

A full-page photograph of a woman with dark hair, wearing a maroon long-sleeved dress with a flared hem, white gloves, and white ice skates. She is in a dynamic skating pose on a light blue ice surface, looking back over her shoulder. The background is a dark, textured blue.

# TO N E

**WINTER 1961**





## Flashing Blades

**J**UST IN CASE any of you men reading this hadn't noticed, the very attractive young lady on the front cover is wearing ice-skates!

She is Ruth Salkin, an 18 year-old shorthand typist from City Factory and the photograph was taken at the "Silver Blades" Ice Rink in Prescot Road where Ruth spends a lot of her spare time.

Ruth took up skating over two years ago and, being one of those fortunate people who have an aptitude for almost any sport, took to it like a fish to water.

Just what is it about ice-skating that makes it so popular, not only with young people like Ruth but also with the not-so-youngs? The prospect of setting out across a sheet of ice, with nothing but a few square inches of steel between them

and a cold uncomfortable landing, terrifies most beginners. However, after the first few hesitant "steps" all nervousness vanishes and all that matters is the thrill of speeding across the ice. "The feeling of exhilaration is the main thing," Ruth told *Tone*, "you feel almost carried away."

And what about the falls?

"They're never dangerous and can even be fun sometimes," she smiled.

When people think of ice skating they usually envisage the great championship events on the Continent or a fabulous ice-spectacular with Sonja Henjé or other famous professional skaters. However, ice-skating has a history and it was popular long before many modern sports were even thought of.

During the Middle Ages, the local peasantry could take time out from tilling their lords' fields, strap a couple of bones to their feet and spend many happy hours gliding around the frozen surface of their local pond.

In those days, whole rivers were often frozen over and this would result in "barbecues on ice", when pigs and oxen were roasted over fires and the local populace would indulge in nights of revelry.

Alas, rivers in England just don't seem to get frozen over any more but the convivial atmosphere of a big skating rink, such as the "Silver Blades", is much more conducive to good skating than a frozen river where a day's skating might easily be spoilt by the sudden precipitation through the ice of a skater who had failed to see the warning notices.

Mr. G. Tree, Manager of the "Silver Blades", told *Tone*: "Our aim was to give the rink the amenities and atmosphere of a ballroom." Now the rink boasts a fine theatre organ, modern coffee bar and many other attractions.

The idea of skating might not appeal to everybody but we'll bet after seeing our front cover, the number of male beginners at the rink rises pretty sharply next year!

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## TONE

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# The greatest show on earth

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**C**HRISTMAS IS CIRCUS TIME! Each year thousands of youngsters queue to enjoy the thrills of the big top. They gaze open-mouthed at the lion-tamers, roar their heads off at the clowns and most of them make up their minds there and then that the circus is the life for them!

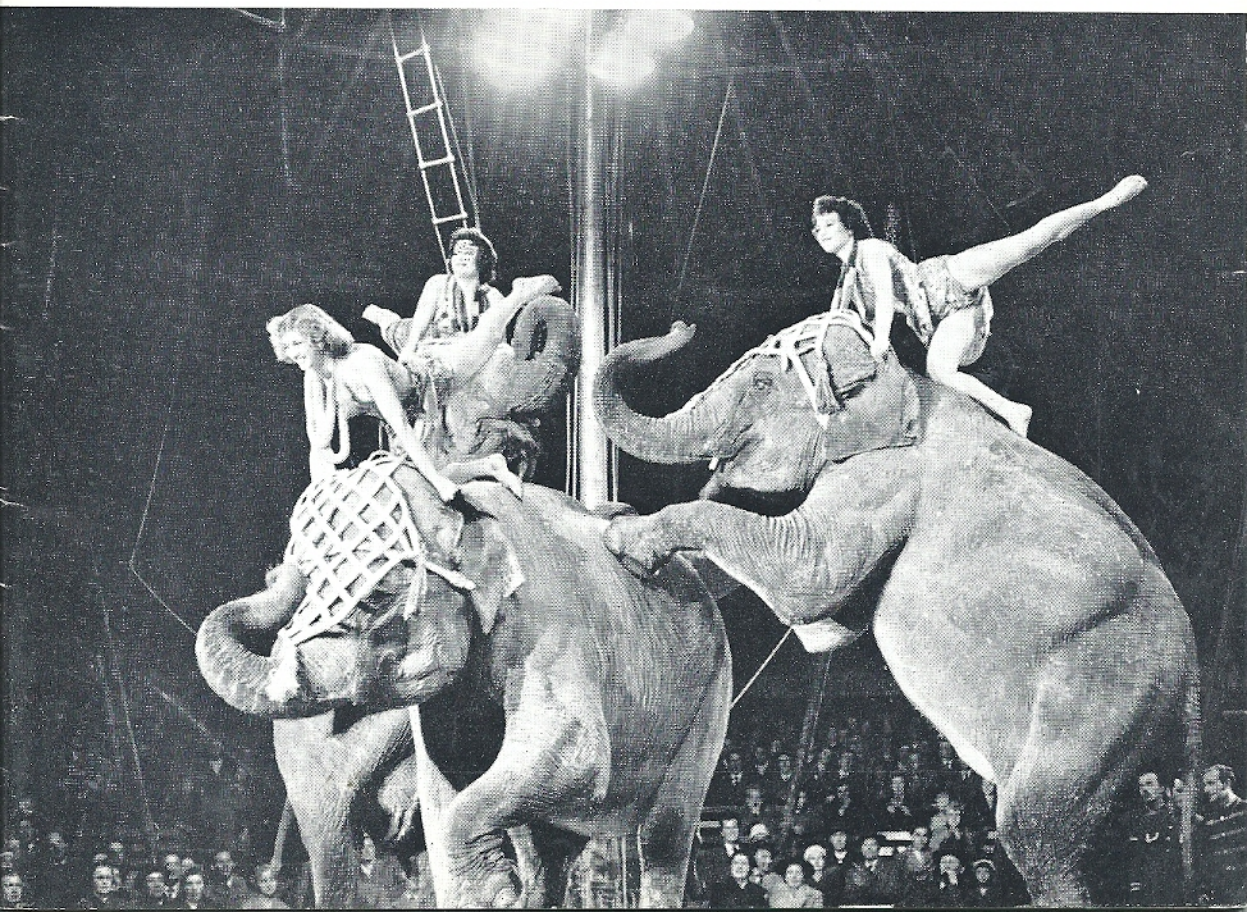
One employee who decided to become a member of The Greatest Show on Earth is Betty Dillon, 24, Dept. 25, Strowger Works. Betty spent six years touring Britain and the Continent as a trapeze artiste with many well-known circuses

and companies. Although rather reticent at first we eventually persuaded Betty to tell us about her circus-days.

She has been a keen dancer and acrobat since she was four years old. When seventeen she obtained an audition with a famous British circus. Although she passed the audition Betty was required to train on the trapeze for a year before entering the ring as a fully qualified performer.

She hastened to add that she performed on a

*Betty (centre) during a performance in Sweden*







*The parade begins. Betty (left) seen entering the ring*

vertical and not a flying trapeze. "The difference is that all the acrobatics and head spins, etc., are done without the trapeze moving backwards and forwards," she explained.

During her training period she was offered the chance of appearing in another act—the elephants! After only slight hesitation she accepted and was soon riding high in the sawdust ring. Life was by no means dull. "One day the elephants had been cross before going into the ring," she recalled. "Unfortunately two of them decided to finish the fight in the middle of the performance and I was thrown heavily." Betty was taken to hospital but only suffered the discomfort of a sprained wrist. During the act Betty performed acrobatics and headstands on the elephant's head. For this she wore a series of colourful costumes and sarongs.

She travelled with the circus to Sweden for eleven months and also visited Denmark and Norway. "I came home to join a circus in Rhyl for the summer season," she added.

*Betty takes a bow with the elephants at the end of the act*





Another British tour followed then Betty crossed the Channel to join Pinder's French circus for a tour of Belgium, Germany and Spain. "But my favourite country is still Sweden," said Betty.

Although she has never had the misfortune to have a serious fall Betty recalled an occasion in France when one of her fellow-trapeze artistes fell on the last night of the show. "Luckily she was not hurt too badly," Betty said.

There is never a dull moment in circus life. "On one occasion a chimp broke through the glass of its cage," Betty told us. "Being frightened by so many people around it ran straight towards me and I received quite a nasty bite." Perhaps this is not the sort of excitement many people would like but despite the ups and downs Betty assured *Tone* she loved every minute of it. "And circus folk are so friendly and helpful," she added.

Despite the hard training and unending rehearsal sessions circus life has numerous advantages. "There are always new people to meet and places to see," said Betty.

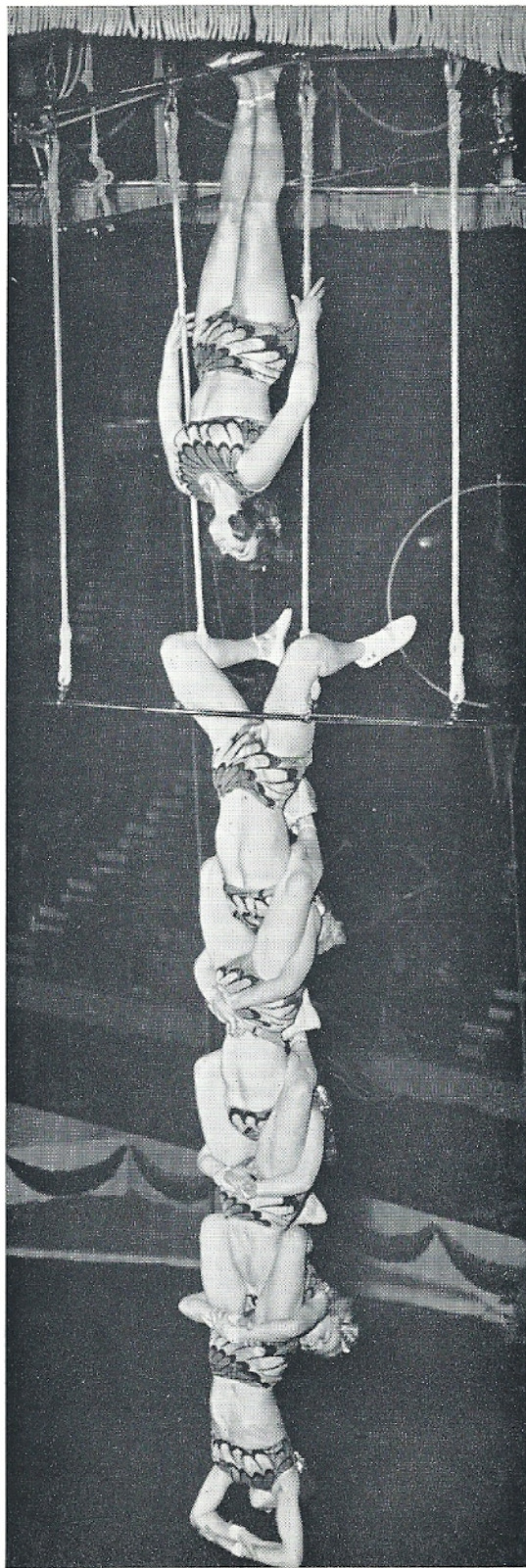
"The life though is not all the glamour and spangles some people think it is," she said. Caravans and a series of hotels were Betty's "home" when travelling. A lot of hard work and numerous rehearsals must go into a circus act before it is fit to be shown to an audience. There are many disappointments and failures to be faced too.

A Christmas Show in Paris two years ago was the last time Betty performed on the high trapeze. On returning to England she found it very difficult to adjust herself to living in one place. She joined ATE in 1959. The only regret she has is that she didn't achieve her circus ambition—to walk the high wire.

But she does possess a host of wonderful memories to look back on. And even though she probably feels a twinge of nostalgia on seeing one of those colourful posters advertising the circus she does have one compensation. "Whenever I go to a show I often meet many of my old friends again," she said.

And of course the elephants never forget her!

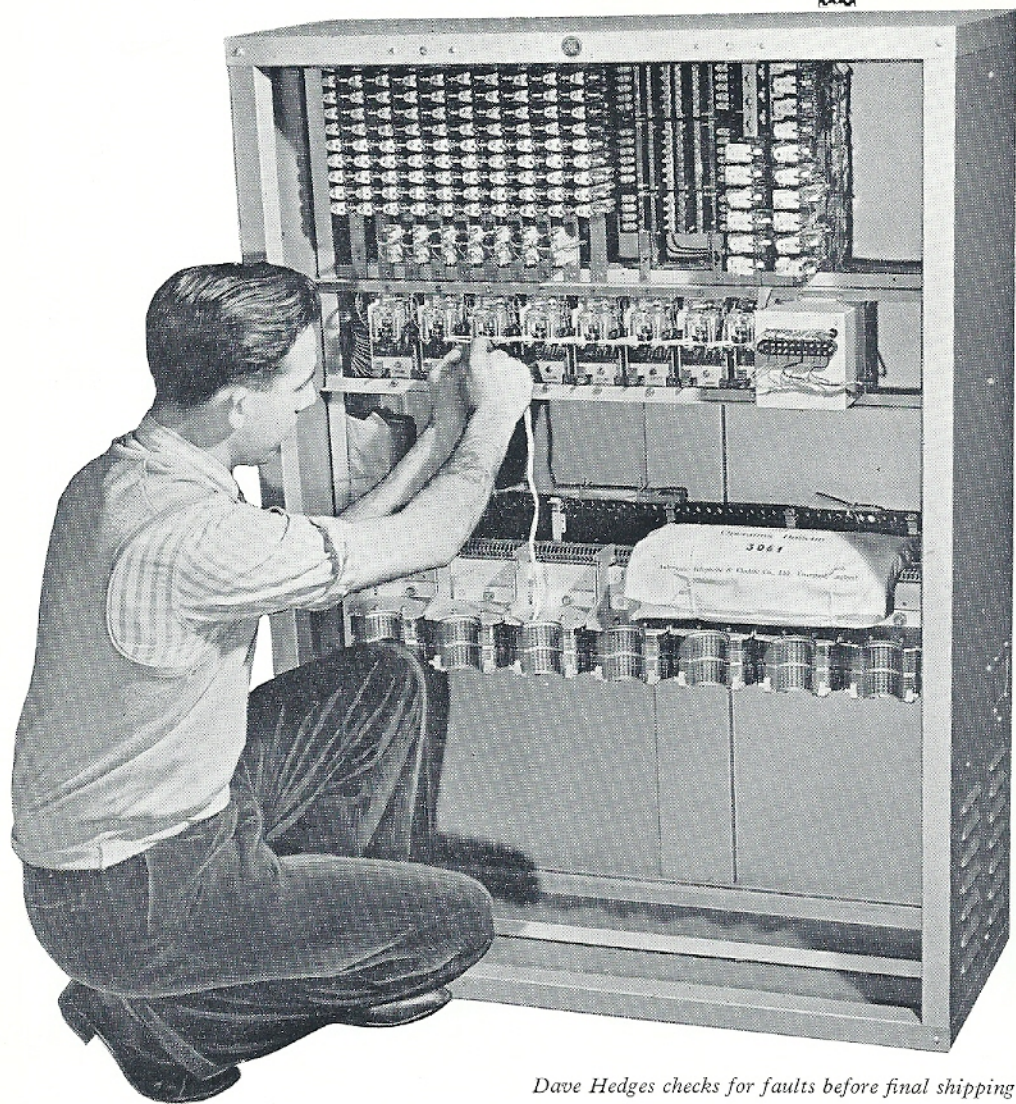
*The five Varias making their debut in London*





# Internal Communications

P.X. Division



*Dave Hedges checks for faults before final shipping*



*Introducing the product to the people is a service which has been offered by Tone during the past twelve months. In this article, last in the series, the work of the PX (private exchange) division is described. Products range from the smallest private installation consisting merely of two connecting telephones, to the largest, consisting of more than 4,000 private lines.*

**N**OW, WHEN INDUSTRY HAS GROWN to mammoth proportions and there are no longer close personal ties between small groups of employees the internal telephone offers a major contribution to the successful running of any enterprise. The telephone systems may vary greatly in size but one common factor is that they are private exchanges sold to individual customers.

The PX Division which deals with ATE's private exchange is located on two floors in Strowger Works' newest and brightest multi-storeyed building. Inter-com equipment and the smallest PX systems consisting of two telephones with push buttons are, however, assembled at A.T. & E. (Wigan).

Home sales for PX equipment are handled by an associated company, Communications Systems Limited. This company was formed in late 1947 and became fully operative in 1948. It carries out that part of the parent company's business concerned with the sale, rental, installation and maintenance of private automatic telephone systems, inter-com systems, sound amplification and distribution systems.

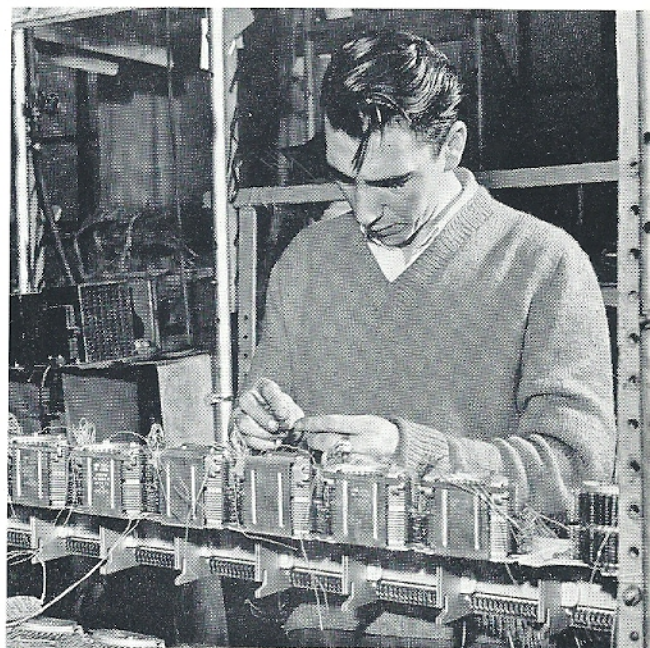
Overseas contracts are handled by the private telephone section of export sales at Strowger House. Since much of this equipment is rented rather than sold, some of the ATE overseas companies have set up similar organisations to CS; for example we have Communications Systems of Australia Pty Ltd. PX equipment is exported to many countries in the Commonwealth and elsewhere.

The control and clerical sections of the division are on the top floor of the multi-storeyed building and include a contract section, commercial engineering, programme control, engineering sections (circuit, apparatus and equipment), a

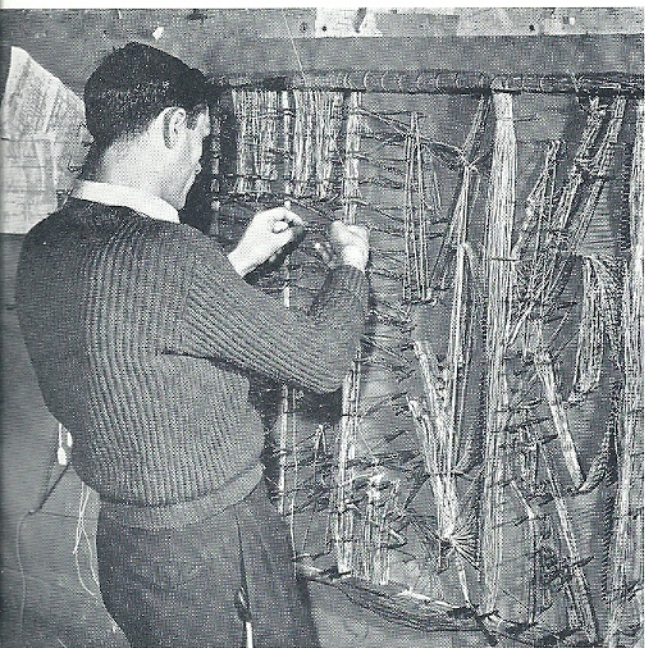


*Maureen Courtney jack wiring a 20/5/5 PABX*

*Barry Evans—bank wiring*







*Frank Cavendish fixes the cables of a 56/6 PAX*

*Mavis Goodwin—wiring relays*



drawing office and files control. In this office designed on a conveyor belt system, nearly a thousand orders and enquiries are received each month. They are analysed, engineered, programmed, appropriated, issued and advised. Orders for stock, items of spares and even small PAX's can be turned round within two days. Other orders involving detailed engineering often, of course, take many months to complete.

The engineers are the largest single group of personnel within the division.

The commercial side is responsible for the acceptance and handling of enquiries and contracts and establishing estimated quantities, prices, and deliveries. Basic prices and accounting services are obtained via the main organisation.

An extremely vital aspect of this division is its ability to forecast sales. In June every year a programme is compiled of the standard items to be manufactured for stock. The ideal timing would see them anticipate the orders maturing out of Sales Forecasts.

Records are maintained in the Production Department covering the various items held in stock or the work in progress in the Division.

The assembly shop covers the whole of the area of the floor immediately below the control sections. Components are supplied from the company's main machine shop. The PX Division is concerned only with assembling of small boards such as 10-100 PAX's and subscriber attended PABX's. The larger racks are assembled in the MAX assembly shops. The large racks and their associated manual equipment are, however, adjusted and tested by the PX division prior to despatch and are sometimes engineered to customers' specific orders.

An ironwork section within the division provides the rack framework for the various equipment and a relay assembly line assists in speeding up the process for assembly within the division.

Expert testing and inspecting by a team of functioners completes the work done by the division and ensures that all orders leaving the company maintain the same high standard of workmanship.

Although standardisation plays an important role in this division its equipment can be designed to specific requirements. A glance through the order books for the past year gives some indication of the vastly differing destinations for PX equipment. One of the largest



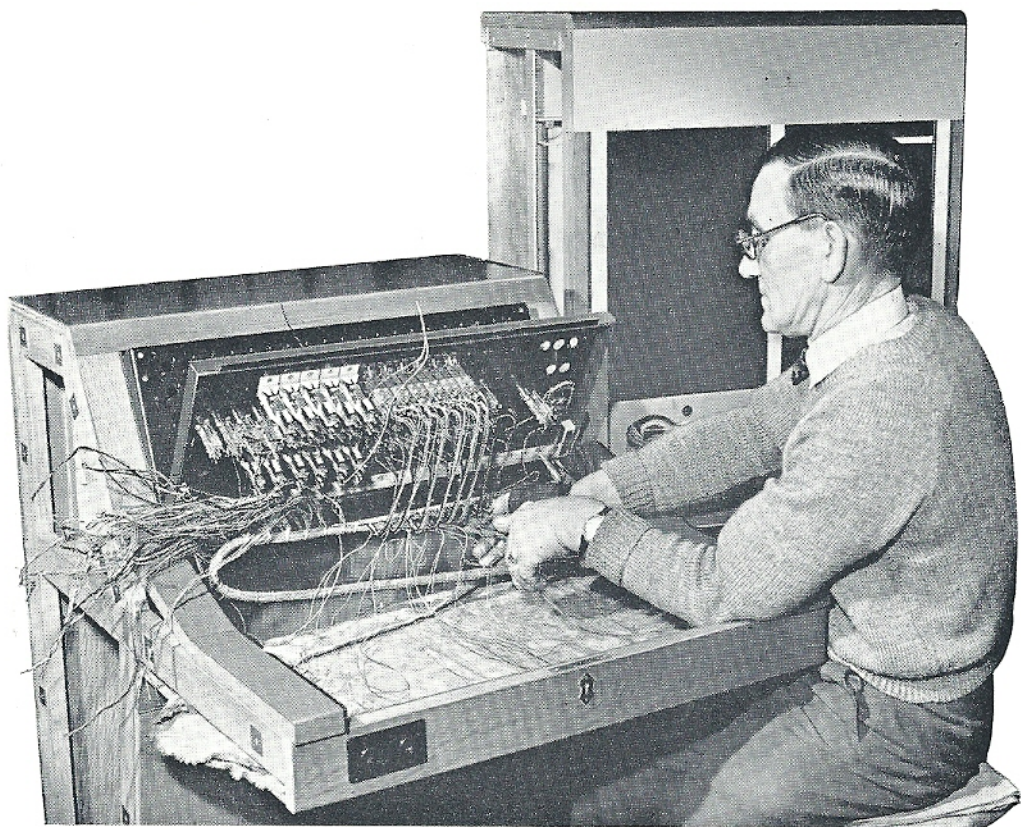
orders yet to be received by the division has been installed in the giant new Shell Mex building on London's South Bank. This 7,000 line PABX will provide all internal and external telecommunication services to 6,000 Shell employees who will be filling the 363 feet high, 27 storey building.

BOAC and Air France are just two of the airline companies in this country to use ATE PX equipment. The private exchanges are also sold to firms of all sizes in many fields of business throughout the country.

Although varying greatly in size the PX equipment can be divided into two types; the exchange which gives purely internal service and that which in addition is connected to the public exchange and gives both internal and external contact. The

latter can be as small as the PABX 4/1/1 which allows four people to have four internal lines and one external line which can be used by any of the four telephones. Bigger equipment includes the cordless PABX No. 4 and the P.O. No. 3 PABX. PAX equipment is made in many standard sizes from ten to several hundred lines.

A welcome sign for the company is that the PX order book is more full than ever before. And since many of the orders for systems are standard it is possible for the division to have large stocks of equipment in store. This makes possible speedy service for customers enquiring for standard equipment. It is vitally important for the division to be geared up to work quickly and dispose of equipment almost overnight.



*Destined for the Midland Bank, London—a cordless switchboard on which Stanley Farnsworth is engaged on the wiring*



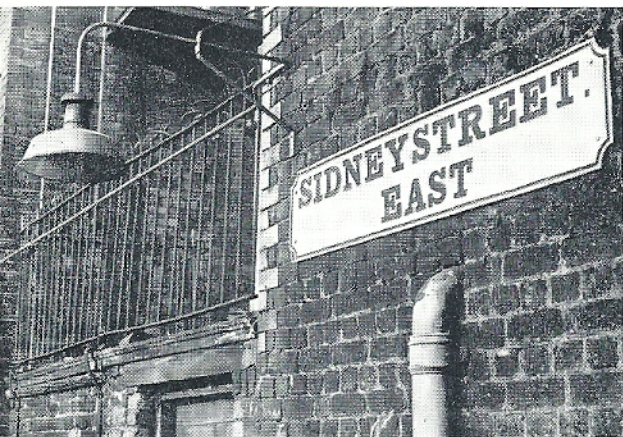
# LORD NELSON STREET

## *Then and Now*



*A section of the City Factory which was once a school*

*This sign is to be seen just inside the Factory gate in St. Vincent Street*



IT SEEMS THAT STROWGER HOUSE is not the only part of the Company premises that can boast a history. City Factory too has an interesting background and is situated in a most historic part of Liverpool.

Had you walked out of the Hall Door into Lord Nelson Street in 1841 you would have seen opposite the Liverpool Hall of Science providing "musical and scientific entertainments" every Saturday night. And had you been there on November 27th of that year you would have heard such items as a recitation of "Daniele versus Dishclout" by "A Gentleman" and "Cushla Machree" sung by "an amateur". "Between the parts," informed the programme, "Mr. Mackintosh will give a short scientific lecture, after which the laughing gas will be administered." All this for 3d. (Reserved seats 6d.) The object of the Hall of Science, later renamed the Nelson Assembly Rooms, was to "furnish the industrial classes of Liverpool with a combination of sober and rational amusements for the smallest possible expense".

In 1895, however, the building was taken over by Cope Brothers, the tobacco manufacturers. They also owned what is now City Factory.

The section of City Factory now housing the C.S. offices, Telex Dept., and print rooms, etc., at the bottom end of Lord Nelson Street was originally the St. Simon's School for the Blind. The Church of St. Simon was on the corner of Gloucester Street opposite the present entrance to Publicity Department. It was consecrated in 1847 but demolished around 1938. The area seems to have had its fair share of schools, for records indicate that in Hotham Street, where now stands the Lord Nelson Hotel, there was a Free School supported by the Society of Friends. The girls



were accommodated in Lord Nelson Street and the boys in Bridport Street, which runs off St. Vincent Street. A day school attached to St. Simon's Church was also in Gloucester Street.

You are not likely to find Sidney Street East on any modern map of the City but it still exists to this day. You can still see the street sign actually on the Company premises. Sidney Street East starts at the St. Vincent Street factory gate and runs down to the Works Canteen. Many of the former occupants of the street probably lived in cottages and an 1843 Directory states that the Elizabeth Iles Day School was at No. 24.

In 1893 Cope Brothers put a plan forward to the Corporation for a bridge to be erected over the street to connect their two factories. A letter to the Lord Mayor states "we have converted the old concert hall into a new factory but Lord Nelson Street divides the two departments". Their request was, however, turned down.

The *Liverpool Citizen* of the time mentioned the factory and stated that it "provided the girls with all the comforts of a home. They had facilities for cooking their meals, every appliance that could ensure neatness and cleanliness, and a good library for the improvement of their minds." The girls worked from eight till six with half-day Saturday and in 1891 it was recorded as being the largest tobacco factory in the world with over 1,500 hands!

There are now over 1,000 house magazines produced in Great Britain alone. In the very premises where *Tone* is produced Cope Brothers wrote and printed in 1870 what must surely have been one of the first company magazines ever. The publication was called *The Porcupine* and was run on the lines of a "local" paper.

In one issue the annual Christmas factory dances were commented on by saying that "some of the leading men of the town deemed it an honour to dance with Copes' cigar girls".

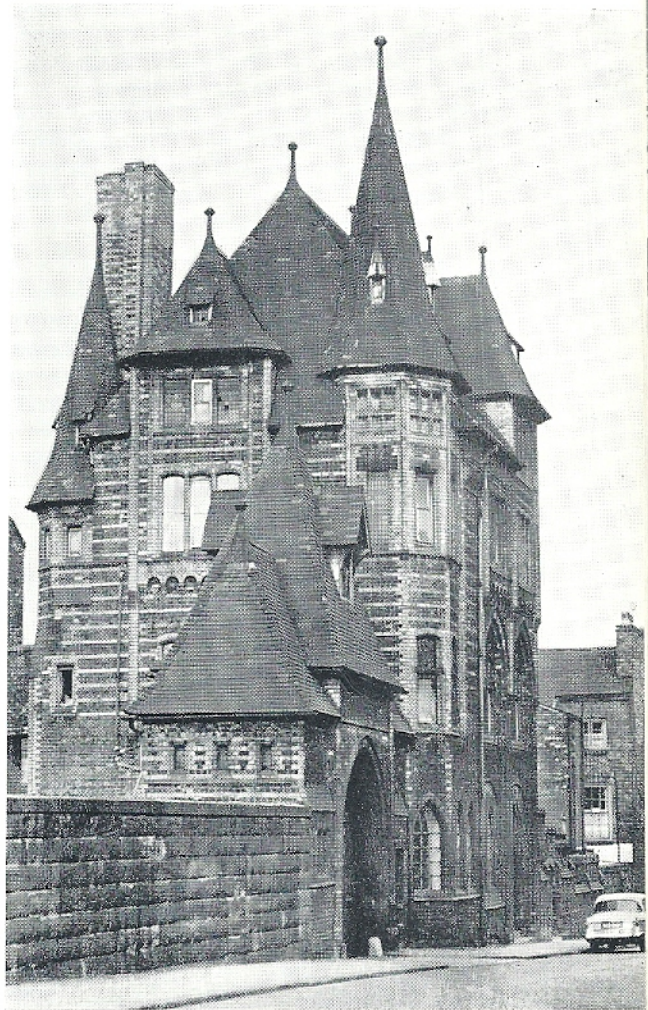
Changes in Lord Nelson Street are not confined to buildings. According to the Directory, many occupants have come and gone. In 1843, No. 8 housed a master mariner, No. 10 a cork cutter while a "gentleman" resided at No. 12.

They would hardly recognise their street with

its modern hotel, cinema and a theatre the size of which would have made the proprietor of the Hall of Science gasp.

In this, one of the oldest parts of Liverpool, ATE are engaged in the manufacture of the most up-to-date telecommunications and remote control equipment in the world.

What would the master mariner, the cork cutter and the gentleman say if they could see Lord Nelson Street, 1961?



*View of the castle-like building housing ATE's Publicity Department*



# We'd like you

Campanology—the art of bell-ringing—may seem a bit out of place in this ultra-modern world of stereophonic sound and hi-fi, but it is an art which still has thousands of adherents, not only in sleepy, olde worlde villages but also in big cities and towns. **Bill Davies**, Drawing Office, City Factory, is one of the regular ringers at St. Bartholomews Church, Thurstaston. He only began six months ago and already has progressed beyond the elementary stages.

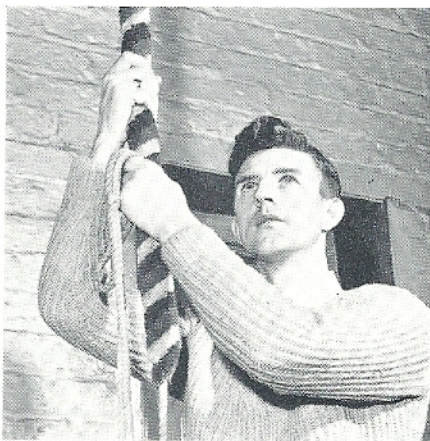
For the last few years **Frank Lawton**, an Auto Setter at Wigan Factory, has spent his spare time shooting people. So far he's not been caught but this is probably due to the fact that all his shooting has been done with a camera. Frank specialises in Wedding Photography and is also very keen on colour and portrait work.

It's a far cry from operating a giant guillotine at the Company's Wigan Factory to caressing the keys of a grand piano but **Jimmy Moss** handles both instruments with equal dexterity. Jimmy has been charming audiences with the music of the great composers for many years now and has won himself a reputation for being one of the finest amateur musicians in the area.

Look out fellows! The ladies are invading the sanctity of the Darts teams now. **Dorothy Tinning**, Speke Factory, is just one of them. Dorothy is a member of the "Flying Saucer" Darts Team and she told *Tone* that in her opinion, women were far more suited to the game than men!

Tool Setter **Charles Pritchard** of Wigan Factory believes that if you're going to play a game, play a straight one. For 12 years Charles has been a keen devotee of the game of Badminton and he is a member of two clubs. He helped to found one of these and has helped the team to victory in the local league cup five times.

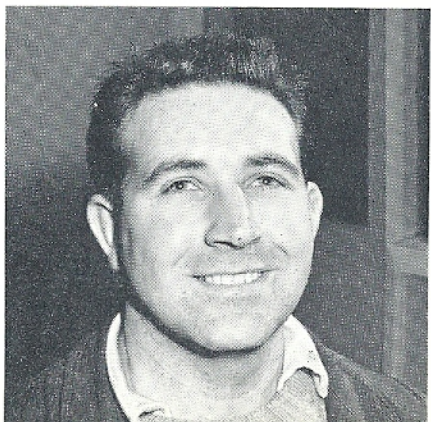
*Bill Davies—Bell Ringer*



*Jimmy Moss—Pianist*



*Charles Pritchard—Badminton Player*





# to meet...

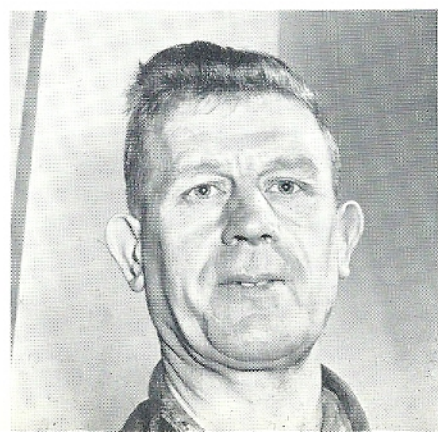
*Dorothy Hedges—Ballet Dancer*



*Ray McGivern—Puppeteer*



*Tommy Ashcroft—Angler*



It's been said of the Ballet that you either love it or loathe it. One girl who loves it to the extent of not just being content to sit back and watch is **Dorothy Hedges**, Dept. 662. Dorothy has been dancing for a few years now and has performed at the Liverpool Philharmonic Hall—her greatest achievement.

**Ray McGivern**, an apprentice instrument maker at City Factory, has been doing a lot of string-pulling lately; not in high places, but with his 30 puppets—all of which he has made himself. Ray has been interested in puppets since he was a young boy but he didn't start making them until three years ago. He has won many talent contests and his great ambition is to appear on Television.

**John Birch**, Transmission Division, has been a member of the Territorial Army since it re-started after the War. He is now a Major in the Royal Corps of Signals Headquarters in Everton Road. Though he is now a Staff Officer, he regularly attends camps and exercises. John told *Tone* that in the event of action, he would be partly responsible for directing the Signal operations.

**Bob Mossman**, an engineer at City Factory, is an accomplished accordionist. For the last 15 years Bob has been providing "Country music" for Barn Dances all over the country. Among his achievements is a broadcast for Children's Hour. A semi-professional, Bob is also a member of the English Folk Dance Society.

There's not much you can tell **Tommy Ashcroft**, a Driller at Wigan Factory, about Angling, for it's been his main hobby for the last 40 years. Tommy prefers Coarse Fishing and his favourite haunt is the Lancaster and Shropshire Union Canal. He must be an exception to the rule for not once did he try to tell *Tone* about the one that got away!



In the last issue of *Tone* we promised to give a full account of the outstanding career of Mr. A. F. Bennett, who retired from his ATE directorship earlier this year.

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*"In his absorption in and devotion to anything and everything likely to be of benefit to ATE and its customers A.F.B., as he was affectionately known, had absolutely no regard for time, and no time for those that had. This characteristic was readily forgiven for it was typical of the man that he could arouse an equivalent enthusiasm and forgetfulness of the hour in those over whom he cast his spell."*

An appreciation by a colleague of thirty years' standing.



Mr. A. F. Bennett

## ATE pioneer

**O**VER SIXTY YEARS' SERVICE to the telecommunications industry is the outstanding achievement of Mr. A. Frank Bennett, ATE director, who recently retired. Many of these years were spent with Automatic Telephone and Electric Company.

Born in Iowa, U.S.A., Mr. Bennett studied Civil Engineering for one year at Cornell College and Electrical Engineering for three years at Iowa State College. After completing his studies he joined the Automatic Electric Company, Chicago, in 1902.

There he worked in the laboratories under the late A. E. Keith at the time when the Keith Line Switch was being developed, and with the late E. A. Mellinger on the conversion of the Strowger Automatic Telephone System to central battery working. In the period 1903 to 1910 Mr. Bennett

spent some time in the field supervising the installation of new Automatic Exchanges throughout America from Rhode Island in the east to Honolulu in the Pacific, and from Lethbridge, Canada, in the north, to El Paso in the south.

After nearly twenty years of engineering and managerial experience with the Chicago Company Mr. Bennett was, in 1920, seconded to Automatic Telephone Manufacturing Company, Liverpool, in an advisory and consultative capacity.

A year later he became a permanent member of the British organisation and was appointed Chief Engineer. He held this office until 1939 when he succeeded the late F. C. Burstall as Manager of the Liverpool Factories. He was appointed to the local Board of Directors in 1932, becoming a Director of the whole group in 1939, and later held Directorships of a number of associated companies. He



became Joint General Manager in 1946 and retired from active duties in 1952.

This was a memorable year for Mr. Bennett. His name appeared in the New Year's Honours List when he was awarded a C.B.E. The C.B.E. is the most senior of awards not carrying a title and is given for distinguished public service to the Commonwealth. Mr. Bennett received the C.B.E. on the recommendation of the British Post Office as recognition of his thirty years' service to the industry in the United Kingdom and for the spectacular achievements which had marked his career.

The most important of these achievements was the development and adaptation to London requirements of the "Director" system in 1922. The Strowger System incorporating the "Director" was approved and adopted by the British Post Office in 1924 and used for the automatization of London and later in other large cities in Great Britain. The BPO type 2000 selector was developed in 1932 by Liverpool engineers as ATE's 32a selector, under the leadership of Mr. Bennett. Subsequently it was supplied by all contractors to the Postmaster-General on orders placed for automatic exchange equipment. This selector, as part of the Strowger System, is also now manufactured by the Bangalore factory for the Indian Posts and Telegraph Department. It is also being produced in the South African and Brazilian factories.

Mr. Bennett took an active part in the negotiations which led to the agreement with the Indian Government to supply equipment and build the Bangalore factory. He signed the document with Mr. Dasai, the Ambassador for India, in Switzerland in 1948.

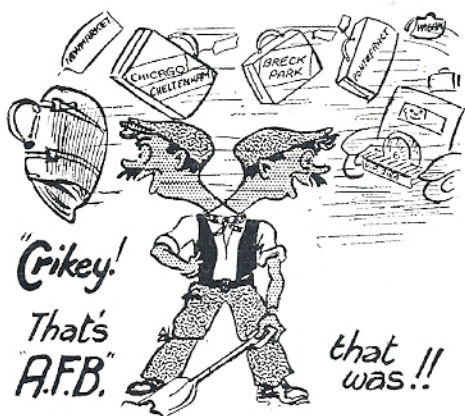
After the signing of the agreement Mr. Bennett visited India repeatedly to promote the manufacture of equipment for a complete telecommunications system for the Government of India at this Bangalore factory.

During the 1930's when British Industry was facing hard times and there was little money available for development the company found the answer to "where's our customer?" Even in such bad times British racetracks were still well sup-

ported, and there was an urgent demand for automatic totalisators. Mr. Bennett figured prominently in the development of the all-electric totalisator and its adoption for racecourses, thus aiding the company at a time when it was facing an economic crisis.

In discharging his engineering and commercial duties Mr. Bennett travelled throughout the world. He was concerned with the negotiation of the agreement with the Polish Government in 1931, which was the first undertaking of its kind entered into by any British manufacturer and similar to that made with the Indian Government in 1948. It provided technique and assistance in the establishment of a telecommunications factory with the Ministry of Communications in the country concerned.

In recalling the achievements of one of the giants of the telecommunications industry we wish to pay full tribute to a great man, not only for his initiative and ability but also to the example he offers to those who follow where he has made a way. Many of our senior executives, especially those who graduated from the engineering side, recall the inspiration Mr. Bennett gave to all those who worked under his direction.



The above is taken from a set of cartoons illustrating the menu for an annual staff dinner held in March 1930. It is interesting to note that this menu has been carefully preserved for thirty-one years



ATE equipment in

# The Loneliest place in the World

**A** U.S. HELICOPTER hovers over a small group of huts poised on the snow-capped peak of a mountain in the Andes and drops supplies to a tiny band of scientists. These infrequent visits are the only contacts the men have with the outside world. They are living in one of the world's most remote regions, the highest mountain ranges in the Americas—the Andes where many of the mountains reach over 20,000 feet, where primeval eruptions have left some of the deepest crevasses in the world.

The scientists, their equipment and supplies have all been dropped on this peak by helicopter. It is their only means of escape from the fields of snow and mountain gales. In a cluster of wind and snow lashed huts they work with their instruments, keeping accurate graphs and charting new discoveries.

The station has been built by the Carnegie Institute of Washington, an organisation established in 1902 by millionaire Andrew Carnegie. The latter's resources of over forty-seven million dollars have been used to open new fields of learning and finance old ones. Its purpose is to encourage "in the broadest and most liberal manner investigation, research and discovery and the application of knowledge to the improvement of mankind."

Time in this remote outpost can almost be said to stand still. Almost but not entirely for several crystal chronometers manufactured by ATE have been installed. The first was parachuted down to the station a few months ago and by now all are functioning efficiently.

Accurate time-keeping is essential for the research work done at the station. In addition to many other projects the scientists measure the changes in the earth's magnetic field and conduct seismographic (vibrations of the earth) experiments. Because of the nature of this work the chronometers give sidereal time based on the stars and not universal time.

When the need for the chronometers was being discussed various problems special to the

climatic conditions and locality of the research station arose. There was no possibility of obtaining normal power supplies in any shape or form.

The problem of power to drive the chronometer was solved by utilising a British product unknown in the United States—a soda cell battery which operated with the addition of snow. This soda cell battery can be dropped by parachute and stored indefinitely until required. When needed the battery is packed with ice or snow and the moisture added makes the battery begin to work. It can then function efficiently for the best part of a year. Each chronometer installed on the site requires eight of these batteries.

The second problem arose with the vastly differing temperature possible in a day on the mountain top. The oscillator of the chronometer must be kept at a constant temperature. After some tests Mr. M. A. Tuve, a Director of the Carnegie Institute, was able to state that the temperature variation at the bottom of a deep hole in the ground was substantially constant enough for seasonal changes.

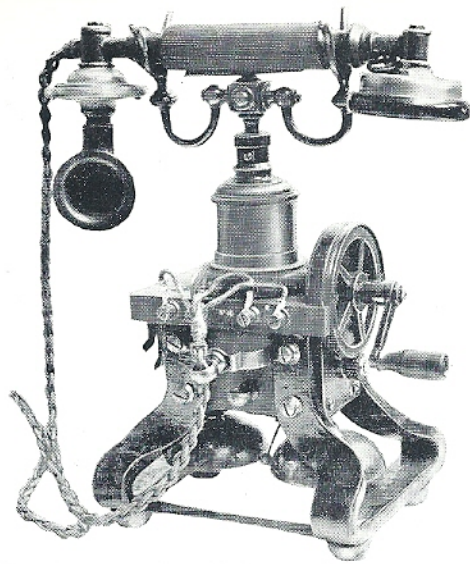
At the bottom of this shaft almost fifteen feet deep in the ice and snow the temperature varies only one-hundredth of a degree centigrade throughout the day. A constant temperature is kept between twelve and fifteen degrees centigrade. The snow packed tight around the oscillator in its shaft provides ample insulation. A coaxial cable connects the master oscillator with the chronometers in the research buildings.

Only a few years ago a clock which would be accurate to a second a month and economic in production seemed just a dream. Developments have followed until we now have a chronometer which even corrects its own time lag, reports a fault and, automatically switches over to another bank of coils and continues operating until the fault is cleared. Chronometers are now being sent from Strowger Works to all parts of the world, from the steamy jungles of Africa to the snowy heights of the Andes.









*One of many antique telephones to be seen*

## Looking at History

**A** TINY ROOM AT STROWGER WORKS is packed with history. Here are samples of the first telephones made at Strowger Works over forty years ago; samples which perhaps your father or even grandfather had a hand in making. There is equipment from all parts of the world; Brazil, the United States, South Africa, and even one of the oldest telephones ever made, the Edison table model constructed with a chalk receiver.

To some, these instruments may seem nothing more than a collection of old equipment but for others they tell an inspiring story of man's triumph over distance.

Here it is possible to see all stages of the development of the telephone industry from its very beginnings, with large cumbersome models quite different from the stream-lined and colourful equipment we use today.

The museum is a useful adjunct to the modern industry. Here the engineers of the future can study the experiments of the past. For many years far-sighted individuals have taken charge of out-dated equipment. It has been stored and preserved for such a time when a living record could be prepared of the history of the company. Mr. E. E. Comfort, Dept. 668, had such a collection. He was able to provide the museum with a sound basis of historic equipment.

"Instruments are stored long after they are out-of-date," explained Mr. Comfort. "Then replacements can be fitted into existing equipment which is still good for years of service."

When a piece of equipment becomes so old that there is no likelihood of it being needed for such a use, then it becomes a museum piece. The difficult task of collecting and renovating historic models has largely been accomplished by Mr. Harry Highcock, Dept. 14, who has been with the company for 36 years. To Mr. Highcock fell the work of rebuilding some of the models and this proved more difficult than can be imagined. Some parts missing had to be specially constructed in our own shops; where possible the missing part was replaced by one from the same year; and one instrument in particular was rebuilt with parts specially sent from Chicago. Each instrument has taken a great deal of patience and time to renovate.

Now the collection is almost complete and we have a record of developments over the years. The instruments are packed away in glass-fronted cupboards; each exhibit is clearly labelled and numbered and each exhibit tells its own story, not only showing new discoveries in the telephone industry but also giving a picture of the people who used them. There is a 1913 field telephone which was used in the First World War, and a 1930 ornamental model with an inscription in Arabic. An early dial telephone made in 1901 was used at Fall River in America.

One whole section of the museum is devoted to a selection of dials, important for their age or interest. One of particular note to many people is a gold-plated dial used on the Royal train in South Africa when King George VI visited that country in 1947. ATE installed the PAX equipment on the train. Many difficulties were overcome on that particular state visit. Apparently the natives were apt to remove railway sleepers for use in their house building. Our concern at this was due to the fact that the disturbance would upset the telephone handset. Naturally our engineers designed an instrument which would be unaffected by any jolts.

For anyone with a sense of the historic and a keen imagination a visit to the museum will give much pleasure and instil a strong admiration for the pioneers of the past. At present the museum is merely stored in a small room near the Despatch Department. However it is hoped that it will, in time, be moved to more dignified quarters where it can, indeed, be a fine tribute to the Company.



# Be Prepared

**M**ANY YEARS HAVE PASSED since Lord Baden Powell, helping to defend the besieged city of Mafeking, first envisaged the Scout Movement, but the great Pioneer Spirit which motivated the first-ever Scout still lives on.

Ray Kirkham, Transmission Division, will soon realise a dream of his own; the completion of the 5th Childwall Troop's new Scout Hut, now being built at Gateacre.

For the last two years, Ray, who is Scoutmaster of the Troop, has had to hold meetings in local schools and during that time the Troop held bazaars, dances, rummage sales, etc., in order to raise the money for a place of their own.

In this way, 50 per cent of the money was raised and the rest was granted by the local Education Authority.

The Troop was formed four years ago and for two years was attached to St. Stephen's Church, Gateacre. It then broke away from the church and became what is known as an "open" Troop.

There are sixty cubs and scouts in the Troop and Ray is optimistic that with the opening of the new headquarters there will be more young people keen to join. So far, the activities of the Troop have been restricted but when the building is finished, Ray is hoping to form a canoeing section with the scouts building their own craft.

They now have a band and the Troop recently won the Childwall District Swimming Gala at Picton Baths.

The hut, which is nearly complete, is of pre-fabricated concrete and stands in half an acre of ground at Charlwood Road, Belle Vale. "Actually we've begun holding meetings in the hut already but it's a bit difficult with all the building materials lying around," Ray told *Tone*.

Ray has six regular helpers, including his daughter, Ann, who works in Welfare Department. His Assistant Scoutmaster is Alan Fearnett who works with Ray in Transmission Division.

The Troop goes on regular Summer Camps and they have a permanent Camp Site in Llanferris, near Loggerheads, North Wales. Recently they went on a trip to the Lake District and there are more outings and camps planned for the future.

Ray told *Tone* that it is hoped to have the hut completed by Easter. When finished it will be



*Scoutmaster Ray and son Ian find that knot-tying has its lighter moments*

60 feet long and 20 feet wide. There will be a small office or "Scouters' room" and a main hall where all the meetings will be held.

"I spend all my spare time at the hut," Ray told *Tone*, "and it's really surprising just how much time running the Troop takes up."

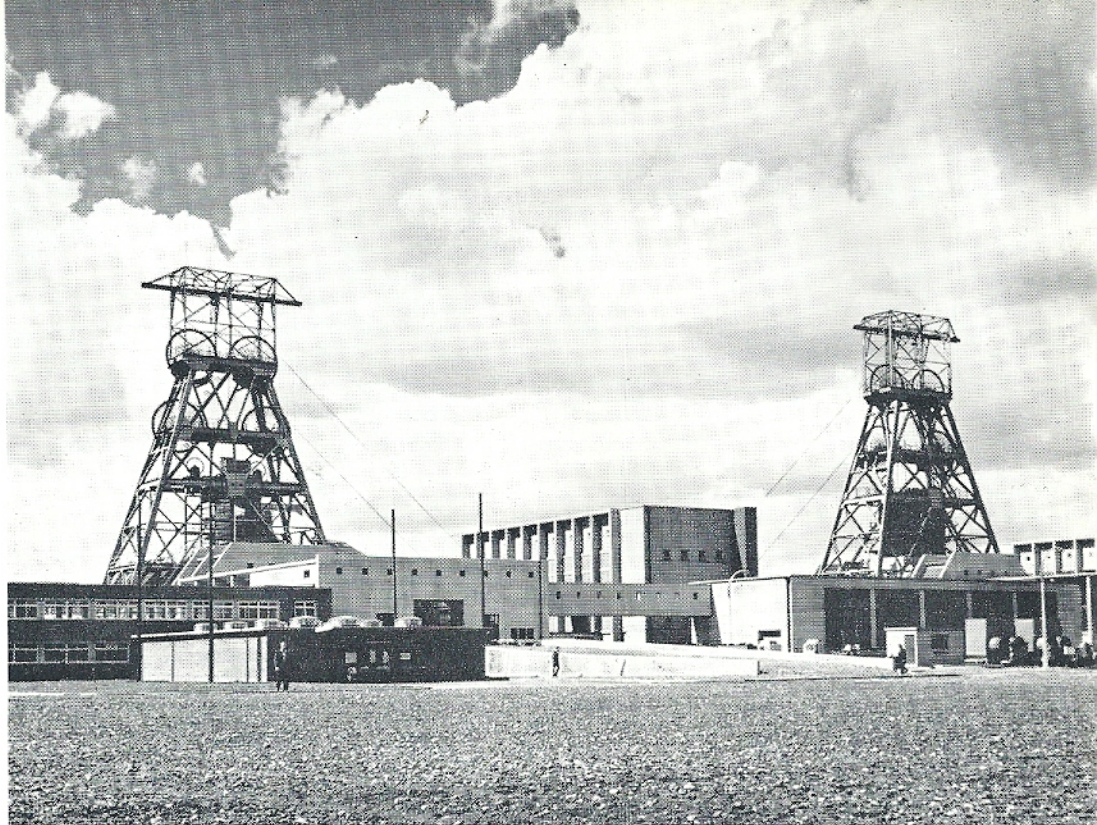
"In fact," cut in Alan laughingly, "it's been rumoured that he sleeps there!"

Ann is in charge of the cubs and she told *Tone* that she enjoys every minute of it. "Of course they're real terrors sometimes," she added, "but I usually manage to keep them in check."

Scouting lays the foundation for good, reliable citizens of the future and ensures that a boy meets the right company early on in life. So if you're the parent of a boy who's just discovering that there's more to life than his own backyard, why not send him along to the Scouts?

And if you live in the Gateacre area we know of one ATE employee who will be only too glad to see him.





*Lea Hall Colliery, Staffordshire (by courtesy of Coal magazine)*

# Diamonds Down Under

**A**T THIS MOMENT men are working over a thousand feet below ground level, working with massive machines chopping away the coal that will light many Christmas fires. A few weeks ago *Tone* went down the most modern colliery in Britain to see the miners at work and the ATE apparatus which is installed there.

Lea Hall Colliery in Staffordshire was the first mine to be planned and developed completely by the National Coal Board. Coal production only began in 1960. A long avenue of American poplars will, in time, shield the colliery buildings from the roadway. The buildings themselves are glittering modern concrete and glass structures. No old-fashioned blackened slag-heaps mar the landscape. Landscaped gardens surrounding the colliery will, eventually, make the mine a most attractive feature of the district.

A special feature of the development of the colliery is the direct supply of fuel to one of the major generating stations of the Central Electricity Generating Board in the Midlands. After being sorted, a percentage of the mined coal is sent directly to the station on conveyor belts over the adjacent railway sidings. At present the station uses 15,000 tons of coal, of which nearly two-thirds is from Lea Hall and the remainder is supplied from other local pits. These two fuels are mixed to provide a suitable blend for use in the station.

Lea Hall's present weekly output is approximately 13,000 tons. It is hoped that by 1965 the weekly output will be more than 30,000 tons.

At the moment 900 people are employed at the pit, of which only a percentage work on the coal face. The ultimate figure for employment will be



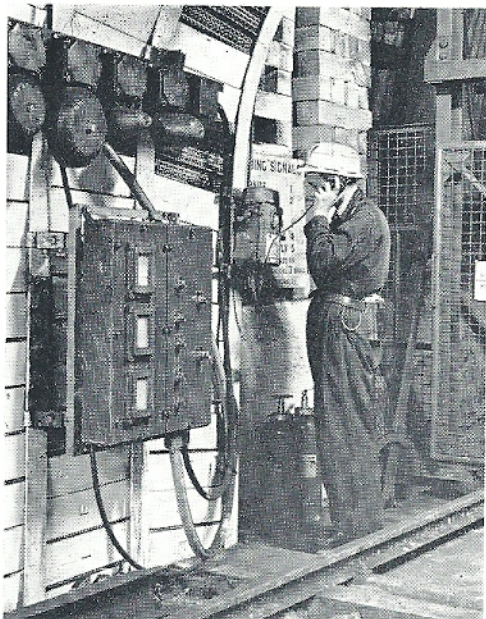
nearly 3,000 men. This colliery is already producing double the average national productivity due to a very high degree of mechanisation. This means that fewer workmen are required than used to be the case. Only thirteen men have to work on each mechanised coal face at Lea Hall, whereas conventional methods may have required as many as eighty men to obtain the same tonnage. At present three "longwall" coal faces are being mined and there is also some special "heading" machinery at work.

The clean white walls of Lea Hall's surface buildings disappear as the miners step into the cage which will drop them a thousand feet to their underground work. As the darkness closes in each man automatically switches on his lamp and a dozen lights twinkle in the gloom. In this modern colliery the descent at thirty-six feet a second is smooth. Suddenly the shaft bottom is reached and the men step out—into a brightly lit underground town. Avenues branch off in all directions. Miniature trains similar to those found on many fair-grounds take the men to the coal face, the nearest one being over a mile away.

Away from the main avenue lighting is not, and never will be, fully installed and a thick blanket of dark descends—a dark unlike anything in the world of light and sound above, pierced only by the beams from the miners' lamps. This mine is extremely well ventilated and as doors open silently between roads leading into yet more silent ways the rush of air is cool and clean. In the distance a cluster of twinkling lights proclaims the presence of a gang of miners returning from the coal face to the cage for their journey to the light. The sound of voices and laughter echoes in the gloom. There is a friendliness among the miners hard to find in the world above. They pass calling cheerful greetings and again the dark descends.

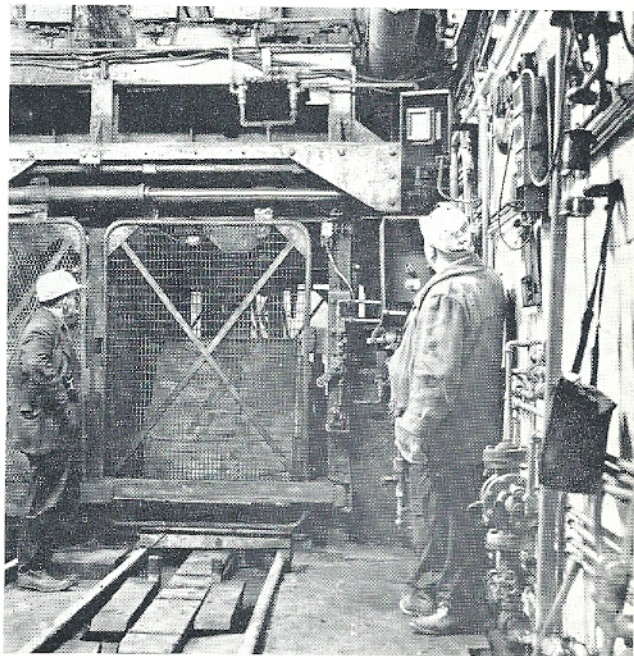
ATE equipment includes the type 58 PAX Private Automatic Telephone Exchange and the ATE Shaft Signalling System, Brake and Gate Interlock System. The type 58 telephone exchange equipment was specially designed by ATE Wigan Mine Signalling Department together with the PX Division at Strowger Works. It was designed in conjunction with the National Coal Board for use in collieries and in other places where there is a danger hazard. All instruments below the surface are used in conjunction with a safety coupling unit on the basis of one per line.

The Shaft signalling equipment enables all



ABOVE: At the coal face, using the type 58 PAX to communicate with the ground level staff

BELOW: 900 ft. under ground at the signal station controlling the lift



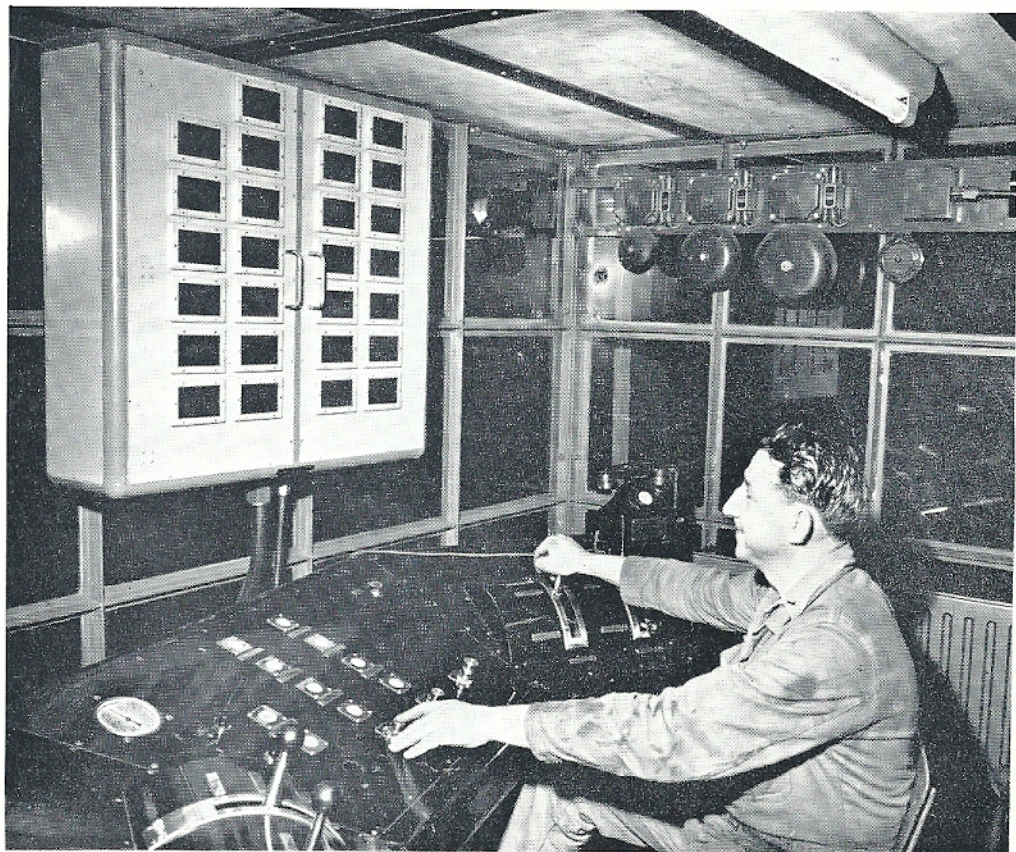


signals to be sent by the operation of appropriate push buttons. Audible signals are transmitted automatically and at constant speeds. A complete miniature indicator panel at each level keeps all personnel fully informed as to the movements of the cage and gives each onsetter visual confirmation of the signal he has sent. The system is extremely simple to use and, in the event of an emergency, could be operated by unskilled personnel.

The ATE Brake and Gate Interlock System ensures that winding cannot begin until all gates, platforms and other movable devices at all levels are in a safe condition. These devices are electrically interlocked with the brake of the winding engine so that the brake cannot be released while any gate remains open, or while any platform is unretracted, depending upon the type of winding

taking place. The position of this equipment is indicated visually to the winding engineman and the position of the local gate and platform is indicated at each level and bank. If an unsafe condition exists both an audible alarm and a visual indication are given to the winding engineman. Winding cannot be recommenced until the device has been restored to a safe condition.

In spite of modern equipment, well designed and ventilated collieries a miner's life is still one of the most dangerous in industry. Present trends indicate, however, that in the not-too-distant future his lot will be vastly improved by yet more mechanisation. We should think sometimes of the miners down under mining the "diamonds" which warm our homes and keep the wheels of industry turning.



*At ground level operating ATE equipment indicating cage movements*



# Modern Signals

With **BR**



*A roof-top view of York station with the 40-ft. tower which radiates to Woolmoor Hill*

**I**N PREHISTORIC TIMES the Great North Track stretched from Dover to Edinburgh. Along this track in by-gone days cattle were herded for nearly 4,000 years until in 1850 the transport of cattle was transferred to the railways. The track was used again recently to carry out a visual reconnaissance between York and Darlington. The object was to find the best sites for repeater stations to be used in a pioneer scheme by the British Railways—the introduction of a microwave radio-telephone system between York, Darlington and Newcastle.

The study of microwave systems in the United States for public and railways services gave some useful information to the British planners. And in this country a successful microwave television link for the BBC was established between Manchester and Scotland in 1952.

The systems consist of a series of transmitters and receivers working into dish-like aerials positioned along the route. The "metal dishes" are between six and twelve feet in diameter. Each of the aerials concentrate radio signals into a narrow beam and since radio waves do not bend round the earth's curve the "dishes"

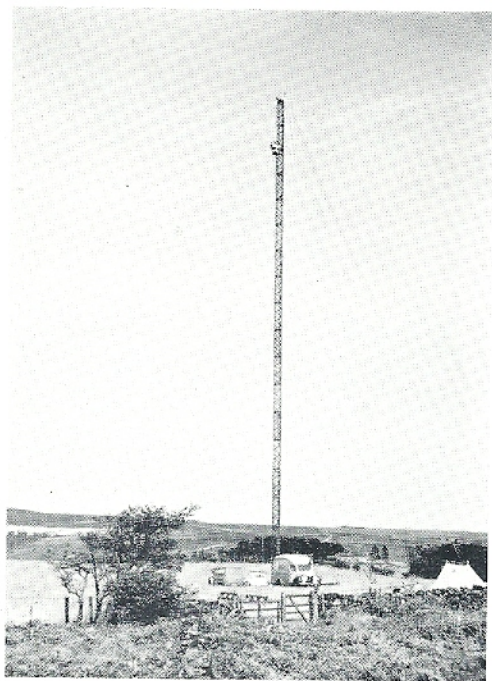
are mounted on tall towers or high ground.

The planners working along the Great North Track were searching for sites to connect the transmitters placed at York, Darlington and Newcastle. Between York and Darlington practically all the countryside is contained within the North York Moors National Park. This raised many planning problems since National Park land is not available for development. However one hill, known as Woolmoor, 850 feet in height, is outside the bounds of the Nature Reserve. It was decided that a tower 150 feet could be built at Woolmoor.

A 40-foot tower at York station operates into the "dish" at Woolmoor, which in turn connects with a "dish" approximately 120 feet above platform level at Darlington Bank Top station.

Surveying began between Darlington and Newcastle. On a range of hills near Ferryhill it was found that history was repeating itself. A disused windmill stood in the best position. However extensive coal workings existed immediately below the hill on which the windmill stood and in a nearby field land subsidence had taken place. It was finally decided not to adapt the windmill but to construct another tower some distance away.





150-ft. propagation mast at Woolmoor

At Newcastle a 191-foot tower was erected above the platform at Newcastle Central Station immediately above an existing telecommunications apparatus room.

The system will be in full operation by Autumn 1962, when 180 channels will be available between the three terminal stations, the equipment being capable of expansion up to 300 channels. Standby electricity generating plants will be provided at the two repeater stations to cover the possibility of interruptions to the main power supply.

When the system is completed it will provide exclusive circuits for traffic control working and telegraph systems. In addition 3,000 railway "subscribers" at York, Darlington, Newcastle, Middlesbrough, Leeds, and as far north as Berwick-on-Tweed, will be brought into contact with each other on a subscriber dialling basis. It will be the first large-scale subscriber trunk dialling system on British Railways.

The system has been manufactured and erected by Marconi's and ATE. ATE have provided the carrier multiplex part of the contract.

*Photographs by courtesy of the British Railways*

## Colourful Prizewinners

IT'S A FAR CRY from the sunny beaches of the Canary Islands to the drizzle and chill of an English winter. But that's where the ancestors of the inhabitants of Tom Crookall's back garden hailed from. Tom, who works in Plant Department at Strowger Works, breeds canaries and has nearly thirty birds all housed in a specially built "bird-room" in his garden. He has come a long way since he first began breeding canaries just eighteen years ago. "I only had two birds then," he recalled.

Early canary history indicates that approximately five hundred years ago a ship bound for Africa from Spain was wrecked on the rocky coast of the Canaries. Most of the sailors survived the wreck and remained on the island awaiting eventual

rescue. It wasn't long before they discovered their temporary "home" was inhabited by seed-eating birds with an irresistible song. The sailors captured some of them and took them back to Spain. It was Germany, however, who first produced canaries on a commercial scale. But the British Isles can be given credit for producing the show birds, the large stately breeds, such as Norwich, Yorkshire, Lancashire Coppy, London Fancy and Gloster. It is the Yorkshire Canary which Tom breeds and with which he has had such outstanding success at many major bird shows.

"The Yorkshire canary is a beautiful specimen," said Tom. "It commands the admiration of all who have an eye for beauty with its graceful outline and dignified movements." The colours too



are delightful and most popular shades are cinnamon, buff and rich yellow.

Correct food is the first step to the show ring. "They should only be fed once daily," Tom told us. And he went on to talk about the fascinating art of "colour-feeding". This is done by adding a small amount of pepper to the basic food and increasing it gradually. By this method buff canaries become pale yellow and the yellows turn a deep orange. "Valuable points can be lost for a badly coloured bird," informed Tom.

The Liverpool & District Yorkshire Canary Club and the Yorkshire Canary Club of Great Britain are two of the specialist clubs to which Tom belongs. He is also a member of several local cage birds societies.

Keeping canaries costs Tom about eight or ten shillings a week and food is, of course, all bought in bulk. When he exhibits the birds they are taken to the show in a special cage. An important factor which will impress judges is obedience and each canary must be trained to a stick at an early age. "The birds must be able to stand perfectly still on the perch while the judges examine them," said Tom. This training is invaluable in many ways. Once Tom lost a canary and found it later in an apple tree four gardens away. He stood under the branches, held a stick out to the bird and on it hopped and was safely returned to the cage.

Most people are inclined to favour budgies when it comes to buying a bird as a pet. But Tom assured us that the budgie is not the only bird to be trained. "With patience and understanding a canary will become just as domesticated," he said. "And you have the additional attraction of a glorious song."

Each bird has to be ringed and this is usually done when they are about nineteen days old. Every owner knows his particular birds by the colours of the rings. This method of identification is an excellent one. "Recently," said Tom, "I took the wrong bird home from a show and the owner had mine. Luckily we were able to sort things out by the rings."

Strangely enough weather is no problem to Tom. "The worst trouble is enteritis," he said. "A lining around the birdroom of compressed paper provides all the heat necessary during the winter months."

And what a wonderful show record Tom Crookall has! He has never missed a year without winning a cup. Last year he won four cups, two



*Tom Crookall with one of his many prize Yorkshire canaries*

rosettes and two diplomas. And out of the four years which one particular cup has been up for competition Tom has won it twice.

Fantastic prices are often paid for prize canaries. "I can remember one bird being sold to an American for £500 at one show," Tom said.

Luckily, however, pet canaries can be purchased much more cheaply than this! And although he only breeds show birds Tom recommends the songsters as pets for anyone. People who are confined to the house for long periods, sick people as well as children will all find enjoyment in owning and caring for a canary. It is a fact that nervous people have been completely cured after caring for one of these tiny birds for a time.

"They are cheaper to keep than most animals," informed Tom. "And they are the only pets that truly sing." Their life span is about eight years although they have been known to live for as long as fifteen.

We wish Tom good luck in forthcoming competitions and in his ambition to win a major trophy at the National Show in London next year.



# All Kinds of Music

**NOREEN LEATH, DEPT. 15, STROWGER WORKS,** literally sings her way through life! For the past nine years Noreen, 20, has been a keen member of the now famous Liverpool Girls' Choir. Formed in 1949 by Madame C. Roberts and pianist Marion Henderson, the choir is open to girls between the ages of fourteen and twenty-five who enjoy singing and are prepared to give up a great deal of their spare time just for the love of it.

These young singers make an attractive picture in their gay outfits of red embroidered skirts and crisp white broderie anglaise blouses. They entertain at every kind of function and for a wide variety of charities and good causes. "Sometimes it is a church restoration fund which benefits," said Noreen. "Or it could be the R.S.P.C.A., or

*Noreen receives a few words of advice from her teacher before the performance*



an Old People's Home." Hospitals, of course, are high on the list of choir dates.

Noreen recalled April 1959 as one of the most exciting times. The choir were invited to join the all-star bill at the Empire Theatre. The bill was headed by the Band, Pipers and Dancers of the Royal Scots Greys and it proved a memorable occasion for all the girls. Noreen particularly remembers the second night of this show when an unfortunate hitch occurred. "The pianist somehow managed to turn over two sheets of music at once," said Noreen. "Although we went along with her as though nothing had happened, the members of the orchestra were a little bewildered to say the least and had to adjust their score rapidly." Luckily the audience remained oblivious to any mistake which proves just how well trained this choir is.

Friday night is rehearsal night and although there is usually a break during summer months this year there just hasn't been time for one. "We had so many concerts to do we just carried straight on through the whole of the summer," said Noreen.

Earlier this year she sang at the Philharmonic with the choir. Star of the show was singer-comedian Max Bygraves. "We all liked him a lot," recalled Noreen. "He spent a great deal of time back-stage chatting to us."

Soon after this concert the Liverpool Girls' Choir went to sea—on a special cruise of the *Royal Iris*. Aboard were the Mayor and Mayoress of Wallasey and the occasion marked the centenary of the Ferries.

It would be impossible to mention all who have benefited from their concerts. Sometimes they sing to raise funds for a specific purpose as for example the show given in aid of the families of the men who perished in the *Applegarth* disaster. But often the girls visit hospitals and old people's homes in and around the city.

"We pay a weekly subscription of sixpence to cover hire of rehearsal premises," informed Noreen. "We also buy our own music and costumes." Occasionally they are offered, and accept, a small donation which helps towards bus fares.

Activities are not confined to the concert platform or stage by any means. "In 1953," said





*The choir get together for a musical discussion*

Noreen, "we sang to the vast crowd watching the Ladies' Football International between England and France at Stanley Stadium."

1956 saw the Liverpool Choir at the City Stadium to sing in the All Nations Cavalcade of Song and Dance.

Noreen sings soprano and her own particular favourite she told us is the Nun's Chorus from the opera "Casanova". The choir's repertoire is altered to suit the audiences. It may be Rodgers and Hammerstein at a hospital concert or a selection of "old favourites" at a Pensioners' Home. Noreen doesn't mind which type of song she sings. Classical, musical comedy or light "pop", she enjoys them all.

Past members of the choir keep in touch regularly. One member now lives in Reno, U.S.A., another is an air hostess, and one girl has gone on to greater success winning eight silver cups and numerous other singing awards. As a postscript to that show at the Empire one choir member has recently become engaged to one of the Royal Scots Greys!

Just about this time of the year the strains of

"Good King Wenceslas" and other well-loved carols are never far away. And the Liverpool Girls' Choir contribute in no small way to the festivities. Every year they are in great demand for carol concerts. Last year the Carlton Theatre booked them for a carol concert following a very successful singing week at the same theatre earlier in the year, in aid of the Spastics.

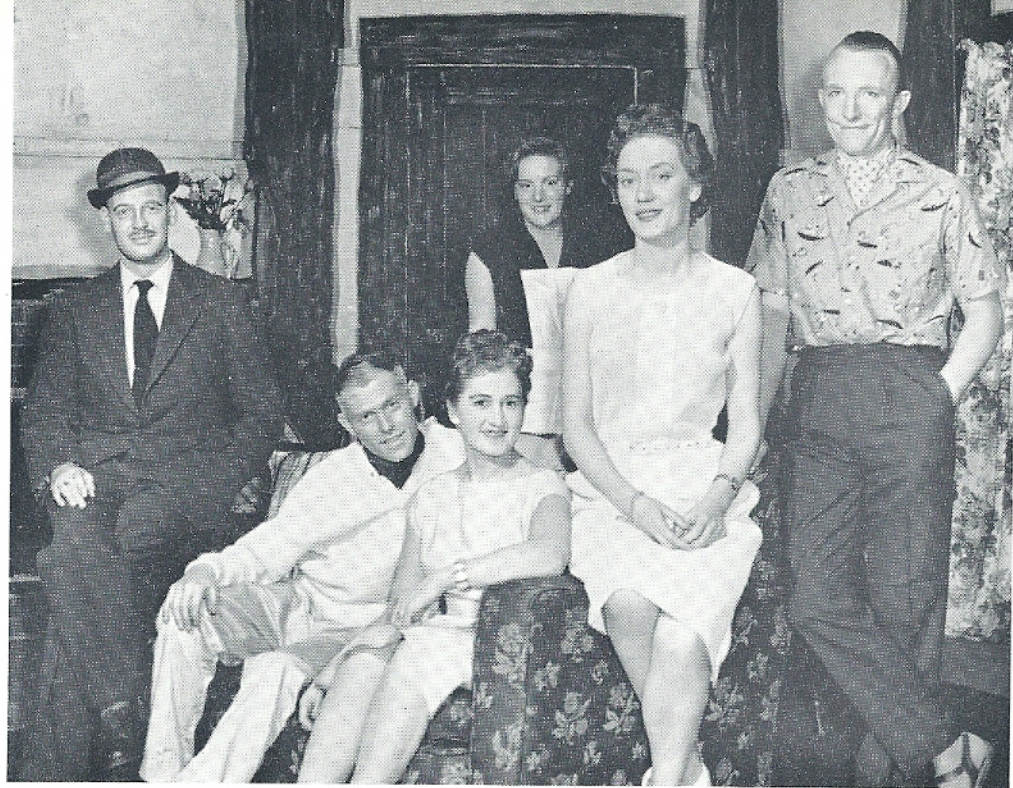
No doubt this year there will be many a hospital patient or old age pensioner cheered up by the sight of these young ladies singing the tunes of Christmas around glistening trees. With an average of three shows a week plus rehearsals it's a wonder Noreen has time to pursue her other hobbies of swimming and hiking but she assures us she does!

Needless to say Festivals are popular and no wonder for this choir has had success at both the Liverpool and Crosby Musical Festivals.

But Noreen and her fellow-choirgirls are not only successful in winning cups and medals. They have also won the hearts of their audiences wherever they have sung. Their reward is the happiness they bring to the sick, the aged and the disabled.

Happy Christmas, Choristers!





*Members of the cast of Dead on Nine produced by Arthur Hughes*

## Busy Lines

### PEOPLE · PLACES · EVENTS

**T**HE REPLICA of the life-size nineteenth-century office at this year's Electronic Computer Exhibition, Olympia, contrasted sharply with the ultra-modern design of the ATE Stand.

The exhibition, held from the 3rd to 12th October, was opened by Lord Brabazon of Tara. A machine on the Company's stand translated data on to tape for subsequent feeding into a central computer. The machine was connected to three other links in the exhibition, E.M.I., English Electric Co Ltd, and Leo Computers Ltd. They work over a normal telephone network.

Also displayed were the magnetic drum 3-digit director system and a complete range of telegraph equipment.

**"DEAD ON NINE"**, the ATE Players' Autumn presentation at Crane Theatre provided the audiences with plenty of thrills. Two murders in just under two hours is certainly value for money! As usual the sound effects were provided by the ATE Audio Society and the production of the play was directed by Arthur Hughes.

\* \* \*

**T**WO APPRENTICES OF ENFIELD TOOLS recently won first and second prizes in the Craftmanship section of a competition organised by the Gauge and Tool Makers' Association Competition.

R. G. Hyde took first prize and was invited to choose books, tools or instruments to the value of £15, and R. A. Brooks to the value of £10.

Both of them attended the G.T.M.A. luncheon earlier this month where they were presented with their awards by the Rt. Hon. Viscount Chandos, P.C., D.S.O., M.C. (Chairman of A.E.I. Ltd), and Sir Stanley J. Harley, B.Sc., M.I.Mech.E., M.I.Prod.E. (President of the Association).



ON TUESDAY, NOVEMBER 7TH, the Lord Mayor and Lady Mayoress of Liverpool, Alderman Peter McKernan and Miss Mary McKernan, visited Strowger Works accompanied by Mr. A. F. Roger, Mr. and Mrs. J. A. Mason, Sir Rex Hodges and Mr. H. W. Barrett; they visited factory machine shops and Assembly Departments and saw a PAX demonstration.

\* \* \*

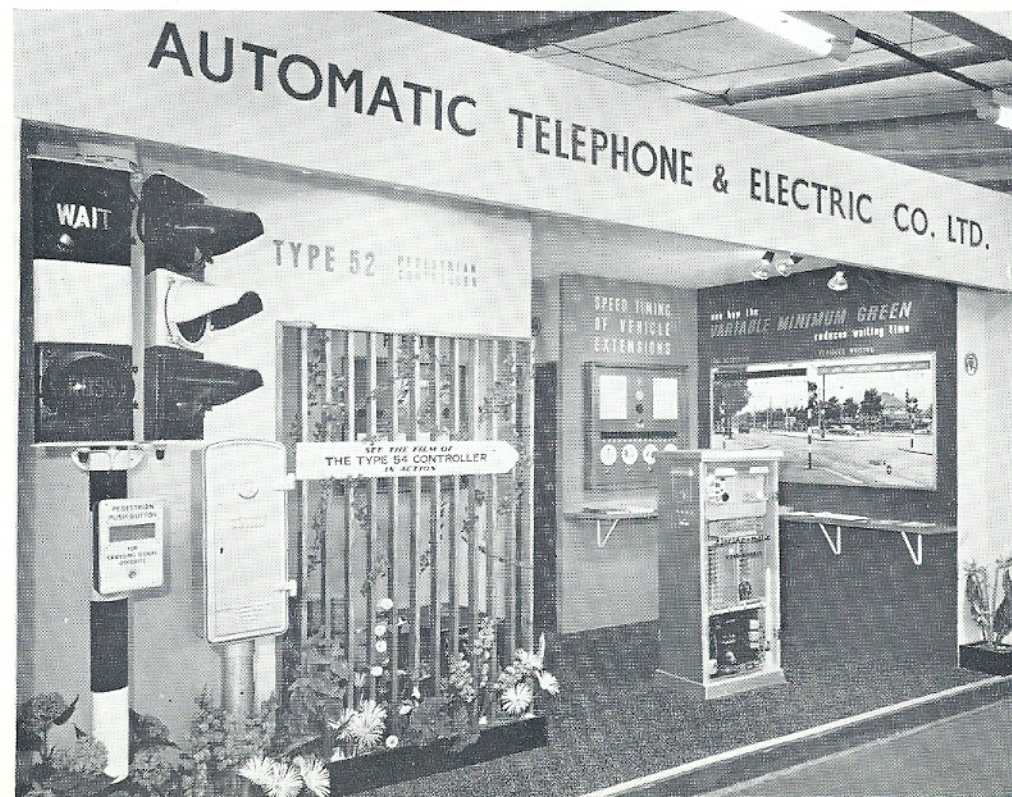
THIS YEAR'S Association of Public Lighting Engineers' Exhibition, held at the Spa, Scarborough, was opened on October 3rd by the Mayor of Scarborough, Alderman C. Arthur Marriner, J.P. He was welcomed to the Company's stand by Mr. W. H. Smith, Assistant Home Sales Manager. Also present on the stand was the A.P.L.E. President for 1961, Mr. E. C. Lennox, M.I.E.E., F.I.E.S. Exhibits on the stand included type 54 (Electromatic) and type 52 (Pedestrian controlled) Traffic Signals.

\* \* \*

*Below: A section of the Company's stand at the A.P.L.E. Exhibition*



*The Lord Mayor and Lady Mayoress were shown the works surgery during their visit*





## Photographic Competition

### the Sun, the Sand and the Sea-birds



*Above: Summer is summed up by A. Macfarlane, Dept. 603. Below: His child portrait has spontaneity and movement*



● **OUTSIDE THE RAIN FELL.** Inside were summer scenes—blue skies, golden sands and sun-tanned children. The judges of the *Tone* photographic competition were busy trying to decide which of the many first-class shots most expressed “The Holiday Spirit”. The final choice was difficult. The first three black and white pictures are reproduced on this page. Unfortunately we were unable to publish the colour photographs, much as we would have liked to use the winning transparency—a group of children outside a beach shop at Southport, photographed by A. Macfarlane, Dept. 603. Mr. Macfarlane’s name crops up more than once in the prize list for he also takes second and third place in the black and white section. First prize in the latter goes to Ron. Hill of ATE (Bridgnorth). Incidentally few entries were received from associated companies. Employees at Hivac, Enfield Tools, Birkbys, etc., were eligible for the competition. Prizes have also been sent to H. D. Avingdon, Dept. 15, an exciting shot of children on a merry-go-round; R. E. Churchill, Dept 661 for “Cooling off”, a young lady with an ice cream cornet; R. Langshaw, Dept. 08, for “To the Summit”, a young mountaineer; Miss A. C. Bedwell, Dept. 679, for “The Easy Way”, a vintage 1927 Austin 12; A. Canning, Dept. 08, for another mountaineering shot, and finally to G. H. Chappell, Dept. 24 B, for a charming photograph of a young girl sitting on a pier support.

*“Steps of history” photographed at St David’s (Bishop’s Palace) by Ron Hill, ATE Bridgnorth, has atmosphere and charm*









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