

PHONE

The Magazine of AUTOMATIC TELEPHONE & ELECTRIC CO. LTD.



SPRING 1956 - 3d

PHONE

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

ISSUE NUMBER TWO · SPRING 1956

Contents

	Page
<i>Terror island</i>	1
<i>How it all started</i>	4
<i>It's not so easy!</i>	7
<i>Million dollar deal</i>	8
<i>We'd like you to meet</i>	10
<i>Jungle adventure</i>	13
<i>Portraits of an industry</i>	14
<i>Any complaints?</i>	16
<i>Cadet in the cockpit</i>	18
<i>As I see it</i>	21
<i>Head-hunters' country</i>	24
<i>Saturday at Whitfield</i>	26
<i>Strowger Works Wonders</i>	inside back cover

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It's a Hard Life

No wonder publishers have tummy troubles and sleepless nights! We fray our nerves over that all-important first number, relax slightly when we learn that it went down fairly well, then we discover to our horror that we have another even more important issue on our hands. Then another . . . and another. It's a hard life, but we wouldn't exchange it.

Before we introduce our second number, however, may we extend our thanks to all those who assisted—in any way—with issue number one? Also, a big thank you to our earlier readers and a warm welcome to new ones. Our circulation has been increased by 500 and we will step up at this rate in the future until demand is satisfied.

Now, what have we lined up this time? First of all, several articles with an overseas flavour. We believe that most employees are interested in the destinations of equipment upon which they have worked, so we are presenting brief accounts of territories which are important to our organisation. We also offer you glimpses into the domestic past, and we present a number of unusual personal stories about our present colleagues. Increased space has been allocated to pictures and we have deliberately refrained from reporting many events of importance to only small sections of our readers. It has been our aim to keep a broader outlook.

In conclusion, may we repeat what we said in the first issue? We welcome criticisms and suggestions. You've no idea how much your letters soften our hard hearts!

STORY BEHIND THE COVER

Twenty-year-old Michael Hughes, a functioneer in Department 27 (Inspection) at Strowger Works, is a lucky young man. Not many people of his age can lay claim to holding a glider pilot's certificate, but Mike, a flight sergeant in the Air Training Corps, won his wings some time ago. He is seen here (front cockpit) at the controls of a glider at R.A.F. Station Hawarden, Flintshire, but one can normally find him at the controls of a test set for telephone equipment. See story inside.



BY TOM WEST

Hidden from view on the barren slopes overlooking a Cyprus village, a small group of terrorists sit and watch as a British patrol passes through. Minutes go by. Then, when they are certain there is no fear of the troops returning, they strike . . .

First target: the small village police station. Home-made bombs crash through the windows and spatter neighbouring buildings. The slightest movement is sufficient to invite a hail of bullets from automatic rifles slung at the ready. The raid lasts only a few minutes. Just as quickly as they came, the terrorists slip back into their hide-outs or go about their daily tasks in the guise of innocent peasants. Often before aid can be summoned to scour the area, the gunmen have completely lost their identity.

Incidents such as this have been reported frequently from trouble-ridden Cyprus, and curbing them has presented many problems. But the A.T. & E. Group can claim at least a measure of the credit for combating the island's sneak raiders.

Contracts were placed with A.T. & E. (Bridgnorth) Ltd. to supply equipment for a comprehensive radio-telephone network linking key police centres throughout the island. So urgent did the security authorities consider the need for the new

network that equipment was flown direct to Cyprus in specially chartered planes as soon as it left the factory assembly lines.

With the first load went Mr. Derrick Beard, Bridgnorth's senior electrical tester, who was assigned to the job of supervising the installation of the equipment at very short notice. It was the first trip overseas on the Company's behalf for 35-year-old Derrick, and it proved quite an eventful one. For despite the excellent security measures taken by the Cyprus police for his safety, life was not without its unexpected excitements!

There was the time when lightning struck one of the radio repeater stations some distance from Nicosia and blew all the fuses in the equipment. Beard rushed to the site and carried out the necessary repairs. Returning to Nicosia along the only serviceable road, he had his first narrow escape when he missed a terrorist ambush by ten minutes. An Army convoy travelling a short distance ahead of him was shot up and the driver and co-driver in the leading vehicle were severely wounded.

Later the same week, Beard had his second piece of luck. He had been fitting equipment in another part of the island, when he struck up a conversation with a young R.E.M.E. soldier who was servicing a nearby Army petrol generator. Let



Two soldiers struggle with a schoolboy rioter who had been hurling stones



The victim of a bomb outrage is carried to safety by a serviceman

Beard take up the story here. He said: "I packed up about an hour earlier than my soldier friend and drove back to Nicosia. He was not so lucky. On the way back along the same road as I had used he was ambushed and killed by automatic rifle fire."

To Beard, like all the Company's employees who have found themselves on a tough assignment, it was "just part of my job". He vividly recalls the first "incident" which occurred shortly after the arrival of the initial plane loads of equipment. Crates of radio parts had been deployed at the various sites around the island, where it was proposed to establish communication centres. Then came news that a Famagusta police station had been attacked and extensively damaged by a bomb. Beard raced over to see if the precious equipment had been damaged. He found the crates reduced to a shambles but after a quick dusting the racks of equipment proved to be perfectly serviceable. Miraculously, the only thing damaged was a neon lamp indicator that had been shattered by the blast!

The Cyprus Police, and in particular, Superintendent 'Terry' Burke, their Force Communications Officer, are full of praise for the speed with which A. T. & E. delivered the equipment and got the radio system operational. It was a "rush job" from the outset and everyone concerned worked their hardest to see that the network was playing its part in beating the terrorists in the shortest possible time.

First step in the establishment of a communications system throughout the island was the setting up of radio links between main divisional police headquarters and the capital of Nicosia. These were designed to ensure that even if terrorist activities disrupted normal communications, efficient police co-ordination would not be hampered.

In addition to this, seven separate networks, which together cover the whole of Cyprus, link police district headquarters with the many outlying posts and stations—formerly favourite targets of terrorist "hit and run" attacks. Powerful transmitters are being used at the main base stations to work into small sets installed in over 50 remote police posts.

Existing police radio patrol cars have also been reinforced with new vehicles equipped with A. T. & E.'s six-channel radio equipment. Using these, patrols are able to keep in constant touch with base—no matter in what part of the island they are operating.

The part the A. T. & E. organisation has played in combating terrorism in Cyprus is but another



Company equipment was flown out by specially chartered aircraft



Armed police stand guard as our material arrives in Cyprus

example of how the communications industry can be relied upon to produce the goods in time of emergency. Many names could be mentioned in connection with the Cyprus story—Mr. H. A. Peterson, our Middle East representative who was largely responsible for obtaining the original contract, and Mr. Frank Tew, of R. & T. Division, who carried out much of the important liaison work in London, are but two. Primarily, as always, it was a matter of teamwork—from the placing of the first order, to the installation of the last piece of equipment.



Carrying shields and batons, British troops bring in an injured rioter



A time-bomb destroyed part of this post office building in Nicosia

Village industry is now Big Business

How it all started...

How much do you know about the growth of the organisation? You may be surprised to learn, for instance, that before we started making automatic telephone equipment, our forerunners used to manufacture golf balls and motor tyres as side-lines and that a workman's ability to play cricket was almost as important as his skill at the bench. We have been dipping into Company history and we think we have come up with some interesting facts. In this issue we trace—briefly—the early development of the organisation up to the time of the First World War.

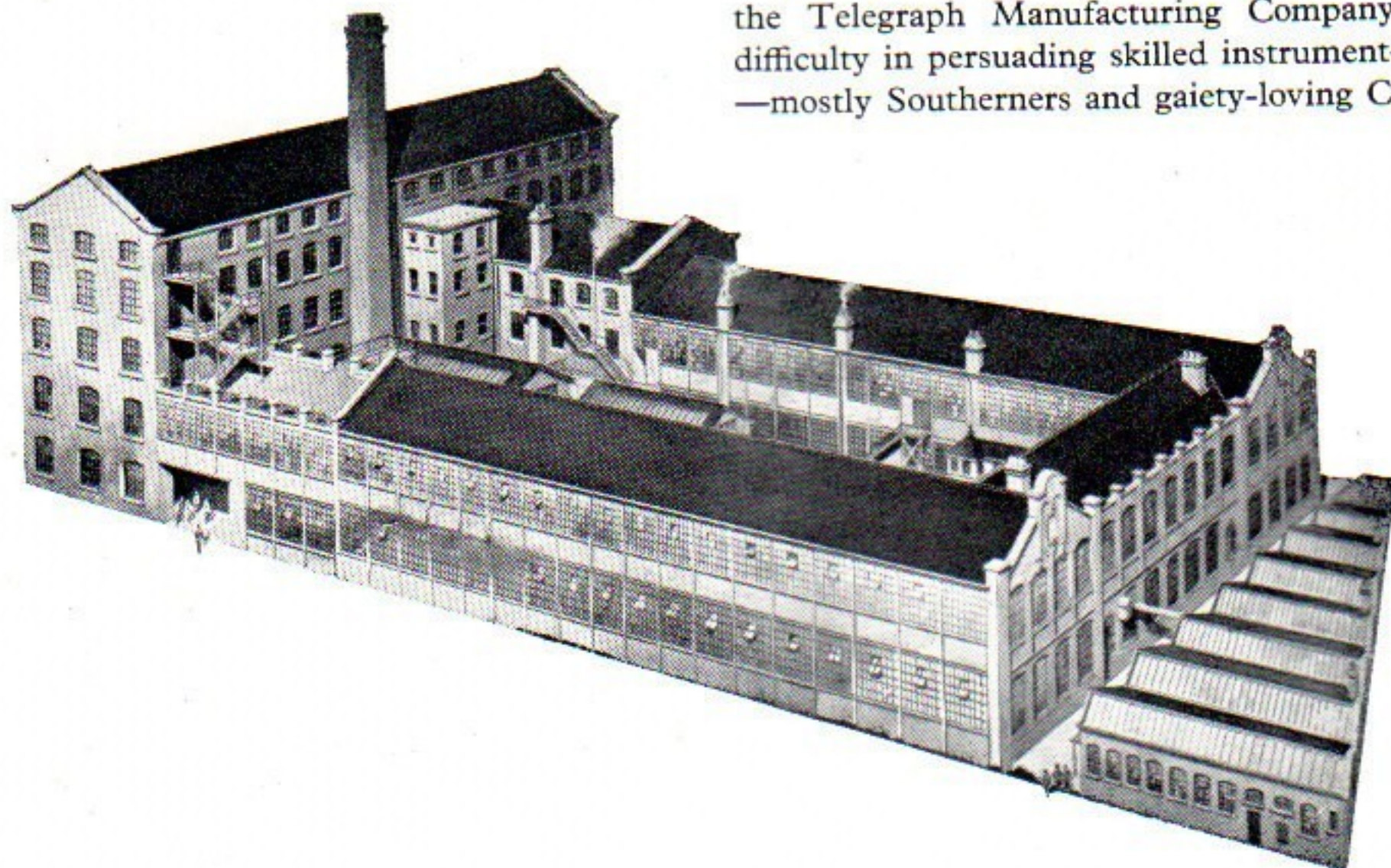
The little Cheshire village of Helsby, nestling at the foot of a 400-ft. hill overlooking the muddy waters of the Mersey, is, perhaps, the true birth-place and cradle of the organisation we today call Automatic Telephone & Electric Company. Naturally, we are going back many years—back, in fact, to 1884.

In that year, two brothers, James and G. Crosland Taylor, selected Helsby as the headquarters of a battery-making business which they called Telegraph Manufacturing Company Ltd. Their offices were impressively named Britannia House, although their "works" were nothing more than a primitive shed. Two years later,

construction started on a two-storeyed brick building and, in 1887, the golden jubilee year of Queen Victoria's reign, a dance was held to mark completion of the project. For the first few years, the undertaking made little progress but, in 1890, business started to boom.

Plant for the treatment of raw gutta being essential in the making of refined gutta percha insulation for electrical conductors, the manufacture of golf balls was started as a side line. The "Helsby Bramble" and "Helsby Green Dot" will still be remembered by old-time golfers, but with the obsolescence of gutta percha the manufacture of golf balls died out.

Because Helsby was such a sleepy little place, the Telegraph Manufacturing Company found difficulty in persuading skilled instrument-makers—mostly Southerners and gaiety-loving Cockneys



Recognise this? Yes, it's Strowger Works, all right. The time—1912



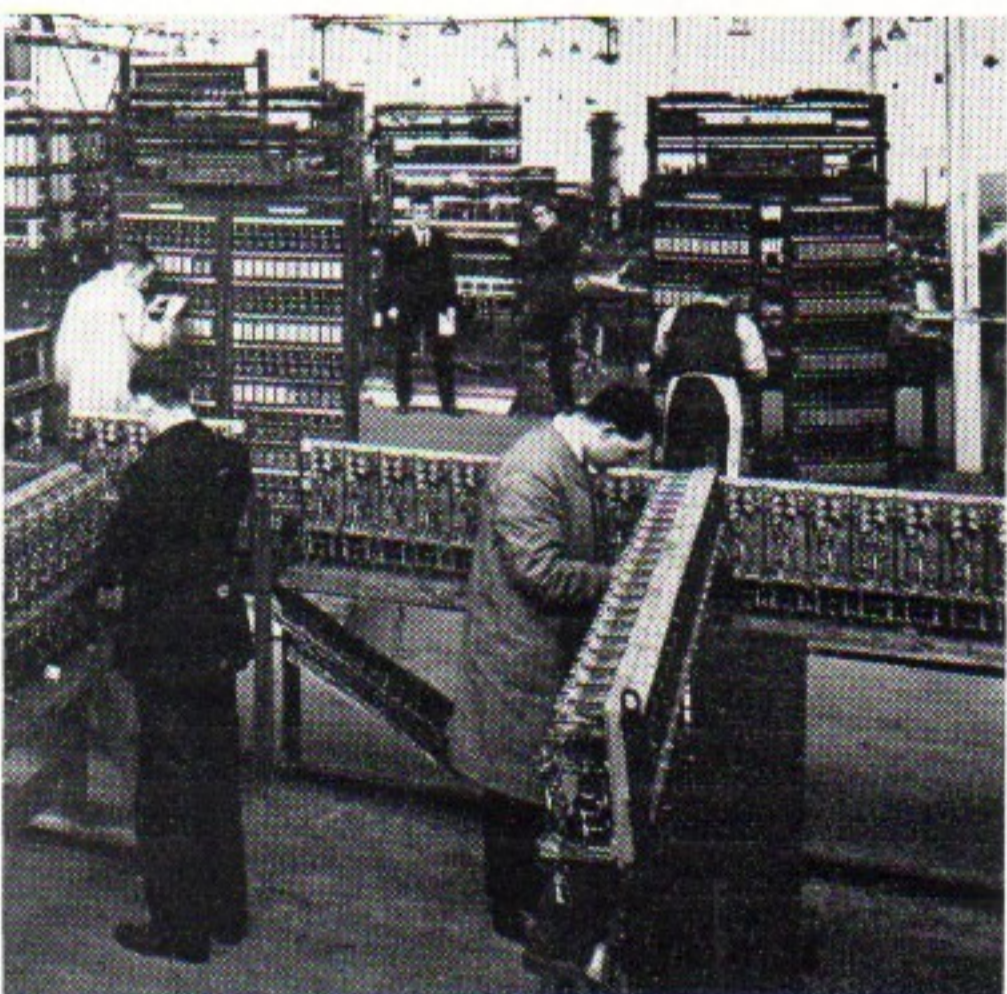
These pictures do not go back as far as 1912 but they do show the factory of the 20's. Above are scenes in the bank wiring and rack assembly departments

at that—to stay in rural Cheshire. So, in 1892, premises were acquired in Newington, off Renshaw Street, Liverpool.

Within five years, however, these premises were outgrown and a two-storey building was erected at Oldham Place, Liverpool, with machine shops, packing department and stores on the ground floor and instrument assembly above. The Newington premises were retained for coil-winding.

About this time, too, the Helsby works, moving with the times, started to make cycle and motor

tyres and a figure eight track was built as a testing ground. Motorised transport was all the rage and one of the firm's founders, G. Crosland Taylor, imported the first Belgian F.N. motor cycle into this country and also fitted petrol engines to many of the craft at Crane Wharf, Chester, for use on the River Dee. The whole of Helsby used to turn out to see one of the brothers being driven through the village in his automobile. Later, in association with a *Monsieur Ville*, Crosland Taylor floated the now famous Crosville bus company.



Thirty-odd years ago these were the scenes in the rack assembly (left) and switch assembly (right) departments



The Coil Winding Department (left) and a section of the Cable Making Department (right)

T.M.C. employees were no mean sportsmen, by the way. "Situations Vacant" notices at the time often carried the stipulation: "Must be a good cricketer," and an annual foot race to the top of Helsby Hill was started. This race still takes place to the present day.

In 1902, the Helsby firm amalgamated with the British Insulated Wire Company of Prescott, the joint undertaking being known as British Insulated & Helsby Cables Ltd. At the time of the amalgamation, the T.M.C. in Liverpool were making trunk telephone equipment for Glasgow and London exchanges. When the new B.I. & H.C. obtained contracts for manual telephone exchanges for several other big towns, the instrument-making section in Oldham Place received a terrific boost.

Work expanded so rapidly that Oldham Place soon proved inadequate and land was purchased for a larger factory at Dryden Road, Edge Lane. Plant and personnel were transferred by 1903. The B.I. & H.C. developed facilities at Edge Lane and, in addition to trunk exchange equipment for the Post Office, they obtained contracts to equip manual exchanges abroad at Shanghai, Fremantle and elsewhere. A British telephone manufacturing industry thus came into being.

Meanwhile, in America, Almon B. Strowger patented his "step-by-step" automatic switching system (*see our previous issue*), but up to 1912 there was no British source of this somewhat complex equipment. The British and Colonial

patent rights of the Strowger system were purchased from Automatic Electric Inc., of Chicago, and to create a manufacturing nucleus over here, Automatic Telephone Manufacturing Co. Ltd. was floated to acquire the patents, purchase the Edge Lane works and equipment from B.I. & H.C. and take over the relevant staff.

This new company came into being on January 1st, 1912. At the time, Strowger Works—as it has been known ever since—employed fewer than 800 and total floor space was less than 80,000 square feet. The early years, 1912 to 1913, were devoted to re-organisation of the works, and the Post Office, deeply interested in automatic telephony, placed orders with the company for equipment for two exchanges. The first, at Epsom, venue of the classic Derby, was opened in May, 1912, while the Argentine and India were among our early overseas customers.

But the war clouds had gathered and, in 1914, the nation demanded munitions not communications. An indication of the part we played during the war may be gained from the fact that we made 3,000,000 shell fuses, 60,000 horns for sea mines, gun-sight mountings and radio-telephone equipment for aircraft, besides conducting research into the development of the hydrophone and submarine detectors.

In subsequent issues we hope to present more pictures and peeps into the past.

It's not so easy!

by Joyce Holt



I must admit something. I've been taken in—completely and utterly taken in by the factory girls to whom I have spoken. I had always imagined their job to be easy. Certainly, nothing they have ever said or done has disclaimed that opinion. They loop, solder, twist and adjust equipment with such professional ease that it seems almost as if each was born to her particular job.

"I could do that," I've thought. So you can imagine with what delight I welcomed the job of leaving my office and going into the factory for three days away from familiar surroundings of typewriters, filing cabinets, desk telephones and memo pads to a world of costly and intricate machinery.

Following the same routine as any other recent arrival to factory life, working the same hours and tackling the same jobs, I came to the definite conclusion at the end of my first day—and one which seemed, incidentally, the longest day in my life—that I did not like factory life. But let me explain.

I went to the Training School—the first billet of all newcomers—and the job to which I was assigned was wiring unselector banks, a task calling for nimble fingers, a quick and steady eye, patience, precision and, later, speed.

First setback: the fingers which were usually so nimble at the typewriter promptly became all thumbs. The unaccustomed job set my head whirling, my eyes aching and my hands refusing to co-ordinate with the brain's message that wiring unselectors with pliers was my bread and butter for the next three days.

Other girls, also fresh to the factory, were having similar reactions, of course, but the instructor, Mr. Les Holliday, was there to smooth out most of our difficulties. Secretly, I was convinced that I'd never make the grade, but my spirits soared a little when a dexterity test (assembling nuts and bolts in a specified time) revealed that I had a pretty high average.

In the next few days, I was glad of four things—tea breaks, lunch hours, musical interludes and going home times! And yet it was with real regret that I parted from the girls who, in such a short space of time, had become my friends.

Factory life has taught me, first and foremost, that no job is as easy as competent operators make it look. Secondly, there is a wonderfully unselfish atmosphere—maybe because most of the girls work in piece-work groups and know the true meaning of team work.

You may like to know

The management committee of the Sports and Social Organisation draw your attention to the following coming events at "Whitfield":—

Good Friday, March 30th, 11 a.m.: Comic football match, Whitfield Buns v Strowger Eggs. The A.T.M. Prize Band will be playing and admission is by programme, price 3d. Proceeds to Liverpool School for the Blind.

Thursday and Friday, May 10th and 11th: Departmental soccer finals.

Saturday, July 7th, Daphne Rounders Cup final and John Lee Bowling Cup final.

Sunday, July 22nd: Bennett Cricket Cup final.

Saturday, August 18th: Sports Day.

PENSIONER WINS

A Company pensioner, Mr. A. C. Goodall, of Riefeld Road, Eltham, London, S.E.9, has been awarded the £5 prize for the most interesting letter received within a month of publication of our first issue. Mr. Goodall's reminiscences about past and present members of the organisation were coupled with a valuable suggestion for future articles in the magazine.



La Plaza de la Independencia in Quito, one of the most picturesque capital cities in the world. Quito is the starting place for Ecuador's big communications scheme

Pictures: Marconi's Wireless Telegraph Co. Ltd.

Million dollar deal

COMPANY TO ASSIST ENTERPRISE IN ECUADOR

AN important contract for one of the most interesting and adventurous multi-channel radio telephone/telegraph systems ever undertaken, has been placed with A.T. & E. and a number of other firms by the Government of Ecuador. This contract, which will bring more than a million dollars to Britain, was won despite keen competition from French, German and American firms, and marks a notable advance into the important South American communications market.

The order calls for the supply of radio, carrier-telephone, voice frequency telegraph and tele-

printer equipment, as well as complete power plants, towers, aeriels and buildings. The proposed multi-channel radio system will link a number of the more important towns and cities in Ecuador. When completed it will form one of the very few links of its kind in South America.

The system will cover a total distance of 265 miles (over 400 Km), running southwards from the capital city of Quito, through the important railpoint of Riobamba, to the country's principal commercial city and port of Guayaquil. An extension of the system at Riobamba also connects the agricultural centre of Cuenca with the main

link. Besides these four centres, the link will bring in the market towns of Latacunga and Ambato which lie along the route. Altogether there will be some 12 stations in the system, and many of these will be located at a height of between nine and fifteen thousand feet above sea level, for much of the route lies along part of the Andean mountain chain, past the famous peaks of Chimborazo (20,498ft) and Cotopaxi (19,612ft). A final and detailed survey of the proposed route will shortly be begun by engineers of the Marconi Wireless Telegraph Company Ltd., who are also directly involved. These engineers will decide

on the most favourable sites for the repeater stations. In view of these altitudes, it is proposed to site the power stations on the Pan-American Highway about the 8,250 foot level.

The system will form the backbone of a communications network eventually covering the entire country, and has been planned to permit ready expansion to handle the expected traffic increase. Engineers and technicians from Ecuador are to be trained on all the equipment, so that they can assist in the installation and take over the maintenance of the new system when it comes into operation.



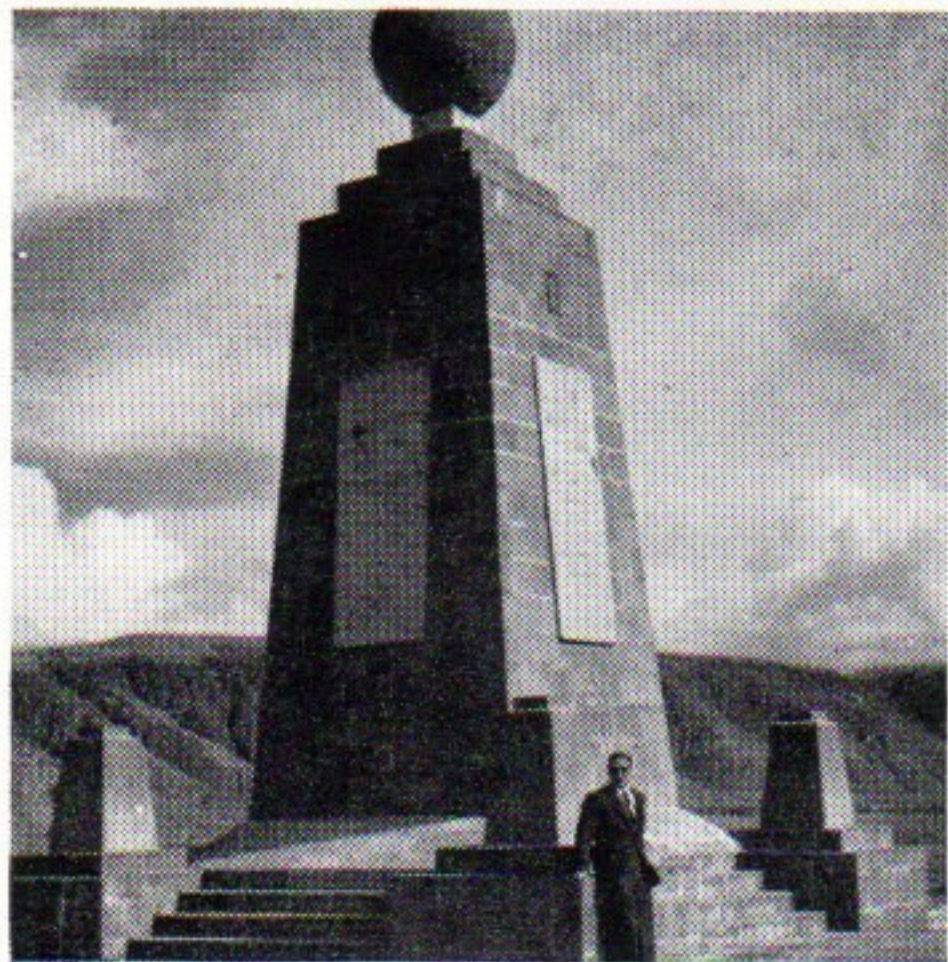
Aloasi, just south of Quito, is a possible site for a station



The fine cathedral and Government House in the capital



San Miguel de Salcedo, a town on the network route



Latitude 0° 00' 00"—Ecuador's famous Equatorial Monument

We'd like you to meet...



Tom Holyoake's puppets



Mrs. Jean Wood



Mr. Joe Bennion

Mr. Tom Holyoake, Department 412, Strowger Works, for instance. He has made more than 30 immaculate and amusing puppets for a model theatre which he operates in his spare time. His son, Vernon, Department 01, is also in on the act.

✱

Mrs. Jean Wood, a talented young mezzo-soprano, might easily have become a top-flight opera singer but she is happy enough on PAX inspection at our Wigan factory where her husband, Stuart, is a foreman. Her father is a foreman at the factory, too.

✱

Mr. Joe Bennion, Department 941, officer in charge of the firm's St. John Ambulance Division (he has 27 years' service with the brigade), is the man at Edge Lane who plays the "Music While You Work" records. He prefers Bach himself.

✱

Sixteen-year-old **Maureen Culshaw**, a trainee Power Samas operator, is only small but she is rapidly making a name for herself as a champion discus thrower. She also hurls a neat javelin.

✱

Mrs. Maud White, aged 69, now retired, was with the Company for 34 years. While in Department 15 at Edge Lane, it is estimated that she assembled and adjusted no fewer than 3,000,000 Strowger wipers for selectors for automatic exchange equipment. Her daughter, Lilian, is in Department 56.

✱

Another A. T. & E. (Wigan) employee, machine fitter **Jim McCreery** lost his left leg in a railway

In our travels around Strowger Works and the other factories on Merseyside, we frequently encounter people with interesting stories to tell. Perhaps you'd like to meet a few of the folk that we have been pleased to meet already?

accident. He took up dancing, however and with the aid of an artificial leg he has now gained his bronze, silver, and gold medals.



Mr. J. A. Davies, superintendent at Stopgate Lane, has the MS. for a book on "ditch crawling"—voyaging by canal barge. While working in India, Mr. Davies also tried his hand at snake-charming. He has the flute to prove it.



A Stopgate Lane employee, **Mrs. Eileen Rafferty** collects silver paper from colleagues. Money raised from selling the foil has purchased two "seeing eye" dogs for blind people.



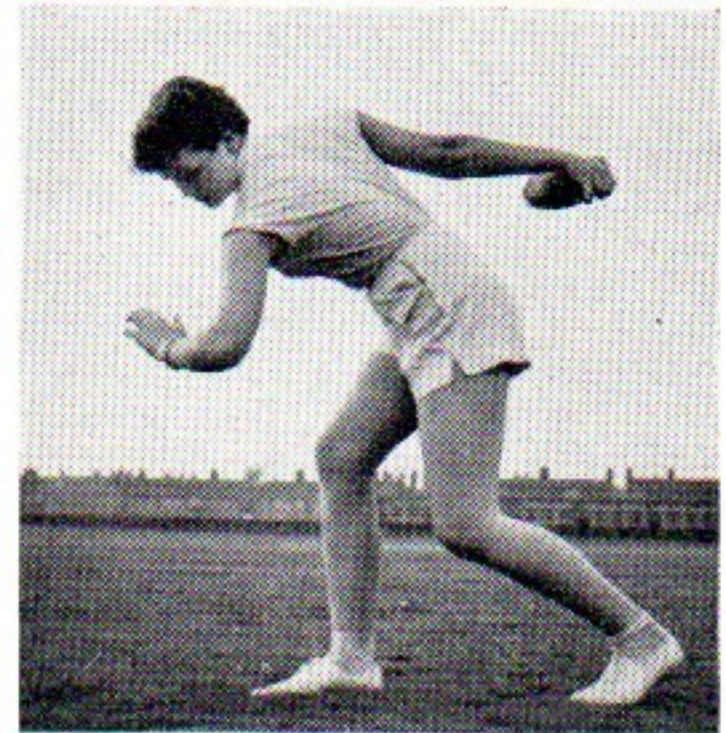
Alice (Polly) M. Whitby, Department 132, Strowger Works, is our longest serving woman employee. Joining us in 1913 at 5/2d for a 5½-day week, she has devoted 43 years to A. T. & E.



Mr. O. D. Dickinson, Installation Department, has done quite a bit of globe-trotting for us. He told our reporter that he has been shark-hunting in the Persian Gulf and we liked his story about eating sheep's eyes at a certain sheikh's banquet.



Another Installation Department man, **Mr. Stanley H. Penney**, called in to see us after a trip to Mau Mau land. The vintage Ford car which he had driven many hundreds of miles out there was wrecked by a falling tree, but Mr. Penney turned up lucky—he wasn't in the car at the time.



Maureen Culshaw



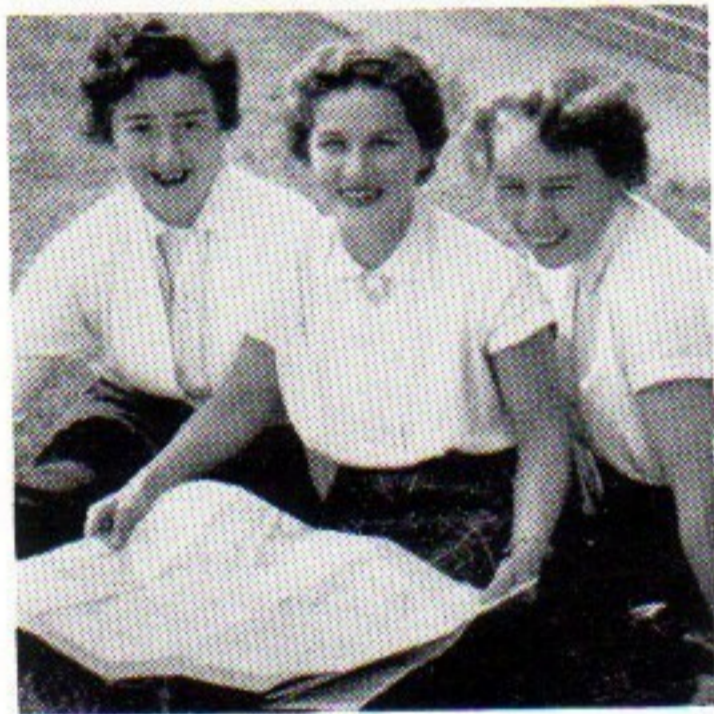
Mrs. Eileen Rafferty



Alice Whitby



Mrs. Ethel Newton



The Speke trio



Mr. and Mrs. Parr

The above are but a few of the many interesting people to be found within the organisation. In future issues we hope to introduce you to more employees, some of whom you may know yourself. If you have an unusual hobby or an interesting tale to tell, we'll be more than pleased to meet you.

Mrs. Ethel Newton, a sprightly 70-year-old Mrs. Mop, has risen at 3.30 a.m. every morning for 14 years. By 5.30 a.m. she reaches the offices at Stopgate Lane branch factory.



Employed in the Coil Winding Department, **Mr. George Miller** thinks little of an 18-mile cross-country run at the weekend. He has his eye on the 26-mile marathon organised in Liverpool each year and, possibly, the London-Brighton jaunt.



When **Paula Hughes**, on assembly at Speke factory, returned to her home town, Graz, in Austria, for a short visit, she took two colleagues, **Dilys Hughes** and **Margaret Maher**, with her to see the sights.



Mr. E. T. Fearon, Editor of the A.T.E. Journal, the Company's technical publication, is an enthusiastic sub-aquarist. He was one of the party of week-end frogmen who attempted to salvage the rumoured £500,000 in gold from the wrecked treasure ship, Santa Cruz.



Mr. George Parr, Personnel and Welfare Department, is the proud possessor of a certificate for bravery, awarded for his part in helping to save two swimmers from 10-ft. high waves at Meols, Cheshire.



Mr. Frank Warburton, Department 674, Strowger Works, spends much of his spare time designing costumes for amateur theatricals. His skill earned him a mention in the diary column of a morning paper.



Jimmy Cash, 17, an apprentice at Wigan, is probably the town's youngest bird-watcher, while another Wigan employee, Mr. R. Shepherd, is a keen numismatist, or collector of coins.



In the course of a year, **Miss Bobby Robinson** and **Miss Joyce Duck**, two women car drivers based at Strowger Works, notch up between them a mileage equal to a trip around the globe.

A.T. & E. EMPLOYEE MEETS ORINOCO RIVER
EXPLORER AND LEARNS AT FIRST HAND AN
AMAZING STORY OF

Jungle Adventure



Norman Jenkins meets Laime, the explorer, in Caracas after the expedition

One of the first people to meet Alejandro Laime, a Latvian explorer, after he had conquered the famous Angel Falls in Venezuela, recently, was an A.T. & E. employee, Mr. Norman W. Jenkins (Model Shop, Transmission Division, Strowger Works).

Mr. Jenkins, a functioneer engaged in filter testing, is helping with a Company installation of carrier equipment in Caracas, the capital of Venezuela, South America. He has written home a report of Laime's story.

Laime, a famous explorer, returned to the spot where a 1937 'plane crash had focussed world attention on Jimmy Angel (after whom the falls are named) who crashed his 'plane while looking for the "river of gold" in the country below the great Orinoco River. After two gruelling weeks, Angel and his party managed to fight their way down the side of the mile-and-a-half-high mountain—one of the world's largest—to tell their story.

Last autumn, Laime set out to find Angel's 'plane taking with him three Indians. A three-day supply of food was all the party could manage to carry but he had made arrangements for 'planes to drop supplies of food at certain points along the route. When one crashed in the jungle, however, the party pressed on, eating plants and birds they had collected for museums.

These hardships proved too much for Laime's companions. Two of the Indians deserted and the third was threatening to leave, when Laime saw through his field glasses the outline of Angel's 'plane in the distance.

The next day—after ten days of arduous climbing—he located it. The 'plane was still intact and the metalwork shining and hardly rusted, although the interior was rotted and snake infested. A letter in the cabin pocket, written by Angel before leaving the 'plane, was dated October 9, 1937.

Strange to relate, Laime actually discovered the 'plane on October 9, 1955—exactly 18 years later.

AND IN NIGERIA...

We help to speed Royal Visit news

WHEN you read in your newspapers the story of the Queen's recent tour of Nigeria, you probably gave little thought to the vast and complex communications system used by hundreds of newspapermen to feed millions of words to the Press of the world.

During a big event like a Royal tour, normal communications equipment in any country is heavily taxed. Nigeria was no exception and the authorities out there put in an urgent call for some additional equipment. A.T. & E. was asked to supply some of the latest type of regenerative repeaters from our Bridgnorth factory and this equipment was flown out in time. In this fashion, the Company can claim to have contributed to the goodwill fostered in Nigeria by the Royal couple's visit.

Portraits of an Industry

NUMBER ONE IN A SERIES

Faults are not things that most people like to disclose. But we make no bones about the fact that if A. T. & E. has one particularly distinguishing fault, it is pride. Some may consider it a weakness, but we look upon it as our strength.

Yes, we're a proud lot—proud of the equipment we produce, but even more proud of our colleagues, the friendly men and women whose mental and physical skills have given us an unrivalled position in the field of telecommunications.

Oh, no, this isn't butter-talk. It's the truth. As individuals we may often feel that our efforts are not appreciated. The part that we play in the organisation may seem small and not very important, but these seemingly small parts add up to a pretty impressive total. And that's the thing that matters.

Starting in this issue, we present a series of photographs showing colleagues engaged on familiar tasks within the industry. It is impossible, of course, to pay pictorial tribute to everyone who contributes to the work of the organisation, but our photographs are only symbolic. They are really meant to represent YOU. Look at these pictures, then, see yourself perhaps and share in our justifiable pride.



A study in confidence and concentration as this girl adjusts the contact springs of an automatic switching relay

A good eye and judgment, combined with neatness, help this girl as she solders tag blocks on uniselector racks





Intricate but intriguing: a skilled man engaged on mechanical adjustment and functioning test of the impulse regenerator



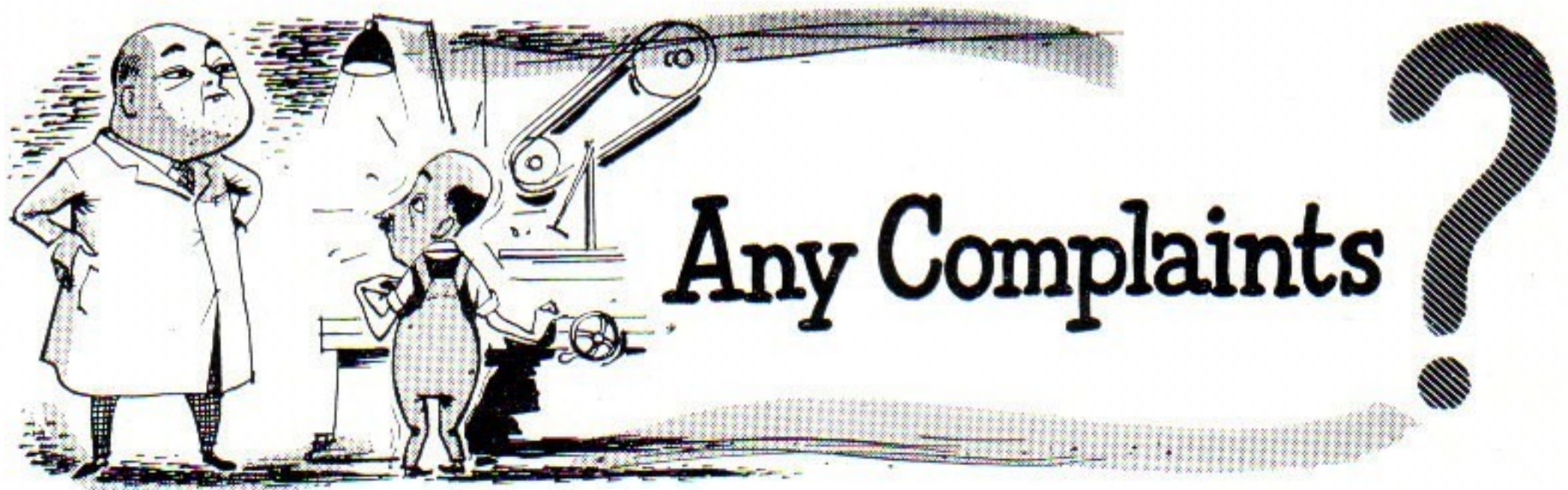
Nimbleness, speed and precision are the keynotes required when it comes to assembling these relay spring sets

Delicacy of touch: an employee measures the spring tension of the rotary interrupter on 32A selector equipment



Expert and critical examination: an engineer inspects a single-frequency V.F. receiver before insertion into a test rack





What a question to ask! Of course there were complaints, but, we are relieved to state, there were not too many. Some people were obviously expecting a new-look "Whitfield" while others thought the magazine would be devoted exclusively to items from Strowger Works. What exactly were the main complaints? This is the way we heard them anyway



Scene One:

A canteen at Strowger Works. Time: Lunch hour on the day after publication of TONE, No. 1.



Bert: Hello, Jim. I see you're reading the new magazine. What do you think of it?

Jim: I haven't quite made up my mind yet. What a job it was trying to get hold of a copy!

B: Everybody's been saying the same thing, but they tell me that they did their best to distribute them as fairly as possible with the limited number they decided to print.

J: Well, I think everybody should have received one—free.

B: Perhaps so, but when a thing is given away I always think there's a catch in it and nobody takes much notice of it. Threepence isn't much anyway. It probably cost quite a bit more than that to produce. All the 250 pensioners received free copies.

J: All right, but at least they could have put something in about our shop picnic to Wigan. It isn't much good telling me about Taplow and Hivac!

B: The trouble with you, Jim, is you've learned something about the Company and you're complaining. Didn't you notice that it only comes out four times a year and your picnic would be a bit out of date by then!

J: Fair enough, I've learned something about what the firm is doing, but let's have a bit about what my workmates and I are doing, too.

B: Well, perhaps the people who write it will do occasional bits about the different departments. They're probably working on that sort of thing.

J: Good. I expect it will get better as it goes on?

B: Probably. Pass the vinegar, Jim.

Scene Two:

The Elastic Banding Department at City Factory. Time: the same.



Doris: Hello, Mabel! Did you see that story about the "New Girl" in the magazine they've just issued?

Mabel: Do you mean the girl with the black and white H-line dress? Yes, I suppose they chose her instead of me because she was good-looking.

D: They didn't—honestly! She just happened to be in the Employment Office when they started the story.

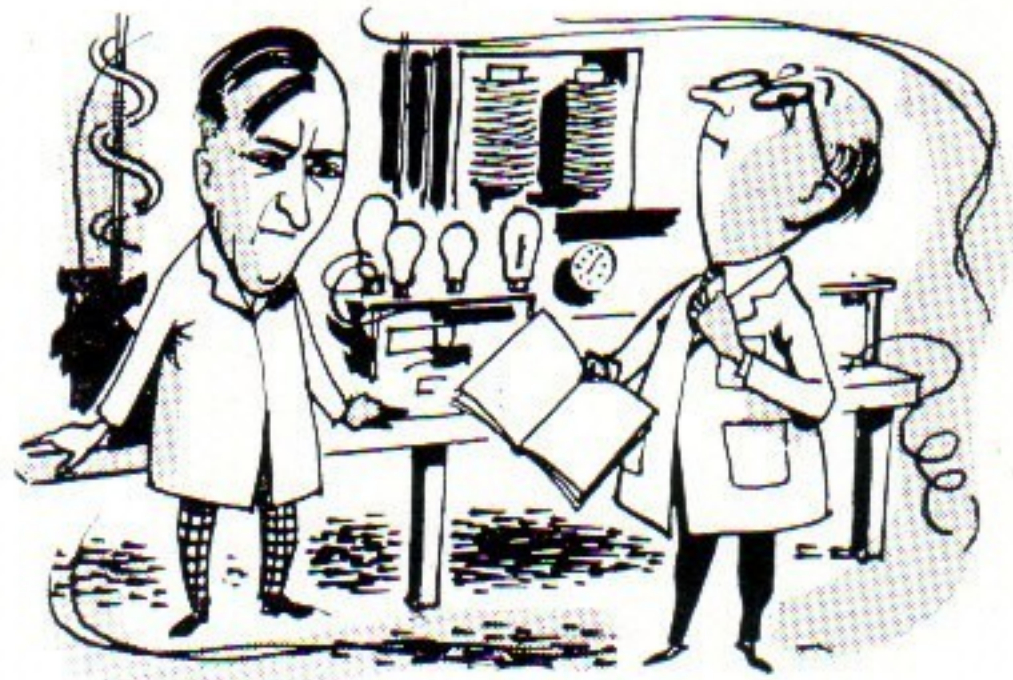
M: My boy friend, Dave, says it was too long and sugary. He says the men in his department thought it was all—what d'you call it—propaganda.

D: Oh, it wasn't! It was the only thing in the magazine about female employees. And it's true about the friends you make and all that sort of thing. We're entitled to just as much space in the magazine as the men.

M: Don't let them fool you, Doris. Must dash to meet Dave now. See you tonight!

Scene Three:

The Intricacies Laboratory, Special Brain-work Division. Time: the same.



Edward: Look, old man, what is the precise meaning of this title, T - O - N - E?

Francis: I should say, Ted, old boy, that it is derived from the simple word "telephone." They took the first letter and the last three and they arrived at *Tone*—dialling tone, ringing tone and, just like us, busy tone. Ha-Ha!

E: Rather ingenious, what! Or is it?

F: Yes. Must confess that this new publication is just the thing to tell us a little bit more about the firm, though. Often wondered what they did with all the equipment we turn out. Being cooped up in our loft here, it is rather stimulating to get a breath of overseas news and the finer points of factory life.

E: From an academic point of view, old man, it must be rather tricky to provide reading material for 10,000-odd people with widely differing interests, occupations and viewpoints, don't you think?

F: I daresay it must. Rather them manage it than me, old boy. Rather them than me. . . .



Cadet in

the cockpit

A Sunday morning turn out of aircraft and cadets attached to the gliding school at Hawarden

“Get your ruddy nose up quickly!”

The gentleman digging his front garden stopped, looked around and was more than a little surprised to find himself apparently alone on that fine Spring morning. Then he turned his eyes skywards and the mystery was solved. Floating gracefully 500 feet

above his head was a bright, silver glider from a nearby airfield and the command he had overheard had been given by an instructor to a pupil pilot.

People living near R.A.F. Station Hawarden, Flintshire, can frequently catch snatches of airborne conversations from such heights, according to 20-year-old Michael Hughes and his friends. Mike should know because he is a glider pilot himself.

A functioneer in Department 27 (Inspection) at Strowger Works, Mike is also a flight sergeant with 1966 Squadron of the Air Training Corps based in Dovedale Road, Allerton, Liverpool. His workaday life revolves around equipment for PAXs, UAXs and PABXs, but in his spare time he dabbles in joy sticks, rudder bars, air speed indicators and cable releases.

This tall, fair-haired A.T. & E. employee is enthusiastic enough about his job at Edge Lane, but his enthusiasm knows no bounds when it comes to flying. Nearly every Sunday for almost six months last year, he was out of bed by 5 a.m. at his home in Prince Alfred Road, Wavertree, to make the long trek to No. 186 Gliding School at Hawarden, just outside Chester.

Together with other promising cadets from A.T.C. squadrons throughout the North West, he was trained in two-seater aircraft known as Sedberghs and Kirkby Cadets Mk III. Mike has



One of the sleek trainers in flight. Photograph by courtesy of "The Aeroplane"



made more than 50 trips in these sleek, silver sailplanes, each of which is hand-built. When loaded, they scale best part of half a ton—not as light as you would expect for a craft minus a heavy power unit. Average duration of flights made by cadets at Hawarden, under normal weather conditions, is only 10 minutes—but that is because sailplanes must keep to the area of the 'drome.

Powerful mobile winches (the kind used by barrage balloon crews during the war) are employed to tow the gliders into the air.

What does it feel like to be in one of these gliders? Most noticeable things, the pilots agree, are the absence of noise and the delicious sense of effortlessness. Individual impressions of this exhilarating sport vary, of course, but one of the enthusiasts at Hawarden summed it up thus: "It's like riding on a snowflake with cotton wool in your ears".

There's a kick to be had in just watching these trim, silver craft floating majestically under cotton wool clouds. They ride so smoothly, handle so delicately and seem so slow, that it is difficult to believe that they can attain about 3,000 feet and 100 m.p.h., perform a wide variety of aerobatics and demand a considerable amount of airmanship from launch to landing.

'What good are gliders?' you may ask. Well, among other things, they give young men a pre-



An instructor briefs Mike Hughes in the cockpit of a Sedbergh glider



The jet pilots of tomorrow pictured with their instructors on the airfield at R.A.F. station Hawarden

Service taste of aircraft handling and they whet the appetite for piston-engined planes and jets. Few who have flown sailplanes ever lose their love for them. The only trouble is that gliding clubs in England are few in number and comparatively expensive.

Mike Hughes would like to keep up gliding after his National Service—due to start shortly—but he is sagely withholding his final decision until he has discovered what the Royal Air Force has to offer him.

Mike has already had a slight foretaste of flying with the R.A.F. as a reward for merit during training as an ATC cadet. Highly successful in his tests, he was selected for a number of flights in service machines to different parts of Great Britain and the Continent. Incidentally, his name also cropped up more than once in our Company's list of award winners for technological achievements.

But his biggest thrill to date was a six-day spell of duty in a four-engined Hastings of Transport Command. Mike acted as a supernumerary crewman on a troop-carrying trip from RAF Station Lyneham in Southern England to Aden on the Red Sea. The flight gave him overnight stops in Idris (Libya) and Khartoum.

And the total cost of this trip which took him more than 4,000 miles? Just his mess bill—fifteen shillings!



Down to a perfect landing after a spell aloft. "Flight" Photograph

As I see it

by J. D. Crook, Employment Officer

Did you read that story in the previous issue of *Tone* about the two blind men who work in our Speke branch factory? Both had triumphed over a severe handicap and now play full and valuable parts in our organisation. Perhaps I can let you in on a few more facts about the disabled people I have been privileged to meet and introduce to A.T. & E.?

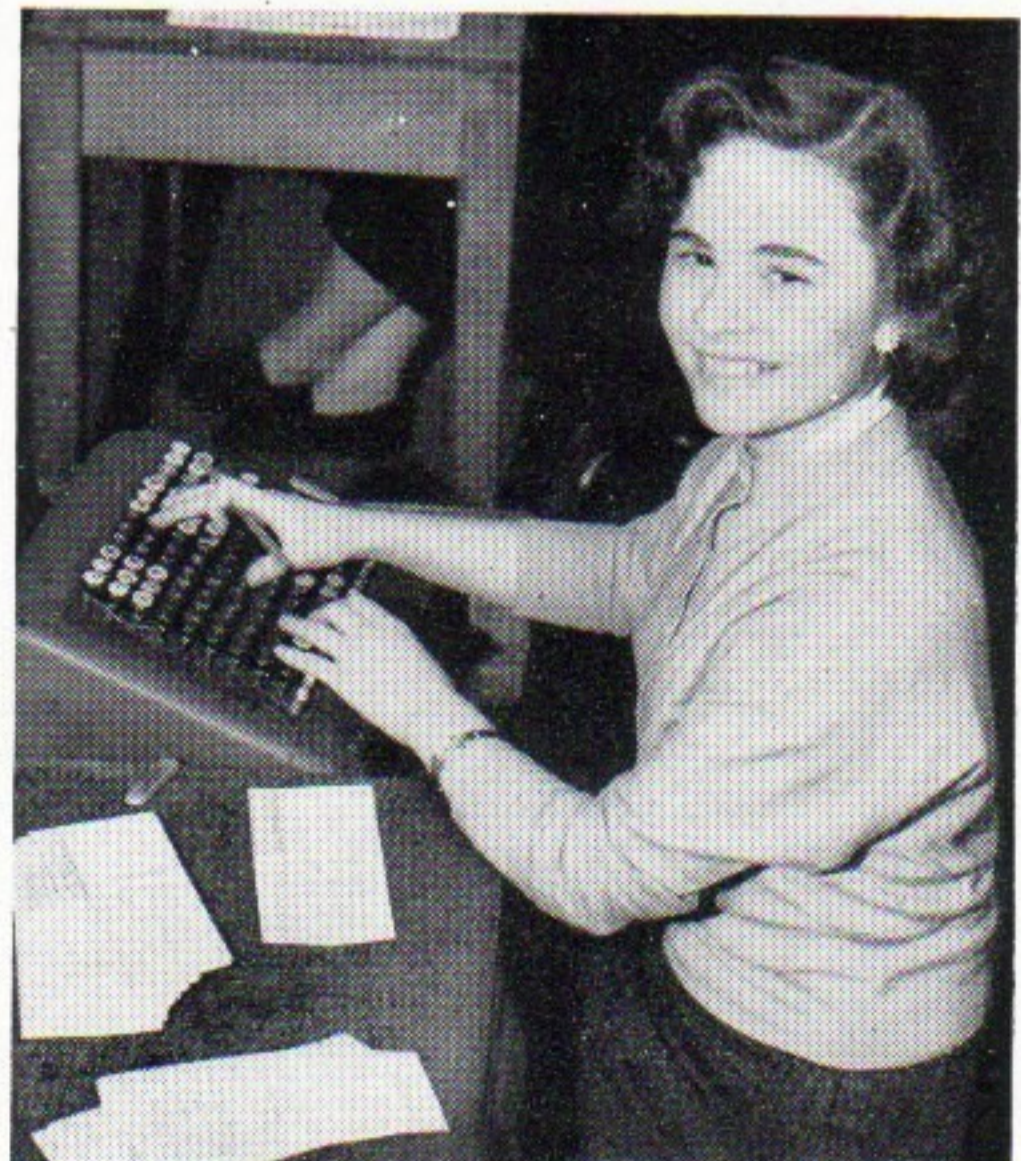
In the past, the engagement of many disabled persons was made with little or no knowledge of their disability. Physical handicaps were not always apparent at an interview and disablements were never discovered until the worker was well established in the office or workshop. Nowadays, however, medical officers and employment officers combine to ensure that everybody is placed in the occupations best suited to them.

As you know, each prospective employee coming to our Company must undergo a medical examination. For every person examined, a medical certificate is issued which indicates the grading of the person and gives any specific recommendations or limitations.

Take colour blindness, for instance. In most cases this complaint does not prevent a person living and working a normal life and few suffering from it would be accepted on the Disabled Persons' Register. But, in our particular factory, and, I suppose, in many organisations where products involve electrical wiring, this complaint is a great disability. Wiring of electrical components involves very definite colour recognition and, in some departments manufacturing prefabricated cables and wiring electrical apparatus, it is essential



Blind for four years, Joe Farrell is a power press operator at our City Factory



Margaret M. Jones, aged 17, a calculating machine operator in the Cost Office, is totally deaf



Frank Semourson, Department 72, Edge Lane, is a transmission functioneer. Both his legs are paralysed



Liftman Patrick Ronan has been with A.T. & E. for 35 years. He has only one leg



Richard Roughley, Frank Hanley and Tom Jones of Department 32, Strouger Works. Richard and Frank are deaf and dumb and Tom's speech is handicapped

that a person is what we call "colour positive."

You, the reader, probably recall taking the well-known standard test named after the Japanese, Ishihara. This test is composed of a series of printed pages covered with various delicate colours blended in a certain pattern. Amid the pattern are figures which, to the normally sighted person, appear fairly clear, but, to the colour blind, they become hidden. Strangely enough, we very seldom find females colour blind!

On the medical cards of other disabled persons, you find such comments as "Must not work in a dusty atmosphere". This usually refers to people with respiratory disorders such as asthma and bronchial ailments. "Exclude standing" and "Exclude heavy lifting" often apply to leg disabilities, leg amputations, varicose veins, rheumatism, paralysis, spinal injuries, etc., while "Not to be employed on fine precision work" may refer to the fact that the worker has poor or unbalanced vision. Exclusion of shift work is mainly found in cases of digestive ailments.

To make sure that all these instructions are not overlooked, a personal record card accompanies the handicapped person into the factory and is lodged with the foreman of the department in which he or she will work. Once the handicapped person is in the factory, the foreman is the person who must be on the alert to make sure that the medical officer's orders are carried out.

Among the considerations which we in A. T. & E. make to many of our employees with leg troubles, heart complaints and the like are special passes to enable them to finish work five or ten minutes early, so that they can get clear of the exits before the "Charge of the Light Brigade" for buses and trams. In large factories with many floor levels, it is difficult for chest, heart, spinal and leg cases to tackle stairs, and special permission is often given by the medical department to use lifts normally reserved for goods and equipment. When it comes to stomach disorders, ulcers and other digestive complaints, a great deal can and is being done by competent medical services to encourage wise dieting.

Every big organisation is required by law to employ a three per cent quota of registered disabled people, but in our factory we have been able to employ as many as 4.2%, plus many others who may not have registered. Our payroll includes nearly 150 people with limb injuries, deformities, and amputations, 63 with lung and chest troubles,



Ernie Robinson, a press operator in Department 02, lost both legs in a tramcar accident as a child

39 with abdominal disorders, 30 with heart trouble, 40 with partial paralysis and nervous complaints, 25 with spinal or bone troubles, six totally blind, four totally and a number partially deaf, and so on.

Over the years we have engaged a considerable number of handicapped people and we are pleased to report that the majority have decided to stay with us and are playing very valuable parts within the organisation.

John Robinson, who lost a hand, used to be a works postman. He is now in the Merchandise Warehouse



Head-hunters' Country

Equipment from England is man-handled up difficult terrain in Sarawak

It's a far cry from the offices, laboratories and workshops of A.T. & E. to the steaming forests and deep peat swamps of Sarawak on the north-west coast of the island of Borneo, but the Company has a definite interest in this rapidly developing region where head-hunting was once a popular outdoor sport.

Sarawak, North Borneo and the neighbouring independent state of Brunei have no reliable means of internal communication because difficult jungle terrain, rivers and mountains make the laying of conventional line-and-pole telephone routes on a large scale impracticable. But, in the not too distant future, these areas will be covered by a comprehensive Very High Frequency radio-telephone network. For some time, engineers of A.T. & E. (Bridgnorth) Ltd. have been engaged on the installation of the first stage of the scheme.

Pictures taken out in Sarawak—one of the few territories in the world without income tax and free also of public debt—and sent to our factory in Bridgnorth have just reached us. Some of the photographs which we reproduce with this article may give you an idea of the life our employees lead

out there. It's not all pineapples, native girls and fishing.

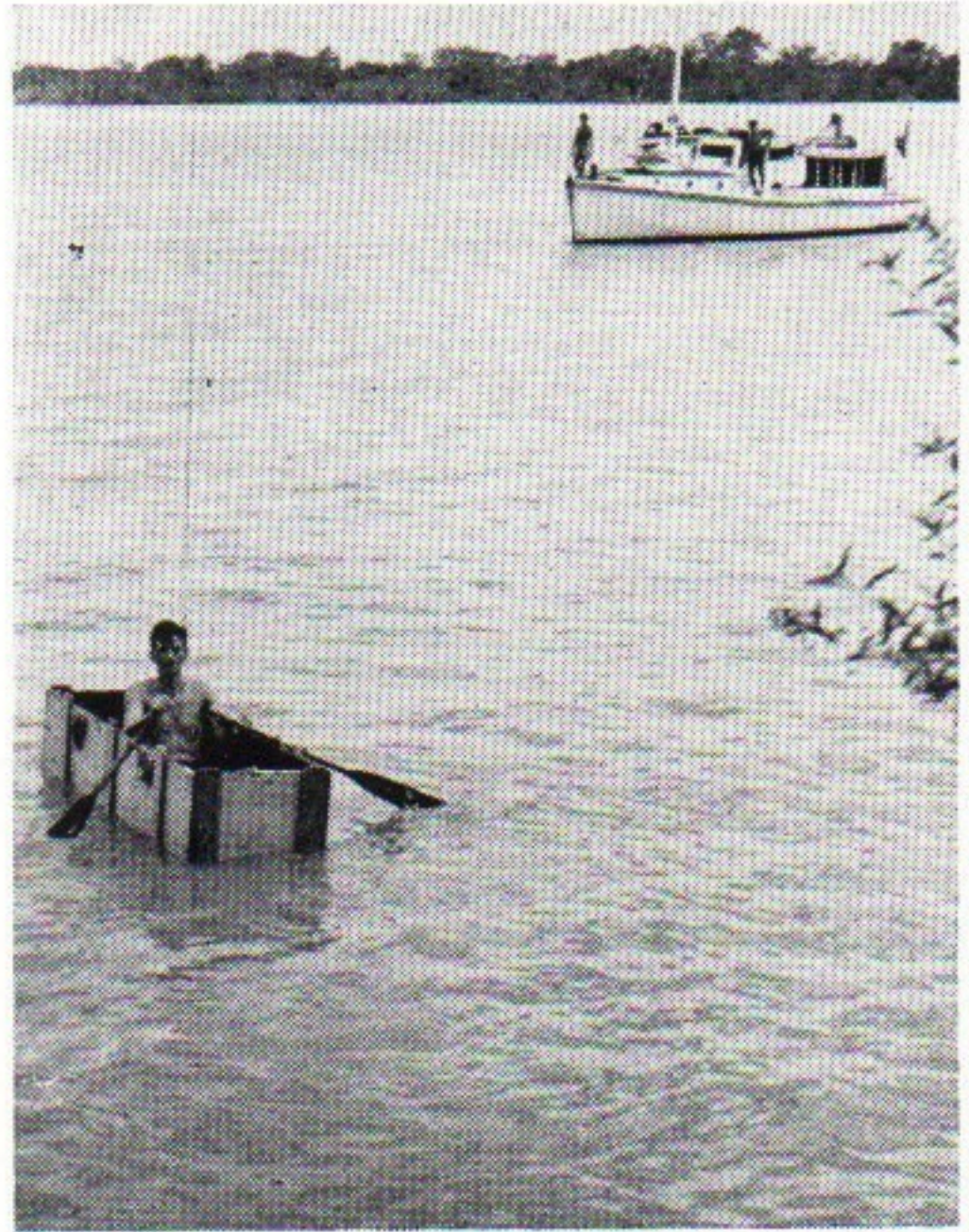
Much of Sarawak is unsurveyed, the rivers are muddy, shallow and difficult to negotiate (yet water transport is indispensable), the pineapples and other crops are frequently ravaged by a host of small and large pests, and the native girls may turn out to be relatives of former sea pirates and head-hunters.

Sarawak is just north of the equator and covers some 47,000 square miles. Total length of its railway tracks is infinitesimal, all-weather roads stretch only a few hundred miles, airfields can be counted on one hand and the climate . . . Oh, the climate! With very high humidity, shade temperatures in the oppressive 80's and about 100 inches of rain every year, it is little wonder that our factories in England have to take special care to make equipment fully tropicalised and absolutely dependable.

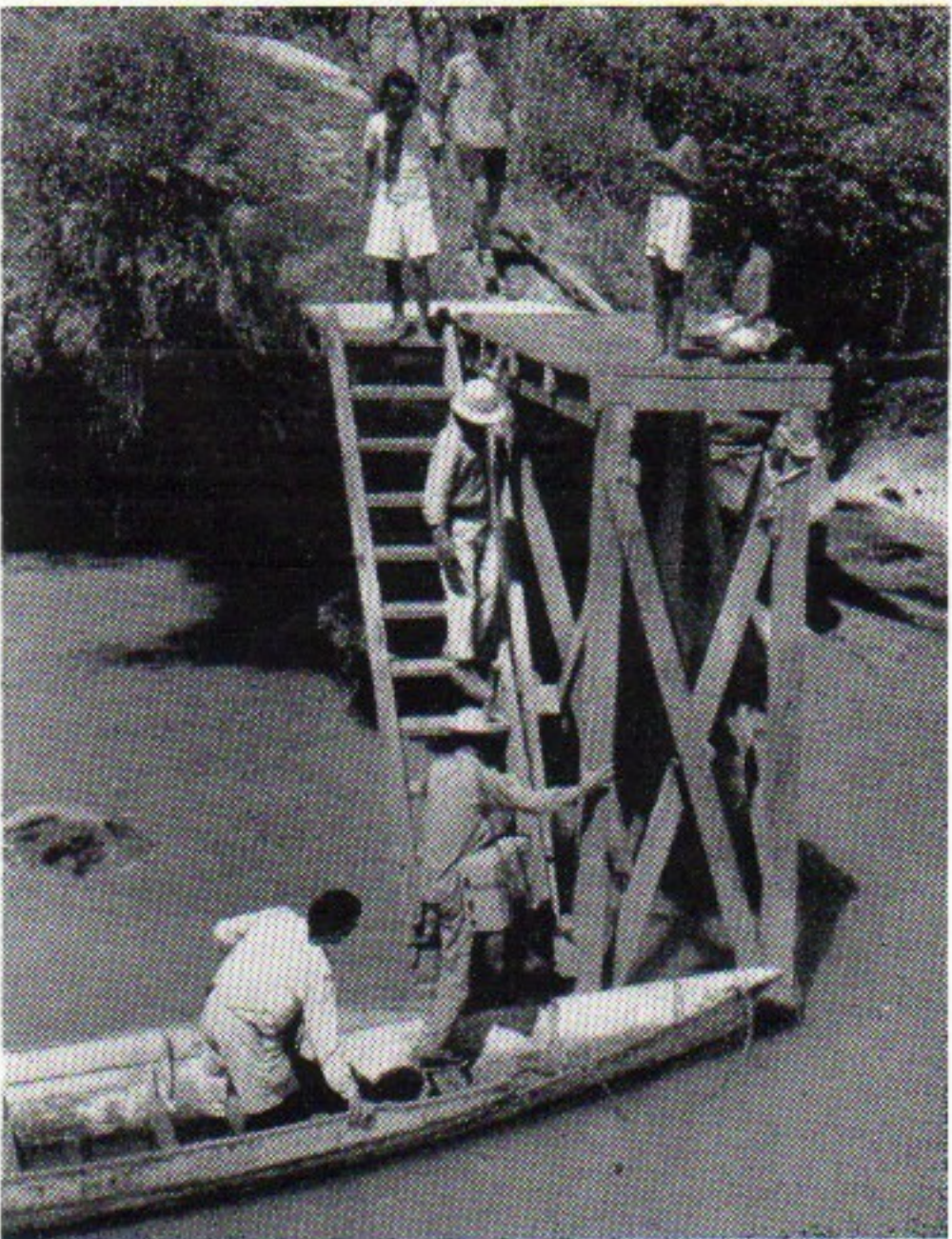
When our work in Borneo is completed, it will be the first time in the history of communications that a country's telephone network has been based on a series of single-channel radio links.



River transport is used extensively to convey our equipment



One of our packing cases is turned into a small boat



A typical scene at one of the many river landing jetties



A native of the country learns to operate A.T. & E's complex equipment

Saturday at Whitfield

JUST outside Liverpool city boundary, about 30 minutes from Strowger Works, is a neat, well-planned, six-acre estate known as Whitfield, headquarters of our Sports and Social Organisation.

The estate was purchased by A.T. & E. in 1946. A large, two-storeyed mansion and annexe were completely modernised and redecorated and the premises were officially opened in April, 1950. Every employee is entitled to use the amenities at Whitfield and it is estimated that, counting dependents of members, some 30,000 people are more or less directly interested in the club. It is difficult to think of a sport, part-time activity or hobby that is not covered by the Sports and Social Organisation, so it is hardly surprising that Whitfield has a relatively poor weekend if fewer than 600 visitors make use of the club facilities.

Whitfield House itself comprises, on the ground floor, an entrance hall, main lounge, dance room with specially hard flooring, bar, lounge and tea room. On the first floor there is a concert room, cloakroom and secretary's office, while the annexe houses various dressing rooms and showers, bowls room, billiards room and another bar. The grounds include two crown bowling greens, four hard tennis courts, sports field and running track, girls' playing field and baseball and cricket pitches.

Sports enthusiasts who frequent Whitfield are already embarking on their summer programmes (the A.T.M. Bowling Club, for instance, with seven teams in five leagues, will soon be out on the greens and the Cricket Club are also eager for the fray) and all the sections are extending warm welcomes to prospective members.

Why not take a trip to Whitfield, see for yourself the friendly spirit that exists there, join one of the flourishing sections, and really appreciate the amenities that have been provided for you?



It's Saturday and Whitfield steward Tom Johnston prepares for a long, busy day at the Sports and Social Club's headquarters. Some 300 visitors will probably visit the premises, and his first task is a trip to the cellars to check on supplies



In the billiard room in the annexe, Mr. Johnston and his youngest boy, Tony, aged 11, prepare the tables for the evening. Tony is only allowed to watch, however, when it comes to the tricky job of ironing the cloth



Meanwhile, the soccer cup contestants are busy in their dressing rooms. A few of the home team are seen swapping jokes before taking the field. Those shirts aren't going to stay clean for very long!



Upstairs, Tom's wife, Vera, is busy cleaning, tidying up and putting a shine on the glasses and furniture, in addition to keeping an eye on her family of two boys. The Johnston family live on the premises



Outside, groundsman Tom Aird and his assistant, John Jones inflate the footballs for a big soccer match fixed for the afternoon. Boilers have been lit, grounds tended and tidied and all the sporting gear has been tested



After lunch, the harriers are the first sports enthusiasts to turn up. The runners change rapidly and are soon jogging down the club drive at the start of a brisk six or eight miles



Tennis fans visit Whitfield all the year round and the first arrivals today lose no time in getting out of the pavilion to claim the best court. All the courts are, of course, hard-surfaced and suitable for match play



Just over 90 minutes later, and that scalding hot cup of tea is more than welcome! The visitors are just as tired and just as dirty as the ATE boys and both teams are anxious to get under the hot showers



The trickle of visitors in the early evening grows into a steady stream after tea. Eddie Lynch, the man who meets them all, sees that the visitors are properly introduced by members of the club



Upstairs in one of the games rooms, table tennis fanciers try out their shots in a "warming up" session before starting a match. The table tennis room is also used as a concert room



Care to dance? Well, come right in. The younger people are enjoying a Saturday "hop" on the ground floor. And if you want to try out one or two fancy steps, well arrive early. As the night wears on, the floor space wears out



If a drink and a chat is more to your taste, then Whitfield can also oblige. The atmosphere is warm and friendly and time soon slips by. And talking of "Time!" the towels have just gone up and the last drinks are being polished off



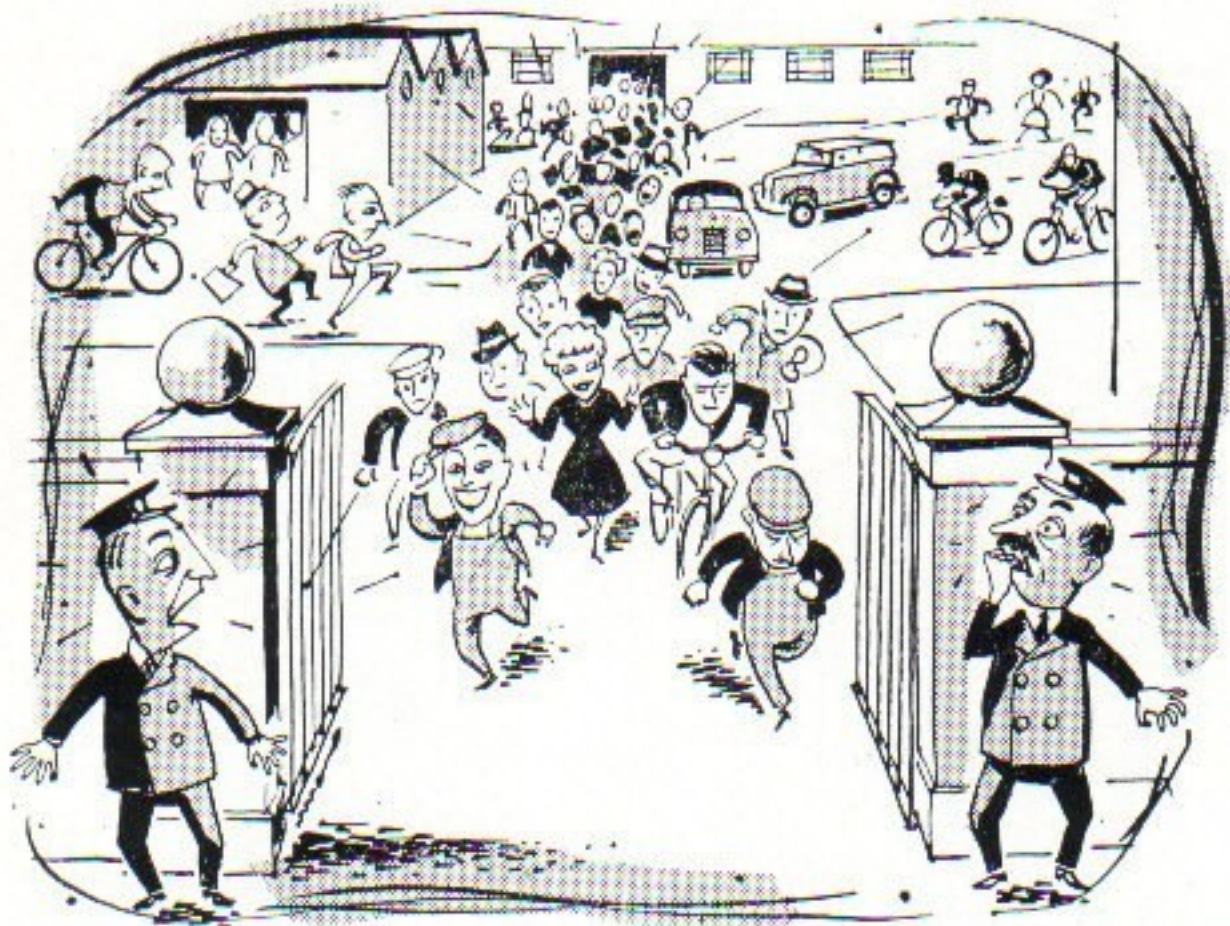
In the lounge, the customers have gone and the assistant stewards are faced with the task of clearing up the debris. The pianist? He's forgotten that everybody's leaving and he goes on playing



The dance is over, the club is closing and the visitors head for home. At the bus stop outside the club, employees and their friends exchange good-nights and the popular phrase is: "See you on Monday!"

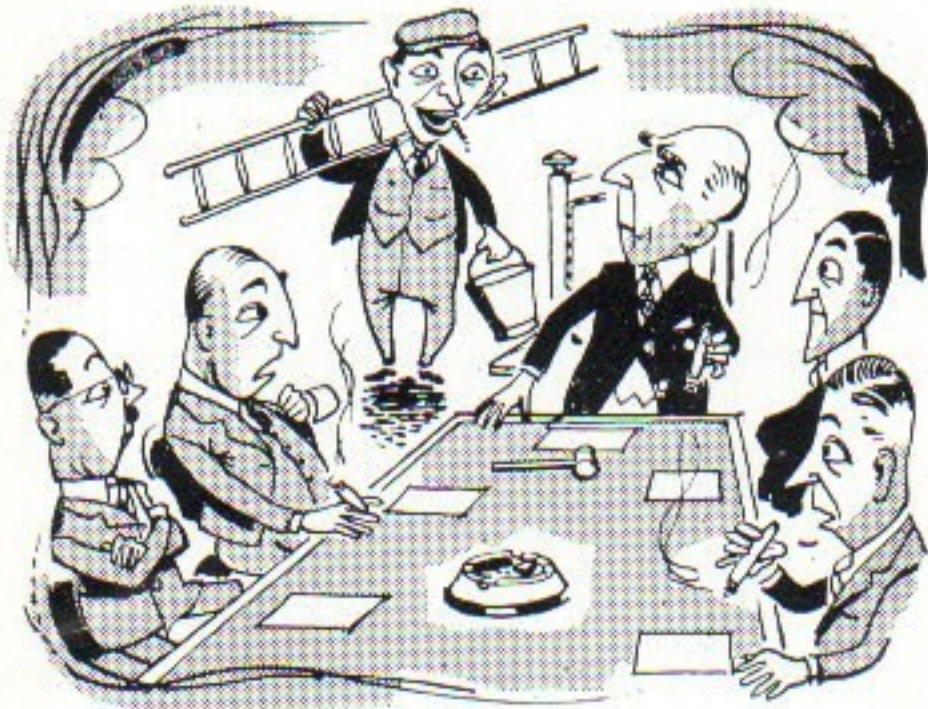


Yes, it's been a long day for the club and now it's time to think of bed. Eddie Lynch tours the premises, bids "Cheerio" to the Johnstons, checks the entrances... and out go the lights

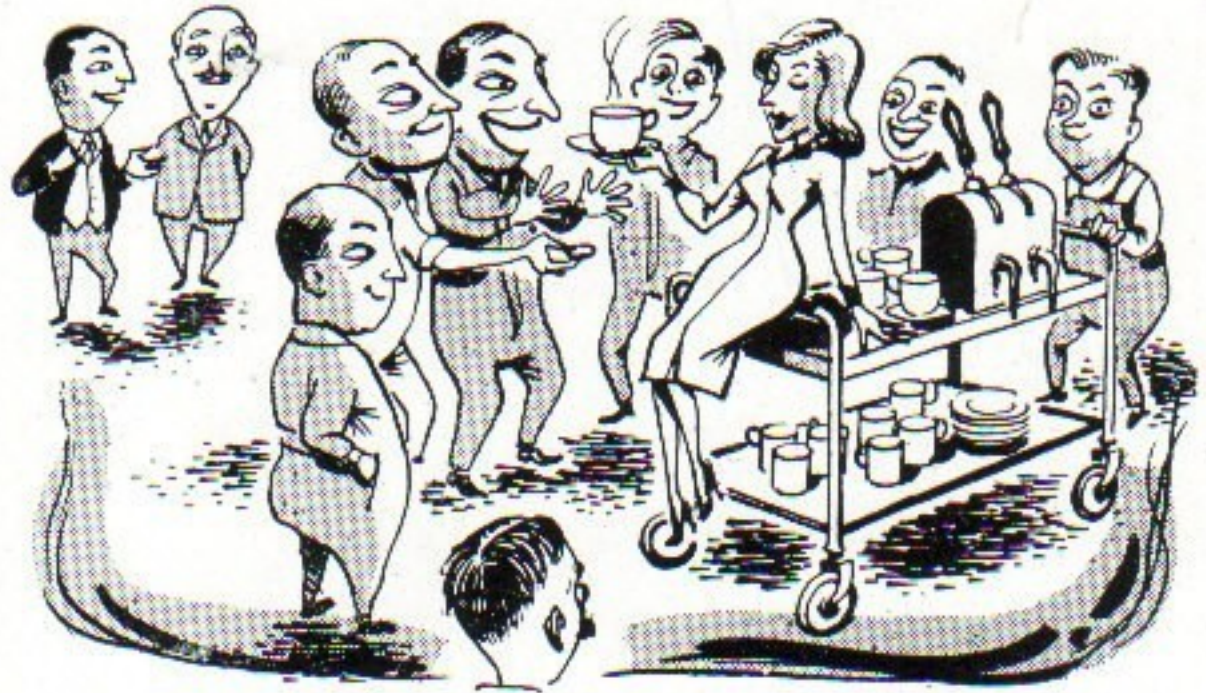


"No, Ted, YOU tell them that we rang the bell too early"

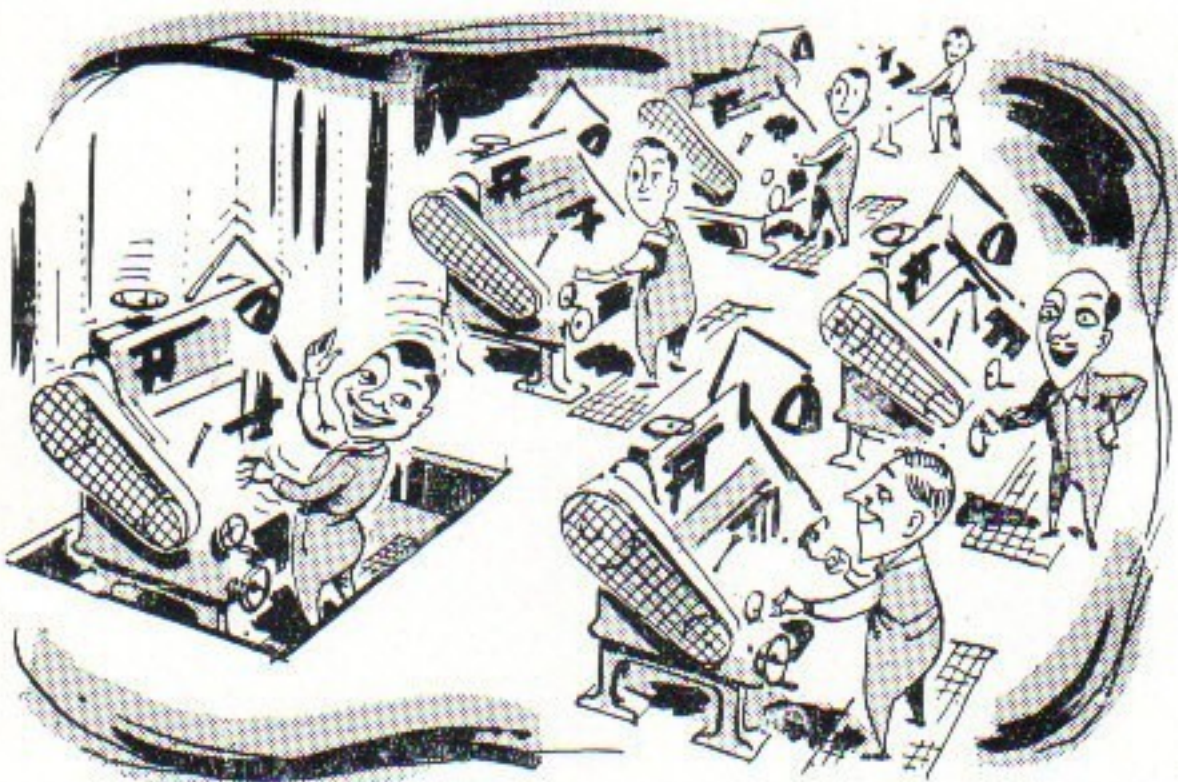
STROWGER Works Wonders



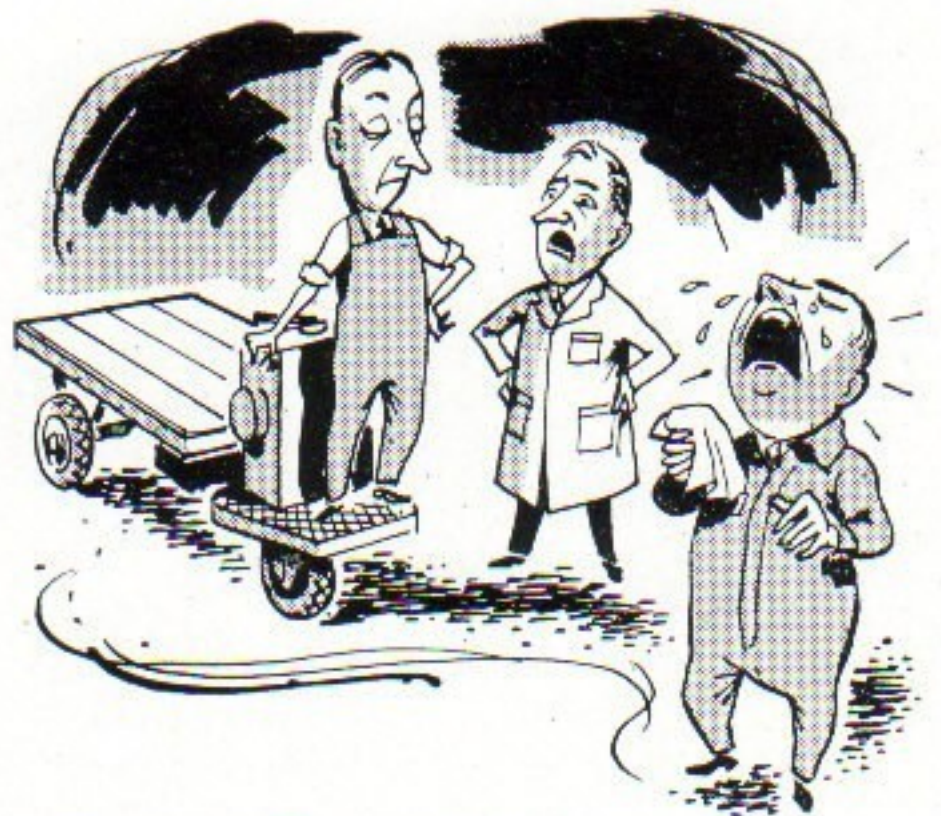
"Well, who's going to cough up me three bob for the windows?"



"That homely touch has certainly improved our tea sales"



"Happens at the end of every 'Music While You Work' —he used to be a cinema organist . . ."



"Come on Joe, give 'im his truck back— you've had your turn!"



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