can the employment of girls in cities and large towns, whether in shops, factories, offices or exchanges, with the journeyings to and fro in all weathers and other inconveniences incident to working life, be so healthful as home life with its greater opportunities for recreation and out-of-door exercise. But we do not hesitate to affirm that the operators' calling compares most favourably as regards general conditions of working with the majority of avocations into which girls can enter. The problem of feeding, so difficult a one with all earners of moderate salaries, both male and female, is satisfactorily dealt with by the Company; questions of proper ventilation and resting and lavatory accommodation are thoroughly considered; the unskilled learners are paid during their period of tuition, and the annual increases of salary are regular. We are assured, moreover, that the operators as a whole are a very enthusiastic and painstaking body of employees and are a great credit to the service.

THE TELEPHONE IN TURKEY.

READERS of the JOURNAL will doubtless be aware from statements in the Press that a concession for the establishment of a telephone exchange system in Constantinople has been obtained for a syndicate composed of certain directors of the National Telephone Company, representatives of French interests, the Western Electric Company, Limited, and the British Insulated & Helsby Cables Company, Limited. The gaining of the concession is therefore to a large extent a triumph for British enterprise, and our contemporary the *Zeitschrift für Schwachstromtechnik* is moved to remark that one sees the Franco-British *entente* is no empty delusion, and to regret that German electrical capitalists did not combine for the same purpose. As they truly say, not only the concession for Constantinople is in question, but also that for the whole of the Ottoman Empire.

The undertaking of pioneer work in a country so large and populous as Turkey must have an especial interest for every telephone man. It is the only country in Europe without an exchange telephone system. Even Iceland in the remote north has a system of over 500 stations, and Bulgaria and other States, which once formed part of the Ottoman Empire, have growing systems. It is no question here of sowing the seed of progress on a barren soil, or of rejuvenating a decayed State with modern panaceas. Reformed Turkey has a vigorous future before it. It possesses populous towns; Constantinople has 1,106,000 inhabitants, Damascus 250,000, Smyrna 201,000, Aleppo 200,000, Salonica 150,000, Bagdad 145,000 and Beyrout 118,800. Whilst these cities are the centres of the busy Turkish and Levantine trade, and as such a fruitful field for the pioneer, their names are indissolubly

linked with the history of the world from its very beginnings; one city recalls the *Arabian Nights*, another claims to be the birthplace of Homer, a third awakens memories with the Crusaders and a fourth is associated with Holy Scripture. What a field of operation for enthusiasts this vast country presents, and what an infinite variety of messages in Turkish, Greek, Armenian and Arabic the circuits will be called upon to bear! Although the present enterprise, like most of its kind, is primarily a commercial one, it is at the same time charged with the mission of carrying one of the greatest boons of civilisation into an extensive and historic portion of the old world.

TRUNK LINE STANDARDS.

By a singular coincidence just at the time the lecture given by Mr. LEE at Liverpool was enjoying considerable prominence in the Press and his expressions of satisfaction with the trunk service in this country were being blazoned abroad to an astonished world, Mr. T. N. VAIL, the President of the American Telephone and Telegraph Company, who is on a visit to this country, informed an interviewer that while the British telephone system generally was good and up to date and equal even to that of the United States, the long distance service formed an exception, and was too slow. Mr. VAIL's opinion necessarily carries great weight, and it happens to coincide with that of most business men.

A curious example of what may be done in the way of comparison, and what may be demonstrated by the use of figures occurs in Mr. LEE's lecture when he points out that "New York with 100,000 telephones has not much more long distance work proper, than Manchester with less than one-tenth the number of telephones." This may be so. But of course, a long distance call is a long distance call whether it be for 20 or 1,000 miles. Manchester occupies a somewhat unique position in being surrounded on all sides with really large towns of 80,000 to 100,000 inhabitants and over, situated at distances of ten to twenty miles, and trunk calls to these places often cover shorter distances than do mere junction calls to places within the London area. There are Bolton, Oldham, Stockport, Rochdale, Ashton-under-Lyne, Stalybridge, and others near at hand, while the Liverpool area with its population of a million is a little over 30 miles distant. These places are in intimate business relation with Manchester, and trunk calls to them are, to say the least, likely to be more frequent than between London and Newcastle or New York and Chicago. The value of any comparison instituted is therefore obvious.

THE ÆSTHETIC QUESTION AGAIN.

No one can well justify projects for running unnecessary cogwheel railways up the sides of romantic mountains, nor laying waste beautiful valleys with extensive sidings. But there are decided limits to the alleged unsightly effects of useful and necessary works in picturesque places, and we think the defenders of the æsthetic often carry their theories too far, and object to evidences of modern progress *ipso facto* because they are modern. We have often seen an unobtrusive railway running through a valley and disfiguring it no more, and often indeed less than a

highway—to which the lover of the picturesque never dreams of objecting. A stone viaduct, mellowed by 30 or 40 years, is quite the reverse of unsightly, although it cannot claim the historic associations of a Roman aqueduct.

These remarks are called forth by a Press cutting, from which we observe that a councillor in some West of England town hoped that some proposed telephone kiosks would not resemble the "unsightly pepper boxes which disfigured the streets of Bath." Paris, which by the man who gets his opinions ready made is always considered as an artistic city, had kiosks on its boulevards long before they were introduced into this country. What, however, adorns a well-planned continental city becomes an "unsightly pepper box" in Bath. Electric trams were to have destroyed the amenities of the Thames Embankment; those "amenities" now co-exist with the trams much as they do in other famous cities. So we suppose the telephone kiosk, whether it be likened to a pepper box or a pagoda, will encounter the opposition of those whose eyes cannot brook the sight of the unaccustomed.

THE POSTMASTER-GENERAL'S NOTICES OF OBJECTION.

An important stage in the proceedings relating to the transfer of the Company's undertaking to the Postmaster-General will be reached on May 8, when the Railway and Canal Commission, consisting of Mr. Justice A. T. Lawrence, one of His Majesty's judges, and two lay members, Mr. Gathorne Hardy and Sir James Woodhouse, will hear and adjudicate upon certain differences which have arisen between the Company and the Postmaster-General.

Under the Purchase Agreement of 1905 the Postmaster-General has certain limited rights of objecting to buy plant which he considers will be unsuitable for his requirements on Dec. 31 next, and he has given the Company several notices in which he objects to buy quantities of plant and also some exchange premises in various parts of the Company's system, chiefly in London and other competitive areas. The Company has given much consideration to these notices, and has come to the conclusion that it cannot accept them. Accordingly proceedings have been instituted before the Railway and Canal Commission which will be asked to declare to what extent (if any) the Postmaster-General's notices are void and ineffective.

It is anticipated that the proceedings will occupy at least a week, and until the decision of the Commission is made known it is probable that the taking of the inventory of the Company's plant in competitive areas will not be commenced.

A hearing on a preliminary point took place before the Commission on April 7, when the Court, on the appeal of the Company, reversed the decision of the Registrar ordering the Company to answer interrogatories submitted by the Postmaster-General. In the course of these proceedings counsel for the Company gave the Commission an indication of the size and extent of the questions which have been referred to them for their consideration and award. These proceedings include not only the duty of adjudicating upon the Postmaster-General's notices of objection, but also at a later stage of fixing the price to be paid by the Postmaster-General to the Company for its plant and assets.

It is understood that among the counsel retained in the case are Sir R. FINLAY, K.C., and Mr. W. O. DANCKWERTS, K.C., for the Company, and Sir RUFUS ISAACS, K.C., Attorney-General, and Sir JOHN SIMON, K.C., Solicitor-General, for the Postmaster-General.

MR. DUBBS (with newspaper): It tells here, my dear, how a progressive Boston woman makes her social calls by telephone.

Mrs. Dubbs: Progressive! Huh! She's probably like me, not a thing to wear.

HIC ET UBIQUE.

THE *GLOBE* has some short editorials which are excellent examples of humour in their way, but we must confess that we are not altogether familiar with the somewhat complex and ineffectual moods suggested by the writer in his latter state, and we can offer no charitable explanation of them.

RINGING UP.

The telephone, as we always say, is a really excellent institution. We do not know what we should do without it. We can hardly believe that we ever were without it. It lightens the day's work. It is pure joy for twopence a time. The thing has become an addition to contemporary aestheticism. When we awake in the morning, we exclaim, "Hurrah; another day bright with telephonic bliss." Generally we set those sentiments to one of those agreeable melodies which you compose on the spur of the moment while you are brushing your hair. You bless the name of the man who invented the telephone. That is, you would bless him by name if you knew it. But in point of fact it escapes one. Yes. And what makes you appreciate the telephone to the full is that strange perversity of fate, natural phenomenon, ricochet of temperament—well, call it what you like: we do not care—that decree that on a certain day you cannot telephone at all. No. For the life of you, you cannot use the telephone. All those preliminary matters, the hunt through the Telephone Directory, the finding of the number, the colloquy with the exchange, the financial amenities of the Public Call Office *via* the slot into which you must not press the unbent coins until you are definitely requested to do so; all these details, we repeat, ordinarily the essence of enjoyment, are transformed into obnoxious ashes. You turn from the telephone with loathing and disgust. We do not complain. We cannot explain it. Kismet.

It is interesting in regard to the article we published recently on "Animal Foes of the Telephone and Telegraph," to hear that a pole recently had to be renewed at Boughton, near Canterbury, because it was found to have been attacked in three places by woodpeckers. Holes had been made right to the centre of the pole, which had rotted. A sample of it was sent to the Engineer-in-Chief.

THE Post Office, according to Mr. Lee in his recent lecture at Liverpool, have decided to build a cable from Holyhead to Ireland, 56 miles long.

This would be the longest telephone cable in the world, and if their experience and experiments gave trustworthy results it would enable them to give the public good speech to all parts of Ireland at a reasonable charge. One cable containing three pairs of wires from Holyhead would cost them £75,000.

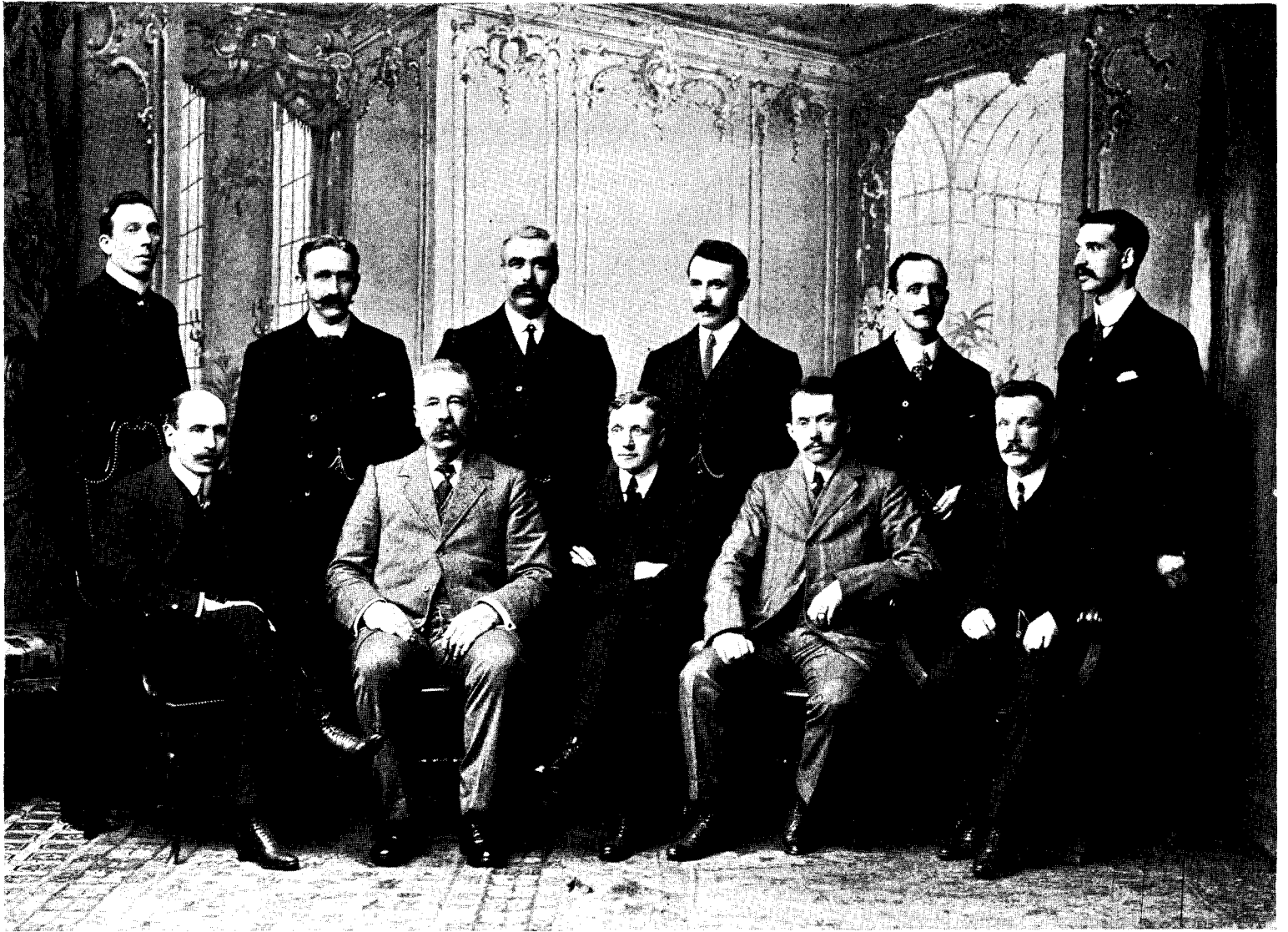
PROVINCIAL TELEPHONE TRAFFIC.

By S. J. PHARO, *Portsmouth.*

SEVERAL years ago some of the Head Office officials visited the United States for the purpose of studying the telephone question. Amongst other things, they brought back particulars of a very extensive system of "Observation of the Service," which was then (and had been for some years) in vogue in some of the large exchanges of America. I was fortunate enough to get a copy of what was known as "Bulletin 5." This bulletin gave particulars of the system; copies of forms in use and instructions how to take and keep the observation records, and those of us who were used to the old methods of exchange supervision on which we relied to keep in touch with our operating methods, had our eyes opened when we got across the line and saw what went on each end, and I say, without fear of contradiction from any source, that the present-day quick service would never have been possible but for the comprehensive method introduced at that time by the Engineer-in-Chief. Every fault was provided for, and there was not a single item in the way of irregularity either of subscriber or operator that was forgotten in the columns of the form for recording, and when carefully studied these forms showed up a number of things not dreamed of hitherto by the exchange manager. I was at Brighton at the time mentioned above, and I had the opportunity of studying the question very closely. We were, I think, the pioneers of observation in its present form, and the results of the installation

of that observation set became apparent when Brighton appeared at the head of the figure of merit in nearly all the columns.

But the effects of this system would soon disappear if the weak spots shown up were not followed up by constant supervision. The most important part of the Traffic Department is to know what you have to supervise, and then to supervise intelligently. The paper referred to above clearly states that the observation table was not designed as a spy upon operators, but to show up irregularities of all kinds, and from my experience quite 50 per cent. of irregularities are caused by the subscriber, added to which are those unavoidable interruptions caused by gangs, many of which were laid to the door of the operator before the observation table came into use. Then, again, the information gained can be used to help to train the subscriber as well as the operator, and here, I think, is a point which is very often missed. It is no use elaborating systems which partly depend on the subscriber's co-operation for success if the subscriber does not know what is expected of him. I have frequently come across cases where subscribers were most antagonistic until the trouble was fully and patiently explained, and then they become allies instead of enemies. Business men of to-day realise that the telephone is a good investment if used intelligently, and if properly appealed to they will assist the Traffic Department to see that it is used as it is intended to be. And here let me say a word as to how complaints from subscribers should be dealt with. In a provincial exchange the manager can take a good many complaints himself, and knows what to do, but it should be impressed on all who take complaints to be sympathetic with the subscriber in all cases; let him think he has a friend who will investigate his trouble, and you will do more to inspire confidence than twenty visits of the service inspector. Remember you have something to sell him—viz., the service—and as the quality of goods delivered affects the trade of other commercial bodies, so the quality of the service determines the extent of our expansion as a telephone company. The merits of the case can be discussed afterwards, but if you commence with the assumption that the subscriber is wrong, you begin to make him distrustful and dissatisfied, and are storing up trouble for later on. Similarly in dealing with irregularities by operators. I long ago discovered that the black book did not pay; operators detested it, and I am certain in some cases it made operators stubborn, and instead of getting them to pull together as all good team workers should, it in some cases discouraged girls completely, and made them careless, but if there arise cases where it is necessary to assert authority, let it be done at once and to the point. Clear out inefficient and see to the training of operators personally. This will have a much more salutary effect than all the black books in the world. I am convinced that the bad operating often experienced is due to the haphazard training. See that operators have always a cord ready for answering calls. This is where the leeway is made up, as when operators are busy they will always answer smartly; it is when they get slack that the long delays will creep in. To the exchange manager I would say, supervise yourself whenever you have the time, and, above all, supervise your supervisors. This can be done without causing annoyance, but it must be done if a high speed of answer is to be maintained. Another important point is to see to the clearing—nothing keeps down the percentage of lost calls so much as the attention to this detail. I have long upheld the theory that it is quite as important as the answering. Lines are continually reported engaged when a clear the fraction of a second more speedy would have saved the call, which could have been revenue-earning instead of increasing the already big total of that bugbear to all good operating, the "lost call." Make it your business in all exchanges to see that no grievance exists, and, if one does, see that it is wiped out. I remember an exchange where the average answer went from 7.4 seconds to 5.8 seconds, almost entirely through clearing out a grievance which existed, and treating operators as operators and not automata. Operators must make mistakes, and if they are pointed out in a tactful manner most of them will disappear, but if you get an operator who cannot help making mistakes tell her at once that she has mistaken her calling, otherwise she will spoil the record and will have a bad time with the others in her team. I have always endeavoured to instil enthusiasm into the operators by showing the position of their exchange amongst other exchanges in the figure of merit column



GLASGOW ENGINEERING STAFF.

THE above photograph shows the engineering executive staff of the Glasgow district. Mr. Gilbert and two of his assistants have been chosen for Inventory staff. The names, reading from left to right, are—

Back Row: R. S. GRAHAM, A. KEIR, H. KENNEDY, J. McMEEKING, M. MACLEAN, J. W. WARNOCK.

Front Row: J. K. MURRAY, G. JOHNSTONE, A. B. GILBERT, W. STEWART, R. STEVENSON.

of the blue print, and this is looked for eagerly each month, and if a point is dropped there are long faces indeed. A corresponding smile brightens up the countenances of supervisors and clerk-in-charge when we improve our position. We are handicapped sometimes owing to having a board which is not exactly the last word on switchboards. When I say that we have magneto call and ring-off indicators in part of our equipment, the other part consisting of single lamp clear on party-line positions, it will be seen that the figures of our exchange are all the more meritorious. It was thought at first that the strain of being constantly under observation would be too much and would break down the health of the operator, but such has not been the case. Its effect has been to improve the work and make impossible many of the slipshod methods formerly in vogue. Many relics have been done away with, such as the unnecessary clerical work of useless records. Record working to the trunk exchange has, no doubt, assisted to make the operating cleaner, but the key to the situation is supervision and plenty of it.

It has been said that in order to get 50 per cent. calls answered in two seconds, it must incur waste of operators or in other words,

that the exchange must be over-staffed. To those who are inclined to reason on these lines, I would refer to the quarterly statistics, where it will be seen that the Portsmouth operators are taking quite as great a number of calls as the majority of operators with more up-to-date equipment. It has recently been suggested to me that a two-second call cannot be recorded accurately. I say that our endeavour is to answer all calls, not 50 per cent., but all calls in two seconds, and in the attempt to do this, we are able to get at least half answered in that time, 75 per cent. in three seconds and 90 per cent. in four seconds. Capital has also been made out of the fact that the observation clerk may make mistakes, but the form in which the calls are recorded has had so much thought expended upon it that it is next to impossible for one man to make mistakes without being found out very soon. But, independent of this, the one aim of all connected with the traffic staff, and, in fact, any staff, should be to bring their department into the highest possible state of perfection, so that when eventually the time comes for our great undertaking to be handed over to the State we may feel proud of being members of the staff of The National Telephone Company, Limited.

MR. T. N. VAIL ON BRITISH TELEPHONE SERVICE.

MR. THEODORE N. VAIL, president of the American Telephone and Telegraph Company, in a recent interview expressed the opinion that the British telephone service was good and up to date, and quite equal to that in the United States, with the exception that long-distance calls were too slow. The instantaneous long-distance service in the United States must and probably would come in the next five years.

"No one in the States," said Mr. Vail, "thinks of telegraphing to anyone within 150 miles; he rings him up and gets through as quickly as you do here to a man across the street. It means expense in plant, but such a development here is inevitable."

Mr. Vail, referring to the Government purchase of the National Telephone Company's service, said that for several months Government officials had been in the States examining his corporation's system, and he was impressed by their keenness and efficiency. It was hardly an exaggeration to say that the system of to-day was as different from that of two years ago as black from white. In 1909 his corporation spent £10,000,000 on development; last year this amount increased to £12,000,000.

Mr. Vail told a story which illustrates to some degree the extent to which the telephone has become a household necessity across the Atlantic. One of the vice-presidents of his company called in a lonely farmhouse in Nebraska, and found the housewife busy churning with the receiver tied to her head. Thus she was enabled to gossip with all the "neighbours" who were attached to the same line, whilst not neglecting her work.

Long-distance telephoning is progressing rapidly in the States. Recently Mr. Vail spoke from New York to Denver, a distance of 2,000 miles, and he confidently asserts that within a year they will be able to converse from coast to coast—3,500 miles.—*Daily Chronicle*.

STAFF BENEVOLENT SOCIETY, BRIGHTON.

DURING 1910 this society has paid as donations to hospitals £11 9s. 2d. Grants to necessitous members have been made to the extent of £5 4s. 9d., and loans have been made to the extent of £8 7s.

The number of hospital and other letters issued during the year was 65, and at the close of the year there were 91 members with a total balance in hand of £39 8s. 1d. The Company are good enough to contribute towards the funds of this society, which has done a very good work up to the present time.

At the recent annual meeting various changes were made in the *personnel* of the management of the society, the officers of which are now as follows:—President: Mr. C. F. Moorhouse (District Manager). Vice-presidents: Messrs. G. Dowman, F. J. Frost, H. Hatton, L. Parsons, F. W. Roberts and D. Wallace. Trustees: Messrs. C. F. Moorhouse, L. Parsons and F. W. Roberts. Auditors: Messrs. H. Hine and H. W. Lee. Committee: Miss E. A. Trott, and Messrs. E. A. Dyer, A. Frampton, H. Kindred, W. Knight, A. Lamper, S. Lindfield, E. V. Oates and A. C. Tucker, with Mr. L. Parsons as chairman. Treasurer: Mr. H. Gaston. Arbitrators: Messrs. H. Bristow, W. J. Huggett and E. Moore. Secretary: Mr. W. Young.

GLASGOW NOTES.

In connection with the Bell Golf Club, the March medal competition was held at Carnynte on Saturday, March 11, and resulted in a win for Mr. R. Brough with 102 - 13 = 89.

We have not escaped the "Wanted a word" difficulty which seems to have cropped up again on this and the other side of the pond. Letters have appeared in the local papers advocating various words. A satisfactory solution, however, has not been arrived at.

THE contract manager has recently given three talks to his officers after hours on Wednesday evenings. It is satisfactory to find that in two cases 100 per cent. of the officers turned up, and in the other only one was absent owing to illness. The talks were of a practical nature and were intended to give the officers fuller information on points which are constantly cropping up in their dealings with the public. It is interesting to find the Glasgow contract staff so eager to obtain the necessary information to enable them to prosecute their work in a thoroughly intelligent manner. The time taken up each evening including questions averaged two hours, and the subjects dealt with were as follows:—Common battery and magneto working, recording of calls, private branch exchanges, private lines, private installations, proper names and uses of the different apparatus, etc.

THE annual business meeting of the National Telephone Society (Glasgow and West of Scotland districts) was held in the Technical College on Wednesday, April 12, Mr. C. J. Millar presiding. After tea, the secretary and treasurer's reports were submitted and adopted. During the session now closed 199 members were enrolled, being an increase of four compared with the previous session's figure, and the average attendance was 66. The society is in a sound

condition financially, carrying forward a balance of £11 10s. 1d. The following new office bearers were appointed:—President, Mr. J. F. Scott; vice-president, Mr. J. R. Brown; secretary, Mr. G. C. Dewar; treasurer, Mr. J. M. Stewart; librarian, Mr. J. M. Blair. A new committee of thirteen members was also elected. It was decided to leave the drawing up of next year's syllabus with the new committee. After the completion of the business an enjoyable musical and elocutionary entertainment was gone through.

ON the question of telephone societies it would be interesting to know the opinion of the country generally. The Company's chief officials have personally given them every encouragement and the Company has been generous financially, and yet it would appear that the rank and file are not taking full advantage of them. Any new suggestions through the columns of the JOURNAL will be welcomed.

THE golf match between sides representing the East and West of Scotland which was so successful last year has again been fixed up. This year's fixture has been arranged for Lanark on Saturday, May 20, when an enjoyable outing is looked forward to. We hear that on this occasion East hope to revenge the two previous defeats.

THE Glasgow Exhibition, which promises to be one of the most successful of Glasgow's successful exhibitions, will be opened this month. By arrangement with the Company the Post Office will supply the necessary telephones, and the Company's contract staff have secured for them orders for 76 junction lines and 106 stations.

THE business meeting of the National Telephone Operators' Society and Club was held in Argyle Exchange dining-room on Wednesday, April 12, Mr. Rodger presiding. The society is in a flourishing condition, carrying forward a balance of £1 4s. 5d. It was decided that the society be continued for the ensuing session.

AS the wind-up to the season the Whist Club held a drive on Friday, March 24. Twelve couples were present and a most enjoyable evening was spent. The prize winners were Miss Jamieson, Miss Munro and Messrs. T. Curr and J. Gibson.

THE treasurer of the Traffic Department Benevolent Fund gratefully acknowledges receipt of an anonymous donation of 15s. towards this fund.

THE *personnel* of the Glasgow office staff has been further altered by the emigration of Messrs. John M. Hay and George W. Millar. The former has gone to Toronto and the latter to Winnipeg. Each was the recipient of a travelling trunk.

LONDON NOTES.

THE winter just ended has been quite a gay one, if social events amongst the staff may be taken as a criterion. Following on the long list of last month, one or two others, forming no doubt the rearguard, fall to be chronicled. The final whist drive of the "Bank" staff was, like its predecessors, very enjoyable and successful; the Lifeboat Fund, for which an annual collection is made by the Metropolitan staff, will benefit by the proceeds. The staff at "North" had a very pleasant time at their gathering, and the committee are to be congratulated on the admirable programme of songs, recitations, dances and games which they carried through, and the success which these efforts secured. The Sydenham operating staff had an attendance of 160 at their whist party in the Dartmouth Hall, Forest Hill, on April 1; music and dancing helped to charm away the evening, while those who appreciated neither were able to explain why Oxford had carried all before them on the river that afternoon.

THE London Telephone Society at its last meeting of the session on April 3 had three excellent papers from the successful competitors in the annual competition. They were "Monitorial Duties," Mr. J. Webb, Assistant Exchange Manager, London Wall; "Laying Telephone and Telegraph Cables under War Conditions," Mr. A. K. Ward, Metropolitan Engineers Department; "Some Notes on Automatic Telephones," Mr. J. C. Fuller, Electrophone Department. All three gentlemen are junior members of the staff, a fact which increases the value of their achievement in writing papers containing a considerable amount of merit, and worthy to rank with the best work which this annual competition has been the means of producing. At the same meeting the officers were elected for next session, Mr. Greenham being the new president. There is a strong committee, with an infusion of "new blood"; good luck to their efforts.

THE Chess Club has just finished a successful season. In the league matches more points were scored than in any previous year. The last two matches which were won were played against G.P.O. Stores II and Westminster City Council respectively. The members who played were:

v. G.P.O. Stores II.

1. T. K. V. Coburn.
2. F. G. Margetson.
3. G. Bean.
4. A. O. Tame.
5. R. P. Lowe.
6. J. A. Gordon.
7. F. E. Waters.
8. R. H. Carter.
9. C. Wilson.
10. R. Aitken.

Score—7½ to 2½.

v. Westminster City Council.

1. T. K. V. Coburn.
2. F. G. Margetson.
3. L. Harvey Lowe.
4. A. O. Tame.
5. R. P. Lowe.
6. J. A. Gordon.
7. F. E. Waters.
8. R. H. Carter.
9. C. Wilson.
10. R. Aitken.

Score—6 to 4.

The annual meeting of the Metropolitan branch of the Staff Transfer Association was held in the Great Hall, Salisbury House, on March 29. Mr. H. G. Corner, chairman of the local committee, presided over a very encouraging attendance, and in his opening remarks dealt with some of the criticisms occasionally levelled at the committee and its work. The secretary's report for the year was an admirable and succinct account of the committee's operations. The association is to be congratulated on securing so able a secretary as Mr. Carter has proved himself to be; his unanimous re-election to the post showed that the meeting appreciated his worth. In the course of the evening, Mr. L. Harvey Lowe delivered an address, dealing mainly with the work of the joint board, what it had achieved, and what there was still to be accomplished. When the result of the voting for the new local committee was announced, it was seen that some drastic changes had been made in the *personnel*, these unfortunately involving the loss of one or two members who have done valuable work; this will doubtless be balanced by the greater freedom and freshness of outlook which new men often bring with them. Mr. Corner has again been elected chairman, with Mr. Nicholls as treasurer, and Mr. Ryall as registrar.

The annual general meeting of the Operators' Society was held on April 10 at Salisbury House. Mr. J. F. Edmonds presided over the meeting, which numbered 239 members, and in reviewing the work of the session, congratulated the society on the great success which had attended its first year of independent existence. The total membership was 564, and twenty papers had been read on various subjects interesting to traffic people, by representatives of all grades of the staff, from the assistant traffic manager to junior operators. Mr. J. F. Edmonds was re-elected chairman for the coming session, and the same mark of unabated confidence was bestowed upon the popular and indefatigable secretary-treasurer, Miss Kate Hooper, who will continue the onerous office for another year. During the evening the winners of the various competitions organised by the society read their papers to the audience, who evidently highly appreciated them. The names of the successful competitors, with the titles of their papers, are as follows:—Miss E. Fisher (Junior Operator, Holborn) on "How to Attain Early Proficiency in Operating"; Miss W. Hess (Senior Operator, North) on "The 'Wrong Number' Trouble"; Miss E. Nicholls (Supervisor, Westminster) on "Some Needed Reforms"; and Miss Ashmead (Clerk-in-Charge, Paddington) on "Is Operating Monotonous?"

On April 1 Mr. E. Widdup, Clerk in the Rentals Department, who had decided to spend part of his holiday in getting married, was presented by his friends with a wedding gift, which took the form of a marble clock and smoker's companion.

DINNER OF THE LEEDS STAFF.

The staff of the Mid Yorkshire district had dinner at the Hotel Metropole, Leeds, on Saturday, March 18, at which there was a large gathering, 188 ladies and gentlemen being present. The District Manager (Mr. W. V. Morten) presided, and was supported by the Right Hon. Lord Mayor of Leeds (Mr. Wm. Middlebrook, M.P.), Col. J. C. Chambers (Provincial Supt.), Mr. A. Martin (Asst. Provincial Supt.), Mr. C. C. Sanderson, Postmaster, Leeds, and Messrs. Livingstone, Farrand, Langdon and Taylor, of the Post Office, Mr. H. B. Sutcliffe (District Manager), Bradford, and Mr. J. C. Walker, Engineer, Bradford. The guests also included Mrs. Morten, Mrs. Sanderson and Miss Martin.

Amongst those who sent apologies for their inability to be present were Mr. G. Franklin, L.L.D., President of the National Telephone Company, Limited; Major Shepherd, Local Director, who has not been out since Christmas owing to illness, and to whom the staff extended their sympathy and wishes for speedy recovery; Mr. S. J. Goddard, General Superintendent; Mr. F. Gill, Engineer-in-Chief; Mr. E. Hare, Asst. General Supt.

After the loyal toasts had been received with enthusiasm, the Chairman proposed the toast of the "National Telephone Company and the Post Office," and referred to the developments of the Company's business and the loyalty and affection of its staff. Considering that the Company had paid three and a half millions to the Post Office in royalties, the staff had a right to expect the same treatment to be extended to them on their transfer to the State as was given to the staffs of the Telegraph Companies, the Metropolitan Water Board and the Port of London Authority. He took the opportunity of thanking the staff for the efficient manner in which they had carried out the work during his long absence through illness, and paid a warm tribute to their efficiency, and to the guidance, help and support at all times given by their respected chief and Superintendent, Col. J. C. Chambers.

Col. J. C. Chambers (Provincial Supt.), replied on behalf of the National Telephone Company, thanking the staff for their hospitality, and mentioning the pleasure it gave him to be present. After surveying the growth and development of the Company's business, notwithstanding the many obstacles it had in its way, such as wayleave facilities, royalty taxes, etc., he referred to the early termination of the Company's life, owing to the business being transferred to the Post Office at the end of the year, and said that in his opinion the State was not the proper authority to control the telephones, and he supported the suggestion that it should be in the hands of a Board of Control on similar lines to that of the Port of London Authority. He was not at all satisfied that the Post Office were cognisant of the magnitude of the business they were undertaking. He regretted the prospect that at the end of the year he would possibly no longer be their chief.

Mr. C. C. Sanderson replied on behalf of the Post Office, and assured the staff of a hearty and warm welcome on the transfer. He regretted he had no sympathy at all with the despondency that appeared to exist at the transfer of the Company's business to the Post Office and said that after 35 years' service as a State official, he saw no reason for the staff to fear any injustice at the hands of the State officials.

Mr. W. R. Senior, Contract Manager, Leeds, proposed the toast of "The Visitors." He referred to the transfer of the staff to the Post Office at the end of the year, and to the promised support of all the local members of Parliament in their efforts to get just and proper treatment on their transfer. Referring to the presence of the Lord Mayor, who is the Company's local solicitor in Leeds, and who has had a connection with the Company extending over 25 years, he proposed by his presence there that evening they could count upon his support.

The Right Hon. the Lord Mayor of Leeds, Mr. Wm. Middlebrook, M.P., replying on behalf of the visitors, said it gave him great pleasure to see the chairman present, after his recent illness, and he hoped that his health would continue to improve, and that he might long be with them as the representative and District Manager of the National Telephone Company in Leeds. The Lord Mayor thanked the staff for their kindness and hospitality in inviting him there that evening, and the pleasure which it gave him to be present to meet the staff, with whom he had had so long a connection that he almost felt one of them himself. Referring to the transfer of the Company's business to the State, he said that he felt certain that the claims of the staff would receive full and proper consideration from the Government, and that the staff would have no reason to complain of the treatment meted out to them. The House of Commons was, he said, composed of honourable men, who had the interests of the country at stake, and from his experience he was sure that on the transfer the country would see that justice would be done.

A capital musical programme, including songs, instrumental items, recitations, and dances were given by the following:—Miss E. May, Miss Florence Walker, Miss E. Brown, Miss I. Beecroft, Mr. W. Lely, Mr. Holroyd, Mr. G. Nicols, Mr. H. Sunderland and Miss M. Crawshaw, pianist.

Mr. E. J. Gillett, Engineer, Leeds, proposed a vote of thanks to the artistes, and on the proposition of Mr. J. H. Swain, Traffic Manager, a vote of thanks was given to the chairman.

CORRESPONDENCE.

THE LAST STAFF DINNER.

TO THE EDITOR OF THE NATIONAL TELEPHONE JOURNAL.

WITH reference to the correspondence regarding a final dinner, it may interest your readers to know what is being done in the Swansea district. A suggestion to have a final dinner for the whole district, to include every member of the staff, male and female, was unanimously adopted, and to make the question of ways and means easy, my suggestion to form a club and pay in a weekly subscription was adopted. A committee was formed and treasurer appointed, and judging from the amounts and the number paying in the function is evidently going to be worthy of the epoch-making occasion, and our demise will not be of the mournful order.

I am hoping that if these dinners are general throughout the country that the Post Office may generously grant us the use of trunk lines and join us up for a few minutes at an appointed hour for a grand finale.

Swansea, April 6.

W. E. GAUNLETT.

TRIBULATIONS OF INVENTORY STAFF.

TO THE EDITOR OF THE NATIONAL TELEPHONE JOURNAL.

IT is often our pleasure to read of the "doings" of telephone men in the hospitable pages of your JOURNAL, and we feel keenly interested in the experiences, the joys and the sorrows of our *confrères* of the service. It is possible that you and they would also be interested in ours.

That fancied *El Dorado* of many—the Inventory staff—do occasionally enter the realms of adventure, by accident or purpose, and thereby obtain relief from the continual strain of Inventory work.

Such has been the case during the last week when the advance guard of the G. section of the equipment staff arrived in the delightful Lancashire oasis called "Owdamn" (Oldham).

By now, veterans in the art of moving camps they, all unsuspectingly, reached here one afternoon and prepared alternative plans to induce the kind, or mercenary, to open the door to shelter and hospitality.

Meanwhile, such was the state of anxiety caused by numerous unsolved burglaries in the town, that a high state of tension seemed to have occurred in the lives of the local police. Nor were they slow to notice the influx of distinguished-looking strangers, with a contracted habit of looking up and down houses bearing legends such as "Apartments," "Lodgers taken in," etc. From that moment the troubles of the "equipment" staff began.

Whether it was he of the fierce moustache proved "Mascot," or who, the police alone can tell, suffice it that from four o'clock in the afternoon until past the legal "closing hour" our friends were shadowed wheresoever they went. Up street, down road the little band wandered, and it is presumed that as one knocked at the front door to their hoped-for haven of rest so surely did the *attaché* of the law warn the good lady of the house from the rear.

At last a glimpse of hope shot athwart their weary progress when, at the hour of 9.30 p.m., terms were made with the lady of a house for the harbouring of the wanderers.

Right blithe and gay our bold spirits went to the local railway station for their luggage, so dear to the genius presiding over their future destinies. But alas! the arm of the law had hoisted them by their own petard, for the telephone had been very busy to the police headquarters.

During this time, under the impression they were the long-looked-for "Swell Cracksmen," an inspection of baggage (the mysterious cyphers "N. T. Co. Ltd.," upon which might prove part of the game) had already been conducted at the station, and telephone bells rang right merrily at the district office with inquiries regarding the influx of the mysterious strangers.

What was the horror of our colleagues when, returning to their selected home, to find the door locked and bolted against their appeals, all efforts unavailing to arouse the good lady to pity.

Nor fared they better at the "Swan Hotel," when bordering the hour of twelve their appeals were presented. At the onset mine host thought he could, but a mysterious message from the rear effectually closed even that door upon our already grievously afflicted friends, and the answer, "Boots won't give up his bed," settled the matter for the time being.

One other effort proved at last the relief our friends were sadly in need of, and this took the form of an appeal to the police office. Then, alone, convinced of the harmlessness and desirability of members of the telephone service, were they moved to pity—strangely akin to love—and the worries of the "equipment" staff approached their temporary solution by the reinstatement at the "Swan" until such time as the sun arose upon the next day.

Such, sir, is the bare outline of facts relating to the experience. I must leave the psychological effects entirely to your readers, who, no doubt, can enter into the situation from our point of view, and will readily extend their sympathies to the afflicted, and also enjoy the humour of the situation.

Oldham, March 20.

HUBERT V. FANSHAW (K. section).

NEWS OF THE STAFF.

Mr. H. N. GARLAND, District Office, Cardiff, who has been transferred to the Inventory staff, was presented with a travelling bag. The presentation was made by Mr. W. H. Kirk (Chief Clerk), who, on behalf of the staff, wished Mr. Garland every success in his new work.

Mr. A. BURY, Cost Clerk, Dublin, takes up Chief Clerk's duties owing to the transfer of the Chief Clerk, Mr. T. J. Early, to the Inventory staff. Mr. G. J. WAKELY, Rentals Clerk, will fill the position of Cost Clerk, and Mr. R. J. BARTLEY, Contract Officer, has been transferred from the Contract Department to replace Mr. Wakely.

Mr. J. B. DOUGLAS, Assistant Storekeeper, Edinburgh, has been appointed Storekeeper at Dundee.

Mr. J. YOUNG, Contract Officer, Edinburgh, was made the recipient of a watch on the occasion of his leaving the service to take up an appointment in Aberdeen.

Mr. J. F. S. GUMLEY, Junior Clerk, Edinburgh, was presented with a travelling rug and silver mounted letter-case on his leaving the service. He sailed for Canada on April 20.

Messrs. H. ANNAN and J. LONIE were each presented by the Dundee staff with a pipe, tobacco pouch and cigarette case on the occasion of their departure for New York.

Mr. H. HINXMAN, Inspector, Bournemouth, has resigned to take up an appointment in the Bell telephone service, America.

Mr. T. W. LUKE, Contract Clerk, Southampton, has resigned to take up a position in the Board of Trade, Inland Revenue.

Mr. E. F. FOSTER has been promoted from the position of Contract Clerk, Dover (having charge of the Contract Department under the direction of the District Manager), to be Acting Rentals Clerk, Manchester. Mr. Foster left the district with the united good wishes of his many friends of the staff, by whom he was presented with a kit bag and tobacco pouch.

METROPOLITAN STAFF CHANGES.

Mr. W. E. SMITH, Acting Exchange Electrician, Avenue, to be permanent Exchange Electrician, Avenue.

Mr. E. BOUCHER, Test Clerk, Bank, to be Exchange Manager's Assistant, London Wall.

Mr. W. H. SAMUELS, Clerk, Local Engineer's Office, Croydon, to Divisional Engineer's Office, Sydenham.

Mr. N. BRAYBON, Clerk, Divisional Engineer's Office, Sydenham, to Divisional Engineer's Office, Battersea.

Mr. A. MCGREGOR, Inspector, North, to be Acting Exchange Electrician, North.

Mr. G. KING, Clerk, Divisional Engineer's Office, Battersea, to Metropolitan Engineer's Office.

Mr. W. PRATT, Fitter, City, to be Estimating Clerk, Sales Department.

Mr. R. CHARGE, Fault Clerk, Avenue, to be Exchange Electrician Clerk, London Wall.

Mr. G. W. LIVERMORE, Divisional Contract Agent, South-East, to be Divisional Contract Agent, North-West.

Mr. W. L. RAE, Acting Divisional Contract Agent, North-East, to be Divisional Contract Agent, North-East.

Mr. W. J. DAWSON, Contract Officer, Gerrard Street, to be Acting Divisional Contract Agent, South-East.

Mr. W. STEWART, Fitter, Gerrard, to be Inspector, Paddington.

TRAFFIC DEPARTMENT.

Miss ANNIE RICHARDS, Operator, Avenue, promoted to be Supervisor, London Wall.

Mr. ARTHUR T. DE BUES, Night Operator-in-Charge, Avenue, transferred to a similar position at North.

Mr. FREDERICK E. SINCLAIR, Night Operator-in-Charge, London Wall, transferred to a similar position at Avenue.

Mr. ARTHUR J. HAYNES, Night Operator-in-Charge, North, transferred to London Wall.

Mr. ALBERT GRAY, Night Operator-in-Charge, Bank, to East.

Mr. GEORGE H. MITCHELL, Night Operator-in-Charge, East, to Bank.

MARRIAGES.

Miss STEVENSON, Operator, Paisley, was presented by the Paisley staff with a handsome set of cutlery on the occasion of her approaching marriage.

Miss FLORENCE COLLINGTON, Chief Operator, Poole, has resigned to be married.

Mr. CYRIL CUTTING, Local Clerk, Southampton, was presented by the staff with an overmantel on the occasion of his marriage.

Miss ANNIE BAILLIE, Argyle Exchange, Glasgow, who left the Company's service on March 23 to be married, was presented by the staff of the exchange with dinner knives and forks and tea knives.

Mr. F. J. WITHELL, of the General Superintendent's Stores Department, was presented, on the occasion of his marriage which took place on April 10, with a marble clock and a pair of ornaments, subscribed for by the members of the Stores Department. The presentation was made by Mr. Chester.

Mr. H. L. REED, of the Engineer-in-Chief's Department, was presented with a marble timepiece by his colleagues and members of the Nottingham Factory staff on the occasion of his marriage.

Mr. W. H. WHITLEY, Inspector, Leeds, was presented by the staff with a wall clock and barometer on the occasion of his marriage.

Miss AMY J. BATTE, Chief Operator, Pontefract Exchange, resigned on March 23 to be married. She was presented with a tea service by the staff of Wakefield centre.

Miss RUTH SELF, Portsmouth, who left the Company's service to be married, was presented with a silver-plated rose bowl by the operating staff. The presentation was made by Mr. S. J. Smith, District Manager.

Miss LILLIAN WARDER, Portsmouth, who left the Company's service to be married, was presented with a dinner service by the Portsmouth and district operating staff, the presentation being made by Mr. S. J. Pharo, Traffic Manager.

Miss ALICE CAIRNS, Operator, Berwick-on-Tweed, on the occasion of her leaving the Company's service to be married abroad, was presented with a silver mounted biscuit barrel and flower vases from the Company's staff. Mr. R. Dobson, Inspector-in-Charge, in the unavoidable absence of the District Manager, made the presentation. Miss Cairns was also presented with a handsome silver cake basket and purse of money from the subscribers.

Miss DAISY WATTS who resigned from the Avenue Exchange, London, on account of her approaching marriage, was presented with a fire screen by her late colleagues.

OBITUARY.

We regret to announce the death of Miss M. K. MILNE, Edinburgh, who died of influenza on March 24 after a few days' illness. Miss Milne had been in the service slightly over three years, and was a very promising operator.

The death is announced of Mr. JAMES RILEY, aged 43, late Assistant Storekeeper, Newcastle-on-Tyne, who died suddenly on March 25. The deceased, who was much esteemed by the Newcastle staff, was at work till midday on Thursday and left complaining of some intestinal trouble, to which he ultimately succumbed. He was interred at Gateshead Cemetery on March 28, the whole of the staff of the centre who could be spared being present.

We regret to report the death of Mr. H. RICHARDSON, Instrument Inspector, Warrington, from phthisis. He died on March 17 last after an illness extending over twelve months. He was 24 years of age and had been in the Company's service eleven years.

It is with sincere regret that we announce the death of Miss ETHEL LEYBOURNE, Operator, City Exchange, Manchester, who passed away on March 18, after a short but painful illness. Some beautiful floral tributes were sent by the operating staff as a token of respect, and the funeral was attended by the Matron and her Supervisor, Miss Wrigley, on behalf of the staff and as representatives of the Telephone Company.

We regret also to report the death of Mr. D. B. McCULLOCH, Junior Inspector, Kilmarnock. Mr. McCulloch, who was only twenty years of age, was a bright, promising youth and very popular with the staff. Deceased, who had been ailing for two months, passed away suddenly on March 10, and his funeral was attended by a large number of the Kilmarnock staff.

STAFF GATHERINGS AND SPORTS.

Greenock.—The West of Scotland district staff met in a social capacity on March 7, when a presentation consisting of a gold Albert was made to Mr. D. Mitchelson, Contract Manager, who is leaving this country for America.

Dublin.—The annual staff dance of Dublin centre was held on Feb. 20. Over 100 of the staff and their friends participated in a most enjoyable evening. The greatest credit is due to the committee for the admirable manner in which all arrangements were carried out. The M.C.'s were Messrs. Allen and Carey, who carried out their duties in a most creditable manner. The president, Mr. P. F. Currall, District Manager, and the vice-presidents, Messrs. M. E. Connor (Electrician) and W. J. Dalgity (Acting Engineer) were present during the whole of the evening. Miss A. Chance and Mr. Allen gave a display of their musical ability, which was much enjoyed, and the dance terminated in the "we sma' hours," when the president proposed a vote of thanks to the committee, which was carried unanimously.

Nottingham Factory.—The annual whist drive of the Factory staff was held at the Mikado Café on March 24, a most enjoyable evening being spent. Mrs. Fenton presented the prizes, the ladies' prizes being secured by Miss M. Slack and Mrs. D. Macadie, Messrs. Forbes and Stanton winning the gentlemen's prizes. The concealed number prizes were obtained by Miss Stanton and Mr. T. Jeffs. Messrs. Stanton, Garner, Martin and Bone, who acted as committee, are to be congratulated on the great success which attended their efforts to make everybody enjoy themselves.

Truro.—On Jan. 29 a very successful whist drive and dance took place at the Baths Saloon, Truro, 134 members of the staff and friends being present. After the whist the evening was terminated by dancing and singing. Mr. H. W. Roberts, the Inspector-in-Charge, Penzance, was one of the chief features of the evening with his comic songs. The winners of the prizes were: Ladies, first, Mrs. Eva; second, Miss Mitchell (the Company's Operator at Newquay); booby prize, Miss Jinkin, Travelling Supervisor, Plymouth. Gentlemen, first, C. Body; second, J. Hitchens; booby prize, Mr. Martin. Those responsible for getting up the evening were Miss Lean and Messrs. Chapple and Mansfield. Mr. J. Wilkinson, the Local Manager for Cornwall was present with Mrs. Wilkinson. Mr. G. Hooper, the District Manager, distributed the prizes. Mr. A. E. Ball, Chief Clerk, and Mr. W. E. Walton, Electrician, were among the visitors.

Birmingham.—The District Office Clerks were no match for the Inspectors in a football match played between the two departments on April 8. From the start to the finish the District Office were absolutely run off their legs and suffered defeat to the tune of seven goals to nil. This is turning the tables with a vengeance, for last season the two departments played several matches when the District Office were the winners by a narrow margin only.

Paisley.—The last meeting of the telephone society was held in Hutton's Hall, Moss Street, on April 5. The evening was devoted to a whist drive, which was enjoyed by a good turnout of members and friends. The prizes were won by Miss Bowes, Miss Adam, Mr. Runnie and Mr. Brodie.

Leicester.—The "E" division joined the Leicester staff in a smoking concert held at the "Saracen's Head" on March 23. The chair was taken by Mr. A. B. Gilbert in the unavoidable absence of the District Manager, Mr. J. Ashton. Some interesting items were detailed by the chairman regarding the works accomplished to date by the Inventory staff. Such items as stations, miles of route and terminations surveyed and to be surveyed clearly showed the magnitude of the undertaking. A capital programme was given by the following members of the combined staffs:—Messrs. Squire, Brooker, Beattie, Cosgrove, Morgan, Price, Radford, Rendell, Scott and Mr. Hart of the P.O. staff. The "E" division quartette party (Messrs. Squire, Beattie, Morgan and Radford) gave an excellent rendering of some various glees. Mr. T. Pettigrew was the accompanist.

A football match was played between the "E" division and Leicester District on the grounds adjoining the Stork's Head on April 8. A well-contested game ended in a win for the District by three goals to two. Teams—"E" division: Brown; Beattie, Cain; Dring, Squire, Hardy; Maggs, Scott, Baker, Rendell, Nixon. Leicester District: Deacon; Lowe, Revitt; Horton, Harrold, Cosgrove; Duchering, Batts, Meadows, Townsend, Anderson.

Bolton.—An excellent concert and social evening took place at Hamer's Hotel on April 11. The Inventory and local staff combined gave a varied programme of songs, pianoforte solos, recitations, etc. The fun was fast and at times little short of furious. At the close a hearty vote of thanks to the host and hostess, Mr. and Mrs. Haley, to whose kindness the meeting of the two staffs was due, was proposed. Mr. Harper on behalf of the Inventory staff seconded, this concluding the evening most happily.

Bristol.—A successful whist drive, dance and social evening was held on March 25 at the Grand Hotel by members of the staff and friends. Over 100 attended. Mr. A. Perkins (District Manager) gave away the whist prizes. The opportunity was also taken of awarding the Bristol staff Telephone Society's prizes for papers read at staff meetings during the session just ended. The following were the winners:—First, Mr. R. G. Alexander (district office staff) for his paper on "Costs." Second, Mr. W. H. Butler (electrical staff) for his paper on "Private Branch Exchanges." First junior, Mr. G. H. Pitt (district office) for his paper on "Wayleave Records." Mr. R. A. Dalzell (Provincial Superintendent) very kindly presented the cheques to the winners amidst much enthusiasm. After 9 p.m. the party split into two sections, one for dancing, the other for the games and concert. The entire programme at the latter was provided by members of the staff. A most enjoyable evening was spent, Mr. E. L. Preston (Engineer) made an excellent M.C., and he was ably assisted by members of the committee.

Sheffield.—A "Camera" Club has been formed by members of the staff interested in photography, and in addition to the circulation of photographic literature, rambles have been arranged. The first ramble took place on April 8 to Redmires via Black Brook and the Wyming Brook Ravine, through some of the most romantic scenery in the neighbourhood of Sheffield. After refreshments had been taken at Redmires, the walk home was commenced. The outing was voted a great success by all who took part in it, and future rambles are eagerly looked forward to.

Wolverhampton.—A whist drive and dance was held at the Drill Hall Assembly Rooms on Feb. 24, when over 100 members of the staff and their friends spent a very enjoyable evening. Several members of the Post Office staff were present, and one of the ladies' prizes was won by Miss Florrie Wylde, P.O. Supervisor; the other prizes were won by Mrs. Lamb and Messrs. Miller and Ashbury. The prizes were distributed by Mrs. Archer W. Smith. The whole affair was a great success, the committee having worked hard to make it such, especially Miss Wylde, the Clerk-in-Charge.

Exeter.—A social evening and whist drive was held at Weller's Café on March 31. Mr. H. Reid, District Manager, presided. Prizes were presented to Miss Smale and Messrs. Southwell and Parkhouse for papers read during the session at the telephone society, Mr. Reid making the presentation with a humorous and appropriate speech. The winners of the whist drive were Miss Lee, Mrs. Bennett and Messrs. Martin and Carter. Mr. Voysey presided at the piano, and songs were given by Miss Makin, Messrs. Southwell, Parkhouse and Baglow. Miss Smale gave a pianoforte solo and Mr. Brown amused the audience with a ventriloquial entertainment. Thanks are due to Mr. Bennett and a small committee for the satisfactory arrangements. The evening was an enjoyable one and appreciated by all present.

Edinburgh.—The Ampere Golf Club held their annual general meeting on March 29 for the purpose of electing office bearers and arranging the competitions for the coming season. Mr. R. C. Wilson (captain) and Mr. J. H. Allan (secretary) were re-elected.

Watford.—A successful whist drive and dance organised by the Watford staff was held on Feb. 25 at James' Restaurant, Queen's Road, Watford. There were sixteen tables, and the prizes (which were presented to the winners by Miss Saltmarsh) were won by—Ladies: Mrs. Reeder, Miss Foster and Miss Bruce; gentlemen: Mr. Davis, Mr. Nash and Mr. Dean. The dancing commenced at 10 p.m. and continued until 12 p.m. and was thoroughly enjoyed by all. The arrangements were in the hands of the hon. secretary Mr. Lester and a small committee. Mr. Williams acted as M.C. for the whist drive and Mr. Reeder as M.C. for the dancing.

LOCAL TELEPHONE SOCIETIES.

Bath.—The final item on the sessional programme—a debate on "Common v. Local Battery"—was given before a crowded meeting on April 5. Mr. T. O'C. Parnell opened for "local battery," Mr. W. C. Owen leading for the defence. A vigorous discussion followed, other counsel engaged in the case being Misses Weeks and Owen, and Messrs. Griffiths, Taylor, Cole, Sturge, Ashbee, Caswell, Avery, Critchlow and Bowden. The verdict was given in favour of "central battery" by one vote. A hearty vote of thanks to the vice-president (Mr. W. C. Owen) for his services in the chair during the session terminated the meeting. The committee desire to place on record their appreciation of the loyalty of the staff, in view of the scattered nature of the centre, in maintaining the high average attendance for the session of 92 per cent. of the membership.

Belfast.—The concluding meeting of the session was held on April 10, Mr. J. D. W. Stewart presiding. A pleasing paper entitled "Departmental Observations" was given by Mr. Burdett, and embraced clerical, engineering, electrical, traffic and contract work. The speaker pointed out the great need for, and importance of co-operation, and the advantages derived from its existence, and impressed upon his audience the necessity for acquiring enthusiasm. The chairman and Messrs. Pulford and Stanfield took part in the ensuing discussion.

Bolton.—The last meeting of the session took place on March 30, Mr. Leeming, Local Manager, Bury, being in the chair. Mr. A. C. Haley, District Manager and president of the society, read a paper on "Operators and Operating." The Inventory staff were invited, and a number attended, as did also the operators. It was obviously the intention of the author to provoke discussion, and this met with a gratifying response, both the operators and Inventory staff bringing their views to the fore.

Brighton.—A meeting was held on March 27, when Mr. W. Napier, of the Engineer-in-Chief's office, gave a most interesting lecture on "Traffic." The subject was presented in a very attractive manner and focussed general interest. The lecture was illustrated by a large number of lantern slides, and was followed by a discussion. Mr. C. F. Moorhouse, District Manager, presided.

Cardiff Operators.—The last meeting of the session was held on March 21, Mr. W. J. Marsh, Traffic Manager, being in the chair. A paper was read by Mr. A. E. Ryland, Exchange Manager, the subject being "The Study of Service Observations." A short discussion ensued, after which a hearty vote of thanks passed to Mr. Ryland for his paper and the diagrams which he had taken so much trouble to prepare, brought the meeting to a close.

Cork.—The sixth meeting of the session was held on March 23, when Mr. W. Thomas read a paper on "Inspections." The subject raised a good deal of discussion in which the following took part:—Messrs. Chamney, Beazley, Hay, Byrne, Patterson and Roy.

Coventry.—Two excellent papers were read on March 13, when the chair was taken by Mr. W. W. Stewart. The paper read by Mr. F. Alcock, Foreman, dealt with "The Laying of Duct and the Pulling-in of Dry-Core Cable." The discussion was lively, interesting and instructive. The chairman practically had to close the discussion, otherwise the second paper could not have been read. After refreshments, which gave the members time to cool down, Mr. R. S. Grosvenor, Local Manager, proceeded with his paper on "Lightning Effects." Considerable discussion ensued; the questions came thick and fast, and the chairman had difficulty in closing the meeting just before eleven o'clock.

Cornwall.—The last meeting of this society's session was held on April 5, when a most instructive address was given by the president, Mr. G. Hooper, District Manager, on "The Arc Light," illustrated by curves and diagrams showing the mechanism of arc lamps and the comparisons between the size of the carbon craters formed and the amount of light produced.

Dublin.—The fourth meeting of the session was held on Feb. 6, the subject of the lecture being "Chloride Storage Cells" and the lecturer Mr. T. Turley. The close of the paper was followed by a large number of questions.

The fifth meeting was held on Feb. 27, when a lecture on "Sub-Exchange Working" was given by Mr. A. E. Moore. The lecture was marked by a lengthy and interesting discussion on the maintenance of the different types of sub-exchange apparatus.

Dundee.—The monthly meeting was held on March 30, when there was a good attendance. Mr. W. Brown, District Manager, presided, and Mr. McEwan, Electrician, gave a paper on "C.B. Working." The paper was illustrated by lantern slides and proved most interesting, particularly to the members of the electrical staff as the various circuits were followed and explained in detail. Votes of thanks to Mr. Gordon, Draughtsman, for preparing slides, to Mr. McIntosh for use of lantern and his services as operator, and to the chairman, concluded the meeting.

Edinburgh.—The sixth and concluding lecture of the session took place on Monday, April 3, Mr. C. C. Worte, District Manager, presiding, when the following papers were read:—"Some Aspects of the Telephone Business," Mr. J. L. Magrath, Contract Manager. "Some Notes on Costs," Mr. A. F. Dunn, Cost Clerk, and "Elementary Notes on Wireless Telegraphy," by

Mr. G. Colquhoun, Mechanic. Several points were discussed after the papers had been read, to which the lecturers replied.

Exeter.—A paper was read on March 28 by Mr. C. R. Parkhouse, the subject being "Telegraphy and Telephony in the Army." A very interesting paper was given and was much appreciated by a very good attendance.

Gloucester.—The fifth meeting of the session was held on March 15. Mr. C. Elliott occupying the chair. A very interesting and instructive paper, which afterwards created a good deal of discussion, was given by Mr. J. L. de Medewe, entitled "Batteries, Primary and Secondary." Mr. R. Evans, Contract Officer, also gave a paper entitled "The Art of Canvassing," which was very much appreciated. There was a good attendance.

The sixth meeting of the session was held on April 6, Mr. C. Elliott, District Manager, again occupying the chair. An excellent paper and lecture was given by Mr. H. W. Haydon entitled "The Telephone: Its History, Scientific Principles, Mechanical Construction, Operation, Development and Progress, including a Short Treatise on Sound and Magnetism," with the aid of about twenty well-executed diagrams. There was a fairly good attendance.

Isle of Man.—The thirteenth meeting was held on March 24 at Rosebery Chambers, Douglas, the District Manager presiding. Mr. R. Gawne, Instrument Inspector, gave a lecture on "Duplex Circuits." In a well-written paper, and with the assistance of blackboard diagrams, the lecturer explained the working and uses of duplex circuits. Considerable discussion took place after the reading of the paper, and the lecturer was heartily thanked.

Leeds.—On April 5, in the Church Institute, an able, interesting and instructive lecture was given by Mr. W. V. Morten on "The Post Office." Commencing with the origin and early forms of speech and writing, the lecturer traced the evolution of transmission of letters, etc., from the past days of the post boys and mail coaches to the system of the present day with its postmen, trains, liners, etc. Many persons of historical notability and writers of renown were referred to and quoted from during the course of the lecture. Additional interest was given by the exhibition of a series of pictures of great historical value. The vast information, literary merit, historical worth of the lecture was much appreciated, and should commend it to a much wider circle of telephone societies.

Liverpool and Birkenhead.—The sixth and final meeting was held on March 30, the chair being taken by Mr. O. G. Lee, president. Mr. Shepherd (Provisional Superintendent) was also present. Five ten-minutes' papers were submitted in connection with the competition as follows:—"Receivers," "Switchroom Maintenance," "Monitors' Table," "Telephones from a Maintenance point of View," and "An instance of American Development," the prizes being awarded to the first three named. After the awards had been made, several musical items were rendered by the Bohemian quartette and Mr. S. C. Coward. Mr. Shepherd in moving a vote of thanks to Mr. Lee for his able presidency, again referred to the good work of telephone societies, and to the success of the Liverpool society. Mr. Lee having replied, the meeting was concluded. Throughout the session the arrangements have left nothing to be desired, the interest has been maintained, and the average attendance has been good.

Liverpool and Birkenhead Operators.—The sixth and final meeting of the session was held on March 14, Mr. Hidden (District Manager) presiding. The society having offered prizes for the best three papers (of about five minutes each) to be read at this meeting, six papers were submitted under the following titles respectively:—"Mixed Rates," "Team Work," "Monitors' Table," "Automatic Boxes," "A Few Points in Operating," "Night Operators," the prizes being awarded, in order, to the first three named. During the evening, Miss Craig, School Mistress, also read a very interesting paper on the subject of "Operating," some exceedingly useful points being dealt with. With this meeting the session closes; the arrangements and attendance throughout have been entirely satisfactory, and a very interesting and useful programme has been carried out with success.

Luton.—The last meeting of the session was held on April 10. Two papers were read, viz., "Induction Coils," by Mr. R. B. Lester, of Watford, and "The Instrument Department," by Mr. S. J. Cain, of Luton. There was no general discussion on either paper.

Manchester.—The annual general meeting of the society was held on March 31. The secretary's and treasurer's reports were read and adopted, and the following officers elected for the ensuing year:—Past presidents, R. H. Claxton, A. Magnall, G. S. Wallace, W. Cleary; hon. presidents, R. Shepherd, F. W. Taylor; president, G. F. Staite; vice-president, R. Jackson; secretary, E. Sawyer; hon. treasurer, J. Hayward; hon. librarian, G. Temple; committee, Messrs. G. H. Taylor, S. McFadden, H. Davies, A. Chapman, J. Gill, J. Cleary, R. Hill, A. Stewart, H. Smith, H. Hyde; lanternist, A. Chapman; assistant lanternist, R. Smethurst; auditors, E. Bates and S. G. Pearson.

North-East (London).—The monthly meeting of this society was held on March 27 at West India Dock Road, Mr. G. J. Gadsby being in the chair, when Mr. J. Pattman kindly read a paper entitled "The Electrophone of To-Day," in the course of which he described the methods and apparatus used in the theatres and churches, also at the Electrophone Exchange. Mr. Pattman also explained the meaning of the colour scheme which has been introduced to assist in the quicker handling of calls for electrophone and which is used also to indicate the method of grouping the lines at the distributing board. Afterwards a series of questions by the members, very ably answered by Mr. Pattman, terminated the meeting.

Nottingham.—The last meeting of the session was held on March 31. A paper on "Sub-Exchange Operating," by Misses Collins and Harper, of Bulwell, was read by Miss Collins. Many interesting points relating to junction working were discussed, and a hearty vote of thanks to the ladies

was passed at the close of the discussion. Subsequently the annual general meeting was held, the report of the outgoing committee being read and approved. The election of officers for the session commencing October next resulted as follows:—President, Mr. Alfred Coleman; vice-presidents, Mr. Jno. Scott and Mr. C. H. Sibley; hon. secretary and treasurer, Mr. M. B. Oldbury; committee, Miss Tait, Messrs. W. S. Cox, E. Earp, A. C. Morris, J. North, A. J. Read and H. Saywell (chairman).

Paisley.—The fifth meeting of this society was held on March 29, when a very interesting and instructive address on "Some Experiences of a Call Office Operator" was given by Miss Gray, Operator, Royal Exchange, Glasgow. The address was enjoyed by a good turnout of members.

Through the courtesy of Mr. Webber, Postmaster, and Mr. McFee, General Manager, about twenty members of this society visited the new Post Office Exchange in Glasgow on Feb. 22. Mr. Baker, Exchange Manager, conducted the party, and the inspection was most interesting and instructive.

Plymouth.—A meeting was held on March 8, when Mr. H. Reid, District Manager, Exeter, gave a very interesting and instructive lecture. The subjects dealt with were divided under the following headings:—Development, line work, twist and allocation. Each subject was dealt with in a very clear manner, but gave good scope for discussion, which followed the lecture to some considerable length.

On March 22, a lecture was given by Mr. B. S. Cohen on "Transmission," which was made particularly interesting to all present, and the good selection of lantern slides brought by Mr. Cohen to illustrate his subject were greatly appreciated.

Portsmouth.—On April 12, Mr. L. F. Morice, Engineer, Portsmouth, read a paper before the Portsmouth Telephone Society, on "Transmission." The lecturer's object was to simplify as much as possible the whole question of transmission in order to make it interesting and intelligible to all concerned, and it may be said that he accomplished his purpose very well. The paper was illustrated by some capital diagrams prepared by Mr. Morice, and some very good slides lent by Head Office. The chair was taken by Mr. S. J. Pharo, Traffic Manager, and an interesting discussion ensued, which was taken part in by Messrs. Pharo, Yates, Wainscot and Lewis.

Sheffield Operators.—The sixth meeting of this society was held on March 30, when an interesting paper was read by the Exchange Manager, Mr. S. R. Vaughan, entitled "Some Landmarks in the Path of Telephone Progress from an Operating Point of View." The paper was illustrated by lantern slides and working models of different kinds of indicators, etc. The paper was appreciated by all present.

A combined social meeting of the Sheffield Telephone and Operators' Telephone Societies was held on April 8, in the Meersbrook Vestry Hall. The social was divided into two parts, the first being devoted to a whist drive and the second to dancing. Three members of the staff obtained prizes in the whist drive. There were 95 present including members and friends of the staff, the evening was thoroughly enjoyed by all.

Southern London.—The March meeting of this society took place at Hop Exchange, and two very interesting papers were read, the vice-president, Mr. Inman, being in the chair. The first paper was upon a very much talked-about subject at present, "Standardisation," and Mr. J. T. Leete showed in his discourse and by several lantern slides how the principles were adopted in their application to local lines. The second paper by Mr. R. O. Morphew was "The Differences of Kellogg and Standard C.B. Systems." Added interest was given this paper by virtue of the Battersea system being unique amongst London's C.B. exchanges, and the staff having actual experience of the Kellogg systems is limited.

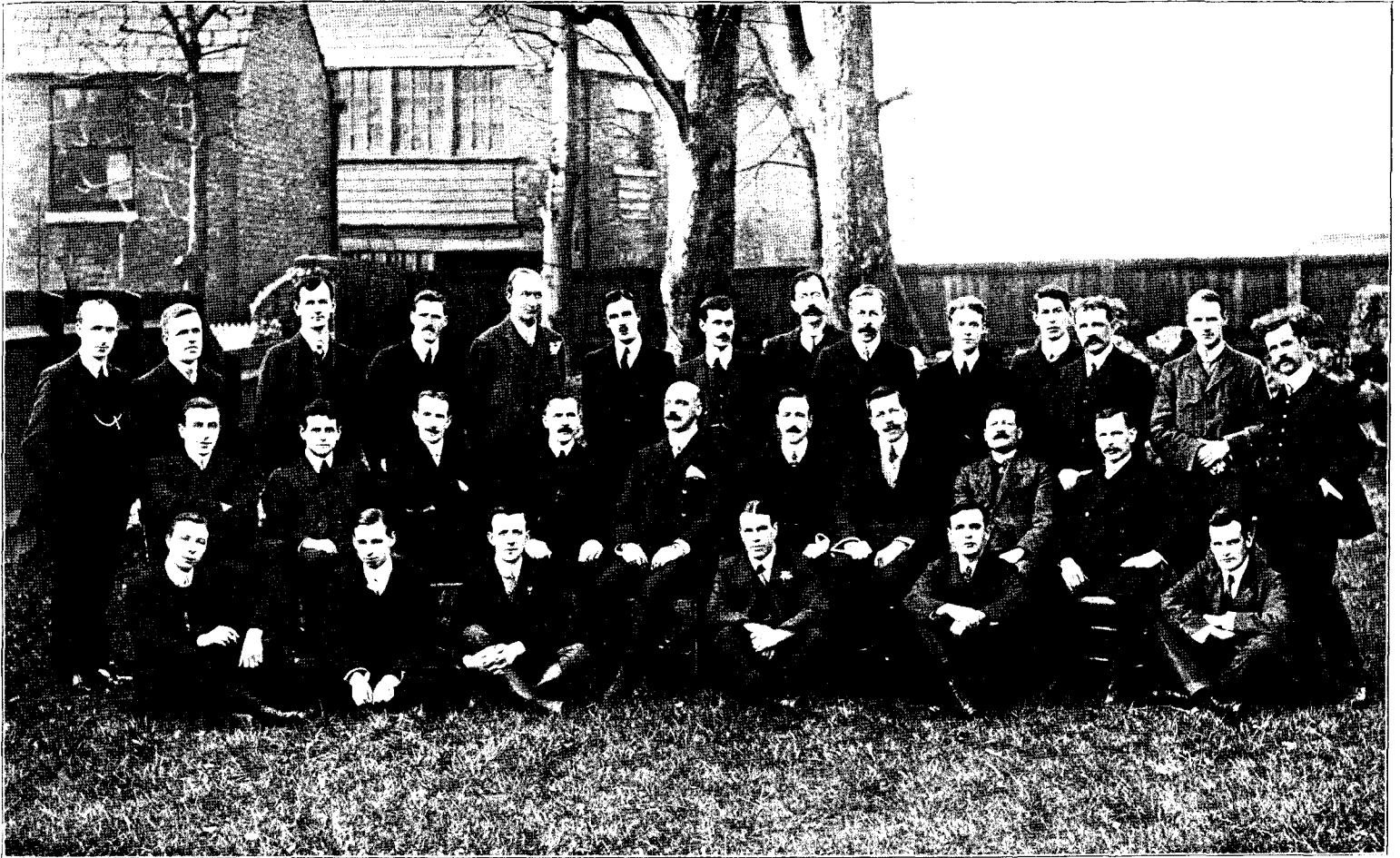
Sunderland and Shields.—A meeting was held on March 22, and Mr. W. J. Douglas presided. Mr. M. Byrne delivered a lecture on "Wireless Telephony." A discussion followed, in which various points were raised, amongst which were principle of system and its workings; difficulties of hilly country; overhearing conversations. Messrs. W. J. Douglas, E. Spink, J. G. Dixon and J. Martin took part in the discussions.

Watford.—Mr. J. Stuart Best (Local Manager, Bedford) read a most interesting paper on "Underground Work on March 13 before a small but interested audience. The subject was well illustrated by means of a large number of excellent lantern slides, all of which were made by the lecturer from photographs of work in progress at Cambridge and Liverpool, etc. Mr. Saltmarsh, Local Manager, Watford, was elected to the chair.

Western (Metropolitan).—The sixth ordinary meeting of the session was held at Gerrard Exchange on March 20, on which occasion Mr. W. R. Little read an instructive paper on "The Design of a Generator for Battery Charging."

The final and general meeting of the session took place on April 6, when Mr. F. Woollard (Divisional Electrician) gave a very interesting paper entitled "Some Notes on the Conversion and Cost of Energy for Telephonic Purposes," and illustrated the circuits, apparatus, and statistics by means of lantern slides. The following were elected as officers and committee for next session:—President, Mr. J. McLeish; vice-presidents, Messrs. J. H. Pattman and F. Woollard; hon. librarian, Mr. A. C. Greening; hon. secretary, Mr. E. Layton; committee, Messrs. G. E. Boniface, F. M. Hall, F. Hayden, H. Johns, W. R. Little, R. F. Martin, A. McGregor, E. Randell, J. H. Stewart and A. J. Webb.

Wolverhampton.—On April 7, Mr. H. P. Lloyd, of Birmingham, gave a paper on "Transmission." Owing to pressure of work in the district, there was not a very large number present, about 24 attending. The District Manager (Mr. Archer W. Smith) occupied the chair. The paper was fully appreciated by those present, and was followed by the usual discussion.



INVENTORY STAFF (DIVISION Q).

Back Row (standing): G. L. WALLACE, J. E. GREENWOOD, J. M. GRAHAM, R. F. GILCHRIST, H. J. GINN, F. HILL, E. L. HAGUE, F. H. ROBERTS, A. T. MUSHENS, F. HOPPS, W. J. PRATT, H. FISHER, G. H. N. REAY, E. ARMSTRONG.
Middle Row (seated): C. H. PHILLIPS, C. E. DRABWELL, J. H. A. STORRIE, H. ESCOTT, B. WAITE, T. LEWIS, E. S. BYNG, F. MOON, G. BATCHELOR.
Front Row (seated): A. E. ROACH, H. W. DUNKERLEY, W. MYERS, G. E. BEWICK, C. R. ADAMS, O. A. J. WILLIAMS.

INVENTORY STAFF NOTES.

A DINNER and concert was held by the members of the "A" division and their friends, of the district office and P.O. Inventory staffs, at the "White Swan Hotel," Edmund Street, Birmingham, on Friday, March 31.

After a well-served dinner and the usual toasts, a fine musical selection was given, consisting of solos, duets, quartettes and clarinet solos by the National and Postal Inventory and district staffs.

Mr. J. M. Shackleton presided, and was supported by Messrs. Jno. Scott, E. Williamson, J. Baxter, F. W. Roberts, A. Smith and others.

During the evening Mr. Shackleton, on behalf of the "A" division, presented Mr. F. W. Roberts with a silver tea service, as a mark of their esteem, on the occasion of his leaving the Company after 25 years' service to take up the post of engineer-in-chief to the United River Plate Telephone Company, Limited, Buenos Aires.

At the conclusion of the concert, votes of thanks to the artistes and chairman were proposed by the Chairman and Mr. J. Baxter, of the Postal staff, respectively, and unanimously carried.

We observe that the menu included soup, "clear overhead" and "thick underground," "roast beef and district office sauce," "boiled mutton and equipment sauce," "Inventory pudding," "P.O. jellies," and other remarkable fare.

ON April 4 Mr. F. W. Roberts gave an informal little dinner to the officers of the "A" division. Mr. Barr's rooms were kindly lent for the occasion, and the evening passed very pleasantly with songs, speeches and cards. Mr. Shackleton, in toasting the host, alluded to his 28 years' service with the Company and his six months with himself on the Inventory staff. He was both sorry and glad that Mr. Roberts was leaving them for Buenos Aires—sorry to

lose him and glad that he had secured such an important post as Engineer-in-Chief to the United River Plate Company. Songs, numerous and varied, were sung by Messrs. R. Jones, Barr and Hibberd. Mr. Romain was at the piano.

INVENTORY OF PLANT.

The following additions have been made to previous lists:—

		TRAVELLING STAFF.			
Donovan, J.	.. .. Clerk	.. ..	.. ..	.. ..	.. .. London Wall.
Garland, H. W.	.. .. Clerk	.. ..	.. ..	.. ..	.. .. Cardiff.
Gilbert, H.	.. .. Clerk	.. ..	.. ..	.. ..	.. .. Metropolitan.
Hewitt, A.	.. .. Contract Officer	.. ..	.. ..	.. ..	.. .. Newcastle-on-Tyne.
Livingstone, A.	.. .. Chief Inspector	.. ..	.. ..	.. ..	.. .. South Shields.
		HEADQUARTERS.			
Allan, O.	.. .. Contract Officer	.. ..	.. ..	.. ..	.. .. Wolverhampton.
Early, T. J.	.. .. Chief Clerk	.. ..	.. ..	.. ..	.. .. Dublin.
Husband, S. J.	.. .. Clerk	.. ..	.. ..	.. ..	.. .. E.-in-C. Office.
Johnson, G.	.. .. Traffic Clerk	.. ..	.. ..	.. ..	.. .. Liverpool.
Main, H. V.	.. .. Confidential Clerk	.. ..	.. ..	.. ..	.. .. Edinburgh.
Murray, A. K.	.. .. Contract Manager	.. ..	.. ..	.. ..	.. .. Hull.
Whitworth, E. V.	.. .. Clerk	.. ..	.. ..	.. ..	.. .. Sheffield.

Names to be deleted from previous lists:—

		TRAVELLING STAFF.			
Aylesbury, W. H.	.. .. Inspector	.. ..	.. ..	.. ..	.. .. Cardiff.
Hallam, T. A.	.. .. Draughtsman	.. ..	.. ..	.. ..	.. .. Manchester.
Roberts, F. W.	.. .. Local Manager	.. ..	.. ..	.. ..	.. .. Brighton.

PRESENTATION TO THE LIVERPOOL DISTRICT MANAGER AND ELECTRICIAN.

THE Liverpool staff held a very successful Bohemian concert at the Carlton Restaurant on April 7, about 450 of the staff and their friends being present.

The concert was organised with the object of making a formal presentation to Mr. Alan Roberts, late Electrician, Liverpool district, who has been appointed District Manager of Middlesborough, but who is at present serving as divisional officer on the Inventory staff.

The presentation took the form of an oak roll-top desk, together with a gold bracelet for Mrs. Roberts. The District Manager (Mr. E. J. Hidden) made the presentation on behalf of the staff, and spoke of Mr. Roberts' long and valued service with the Company, and particularly his connection with the Liverpool district extending over a period of some 30 years. Mr. Shepherd, the Provincial Superintendent, also spoke congratulating Mr. Roberts on his well deserved promotion, and assuring him on behalf of the staff of their best wishes for his future welfare and further success.

Later in the evening a "surprise" presentation was made to the District Manager, Mr. E. J. Hidden. This took the form of a silver tea and coffee service and tray, subscribed for by the members of the staff to commemorate the District Manager's completion of 25 years' service, nearly half of which has been spent in Liverpool.

The present was a complete surprise to the District Manager, who had received no inkling whatever of the staff's intention until the presentation was actually made. Mr. O. G. Lee, Contract Manager, in his capacity of chief official with the longest connection in Liverpool with Mr. Hidden, made the presentation. He briefly referred to the progress made in all branches since Mr. Hidden came to Liverpool, and particularly referred to the cordial relations which exist between the staff and the District Manager. He then went on to refer to the very heavy time experienced by all departments, particularly during the last two years, in connection with the amalgamation of the Birkenhead and Liverpool districts, and the opening of the new C.B. exchanges, and he remarked that the very satisfactory way in which this onerous work had been carried through was a fitting tribute to the foresight displayed by Mr. Hidden in his organisation of the district.

Mr. Shepherd, the Provisional Superintendent, supported Mr. Lee in his remarks, and said that from his personal experience he was sure that no one could have done more or taken a greater interest in the staff than had Mr. Hidden.

The District Manager, in replying, remarked that he had always prided himself on knowing exactly what was going on in his district, but he confessed that in this instance his instinct had been quite at fault; it was a surprise, and a very pleasant surprise indeed. He thanked the staff for their quite unexpected present and for the spirit in which it had been given, and assured them of his best endeavours to further their interests at all times.

The concert itself was a very great success, a very excellent programme having been provided. Altogether the evening was voted quite the most successful affair of its kind that has ever been held in Liverpool.

MY LIFE; BY A TELEPHONE AGREEMENT.

SOME short time ago I grew, along with many other trees, in the grounds of a once stately mansion (or was I part of the wearing apparel of the clerks in the office which is now my home?). I was ruthlessly hewn down by some cruel tree-fellers and sent to the paper manufactory. There I got mixed up with some machinery in a very extraordinary manner, and after a good deal of pummelling and pressing I finally appeared as a nice clean sheet of paper.

My next adventure was a sad one, for they placed me in at one end of a large machine, and after getting mixed up with a whole crowd of letters and what not I was eventually thrown out at the other end deeply impressed by the treatment I had received, carrying the marks not only on my front, but also on my back.

I was not alone, however, for under and on top of me were thousands of others who had been similarly impressed. Then I learned for the first time that I had become a useful article in the commercial world. I was placed in a van and jostled about with my brothers (or were they sisters?), and finally at the journey's end found myself resting on a nice clean shelf in a Contract Department of the National Telephone Company, Limited.

Fate, however, decreed that I was not to rest long in my new quarters, and in a day or so I was lugged out by a contract officer, who took me all over the place for a few days to see the sights. I noticed, though, that he constantly opened the neat case in which he carried me and took away one of my brothers (or sisters), and it rather puzzled me as to what he did with them.

My doubts in this respect were soon put at rest, for one morning my guardian took me out of the case and laid me out flat on a table in a nicely furnished room. This operation completed, he commenced to scratch me in various parts (with what I now know to have been a pen) and left a lot of black marks all over me, all the time smiling and apparently on very good terms with himself.

He then handed the scratching instrument to another person who made some more marks on me.

This seemed to have completed the whole wretched business, but I was somewhat shocked when he showed me to all the people in the office when he returned (still smiling). Insult was added to injury when I was stamped on with some flashy coloured ink and handed from one person to another in quick succession. I was placed in an envelope with some of my brothers (or sisters), whom I immediately recognised and who were marked in a similar manner to myself (small comfort to me though), and placed in a bag and taken a long journey. I was again roughly handled, scrutinised, and passed on from one another, each in turn stamping me in his own particular way.

Finally, to my great relief, I was placed in a large drawer and enjoyed a well-earned rest.

My brothers (or sisters) tell me that I shall stop here for the rest of my life, unless I am wanted for some special purpose, or to be shown to a judge in a county court, whatever that may be, but I am just dying for a long rest.

NEWCASTLE-UPON-TYNE OPERATORS' CIRCULATING LIBRARY.

THIS club was formed in May last by the Central Exchange Operators. A committee of eight, with librarian and secretary, were appointed.

An entrance fee of 6d for seniors and 3d for juniors with a subscription of 1/4d per week was agreed upon. To start the library a number of books were given by several members, and each month the money collected is spent in books and monthly magazines. On Dec. 31, 1910, the membership totalled 37, the number of books in the library was 182, and during this period the number of books issued was 573.

Through the efforts of the District Manager, Mr. A. L. E. Drummond, a gift of a parcel of books was made by the proprietors of a leading daily paper, which was much appreciated by the members. Everything points to this becoming an interesting and instructive section of the operating department.

AN EXPENSIVE BOOKMARK.

A COLLECTOR of old telephone directories in New York little realised as he carried his load on March 21, that he had among the well worn volumes one containing \$200 and a bank book. When the owner looked for the deposit he had ready for the bank and was unable to locate it, he remembered having used it to mark the place in his telephone directory while he made a call.

After searching for the directory in vain, he was informed by the office boy that a man had taken it away and left a new one in its place. Ordinarily new books are more valuable than old ones, but this was an exceptional case.

The subscriber notified the telephone company at once and asked them to locate his missing property.

This involved a search through no less than 5,000 obsolete directories. The search was finally rewarded and the bank book and its contents restored to the owner who showed his appreciation by sending \$50 to be divided among the collector and searchers.

NATIONAL TELEPHONE STAFF BENEVOLENT SOCIETY, LONDON.

Statement of Receipts and Expenditure for the Year ending Dec. 31, 1910.

Dr.		Cr.	
	£ s. d.	£ s. d.	£ s. d.
Balance brought forward—			
Current account ..	40 10 0		
Trustees deposit account..	80 14 3		
		121 4 3	
Receipts—			
Donations	176 0 4		
Subscriptions	132 13 2		
Entrance fees	6 10 1		
Interest on trustees deposit account	2 3 9		
			301 1 0
			1 17 6
			20 0 0
			2 2 0
			1 16 8
			77 18 0
			111 14 5
			438 11 7

Examined and found correct.
P. V. DOWSON, } Auditors.
W. GLENNY, }

J. LESLIE, Hon. Treasurer.