

The Magazine of AUTOMATIC TELEPHONE & ELECTRIC CO LTD 3d





THE QUARTERLY MAGAZINE OF AUTOMATIC TELEPHONE & ELECTRIC CO. LTD.

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No single industry has a more important part to play in developing modern commerce and trade than telecommunications. For without speedy and efficient communications, a nation cannot hope to keep abreast of its competitors. Today, with the growing emphasis on speed, the telephone is no longer regarded as a luxury. It has become an essential part of every community.

Perhaps no country is more aware of this than India, and with the great post-war expansion of the nation's economy, the need to establish a telecommunications industry of her own, which would eventually make her independent of most outside supplies, became vital.

The first step towards this goal was taken in 1948, when the Government of India entered into an agreement with Automatic Telephone & Electric Co. Ltd., under which the British company undertook to supply the necessary technical assistance and organisation to set up a factory where telecommunications equipment of all kinds could be manufactured.

An important provision of the agreement was that the resources of A.T.E. should be placed at the disposal of Indian personnel, so that they could be trained in the latest techniques. Consultative engineers and technicians from our Company went to India to advise on the choice of the best site, as well as the layout of the buildings and arrangement of the factory programme and, in 1949, production of telephones began in two temporary aircraft hangars.



One of the show places of India, The Birla Temple, New Delhi

From this small beginning has sprung the Indian Telephone Industries Limited's modern factory at Duravani Nagar, six miles from Bangalore, which now employs more than 3,000 people.

The factory, standing on a 370-acre site, comprises eight units covering a total area of 240,000 square feet, and there are, in addition to a three-storey administration building, well-equipped laboratories and research department, which, together with a vigorous sales organisation, combine to make the company one of the most up-todate in the world. Production is expanding rapidly and present output is in the region of 30,000 automatic exchange lines and about 60,000 telephone instruments annually.

Within the next few years it is expected that output will be sufficient to meet most of India's own requirements. Some idea of the rate of India's telephone expansion can be gained from the fact that since 1947 the number of telephones in use throughout the country has been nearly doubled and now totals more than 250,000.

In addition to the host of complex components



Typifying India's industrial development is ultra-modern Telephone House, Calcutta

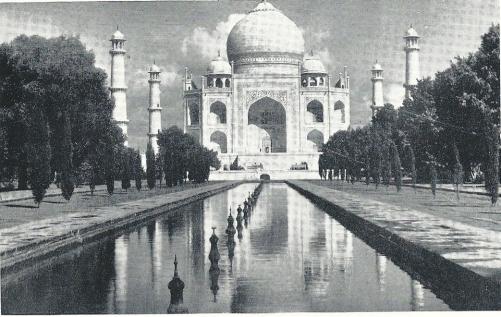


Mrs. Vijaya Lakshmi Pandit, High Commissioner for India, chats to three Indian students during her recent visit to Strowger Works

--selectors, relays, automatic equipment racks, telephones and dials--which go to make up a modern automatic telephone system, I.T.I.'s engineers have developed multi-channel carrier systems for which a new building, entirely devoted to the manufacture of the most up-to-date carrier transmission apparatus, will be in production this year.

Perhaps one of the most outstanding illustrations of how Indian engineers have mastered the "know how" of telecommunications—the most complex of all branches of electrical engineering is shown in the progress made in the bold scheme to provide Calcutta with an automatic telephone service second to none. The scheme, based on the Director system first developed by A.T. & E. for the British Post Office to serve London, laid down a five-stage programme for the conversion from manual to automatic working.

The first stage—completed in 1953—involved the conversion of some 13,000 lines, and was carried out almost entirely by A.T. & E. The second stage—finished last year—saw an increasingly important part being played by equipment made and installed by Indians. In the third, fourth and fifth stages, all the engineering work will be done by I.T.I. at their Bangalore factory.



Symbol of the Republic's historic past-the Taj Mahal, Agra

They will also supply the main switching equiptent and only a few items will be manufactured y our company.

A.T. & E.'s association with India began many ears before the conclusion of the agreement, in 948, which laid the foundation for the first adustry to be established by her Government. arly automatic telephone equipment installed in ndia was of the Strowger type, which has been ioneered in Great Britain and in many other ountries by A.T. & E. This form of switching a now used in two-thirds of the world's automatic xchanges.

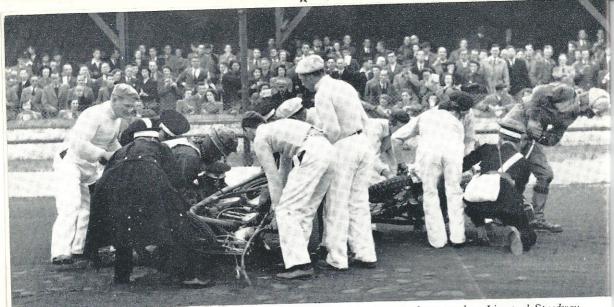
India's first automatic exchange of this type ras operating in Simla as early as 1914, only two ears after the British Post Office had installed heir first system.

Students from India, as well as students from nany other parts of the world, can be seen working eside their British companions during any visit o Strowger Works and this fact emphasises that, com its inception, A.T. & E. has attempted to ass on the advantages of its resources and nowledge so that they may benefit other countries. The growth and prosperity of the Indian industry just one of many examples showing the wisdom f this policy.



Mrs. Pandit, with Sir Thomas Eades, Vice-Chairman and Managing Director, and Mr. J. A. Mason, Director and Manager, at a P.A.X. demonstration at Edge Lane

1.0



St. John men from A.T. & E. Division attend an injured rider after a crash at Liverpool Speedway

Heroes in black and white

ST. JOHN MEN'S PROUD RECORD OF SERVICE

Stock car racing at Stanley Speedway Stadium, Liverpool, was in full swing. The crowd pressed forward eagerly to see their favourites battering around the track. Suddenly, one of the tank-like vehicles lurched crazily and ploughed head-on through a safety barrier. A young boy died and several other spectators were injured. Within seconds of the crash, members of A.T.M. Division of the St. John Ambulance Brigade were on the spot giving first aid.

That was only one occasion, however, when the men in black-and-white were on hand—in their spare time and at their own expense—to bring help to others. Wherever there's a crowd there's a St. John man or woman. You'll find them at cricket matches, in theatres, at sports meetings, racccourses, roadside boxes, cinemas and, just as important, at any time during the daily routine at home, in office or works. Nowhere, perhaps, is their presence more desirable than in industry.

That is why, 27 years ago, a nucleus of 16 publicspirited men, led by the late Mr. T. Hardy, onetime labour and welfare superintendent, met in the old works canteen (now Eades Court) at Strowger Works and decided to form a local division of one of the oldest orders of chivalry in the world—the Venerable Order of the Hospital of St. John of Jerusalem. Three of those men are still serving with the Company. Mr. J. Bennion, Department 941, is Divisional Superintendent; Mr. G. Parr, Training Department (now working in South Africa) holds the rank of Divisional Officer, and Mr. W. E. Jones, commissionaire, is Sergeant. All three have been awarded long-service medals with two clasps, and Mr. Bennion and Mr. Parr are Serving Brothers of the Order.

The Ambulance Division has 36 members, whose jobs range from machine operators, clerks and foremen, to rack wirers and tool setters, while the Nursing Division, under their present Superintendent, Miss D. B. Ambrose, General Office, has 14 members. Miss E. Miller, Personnel and Welfare, who has 25 years' service with the St. John, retired from the post of Superintendent of the Nursing Division last year. Drill nights are held each Monday in the works' canteen and every member must put in at least 12 sessions and 11 public duties each year. They all take annual re-examinations.

A.T.M. Division members, who are attached to "D" Corps, No. 5 Area, S.J.A.B., are proud to have been present on three Royal visits to Merseyside—in three different reigns. They were on duty when King George V and Queen Mary opened the Queensway Tunnel in 1934, when the late King and his Queen visited Strowger Works in 1942, and again when the present Queen visited Liverpool School of Tropical Medicine in 1954.

Among the Division members who have displayed individual gallantry in the service of others are Mr. W. Shields, one of our gatekeepers, and Mr. George Parr, who we mentioned earlier. Mr. Shields crawled under a 'bus to aid a trapped man and Mr. Parr was awarded the Meritorious Service Certificate—the only one in Liverpool for going to the rescue of two swimmers who were being battered by violent waves.

The Division is equally proud of its long war service. Members met and worked in dozens of hospital trains on Merseyside and escorted wounded soldiers and civilians to and from cities throughout England, Wales and Scotland. Even to the present day, St. John members all belong to the Civil Defence.

During working hours, the division guarantee to have men on the scene of any incident within one minute of receipt of the emergency telephone call "00" and members report for duty with the works fire brigade. The management make an annual grant to the division—as uniforms cost as much as £16, but first aid equipment is paid for from their own pockets—and certain other considerations are also given.

Mr. J. A. Mason, Director and Manager, is

honorary president of "D" Corps, No. 5 Area, while Mr. W. S. Vick, Deputy Manager, Works Control, is honorary president of A.T.M. Division and a Serving Brother of the Order. Among the Vice-Presidents of A.T.M. Division are Mr. G. D. Christie, Company Secretary, Mr. C. H. Evans, Personnel and Welfare Manager, and Mr. A. McNeill, Labour and Welfare Superintendent.

Mr. T. H. McCracken, of the Transmission Division, is also one of the long serving divisional officers. The divisional medical officer is Dr. A. N Coondoo, of Childwall. Dr. T. E. Lloyd, the Company's senior medical officer, is "D" Corps surgeon, and Dr. J. K. McCann is surgeon to A.T.M. Nursing Division. "D" Corps superintendent is Mr. J. Lunt, a Serving Brother, and the Corps secretary is Mr. J. Boyne, foreman of Department 56.

The St. John Ambulance Brigade—in England and Wales alone—comprises more than 71,000 men and women. Their emblem, the white, eightpointed cross, was first unfurled in about 1291 and never has it flown more proudly than today The body armour worn by the Knights of St. John disappeared after the Holy Wars, but the spiritua armour remains untarnished and the modern knights staunchly maintain a tradition of self appointed service that has survived for eigh centuries.



A realistic exercise in the Works Canteen at Edge Lane



Two N.C.O.'s of A.T.M. Division tend an "injured" man

BUSY LINES

In the first 17 hours of the G.P.O.'s new 30-second summary weather-forecasting service (special equipment by A.T. & E.) more than 55,000 calls were received from the present radius of 20 miles from Charing Cross.

Durban (South Africa) authorities have placed an order with A.T. & E. for the necessary equipment to install vehicle-actuated traffic signals at 26 of the city's intersections. The signals form part of a major traffic reorganisation plan.

At home, a novel installation linking traffic signals with the mechanism controlling railway level crossing gates, which cut across Lincoln's High Street, went into operation recently.

Won against strong foreign competition, a contract to supply equipment for the first coaxial cable telecommunications system ever installed in New Zealand, has been placed by the N.Z. Posts and Telegraphs Department with A.T. \mathfrak{S} E.

* * *

The first-ever system of progressively linked traffic signals at pedestrian crossings (A.T. & E. equipment) is now in operation as part of one of the nation's largest safety experiments at Slough (Bucks.).

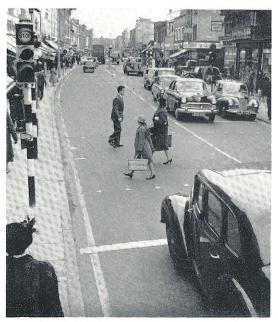
* * *

An order to supply single-channel V.H.F. radio links to register consumer demand and control load-shedding between the headquarters of one of New Zealand's major electricity supply boards and three sub-stations has been placed with A.T. & E. (N.Z.) Ltd.

Television personality Katie Boyle made the first call using P.A.B.X. equipment



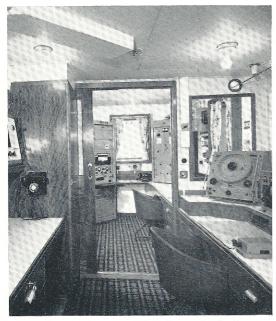
Part of the Weather equipment being inspected before leaving the factory



A view of Slough's busy High Street now served by A.T. & E. signals equipment



Television personality Katie Boyle sees our new P.A.B.X. installation



Telephone equipment supplied for use in the liner "Empress of Britain"

manufactured by this Company for Associated Rediffusion Ltd., I.T.A. contractors for the London area. Stage, screen, radio and T.V. star, Ben Lyon, received the first call.

Here's a breath of salt air—Company equipment is in the new £5,000,000 Cunard liner "Carinthia," the new Canadian Pacific liner "Empress of Britain," the new Royal Navy vessel "Cumberland," two new ships of the Chilean navy, and shipbuilders, Harland & Wolff, have recently acquired one of our P.A.X.'s.

Samples of our equipment—telephones, relays, etc.—were sent out from Liverpool recently for the attention of the Russian trade delegation which visited this country.

Canadian Embassy officials in Tokio were delighted with the rush order, completed at Strowger Works, for a P.M.B.X. under Diplomatic Wireless Service arrangements. The equipment went out to Japan by air.

In an effort to add to the speed and efficiency of their service, Wallasey Corporation ambulances are soon to be equipped with V.H.F. radio telephones, supplied by A.T. & E.

A Liverpool-built 450-line P.A.B.X. for the London headquarters of the Automobile Association will assist the efficiency of this huge motoring organisation's South of England centres.

Among other interesting customers of A.T. & E. during recent months were the Bungsar Power Station in Malaya, the Central African Currency Board, police headquarters in Malaya, the Egypt Iron and Steel Company, Gibraltar City Council, Imperial Chemical Industries, Rolls Royce and the Atomic Weapons Research Establishment.

The above are only a selection of the recent jobs undertaken by the organisation. Company equipment has now, in fact, been installed for customers as near at hand as Hanson's Dairies in Edge Lane, Liverpool (right next to Strowger Works) and as far away as New Zealand.



Freetown Docks, gateway to Sierra Leone and the rich diamond country

Diamonds in the dust

RADIO AIDS SECURITY IN SIERRA LEONE

The bare-footed African in dust-covered shirt and tattered shorts walked uncertainly across to a clerk seated at the counter of the trading centre. From beneath his shirt he pulled a bundle of old cloth. Slowly he unwound the cloth and a large "rock" clinked upon the counter. There was nothing particularly glamorous about the rough chunk of stone, but when the native left a short time later, he had a smile from ear to ear, and was richer to the tune of $\pounds 20,000$ —paid in cash.

Now before you leave your benches and desks in search of "rocks" that will make your fortune, perhaps we should explain that although the incident described is fact, it happened in far-off Sierra Leone, the British West Africa protectorate, and the rock in question was a very large uncut diamond.

The man who can vouch for the authenticity of this story is Mr. Rex Fenemore, a member of the Systems Planning Department of A.T. & E. (Bridgnorth) Ltd., who recently returned to this country after supervising the installation of a radio system for the Diamond Corporation (Sierra Leone) Ltd., a subsidiary of the Diamond Corporation Ltd. of London. The Corporation have two main trading centres in Sierra Leone, lying some 170 miles north of Freetown, the capital. It is to these centres that the native prospectors bring uncut diamonds for sale.

The stones are washed down from the surrounding hills by rain-swollen rivers during the wet season, and the natives prise them from the river beds with little difficulty. The job calls for patience rather than skill, and normally the finds brought in do not amount to anything like the £20,000 quoted. A few hundred pounds is nearer the average.

There is also another snag that should be mentioned. In Sierra Leone, prospectors' licences are needed before you can enter the diamond business and they are issued only to natives. If you are on the right side of this colour-bar-inreverse, you can obtain a diggers' licence for $\pounds 5$, and for $\pounds 25$, set yourself up as a dealer. The trading posts have been established in an effort to discourage illegal trafficking in stones, and the radio equipment installed by A.T. & E. is now playing a vital part in their day to day operation.

Bo, a largely native community, is cut off from Kenema by a range of hills rising to about 1,000 feet and, although the direct route between the two points is only about 38 miles, the journey by the twisting mud road is nearly twice that distance.

Mr. Fenemore's task was to install a simplex radio link between the two centres and also to fit mobile equipment in two of the Diamond Corporation's Land Rovers. These vehicles are used to transport uncut stones, often worth many thousands of pounds—from the trading centres to the airstrip near Bo, from where they are flown out to the United Kingdom. Drivers and their escorts are now able to keep in constant touch with base and this has greatly added to security.

One of the many advantages of the fixed point-to-point link is that it ensures speedy exchange of information. It has been known in the past for a crafty prospector with a selection of stones to journey from one trading post to another —just to see if one would offer a higher price. Now the radio link quickly teaches him that his journey is not really necessary!

Technically, the installation is of interest because it is the first mobile radio scheme employing the Company's new 10-watt Frequency Modulated RL equipment.

For Rex Fenemore, a married man with two



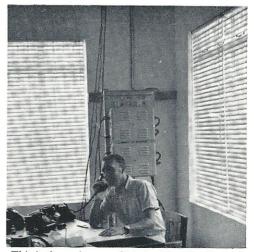
The Diamond Corporation's premises at the town of Bo

children, it was his first trip overseas on the Company's behalf. He flew out to Freetown, breaking his journey at the bright-lights ports of Tangiers and Bathurst. Did he enjoy his sevenweek stay in a country where a "girl's best friend" is likely to be found lying at the bottom of any dried-up river bed? "It was most interesting," was his concise comment.

But when it comes to describing the Company's equipment, Fenemore is not so reticent. Full of praise for the way the mobile equipment has stood up to the non-stop bouncing on dusty African roads, he says if it can stand up to these conditions it can survive anything. A 150-ft. aerial mast now dominates the Bo centre, and Kenema is topped by a 70-ft. array. These now stand as symbols of progress—and to the licensed natives, places where he can turn unattractive lumps of stone into hard cash.

One of the chief problems facing a native who has "struck it rich" is what to do with his wealth. There is not much to spend it on in the mud-hut communities, and the luxuries he craves are meagre to our standards. Despite official encouragement, most natives are sceptical of banks, and prefer to carry large sums around with them. Thus there is always the temptation for the not-so-lucky prospector to turn to violence and theft—a problem of which the authorities are acutely aware.

So, you see, even in a country where a fortune may be lying around just asking to be picked up, everything that glitters isn't a diamond.



This is the equipment which is aiding the diamond buyers

The 1914 War is over, orders roll in, and A T & E Co adds to its growing history

our Spring issue, we described the beginning and early development (1884-1914) of the manufacturing anisation we know today as Automatic Telephone & Electric Company Limited. Many older employees re surprised at some of the little-known facts that we presented and younger colleagues gained, perhaps, a sper insight into the industry. In this edition, we attempt to recapture some of the highlights of A.T. & E. tory in the years that followed the first world war.

rom telephones to shell fuses, submarine etectors and other military orders, to domestic pliances, then back again to the business of aking telephones. In broad outline, that is how he war affected Strowger Works. In the early ages of the conflict we abandoned the manufacre of telephone equipment in favour of munitions. ar-time shortages later enabled the Company to troduce a number of fresh products such as ectric irons, cookers, fires and vacuum cleaners. At the outset, these appliances, known under ne general trade marks of "Xcel" and Autopax" were designed and manufactured at trowger Works. Some idea of the quality and cientific perfection incorporated in their design hay be gathered from the fact that the No. 1



An early picture showing the assembly of Xcel irons at Victor Works Broadgreen

Xcel iron was, for many years, sold under a "life" guarantee, covering free replacement at any time in the event of breakdown under fair use.

Gradually a demand for these appliances was built up and the scope of Xcel products was extended to include heavy-duty equipment until increased manufacturing space became necessary and additional factory premises, known as Victor Works (now occupied by Joseph Lucas Ltd.) were acquired at Broadgreen, Liverpool, in 1926. On normal output, some 500 employees worked at Broadgreen.

Adjoining Victor Works, and acquired at the same time, was a picturesque mansion in Elizabethan style, known as Broadgreen Hall. This was converted into a club house, with all the usual



Broadgreen Hall, former headquarters of the Sports and Social Organisation

facilities, and was the former headquarters of the A.T.M. Sports and Social Organisation. But, we are jumping ahead slightly.

Following the Armistice in 1918, plant and personnel at Strowger Works were re-organised on a peace basis and a fresh start was made on the manufacture of Strowger switches.

Meanwhile, the United River Plate Telephone Company had satisfied itself that the Strowger system was suitable for an expanding capital city like Buenos Aires and a vast Strowger network was planned in 1920 and actually started in 1922 with plant manufactured by the Company and shipped from Liverpool. Today, Buenos Aires boasts upwards of 604,000 telephones and we can take pride in the fact that we laid the communications foundations for this great city.

In 1923, an earthquake and subsequent firestorm ravaged Tokio, third largest city in the world, and the Japanese telephone system was virtually destroyed. A new network for the devastated area had to be provided and the contract came to us.

About this time, too, the British Post Office was faced with the major problem of London, a telephone area of some 750 square miles, embracing —then—more than half a million subscribers and possessing, moreover, an existing and costly cable network and a numbering scheme which did not permit revolutionary changes. The Post Office decided that they would standardise on Strowger equipment for London and their provincial networks.

It was hardly surprising, therefore, following such a weighty vote of confidence, that orders from overseas began to flow into Liverpool in ever-increasing quantities. Among important territories that followed the lead of the B.P.O. were India, Manchuria, Australia, Canada, South Africa, Rhodesia, Tanganyika and Iraq. And, in face of keen competition, the fame of our main product also penetrated to the Continent. Poland and Lithuania were among the early customers served by equipment manufactured in Liverpool. Another interesting flashback to this period concerns the boom in radio from 1922-27. The Company contributed its quota to the development of receiving sets and many thousands of world-famous " Claritone " headphones and loudspeakers were manufactured at Strowger Works.

In fact, a comprehensive record of the commercial achievements and developments carried out



A Strowger Works flashback wiring as it used to be

by A.T.M. following the First World War up to the early 1930's would almost fill a volume on its own. Two of the more striking adaptations of the Strowger switching principle, however, deserve mention. They concern racecourse totalisators and road traffic signals.

The first All-Electric Totalisator, designed, engineered, manufactured and installed by our employees, was seen at Newmarket in 1930 and proved an immediate success. King George V and Queen Mary inspected our equipment at Newmarket and visited our installation at Royal Ascot the following year.

The Company were also responsible, a year or two later, for EVA, a very "efficient lady" who has helped to solve London's (and the nation's) traffic problems. Eva was the name given to Electromatic Vehicle-Actuated street traffic control signals, and A.T. & E. were the first to install them in Europe—at Cornhill, London, in 1932. Electromatic traffic signals are now such a common sight in every busy thoroughfare, at home and abroad, that a description of their usefulness is superfluous.

The original (1912) title of the Company, Automatic Telephone Manufacturing Co Ltd was eventually changed to Automatic Electric Co Ltd, representing a less restricted sphere of activity, and in 1935, the organisation became Automatic Telephone & Electric Co Ltd, as it is today. [To be continued]

We'd like you to meet...

A maintenance fitter at Strowger Works, **Mr. H. Wilson**, Department 46, is a collector of antique door-knockers. He has one specimen, known as a "flaming lion," which is about 200 years old. It came from the old mansion house at "Whitfield."

Joe Flaherty, a setter in Department O2, Strowger Works, who went to sea at 15. Torpedoed three times during the war, he sailed in "Hecla," a ship mentioned in the novel "The Cruel Sea." Sparetime pursuit? Leader of an eight-piece dance band.

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Marjory Frear, a typist in Purchasing Department, is one of the most promising amateur ballroom competition dancers on Merseyside, with many awards to her credit. She is also a very competent motor-cyclist.

Twenty-year-old **Kathleen Edgley**, Publicity Department, City Factory, won the challenge trophy for grand opera at a recent Liverpool Music Festival and—in the same event—the oratorio solo challenge cup.

* *

Co-builders of what they believe to be the only radio-controlled model crane in this area are **Mr. A. Bell** (inspection foreman, Telegraph Division) and **Mr. A. Gledhill**, Department 712. Construction took more than six months.

* *

During their lunch-hour, Mrs. May Devlin and Miss Joyce Giles, two girls from our Stopgate Lane branch factory, help to look after the attrac-



Marjory Frear, ballroom dancer and motor-cyclist



The model crane built by two of our employees





Two landscape gardeners at Stopgate Lane



Mrs. E. Barnes, the switchboard operator



Commissionaire Brookes with driver Harry Holmes

tive ornamental summer garden built by other employees from a strip of waste land at the back of their factory.

Mr. Gus Russell, Department 15, Strowger Works, a keen racing tricyclist, often acts as "pathfinder" on Sunday runs for a registered blind man who also rides a three-wheeler.

Eighteen-year-old **Carol Carter**, typist in the manager and chief engineer's office at City Factory, has established a reputation as a sprinter and is a possible choice for the British team at the Melbourne Olympic Games.

Main switchboard operator at Strowger Works for more than 20 years, **Mrs. E. Barnes** has handled many hundreds of thousands of calls on behalf of A.T. & E. She is quite accustomed to telephoning North America, Brazil, India, Australia and the Continent.

Mr. W. Kendrick, Planning, Department 97, has been collecting stamps for more than 20 years and estimates that he now owns something like 40,000.

Former policeman, publican and cinema manager, **Mr. G. Birch**, Traffic, Department O3, has also been a professional variety artiste and has had engagements at the London Palladium and big New York theatres.

Warrant Commissionaire Arthur Brookes, Milton Road entrance, a former Chief Petty Officer recruiter for the Royal Navy, has visited almost every port in the world and toured every village and hamlet from Aberdovey to Barrow, enrolling men for the Senior Service.

Mr. Cyril Bell, Contracts Department, City Factory, is spare-time organist at St. Paul's Church, Wallasey, and has played "Here Comes the Bride" at more than a thousand weddings in his 31 years as a self-taught musician.

Energetic secretary of the Sports and Social Organisation, Mr. A. J. Muskett, recently celebrated his 80th birthday.

Have YOU an interesting or unusual personal story to tell? If so, we'd certainly like to meet you!

13



Mr. C. K. Jennings, staff canteen manager, and his head chef, Mr. W. Bramthwaite



Staff canteen menus are totalled and checked by two of Mr. Jennings' assistants

Men behind

Canteen meals

The man with a passion for fast motor bikes nibbled a thin slice of bread and butter reflectively. "No," he mused, "I don't really think that I can claim to be a big eater."

Not a startling statement, really, but interesting when you reflect that the man in question, Mr. C. K. Jennings, staff canteen manager at Strowger Works, helps, in a big way, together with his colleague in the works canteen, Mr. I. Hughes, to keep the wheels of industry turning by providing the right kind of food for you.

After jokes about mothers-in-law, the favourite butt for generations of comedians has been canteen meals—always good for a roar of laughter and a round of applause. But after gaining an insight into the organisation of the canteens run by Mr. Hughes and Mr. Jennings, we are not at all sure that there's anything to laugh at. For the preparation of food, to these two men, is a very serious business.

Think for a moment about the scope of the project. Feeding the office and factory workers at Edge Lane is equivalent to feeding the population of a fair-sized town. And picture the behind-the-scenes work, such as peeling three tons of potatoes every week in the kitchens of the works canteen and think, also, of the mountains of washing-up to be tackled in both canteens each day!

To order and prepare food on such a mammoth scale demands careful organisation. How does Mr. Jennings, for instance, know that 211 people will be eating roast beef, 83 smoked haddock and 71 curried lamb the following day? It is not done by guesswork. When the office staffs have finished one day's meal, they then study a copy of the following day's menu and indicate their choice in advance.

Although both canteens operating at Strowger Works are controlled by an outside catering organisation, each functions almost independently. The meals are good, plain English fare, and, of your menus

are no joke to them

course, diners have distinct preferences for certain dishes. For instance, two out of three employees will plump for egg and chips before ordering more imaginative and elaborate preparations.

Mr. Jennings was formerly a chef at the Government Hospitality Hotel, just off London's exclusive Park Lane, and he frequently cooked meals for the President of the United States, when, as General Eisenhower, he used to visit the capital. Mr. Hughes is a smiling, efficient and very capable Welshman who has a staff of 53 people under his control.

In the works canteen, the self-service method is in operation and diners choose "on the spot" instead of making prior decisions. Each day, two confectioners make no fewer than 3,000 chocolate eclairs, shortbreads, apple tarts, strawberry tarts and sausage rolls, all of which sell like—well, hot cakes.

In general, canteen menus are suggested by the catering managers to meetings of their respective canteen committees. Each committee is selfcontained and comprises diners who are elected by ballot and representatives of the Personnel and Welfare Department. Members consider complaints and suggestions and decide on advance menus.

Now, we've given you a brief idea of the story of food inside the factory, but what about a sidelight on Mr. Jennings and Mr. Hughes *outside* the factory? As we've mentioned, Mr. Jennings is a motor-cycling enthusiast, while Mr. Hughes is a keen motorist. You might think these outdoor pursuits would put an edge on their appetites—but not a bit of it. In their own homes, they like to forget about food as much as possible. Mr. Hughes is an extremely light eater, while Mr. Jennings the man who cooked meals for Ike—accepts without comment whatever his wife places before him. Both agree firmly that a woman's place is in the kitchen.



Mr. I. Hughes, works canteen manager, with one of his chefs, Mr. C. J. Flexen



A popular innovation in the works canteen is the tuck shop, always well patronised



One of the many fine motorways, known as autospitzas, serving booming Venezuela

Columbus should see it now!

Venezuela - one of our oldest customers

magine a country seven times the size of England, with its biggest city having a population slightly more than that of Liverpool. There you have Venezuela, the most northerly republic in the South American continent and a country boasting one of the most modern capitals in the world. Caracas lies 3,000 feet above sea level and has been the headquarters of Company personnel for many years.

It seems that it is only during the past 50 years that Venezuela has awoken to its potentialities and importance in world affairs. For centuries it had been overlooked. True, Venezuela *was* visited by Columbus in 1498, but very little attention was paid to the country until oil was discovered there early in this century. Even now, although Venezuela is one of the largest oil-producing countries in the world, oil-fields are still scattered the nearest to Caracas is 800 kilometres away and the population has yet to rise to the 6,000,000 mark.

Many years ago, when Venezuela felt the need for more extensive communication networks, she became one of our Company's oldest customers, placing many valuable contracts. Not only were complete telecommunications networks installed in Caracas but in Ciudad Bolivar, Los Caobos, on the shores of the great Orinoco River and in all the major cities of the Spanish-speaking South American republic. Result? The people are now among the most telephone conscious in the world. There is no charge made for calls—telephones are installed on a rental basis. So, for a quarter's rent, the senor and the senora, not forgetting the senorita, can make as many "free" calls as they like.

Three Strowger Works Installation Department employees, Messrs. J. H. Dugdale, J. M. Seery and E. Dixon, have recently returned from Venezuela.

Mr. Dugdale spent nine years in Caracas—years in which he saw the city grow from a shanty town to a gleaming white city boasting two skyscrapers in which are housed 1,600 offices with underground parking space for 1,200 cars. The newlybuilt roads are a motorist's Utopia with "flyovers" and "butterfly" intersections. Nevertheless, car crashes occur frequently and Caracas is second only to Los Angeles in having the most jam-packed roads in the world.

Company installers have had busy years in and out of Caracas as demands came from all parts of the vast country for more and more telephones.

In 1946 a 7,000-line exchange, made and assembled at Strowger Works, was installed at Los Caobos but, as the city's prosperity increased, two further extensions of 3,000 and 5,000 lines became necessary and these also were shipped out from Liverpool. Toll routes installed between widely separated cities kept the Company's engineer, Mr. W. Howarth, of the Telephone Systems Planning Group, Strowger Works, constantly on the move. Mr. F. J. R. Boote, the installer with the longest service in Venezuela, is due to return to England on leave this year. Other A.T. & E. (Liverpool) employees who are familiar with the Venezuela scene are: Messrs. S. C. Morley, F. Seery, M. G. Casey and J. D. McDonald (Installation Department) and J. Riding (Department 35).

Another A.T. & E. employee, who has recently returned to this country from Venezuela after nearly three years' service is Mr. E. J. Donohue, Systems Planning, Strowger House, London. Mr. Donohue was plant superintendent, engineer-in-charge of the Maracaibo telephone area. Maracaibo is the major town in the wealthy oil province of Zulia.

On his way back to England, via the United States, Mr. Donohue became a car-ferry driver. He agreed to take an American Pontiac from Miami, Florida, to Chicago, Illinois, a distance of some 2,200 miles through six different states. Apparently, wealthy Americans are in the habit of driving to Florida, spending a vacation there, returning by air and engaging car-ferry specialists to have their vehicles returned to them. Car expenses for Mr. Donohue and his wife, Sheelagh, a Liverpool girl, were paid by the ferry-specialists.

A member of the Transmission Division staff of Strowger Works, Mr. Norman W. Jenkins, is now back at Edge Lane, after helping to install 200 voice-frequency repeaters, built in Liverpool, for a telecommunications network between Caracas and Maquietia, some 16 miles distant.

It was a visit of "firsts" for Mr. Jenkins... first trip abroad for the Company...first time he saw a bull-fight...and first time he saw the effects of a landslide. Whereby hangs a tale.

The weather was wild as South American workmen laid an underground cable, containing 216 pairs of telephone wires, in the mountainous country that stretches from Caracas to Maquietia. Just before Christmas, pouring tropical rain and violent winds whipping across the mountains loosened millions of tons of loose scree and rubble,



Mr Donohue with his Pontiac

and the landslide—said to be one of the worst ever to occur in Venezuela—completely blocked the main *autospitza*. The cabling for our valuable equipment was buried at one point beneath tons of rubble, but was found to be only slightly fractured when Mr. Jenkins examined it after the road was re-opened some two months later.

South American engineers are continually planning new ways of extending telecommunications to span some of the most desolate and isolated terrain in the world, and the equipment which we in Liverpool are producing, will help them in their colossal task.



Structural engineering on some of the most desolate terrain in South America

Number two in a series

Portraits of an Industry

In a large organisation, with a host of different departments, it is often difficult to appreciate, or even visualise, the contributions made to the industry by employees outside one's own office or workshop. In this second series of special pictures, we introduce to you a few more of the typical jobs tackled by A.T. & E. personnel at Strowger Works and associated branch. factories. We hope the operations and tasks depicted will give you a better insight into the wide range of skills, techniques and technical know-how at the command of your colleagues in the telecommunications field. Further representative photographs will be presented in our next issue.



One of the tasks in Department 89—the testing of uniselectors for automatic telephone equipment

One of the telephone assembly processes. A girl from Department 26 places a dial in a telephone case





A member of Inspection Department (Transmission) listens for beats while testing carrier equipment.



A telephone has been assembled and this employee carries out an important acoustic test

In Department 31, an operator at a machine which blanks out relay springs from a long strip of metal



An employee at Pioneer Works, Wigan, wires a test set. Similar operations are done at Edge Lane





Mr. N. G. Reynolds

NOEL GRAHAM REYNOLDS and RON SCOTT are both commercial engineers. They occupy neighbouring desks in Department 892 at Strowger Works, but their work on behalf of the firm could not have taken them further apart. Mr. Reynolds flew out recently to a sundrenched land in the Middle East and Mr. Scott journeyed to a blizzard-swept territory in the frozen North West. These are their impressions of the countries they visited. Mr. Reynolds joined A.T. & E. in 1938 in the Inspection Department and has been in commercial engineering for the past ten years. A married man, living in Waterloo, Liverpool, his main recreations are sketching and painting. Mr. Scott, also married, with one son, lives in Wavertree. He joined Department 12 (Loading Coils) in 1935.



Mr. R. Scott

Hot..

It was one hundred and ten degrees in the shade if you were lucky enough to find any shade. I could almost see the heat as our airliner taxied to a halt on Cairo's shimmering, modern airport. As the aircraft doors swung open, I experienced my first taste of the heavy, breathless atmosphere of the Middle East.

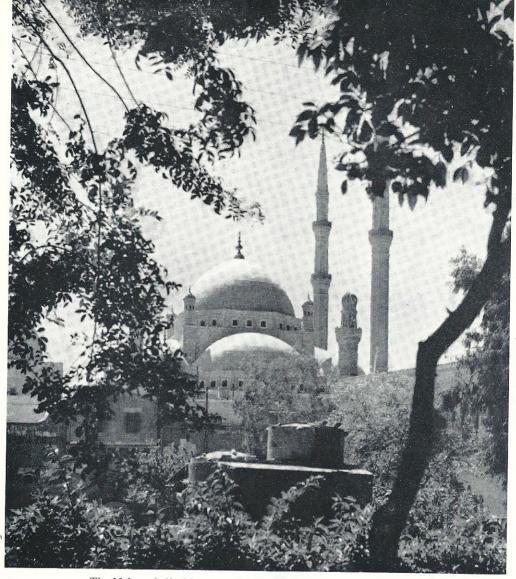
Cairo, I discovered, with a cosmopolitan population of more than 2,100,000, is a city of never-ending contrasts. Camels use the same roads as Cadillacs, tumble-down hovels lie cheek by jowl with tall hotels, and leisurely native bazaars nestle in the same block as slick bargain basements. Even the timeless waters of the Nile are harnessed to help modern agriculture and industry.

Negotiations over communications within Egypt's 386,000 square miles enabled me to spend more than three months in Cairo, Ismailia and Zagazik. My working days started at 8.30 a.m., but after lunch, all toil ceased until after 5 p.m. Afternoons were spent at an open-air swimming pool sipping iced drinks. On free days and late evenings after work, I went sight-seeing. Cairo at night is a rather gay, neon-lighted Middle East version of Manhattan and, viewed from the air, it is quite spectacular.

In one of the popular open-air cinemas, I saw "The Desert Song"—English sound track with French and Arabic sub-titles—but I found the Hollywood version more romantic than the real thing. Film actors, unlike commercial engineers, don't seem to be bothered by the heat and powerful aromas!

Like thousands of other visitors to Egypt, I journeyed a few miles out of Cairo to see the Pyramids of Giza and marvel at the ingenuity of their architects. For a small fee, the hot traveller can sit and watch native boys grow even hotter as they climb to the top of the Great Pyramid, all 451 feet of it, and back in about ten minutes. Nearby, the Great Sphinx, with inscrutable smile, stares across the desert and the centuries.

I also went to see one of ex-King Farouk's river



The Mohamed Aly Mosque at the Citadel, bathed in glittering sunshine

boats, now used as a night club for tourists, and I recalled that telephone equipment for the exking's private yacht had been assembled at one of our factories in Liverpool.

Perhaps my most vivid memory of Egypt also concerns Farouk. We had been exploring deserted country near the road to Ismailia when our party stumbled across what had once been a luxurious country villa, now crumbling and sinking under the desert. An old man shuffled out of the ruins and explained that he was the caretaker. "The villa is in need of much repair," he said ruefully, "but I am waiting for my master to return."

"Who is your master?" we asked him.

"His Majesty," was the reply.

We looked at the dry and broken swimming pool, the sad, neglected gardens and the sun-blistered walls. Even as we watched, more sand blew in from the nearby desert and helped to bury part of Egypt's history. We didn't tell the old man that his master would not return.



gypt's ancient Great Sphinx and Pyramid



Cairo's transport—ancient and modern



A Canadian snow scene—picturesque on a postcard, but not so pleasant for the inhabitants



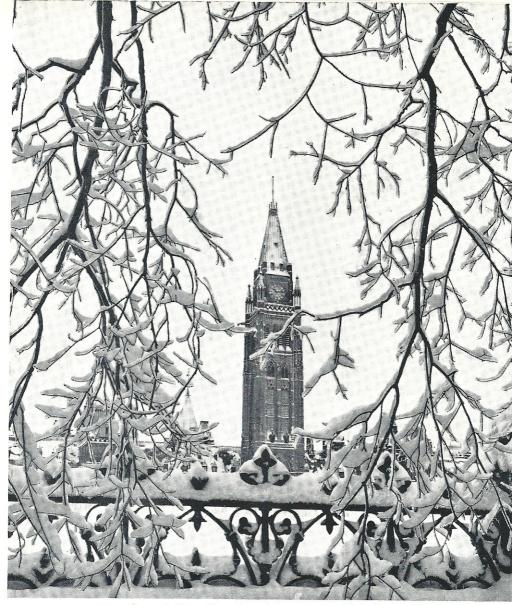
It was twenty degrees below zero on the tarmac at Montreal's snow-swept civic airport as our Stratocruiser flew in from Iceland. The ground crew wore fur-lined parkas and heavy leather mitts protected their hands from possible burns as they manoeuvred the frost-encrusted metal gangplanks into the cabin doorway.

Canada was shivering under winter's threadbare blanket. The day I arrived a tough inspector of the famous Royal Canadian Mounted Police froze to death in a snowbound car at a place called Cutknife in Saskatchewan, abandoned trucks littered invisible roads for thousands of miles, blizzards tore screaming across iron-hard prairies and river transport was at a halt for months to come.

My trip to the Dominion—to discuss technical details of new telephone exchanges—enabled me to cover more than 15,000 miles in 15 different aircraft, with stops in Montreal, Toronto, Winnipeg and several other localities. Canadians, I found, are like their American cousins in their attitude to work : from starting to quitting time, it's heads down and high pressure all the way. And, as you probably know, in their free time, they play as hard as they work.

Outside the snow may be several feet thick on the pavements but in Canadian offices and homes, the temperature seems almost as high as my colleague found in Cairo. With central heating in every room, most people work in their shirt sleeves. These warm rooms proved useful when I lost my hat one morning on the way to a conference. The wind whisked away my trilby as I was entering a cab outside my hotel. The hat vanished into a snowdrift and I gave it up as lost. Next day, however, I stumbled across the headpiece which had become trapped under a fence. The hat was full of snow and as stiff as a saucepan. I left it in the wash-basin at the hotel and central heating soon thawed it out. The hat was ready for wear once more.

What were my main recollections of this old-



Ottawa's Peace Tower framed by snow-covered branches

MALAK, OTTAWA

young country? The vast areas were certainly an eye-opener and the differences between bustling, modern cities, such as Winnipeg and romantic, timbered settlements such as Moose Jaw and Medicine Hat, were also surprising to the traveller. It would be equally difficult to forget the grandeur of the Great Lakes from the air and the sweeping gentleness of the winter plains, but it's usually the small, personal things that people remember most of all. I'm no exception and I enjoyed dozens of

delightful personal adventures during my trip. I'd like to tell you about one....

A biting wind and soft powdery snow had brought the outside temperature down to almost fifty degrees below zero. I tottered gratefully into the warmth of a corner drugstore and ordered a scalding hot cup of coffee. The attendant, in neat, white overalls, brought the coffee and, then, without batting an eyelid, handed me—a glass of iced water. Hot and cold? I had both in Canada.

COVER TWINS CLOCK UP TWENTY YEARS

After 15 years' service in Strowger Works, Dorothy and Vera Fitzsimmons decided they would like a change. So they handed in their notices. But within six weeks they were back again at their old jobs in Department 93—having worked for two other firms in the meantime. "We couldn't be happy anywhere else," they explained simply. That was five years ago, and the Fitzsimmons sisters have now completed twenty years with A.T. & E.

Looking at these summer cover girls—twins, in case you didn't notice—it is difficult to believe that they are any more than twenty themselves. Devoted to each other and their widowed mother, they are seldom separated and have little time for the social whirl, but they are, nevertheless, two of the best-known and most popular girls in our Edge Lane factory. "If we marry," say the sisters with the bubbling high spirits and infectious grins, "it will have to be to twins. But who's going to bother searching out two old stay-at-homes like us?"

And have you puzzled out yet just how old they are? It's no secret, of course, but we'll leave you to guess! Oddly enough, only a short distance away from Vera and Dorothy are another set of attractive twins, 21-year-old May and Pauline Power, of Department 13. Like the Fitzsimmons sisters, they work side by side, they often dress alike and their workmates have difficulty in distinguishing one from the other. And, by an even stranger coincidence, the Power sisters also worked in the two factories visited briefly by Vera and Dorothy.

The younger twins are not unlike the other girls in looks and temperament and they, too, share hobbies, clothes, cosmetics and jewellery. Until a short time ago, they even used to "pass on" boy-friends, but Pauline ("I'm the quiet one")



Vera and Dorothy Fitzsimmons



May and Pauline Power

recently became engaged and there's no swopping now.

May and Pauline are two of a family of ten and live in Dovecot, while Vera and Dorothy live in Broadgreen.



Mr. F. Rigby in his office at Strowger Works

The whirr of machinery, the buzz of drills and the steady drone of other equipment often bring back memories of the African jungle to Mr. Fred Rigby, foreman electrician in the Plant Shop at Strowger Works. But the difference between the noises of the Plant Department and the noises of the jungle is that one set of sounds is intermittent, the other never ends.

"The jungle is always awake," says Mr. Rigby, "and the insects are to blame. Amid the host of creatures that walk, crawl, slither, fly and swim, none is as noisy as the insect—and there are countless millions of them in the forests of the Gold Coast," Fred Rigby should know because, before he came to A.T. & E. in 1941, he toiled as a goldminer in some of the cruellest country in the world.

Outwardly, there is little of the popular romantic conception of the African goldminer in Fred Rigby—no fierce black beard, no leathery skin, and no big rough and tough manner. A calm, softlyspoken, greying man of medium stature, only the remnants of a tropical tan hint at the seven years he spent at the 1,200-feet deep Bibiani mine in Ashanti country, home of the warrior tribe and slave-traders.

As a child, Mr. Rigby spent a number of years in Russia—his father was an engineer in the town now known as Stalino—and, on his return to England, he trained as an electrical engineer.

GOLD, SCORPIONS AND BLACK MAGIC

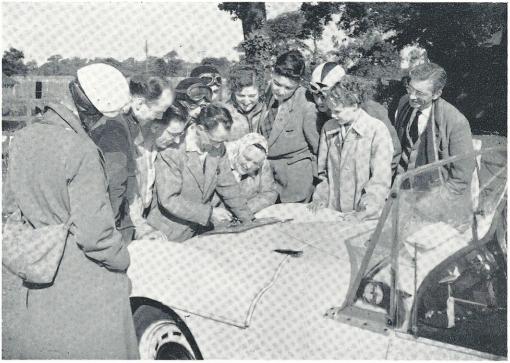
When he first went out to the Gold Coast to take charge of electrical work at the Bibiani mine, only 30 Europeans were on the site and the nearest neighbouring mine was almost 100 miles away. By the time he returned to settle in this country, some 2,000 natives and 120 white people were raising 30,000 tons of ore a month and the pure gold yield was about a quarter of a million pounds (sterling) a year.

It is hardly surprising, with so much bullion in the balance, that armed hold-ups, pilfering, strikes and plotting happened fairly frequently. Add such ticklish situations to the other rigours of Gold Coast life—mine disasters, deadly snakes, black magic, searing heat, scorpions, leopards and torrential rains—and you have some idea of the experiences tasted by the man who now controls the plant electricians at Strowger Works.

Strange, isn't it, the unusual personal stories and colourful incidents in the lives of many of the men and women within our organisation ?



The gold-miner in the African bush



Club members study the route during a map-reading trial

Men with wheels

An introduction to the Company's motor club

An old Welsh shepherd leaned over his cottage wall and jabbed his pipe in the direction of the neighbouring valley. "Bobbie, bach," he said, addressing the collie, "look you at those crazy people. Did you ever see such a way to enjoy yourself?" He was referring to a group of laughing men and women who sipped tea as they stood near an assortment of parked motor-cycles and cars and waited for their friends to plough through long stretches of deep, glutinous mud. To the casual observer, it was indeed a strange way of spending a pleasant Sunday afternoon. To members of A.T.M. Motor Club, however, who were staging their President's Trial—a reliability event and one of the highlights of the Club year there was no better way of wiling away a weekend. And the pleasures derived were all the sweeter for being simple—good companionship, fresh air, friendly rivalry, plenty of laughs and appreciation of the skill displayed by men over machines and nature.

But these are only a few of the delights experienced by devotees of A.T.M. Motor Club, one of the many sections affiliated to our Sports and Social Organisation.

The Club, now in its thirtieth year, is, strangely enough, older than its "parent" organisation. It was started in 1926 by a handful of enthusiastic motor-cyclists and was officially recognised by the Company the following year.

Pioneer members included Mr. W. S. Vick, Deputy Manager, Works Control (a former captain and now president); Mr. Percy Ellis,

Department 009 (another former cablant), Mr. Arthur Bell, chairman of the Sports and Social Organisation ; Mr. Jack Stark, supervisor, Training Factory, Apprentices; Mr. D. Wright, chief of the Maintenance Department; the late Mr. Joe Nixon, a former works manager and resident director (the club's first president); Mr. Les Johnson, Model Shop, Transmission Division; Mr. J. Parry, former senior superintendent of Victor Works; Mr. W. A. Phillips, Technical Editor, Library; Mr. G. Wallace, chief of Sales Service Department ; Mr. L. M. Simpson, manager of Department 653; Mr. E. P. Morgan, works manager, Transmission; Mr. F. J. Vanner, superintendent of Despatch and Inward Goods, and Mr. W. L. Dell, Installation.

Such men frequently set off on unreliable beltdrive and acetylene lamp machines to tackle one-infour Welsh hills like Bwlch-y-Groes (now a famous car testing ground) and counted themselves lucky if 20 per cent. of their number escaped without mechanical failures. Yet their enthusiasm for this exhilarating sport still waxes strong.

In the beginning, the club boasted only one trophy for their Welsh Trial (they now have a most impressive array of silverware) and additional competition prizes were made from stone and quartz taken from the Blue John mine in Derbyshire.

In the early 1930's, the club hit a bad patch, but two former electricians from the Plant Department, Syd Gillies and Ernie Dixon, together with Mr. John Watkinson, now supervisor of apprentice draughtsmen in the Training School, quickly put the organisation back on its feet. John Watkinson, the man who has probably done more than anybody to make the club the success it is today, recalls that at one period finances had dropped down to 9s. $2\frac{1}{2}d$. It is a tribute to the energy of past and present officials that the motor section quickly regained its early brilliance and the kitty grew to such an extent that, during the war, they donated \pounds 100 to the Air Raid Distress Fund.

Several members have competed in famous national events—men such as Arthur Philpotts, superintendent, Telephone Shops, one of the vicepresidents. He raced potent machinery on the sands at Southport and at short circuits such as Park Hall, Chorley and Donnington. To compete in this type of event, one needs plenty of red blood in the veins!

But, of course, it isn't all trials and racing in a motor club. Some folk enjoy a quiet Sunday



A trials competitor is assisted from a tricky mud section



Another trials enthusiast negotiates a water splash during the annual President's Trial held over mountains, mud and thickly wooded countryside in North Wales



"Where do we go from here?" Members photographed on a Sunday afternoon jaunt

social run, others like occasional dances, beetle drives, lectures, film shows, treasure hunts, mapreading contests, organised outings and mystery tours, while the speed fans go in convoy to the T.T., Oulton Park, Aintree, Scarborough and Hawkestone Park. Club meetings are held every fortnight at "Whitfield"—probably one of the best headquarters of any club on Merseyside so far as amenities are concerned—and an annual prize distribution is held in Liverpool city centre. All that for only eight bob a year !

To typify the fine spirit that exists, we could take the case of Norman Paton, last year's treasurer. Norman, an acknowledged expert on racing records and information, worked long and hard organising two club trips to Silverstone road races-despite the fact that he himself had no machine. And to prove that members don't take themselves too seriously, energetic chairman Eric Nehrlich, Department 41 (the only life member), introduced a scheme which has proved vastly entertaining. On prize-giving nights, all members who experience slight mishaps during the year-such as hitting the kerb-receive Pavement Artist's Medals. There's no escape-make a blunder on the highway and you're in line for a gong in the club colours of light and dark blues and silver. The idea ties in well with the club motto, " Safety First" because nobody wishes to sport a symbol of shame . . . even if it is only in fun.

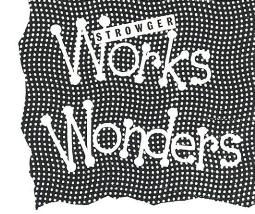


Three more people with a week-end navigation problem to solve

Other club officials, if you're thinking of joining in the sociability which is always on offer, include Ernie Partoon, Department 41 (another vicepresident); Colin Powell, Department 659 (secretary); Les Greenwood, Department 41 (treasurer); Eric Coombes, Technical Cost Department (trials secretary); Ronnie Moss, Training School (motor-cycle captain); Jack Callaghan, Department 15 (motor-cycle vicecaptain); Brian McGuiness, Department 665A (cars captain), and John Turner (cars vicecaptain).

IN OUR NEXT ISSUE we shall devote a number of pages to the story and pictures of one of the other sections associated with A.T.M. Sports and Social Organisation. Eventually, every section will be covered.







"Will you quit hanging around! I keep telling you —he's on overtime!"



"Forget about factory life for a couple of months . . . go on a world cruise . . . start to LIVE"



" You'd hardly believe this a factory, but this morning ...



" I say, do you think I could slip away early this afternoon —I have to go to my granny's funeral"



"You've got to hand it to Jones —he certainly gets away on time"



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