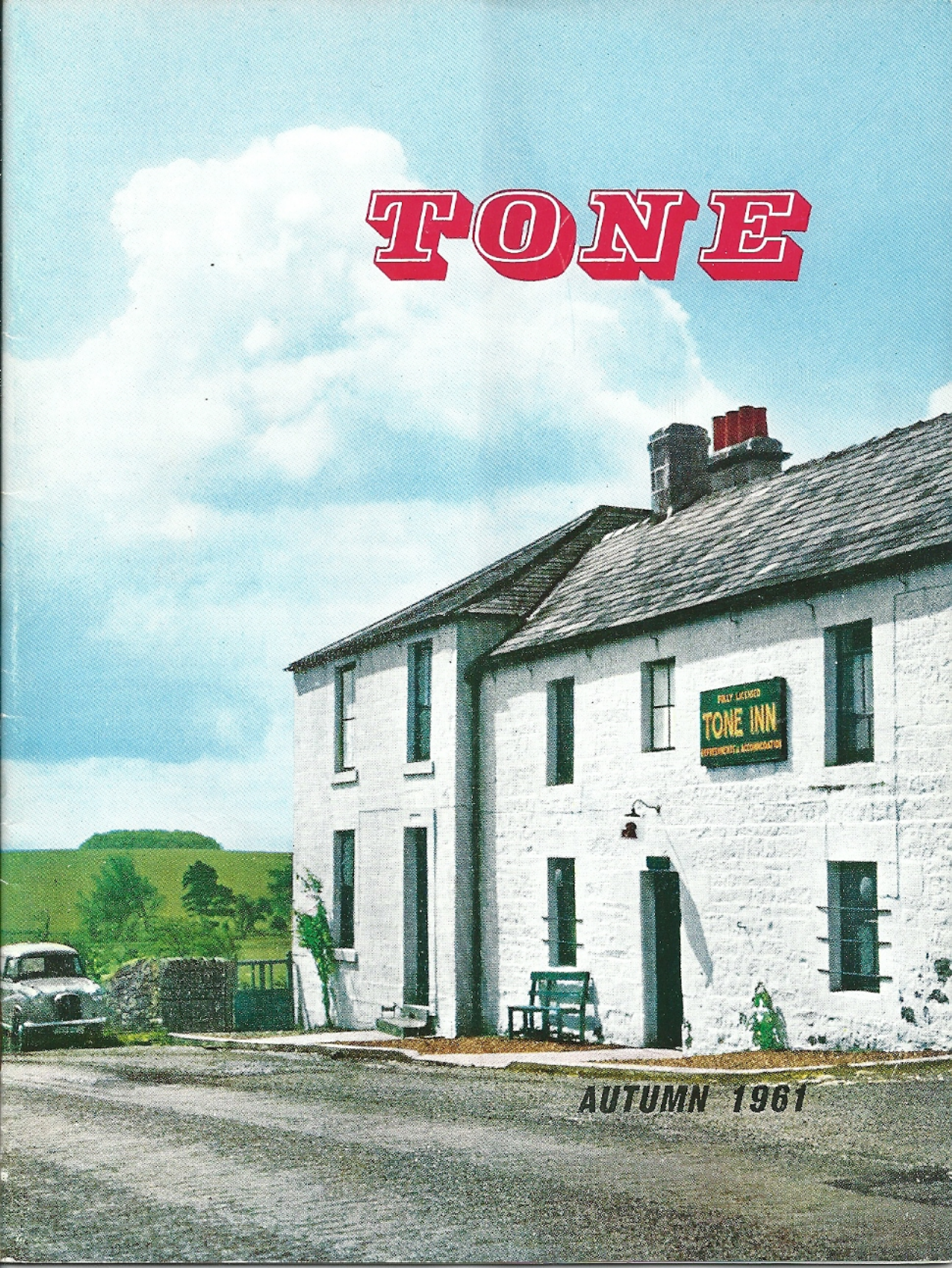
TONE



AUTUMN 1961

THE BIG DIAMOND

TONE *Issue Number 23 : Autumn 1961*

The Quarterly Magazine of
Automatic Telephone & Electric Co. Ltd.

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THE BROOKLYN DODGERS, Chicago Red Sox, Yankees, these are some of the intriguing names that spring to mind when the word Baseball is brought into a conversation.

But did you know that the game of Baseball originated in this country, in Liverpool in fact, 80 years ago?

Then, it was probably no more than a scratch ball game played by labourers between their working hours. Later, a few simple rules were introduced and gradually the game developed into a well-organised affair with set teams and organised matches.

As Liverpool was Britain's main "gateway to the West", sailors probably introduced it to the East Coast of the United States and people travelling west on the great wagon trains must have taken a form of the game with them.

For a long time, Baseball in this country has been dormant. The only place where it has really flourished has been in South Wales where ordinary games between Works teams can attract as big crowds as for important rugby games.

Now, however, English Baseball is coming into its own. Its rise in popularity can be seen from the number of Works teams springing up all over the North. Last year ATE's team was admitted to the second division of the local league of the English Baseball Association and after a hesitant start succeeded in reaching the final of the Gladstone Cup against Liverpool Schoolboys team. This would have been a fine game, as the regular schoolboys team contains some internationals. However, they failed to raise a team so ATE were presented with the trophy, no mean achievement for a team only formed just before the beginning of the season.

Secretary of the team is David Hedges, a wireman in Dept. 27. David plays regularly for the side as does the Treasurer, Ricky Jones, a Technical Clerk. Chairman is Ray Thomas, Dept. 665.

Most people tend to regard English Baseball as a toned-down version of the American game, for instance the "genteel" under-arm throw as opposed to the full-blooded pitch. Actually the opposite is the case and the "genteel" throw of a good English bowler often exceeds 70 m.p.h. Someone who will readily testify to this is the captain, Arthur Jones. Arthur stopped one with his face early in the season which fractured his jaw.

It must also be remembered that the English players don't wear the cumbersome protective

The team: Back row: (left to right); Alan Shackley, 01, *Harry Henderson*, 46, *Jim Davies*, 25, *Harry Johnson*, 24, *Denny Whitehead*, 01, *Eric Whitehead*, 01, *Jack Kisane*, (*reserve*) 93
Front row: Dave Hedges, 21, *Ted Baxter*, 99, *Arthur Jones*, (*Captain*), 665a, *Ricky Jones*, 207C, *Billy Wilkinson*, 33

clothing of their American counterparts. Only the back-stop has any protection at all and this consists of a mask and a glove.

Uniforms usually consist of football shirts, shorts and socks. Any type of sporting shoe is permissible but in most cases gym shoes are used.

In games between English and American players, using both codes, the English teams have almost always come off best. The reason ? Well, first of all, the English players, unhampered by the suits their opponents were wearing were much more agile, not only in batting but also fielding. Secondly, the American game only allows for forward shots so the players were at a disadvantage while playing the more subtle English code which allows for cuts and glances behind the batsman.

The ATE team has gained the reputation of being the smartest in the league. They wear shirts of maroon and blue stripes with white shorts. As part of their "diamond" is the cricket square at Whitfield, heel-less gym shoes are the order of the day!

Vitally important to a baseball team are the bowlers. Here accuracy is imperative for the bowler must throw the ball inside the three feet wide batting crease and between the levels of the batter's knees and chin. More often than not, the ball hurtles straight at the batter who has to move pretty sharply to make his stroke. If he misses he's got about a tenth of a second to duck!

Each team has eleven players and every one of these must be dismissed singly before the whole team is out. If, however, there is nobody to take up the bat and the remaining members of the team are all at various bases, these can be dismissed by dropping the ball into a diamond marked out on the batting crease.

English Baseball is a tough game, tougher than most. Mr. Jones told *Tone* that several of the members of the team had once been devotees of the American game which has a good following in this country. After trying the two, however, they were firmly convinced that although the English game may not be the best possible insurance risk, it certainly provided players with a feeling of achievement and excitement!

Mr. Alastair Roger

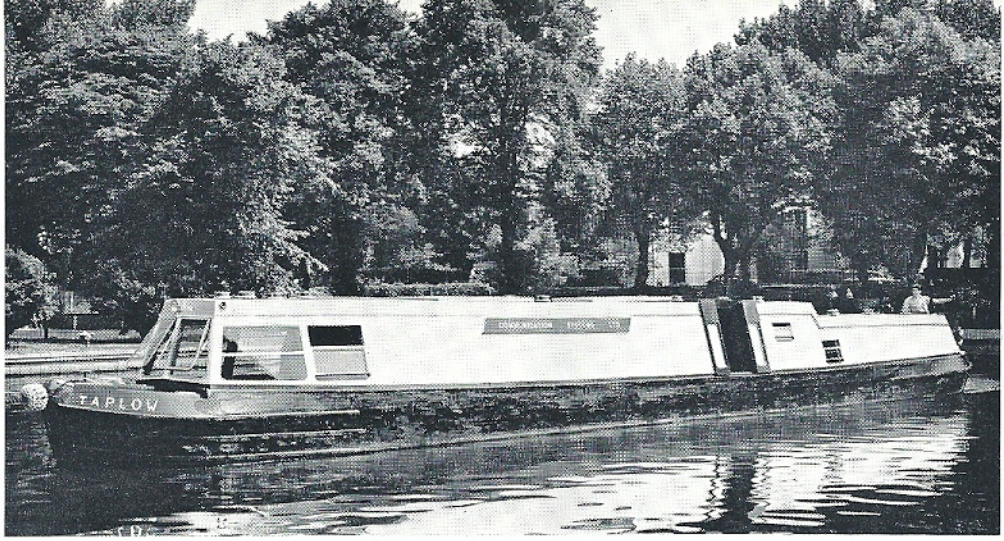
Mr. G. D. Christie

Changes on the Board

THE FOLLOWING CHANGES have been made on the Board of Directors: Sir Thomas Eades (Chairman) has been appointed Honorary President, Mr. A. F. Bennett has retired, and a full account of his outstanding career will be published in our next issue, Mr. C. O. Boyce (Managing Director) has relinquished his position and has been appointed an executive director of BICC, Mr. A. F. Roger has been appointed Chairman of the Board of Directors and Mr. G. D. Christie has been appointed Managing Director.

Mr. Alastair Forbes Roger succeeds Sir Thomas Eades as Chairman of the ATE Group of Companies. Mr. Roger has been a Director of ATE since 1955. Educated at Loretto School near Edinburgh and Oxford (Christ Church), Mr. Roger, as a preliminary to his career in the telephone industry, joined the Alton Battery Company in 1935 and from there went, in 1936, to spend a year with the St. Helens Cable & Rubber Co. From then until the outbreak of war in 1939 he was successively with a number of operating companies controlled by Telephone and General Trust and Telephone Associated Services in the West Indies and Venezuela and also a City of London firm of Stockbrokers, Richardson & Glover. For the next six and a half years, Mr. Roger served in the Rifle Brigade, reaching the rank of Major. Since leaving the Forces he has gained experience as a Director of many companies including British Electric Traction, and Cables and Wireless (Holdings) Ltd. On the retirement of the late Sir Alexander Roger in 1960, Mr. Roger became Chairman of Telephone & General Trust, Temple Bar Investment Trust and The Anglo-Portuguese Telephone Company.

Mr. G. D. Christie, who has succeeded Mr. Boyce as Managing Director, has been associated with the ATE group since 1927 when he joined the Telephone and General Trust Ltd. He became the ATE Company Secretary in 1941 and joined the Board in 1956 as Director of Finance.



C.S. takes to the water

HIDDEN AWAY BEHIND LONDON'S PADDINGTON STATION there is a part of the British Waterways System known as "Little Venice". It was here on July 26th that an old boat was given a new lease of life, and Communication Systems Ltd. began a new venture in equipment demonstration.

Up to a year ago the 70-foot boat *Taplow* had lain in the wharf unused and almost derelict after carrying cargoes up and down the canals and waterways of England for thirty years. It was the idea of Mr. W. A. Travers, Director and Manager of C.S. Ltd., that the boat should be bought by the Company and converted into a mobile exhibition of products. After months of hard work and careful supervision by enthusiastic workers and C.S. Engineers, the boat was converted into one of the finest waterborne showrooms of its kind. It is believed to be the first such mobile showroom in the country.

At the opening ceremony the Rt. Hon. Frederick Erroll, M.P., Minister of State, Board of Trade, told a large representative gathering from the world of Commerce and National Press that he considered *Taplow* an outstanding example of imaginative selling. He thought the venture showed a willingness to attack the prospective market and to seek out the customer and show him the products. It also showed confidence in the products on offer. He concluded, "For these reasons I am happy to be here today and to have the privilege of sending *Taplow* on her travels."

The boat is divided into four sections. Forward there is a bright, airy lounge for business transactions. Amidship there is a showroom installed with a working type 58 P.A.X. to which are connected several types of mining and other telephones. Other equipment on display includes a complete dictation recording system, loudspeaking intercom systems and clock systems controlled by the crystal chronometer. The after section of the boat has living quarters for two salesmen and accommodation for the boatman and his wife who will be in permanent residence. *Taplow* made her first journey along the Grand Union Canal in the middle of August. Her "maiden voyage" will take her to most of the Midland industrial centres. In the next three years she is expected to cover 1,400 miles of waterway.

C.S. Ltd. are using one of the country's oldest forms of transportation to demonstrate some of the newest communications equipment. When questioned about the boat on the B.B.C. Home Service programme " Today", Mr. W. A. Travers said that although it sounded a very romantic way of selling goods the idea behind it was very practical. It was also economical. A static exhibition for a fortnight's duration is costly, while the expense of this floating permanent exhibition is little more.

Tone wishes *Taplow* and all who sail in her *bon voyage*. May she prove successful in her job of "Taking the product to the people."

A taste of honey

EVER BEEN STUNG by a bee? If you have then chances are you'll think anyone who keeps them is completely mad. The many thousands of bee-keepers in Great Britain, would not, of course, agree and one of them is Frank Scarlett, Power Signalling Division, City Factory. Frank has about 250,000 bees in his back garden, all happily accommodated in seven hives. He first began his apiary eighteen years ago and is now Secretary of the Lancashire Beekeepers' Association. A regular exhibitor at the Liverpool Show, Frank has taken many prizes for honey and this year he and his wife Irene acted as Stewards at the Show. Irene is Frank's "right hand man" when it comes to beekeeping and shares his enthusiasm. "I really enjoy helping Frank with the bees," said Irene. "But when I see a wasp, I'm off."

When asked about being stung Frank replied "It doesn't bother me now, I'm used to it." What worries him more is the weather, for unstable conditions can seriously affect the honey. His best yield to date is 150 lbs in a season.

A hive can contain anything up to sixty thousand bees, each completely interdependent for a single bee cannot survive and would soon perish. "The fate of the colony rests with the Queen," Frank told *Tone*. "She is the only one who lays eggs and the others are workers or drones." The worker bees really live up to their name—and they've never been known to go on strike! Although females, they don't lay eggs but do have a strong maternal instinct. "This is just as well," explained Frank, "for the Queen shows no interest in her young and the workers readily take over her duties of nursing, feeding and cleaning." It seems that they are the "architects" of the bees' residence, and will even defend the hive if necessary. They also keep the young bees warm. At the Liverpool Show Frank showed us a comb of bees under glass and although a cold evening the glass was extremely warm. "Most people do not know they are warm blooded insects," he said.

Hollow trees are popular bee homes and this is probably the answer to "where did they live before being domesticated by man?" Interesting to note that they are represented in paintings found in the royal tombs and temples of ancient Egypt.

"There's a lot of hard work to be done before any honey appears," said our Beekeeper. Nectar, the main ingredient, was regarded by the ancient Greeks as the drink of the gods. They believed it could make men immortal. "I don't guarantee immortality," smiled Frank, "but I am convinced and so are many doctors that it promotes good health and a long life." Strictly speaking it's the flowers we have to thank for the honey—bees just improve it. It's a good job they do for no man surely would have the patience to collect those tiny drops of nectar from each flower!

"The bee's stomach is like a shopping bag," said Frank. "To collect a thimble of honey she must fill and refill her stomach sixty times. And to fill it once she must visit over a thousand different blooms."

When asked about the clusters of bees often seen on trees Frank explained that when a new queen is bred half the colony leave the hive with the old one and settle on a nearby tree. Now is the time for a keeper to secure them. There are easier ways of starting a hive, of course, and it is Frank's duty as Secretary of the Association to put beginners in touch with members proposing to sell-up their hives and colonies. The hive is the most expensive part of the hobby. "They cost about £15 new," informed Frank, "but can be obtained much cheaper secondhand." He also told us that although he doesn't make a big profit by selling honey it is possible to break even most times.

Fortunately Mrs. Scarlett also likes bees!

Frank exhibited at the Liverpool Show

The honey is taken at the end of July when the worker bees' attitude to the drones becomes decidedly less receptive. Having served their sole purpose of fertilising eggs, they are pinched, stung and dragged towards the hive opening. "Buzz off!" say the workers in no uncertain terms, and out go the poor drones doomed to die of starvation being unable to fend for themselves.

"A bee's span of life is about four weeks," said Frank. This seems unfair as the pampered queen can live up to five years.

When the hive is moved it must be moved more than two miles. If not, the inhabitants will keep returning to the original place! "They are guided by colour and landmarks such as trees," he added, "and have an effective communication system."

When a bee finds food she "tells" the others by performing a dance in a circle. Then she announces the direction and distance where it is to be found by another dance, this time moving in two semi-circles and wagging her tiny body furiously. The other bees invariably join in. Could this be the origin of the "Be-bop"?

Honey has many uses besides being a delicious sweetmeat. It is invaluable for coughs, colds and even rheumatism. "Being antiseptic it can be used effectively on boils, burns and abrasions," said Frank. Honey mixed with a little olive oil and the juice of two lemons is invaluable for bronchial troubles.

A delicious drink called mead is made from honey and yeast. And everyone knows the value of beeswax. Besides being the basis of all cosmetics, when it is mixed with a little turpentine pure beeswax is the most effective household polish.

Most people associate bees with stings before they even think of honey. Frank told *Tone* that they will only sting for two reasons, if they are squashed or if there is an offensive odour, such as a goat or sheep. "They don't like goats at all," laughed Frank. He then went on to say that if a bee does sting and you can bear to leave it alone for a few seconds it will turn round and gradually "unwind" itself from your skin. This makes the sting far less painful. When the bee is hastily knocked away by a panic-stricken human being, half of its stomach remains and the bee will die soon afterwards.

So if you do happen to come into painful contact with a bee don't be too hasty. Just grab yourself a blue-bag to rub on the sting and take comfort in the knowledge that you've probably put the poor thing completely off course for food and she'll probably have to start all over again.

And after such a summer as this, all you honey-lovers should raise a spoon in salute to those gallant little worker bees who have put in so much overtime!

Let's hope that Frank and Irene have a bumper honey yield this year.

GROUND ZERO

IN 1945, OUT OF THE DUST of Hiroshima and Nagasaki, there emerged a new fear to terrorise the world—the nuclear bomb. Since then, great strides have been made in the field of nuclear warfare and at this moment, all over the world, great fleets of bombers stand ready to "scramble" at a moment's notice and rockets stand poised on the launching pad, needing just the touch of a button to send them hurtling into space for the destruction of targets thousands of miles away.

How would Britain fare in the event of a nuclear war? However good our defences, it must be realised that the country could not possibly come through unscathed. If another World War was unleashed, a nuclear weapon could, sooner or later, fall on England.

What happens then? What is done about the tens of thousands of survivors, buried under rubble, or just unable to travel, waiting for the deadly fall-out to engulf them?

It is then that the organisation known as Civil Defence takes over. Within minutes of the explosion, the Auxiliary Fire Service would go into action, tackling the fires caused by the intense heat of the blast. The Rescue Section would work non-stop recovering survivors from the ruins of their homes and the Welfare Section would erect Field Kitchens in the streets to provide survivors with much-needed food and drink.

In charge of a stricken area would be the Wardens. They would direct operations in their own particular sub-area and help to get people under cover before the fall-out reaches them. In areas near to "Ground Zero" which is the name given to the point where the nuclear explosion takes place, time would be of the utmost importance. Wardens would have little time in which to get people safely under cover. Further out from ground zero, wardens would be able to evacuate the public into areas safe from the fall-out.

Bringing "victim" M. Macauley down from a roof top to ground level are St. John's Ambulance men, Privates H. Pearson and R. Scott and Rescue Workers P. Gibbons and J. Jones

Working hand in glove with the local C.D. units would be the Industrial Civil Defence Service. This branch had its inception in 1951 and accounts for 200,000 of the half million members of Civil Defence in this country.

As many large factories, such as Strowger Works, are virtually towns in themselves, the units there would do much the same work as the external branches of the Service.

The Company's unit is 150 strong and is situated at Strowger Works. Chief C.D. officer is Joseph Bennion, a supervisor in the Duplicating Section and his assistant is Frank Bailey, a Telephone Maintenance Engineer. Chief Training Officer is Frank Barrow, an engineer in Dept. 371.

Both Mr. Bennion and Mr. Bailey joined Civil Defence when it first began in 1938. They are highly skilled in all aspects of Civil Defence and are Home Office trained, as indeed are many officers and instructors.

After a rigorous course and examination, instructors attend regular refresher courses to acquaint themselves with new techniques. The unit at ATE is divided into two groups which meet on alternate Mondays at their Headquarters in Carlton Terrace.

Each section holds its own regular exercises and there is one full-scale exercise every year. This year it was held in July.

The Headquarters Section provides the link between other sections. Here, reports are received, the operation plotted and the "plan of attack" worked out. Headquarters Instructors at ATE are Reg Thomas, Sales Service, and Alan Brandreth,

Warden K. V. Napier is checked for "contamination" by J. Conway. Left, J. Ellison, Dept. 24

Privates C. Frederickson and H. Pearson. The "patient" is E. C. Harris, Dept. 89

a foreman in Dept. 13. Signals Officer, attached to Headquarters, is Bill Parry, Dept. 671.

The equipment used at Strowger Works is second to none. As well as the usual steel helmets, stretchers, etc. there are special "milli-roentgen" Contamination meters, used to determine whether survivors and Civil Defence units alike are free of radio-activity and "dosimeters", used by wardens to measure the amount of radio-activity in the air.

If a nuclear weapon were to drop in this district, its effects would be fought not only by strong hands and willing hearts but also with the most modern and effective equipment available.

Mr. Bennion told *Tone* that the Civil Defence's work is not limited to wartime. He pointed out that a fire caused by a cigarette end is put out in much the same way as one caused by the heat of an exploding H. Bomb and if a building collapses in peacetime, the people buried underneath need rescuing just as much as victims of a nuclear attack.

There was quite a lot of criticism aimed at the Civil Defence Corps in the Press recently, one of the points being that as this country is so small, the enemy would need only a few bombs to blanket the whole country. The answer to this one is the fact that the destructive power of the bomb depends heavily on the winds. For instance, if a bomb were to fall in the centre of the country and the wind was blowing in an easterly direction, the West would be completely free of contamination while the C.D. would have time to evacuate the people on the fringe areas.

"Let's not deceive ourselves," said Mr. Bennion, "We know only too well that anyone within a three mile radius of ground zero would have little hope of survival. However, as against the thousands in that area there would be millions of survivors outside the range of the blast, wondering where to go, what to do and it is for them that Civil Defence exists."

The strength of the Liverpool Division is 2,800. SEVEN THOUSAND more are needed before the required total can be reached. Assistant Civil Defence Officer for Liverpool, Mr. G. A. Swinney, M.B.E., said, "Many thousands, even millions of lives would be saved by the Civil Defence, that otherwise could be lost."

Training for work in the Civil Defence only takes a couple of hours a week. Why not join? Get in touch with Mr. Bennion or Mr. Swinney at the Civil Defence Headquarters, Mill Bank, Liverpool.

Retirements

ON FRIDAY JUNE 30TH the Works Canteen in the City Factory was packed with colleagues and friends of Mr. T. R. Rayner, Manager of Power Signalling Division, who was retiring after 38 years' service with the Company. Mr. W. Saville, Technical Consultant, presented Mr. Rayner with a portable radio and a refrigerator on behalf of his colleagues at City Factory.

IN JUNE MR. J. WEBSTER, Research and Development Department, retired from the Company. A social evening was held at the Cross Keys Hotel to mark the occasion. Mr. J. C. Ireland, Manager Research and Development, presented Mr. Webster with a cheque and a wallet on behalf of his friends and colleagues. Mr. Ireland reminded the guests that Mr. Webster was the oldest serving employee in the Company, having started at the B.I. Helsby Cables in 1905.

Mr. T. R. Rayner and Mr. W. Saville

Mr. J. Webster and Mr. J. C. Ireland

Sports Results

FOR THE FIRST TIME in the history of the Inter-Departmental Competition, since the war, a department brought off the elusive double by winning the finals of the Cricket and Football Competitions. This is the City Factory.

The first part of this feat was achieved in March when the football team beat Dengo, Strowger Works. This is the second time running that City have won the Alexander Roger Cup.

"They play together as a team," said George Kaye, Inspection, the team's coach, "and that's how football should be played."

Much the same comment was made by Les Boyne, Drawing Office, captain of the victorious cricket team. In the final against Plant Department they scored 120 for seven. In reply, Plant were all out for 40, due largely to City's all rounder Stan Dyson who took six wickets.

Captains of the victorious teams display their cups

As it so ably expresses a sentiment which readers will wish to echo, *Tone* persuaded Sir Thomas to permit publication of the following extract from one of the many letters which were received on the announcement of his resignation as Chairman of ATE. These came from leading figures in the telecommunications industry, and past and present heads of telephone administrations at home and abroad.

"Not only to those who have worked under your direction but also to your many friends in other organisations it will give especial pleasure and satisfaction to know that, although you are laying down the burden of executive office, you will still be retaining an active interest in the well-being of the industry which you have served for so long and with such outstanding success."

Sir Thomas Eades

His career is the story of ATE

ON THE APPOINTMENT of Sir Thomas Eades as Honorary President of the ATE Group, following his retirement as Chairman, *Tone* has pleasure in recording some of the highlights of his long and valuable service to the telecommunications industry in general and to ATE in particular.

Mr. T. A. Eades (as he then was) joined the then newly formed Automatic Telephone Manufacturing Co., Ltd. in 1912, as accountant. The year before, Mr. Eades had passed the examination, at Birmingham University, of the Chartered Institute of Secretaries, his name appearing at the top of the Honours List for the United Kingdom and Empire.

Mr. Eades' qualities of leadership and shrewd business acumen were soon recognised and in 1920, as part of the re-organisation which took place after the first world war, he was promoted Commercial Manager. At that time the British Post Office had not begun automatic telephone development and it was essential to the Company's existence to get business from abroad. By personally "burning the midnight oil" conducting detailed cost investigations and setting up a modern Works Accountancy system, Mr. Eades was able to establish selling prices for the Company's main automatic telephone exchange equipment which enabled export orders to be secured in the face of fierce foreign competition. Subsequently, in association with Mr. A. F. Bennett, then Chief Engineer, whose great work for the Company over the years will be dealt with in the next issue of *Tone*, Mr. Eades employed the same basic cost information in much more detailed form, in the negotiation of bulk supply agreements with the British Post Office for the automatisation of the British telephone network, and with the telephone authorities of other countries.

He also initiated, in 1929, an important subsidiary activity—the rental (with maintenance) of private telephone equipment in this country—and later expanded this to cover sterling areas overseas, including South Africa, Australia and New Zealand. This business, which led to the formation of Communication Systems Ltd. in 1947, now gives ATE an assured substantial annual income which is a great standby in times of difficult trading.

Promoted Manager in 1933 and Managing Director in 1935, Mr. Eades shaped the course of the Company for more than 20 years and played a prominent part in securing home and export contracts worth millions of pounds. In 1937, for example, realising that in the event of war the nation would need considerable time to get into production

for most scientific requirements, Mr. Eades was in close touch with the Committee of Imperial Defence who, through the Ministry of Aircraft Production, took full advantage of the Company's technical organising and manufacturing capacity to ensure supplies of upwards of ninety items of war equipment including the Automatic Pilot and the Distant Reading Compass which contributed greatly to the successes of our heavy bombers. Recognition of Mr. Eades' services in the Telecommunications and Aeronautical Instrument Industries was made in the knighthood conferred upon him in 1945.

After the war Sir Thomas then faced the difficult but, to him, stimulating task of reorganising ATE on a peace-time footing, and of reviving the Company's export business so vital to the country at that time, as indeed it is at the present. In 1947, together with Mr. G. F. Perry and Mr. C. J. Lovegrove, he created Automatic Telephone & Electric Co. (New Zealand) Ltd. which is today one of the most prosperous of the ATE Group Companies.

In 1948 after two years' negotiations with Indian industrialists he made a 15-year agreement with the Indian Government which led to the establishment of a telephone factory at Bangalore, the operations of which are based upon techniques supplied by ATE. Returning to New Zealand in 1949, Sir Thomas, by getting strong pro-mother-country influences to work, succeeded in preventing an order to the value of £12 million being placed "away from the U.K".

In 1957, Sir Thomas was appointed Chairman of the ATE Group of Companies. It is of interest to recall that when he joined the Company in 1912 the number of employees was less than 900. With the aid of a loyal band of workers Sir Thomas has contributed greatly to the building of ATE into a world-wide organisation employing at Home and Overseas more than 16,000 persons, trading in 70 countries and reputed to be the leading telephone switching manufacturing organisation in the Commonwealth. In Sir Thomas's own words to *Tone*—"We have built an empire, and an international reputation based on friendship and friendly collaboration."

The appointment of Sir Thomas as Honorary President is another milestone in his 49 years of work for the development of ATE on a world-wide basis. For nearly 40 of these years Sir Thomas was closely associated with the late Sir Alexander Roger who was the Chairman for many years and who, says Sir Thomas "was a great tower of strength throughout this long period. His experience of the countries of the Telephone World was unrivalled and his encouragement to us all was unfailingly placed at our disposal. His creation of the Telephone Development Association marked the beginning of serious appraisal by our Government of the future value to industry, commerce and the public of rapid and nation-wide means of telecommunications as we understand it today."

In extending our own good wishes to Sir Thomas in his new role of Honorary President, we can assure him that more than a few of his colleagues "down the line" will remember him for his never failing courtesy, and for the kindness and consideration he has shown to them whenever the need has arisen.

Dates for Your Autumn Diary

A THRILLER is the choice of the ATE Drama Group for their next production. The play is Jack Popplewell's *Dead on Nine* and will be presented at Crane Theatre on October 9th, 10th and 11th. As usual the production will be directed by Arthur D. Hughes and included in the cast are Don Edleston, Tony O'Rourke, Doris Bennett, Fred Mather, Anne Thomas and Don Dutton.

Tickets, price three shillings, can be obtained on request from the producer or any member of the ATE Drama Society.

IF AN EVENING of music is your choice then why not attend some of the Industrial Concerts which will be held throughout the winter at the Philharmonic Hall in Hope Street? A concert is held each month from now until May. Internationally known artists will be appearing. The standard of programmes is very high and the concerts are well attended. Leaflets describing the programmes and artists, and tickets, price five shillings, can be obtained from L. Cropper, Department 414, telephone number 2331.

We'd like you

Fashion trends change so quickly these days that the poor fair sex don't know what they'll be wearing next. They might buy a Jersey Wool suit one day, only to be told the next in the fashion magazines that wool is definitely out! One girl who isn't unduly worried by these lightning changes in fashion is **Adrienne Jones,** a Condenser Foil Winder at Speke Factory. For the last two years Adrienne has been turning out a steady stream of suits and dresses and calculates that since she started she has made 200 garments.

Adrienne Jones—dressmaker

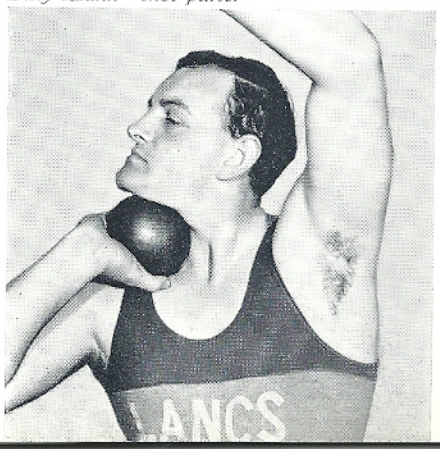
Television sets are an expensive commodity but **Bob Hignett,** Senior Inspector at Speke can sit back and enjoy "Wagon Train" and other programmes at an outlay of only a few pounds. The reason? Bob is an experienced television engineer. He buys an old set cheap, reconditions it so that it is as good as new. At present he is using a 15-in. set made in 1952 which, Bob confidently declares, is good for quite a few years yet!

Tony Pringle, Dept. 662 spends a lot of time blowing his own trumpet—in the Druids Jazz Band. The drummer in the band is also an ATE man, **Roy Hartshorn,** Dept. 345. There are six members of the band, which plays traditional jazz, and the group has played at most of the Liverpool clubs. At the moment, they are appearing at a club underneath Fort Perch Rock, New Brighton.

Tony Pringle—trumpeter

If your watch goes wrong at Bridgnorth, you needn't wait a week while it is repaired. **Frank Lewis,** an instrument maker, will repair it in his spare time. Frank has always been interested in watches and has been repairing them for twenty years. He mends about twenty watches a week and prefers to work with the smaller sizes. His average time for taking a watch to pieces and rebuilding it? Seven minutes.

Billy Mann—shot-putter

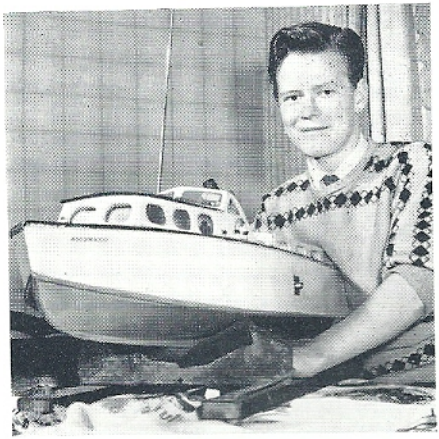


For five years, **Billy Mann,** Dept. 90, has spent his spare time throwing the heavy shot, javelin or discus. As well as winning a number of individual awards, Billy has represented Lancashire in County athletic matches. He is a member of Sefton Harriers.

to meet . . .

Carole Carter—English harrier

Russell Booth—model maker



Bob Edwards—guitarist

If you were watching Television on Saturday, July 22nd, chances are you will have seen **Carole Carter** of the Gestetner Department, City Factory, running for Britain against the United States. Carole, who is a member of Liverpool Harriers, raced against the World Record holder, Wilma Rudolph, in the 100 yards and ran the second leg of the four by 220 yards relay. After helping the British Ladies' team to a win, Carole came back from White City, London, with two presentation plaques, a travelling clock, a new tracksuit, a Great Britain running vest, a blazer badge and many exciting memories of her first international match.

Ted Potter, an instrument maker at Bridgnorth, spends his spare time digging—not in his garden but at the local Roman camp Uriconium. Digging in the farmers' fields around the camp, Ted has found pieces of pottery, coins, Samian ware sent from Gaul before A.D. 200, a length of ornamental chain made of bronze and a cinerary bottle for holding the ashes of long dead Roman soldiers.

Russell Booth, Exchange Labs., has two hobbies, model making and radio. Recently he decided to combine his two interests and the result was a fine radio-controlled model launch. Russell told *Tone* that he gets just as big a kick out of building his models as seeing the finished product and often takes a model to pieces so that he can put it together again. The name of his launch? *Automatic!*

Chopped earthworms seem an unusual diet but they constitute a normal meal for the sixty Black Mollies and brilliantly coloured Guppies owned by **Eric Taylor,** an estimator at Bridgnorth. Eric keeps several tanks of fish and specialises in live-bearing fish.

Bob Edwards, Dept. 660, is one of many ATE employees who make music in their spare time. Bob is guitar and bass player in a four piece band. He has been playing for four years and is also an accomplished singer. The band plays mainly at parties or receptions but has done some club work. Other Company members of the band are **Jim Cragg,** drummer, and **Dave Rigby,** lead guitarist, both of Dept. 651c.

THROUGH THE AGES men have gazed up at the night sky and wondered.

At some time or other most of us have wanted to know more about the universe but comparatively few really get down to taking a closer look at the heavens. Unfortunately cartoonists have a habit of depicting astronomers as doddering grey-bearded gentlemen, too absent-minded to think of earthly things, their heads always way above the clouds. No picture could be more distorted and to prove it we talked to two of the many amateur astronomers in ATE. They are John Enescott, Dept. 661 and Don Innes, Dept. 06, Strowger Works, who have both made their own telescopes.

John Enescott made his first telescope in 1958 after being an avid reader of astronomical books for many years. He is now the proud owner of a 9 in. reflector telescope—the only one of its size on Merseyside. The length of the telescope is about seven feet and is fitted with a mirror. John constructed the base, a most important part, from large pipe fittings, tubing and T-section steel.

An exceptionally fine night will find him out in the back garden patiently waiting for a sight of some particular planet or star. "Conditions in this country are not climatically good," he admitted ruefully. "Sometimes, even on fine nights only the brightest stars are visible and the sky frequently clouds over around eight o'clock." He explained that people looking through the telescope for the first time expect too much and are often bitterly disappointed by what they see. "Patience is the virtue in astronomy," John said.

"There is ample compensation to make up for all the hazards and disappointments," he insisted. "There is the first view of Venus, seen as a slender crescent in the night sky." He went on to explain that the actual surface of Venus is hidden by dense clouds and remains a mystery. Recently, however, a Russian scientist stated that he believed the planet contained oceans of oil.

According to John, Mars is one of the most interesting planets to watch. At opposition it is brighter than any star by virtue of its thin atmosphere. At the same time its surface markings are difficult to observe due to the turbulence of our atmosphere. "Mars has two polar caps," informed John, "only one of which is observable. Like the earth's poles they increase and decrease at different seasons. Unlike the earth's poles the rate of change indicates they are only narrow layers of ice or hoar." The darkening of the blue-green areas annually suggests vegetation but this is only another theory. Astronomers and scientists say that if there is life resembling that on earth to be found anywhere else in the solar system then Mars is the place to look for it.

"Jupiter," he told *Tone*, "is the largest planet, having a diameter eleven times that of the earth and dark belts are seen crossing its surface. The temperature is some 130°C below freezing so obviously Jupiter would not be a suitable home for life as we know it." To get an idea of the distance of the planet John informed us that even when enlarged 350 times Jupiter will still look only as big as a small pea!

Through his eye-piece John can see Saturn with its many rings, and farther out into space, Uranus and Neptune, both green in colour, can be seen.

The planet Pluto is only detectable through telescopes as a faint light moving amongst the background of "fixed" stars and changing position slowly, night by night. Mercury is the nearest planet to the sun and the astronomer must scan the eastern horizon before sunrise during the autumn or in the west after sunset in February and March in

order to see the "Messenger of the Gods". "Some of the planets are endowed with families of satellites," said John. "Jupiter has the largest with twelve."

To those who find an interest in the sky John's advice is to make a simple telescope. "A beginner preparing one with a mirror might start at six inches," he informed. "But before this, some mounting arrangement must be planned." John recalls many a mirror having come to grief for lack of a good mount. "No tools are needed to grind the mirror if edged glass is used," he explained. "But unless the enthusiast is handy with even household tools he will find that constructing a mount is far from being child's play."

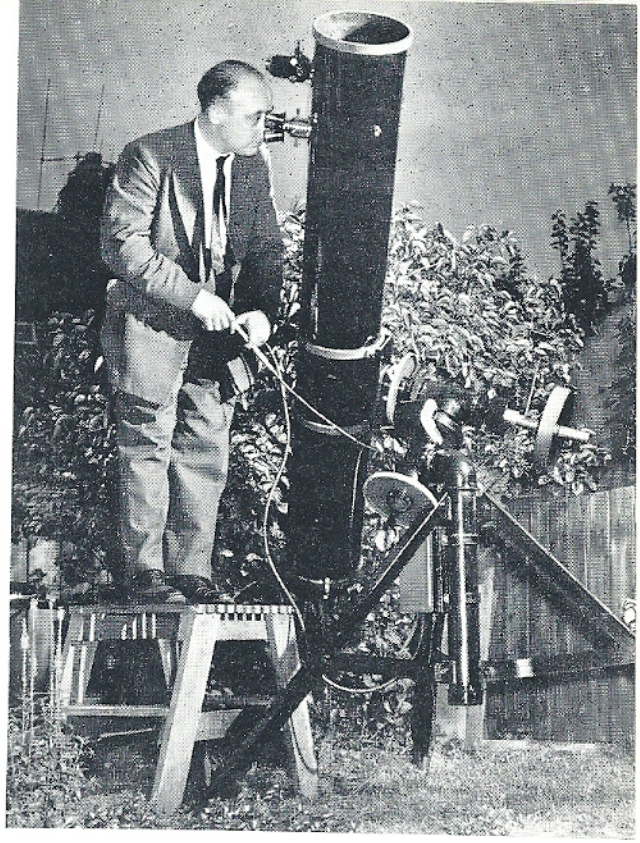
Fellow astronomer, Don Innes, from Dept. 06, constructed his first telescope as long as nine years ago. "I made it from lenses taken from an old pair of reading glasses," he told us. "I was so pleased with the results that I began to make another telescope and I now have a reflector type fitted with a five inch mirror."

Don has been a member of the British Astronomical Association for four years and maintains the view that astronomy is more hard work than fun. "You must train your eye for the job," he told *Tone*. "Some nights it is bitterly cold and often when I am sitting outside all alone, everyone else tucked up in bed, I wonder just what makes me do it!" But he agrees with John Enescott that the results are rewarding.

We asked Don about the moon as seen through a telescope. "Some of the craters are up to 150 miles wide," he explained. The appearance of the moon through a telescope indicates that it has no atmosphere. There is a total absence of twilight, jet black shadows, glaring highlights and a clear definition of surface features. Since the moon has no "weather" the hills and mountains have not been subjected to erosion as on the earth. It is a completely dead world. As John Enescott remarked, "Why people seem in such a hurry to get there I can't imagine!"

"We can see the moon only because light from the sun is reflected from it on to our eyes", Don explained. "But in the same way solar light is reflected on to the moon from the earth. This is known as 'earthshine'."

Don spends a great deal of time studying sunspots. He warns would-be viewers though that it is most unwise to look at the sun with the naked eye to the lens. "This can cause total blindness," he said. "The safest method is to project the sun's image on to a white screen."



Seeing stars in John's back garden

When the war ended the market was flooded with all sorts of weird and wonderful chunks of apparatus. Lenses and prisms were at give-away prices and the amateur astronomer really came into his own. It wasn't long before vendors of such supposed junk realised what was happening and adjusted prices accordingly. So nowadays the enthusiast selects his items of equipment with care.

If you are interested in making a telescope, hunt around the house for some old spectacle lenses and get a book on simple telescopes—there are many to be found in the libraries. When the beginner has tired of the spectacle lens and cardboard tube phase he can advance to more advanced apparatus.

Both Don and John agree that astronomy is not too difficult for the average person to understand and enjoy. It will provide endless hours of absorbing interest by day and night. So why not set out on this voyage of discovery and see for yourself?

With your eye to a telescope lens you can travel in space—and still have your feet planted firmly on the ground!

With Jack Hughes providing a musical background, Len serves coffee to two of the Austrian visitors at the opening of the new coffee lounge

Swiss Cabin Coffee Bar

IN THESE DAYS, when gang-fights, knifings and beatings-up are just so much copy for the popular Press, it is refreshing to find people who are prepared to devote their spare time and energy in providing clubs and activities for young people, keeping them off the streets and providing them with new interests in life.

One such man is Len Salt, an engraver at City Factory. Len is a member of Garston Parish Church and for the last two years has been very actively concerned in the running of Garston Youth Centre, "Bankfield House".

The centre began in 1959 and at present has about 120 members. Though the club is connected with Garston Parish Church, it is inter-denominational and teenagers of any religion are welcome to the activities, except the Youth Fellowship, which is a Church of England Service.

Len is one of ten leaders at the club who work under the leadership of Brian Taylor, the Youth Warden. Before he took over at the club last year, Mr. Taylor went on a lengthy tour of the United States, picking up new ideas for the successful running of the club.

"We are open most nights in the week," said Len, "and anybody who wants to join us can do so. In fact, we welcome Teddy Boys with open arms, just as long as they don't start wrecking the place!"

Any new member of the club would certainly find plenty to do. Needless to say, rock'n'roll is the most popular activity there but there is a whole range of interests including table tennis, billiards, judo and athletics. Horse riding is taught at a local riding school and there is a thriving Mountaineering Section.

Until recently, all the music for dancing came from records but now there is a talented rock group, "Dean and the Capitols." Bass guitarist in the group and regular member of the club, is Jack Hughes of City Factory.

The Centre is in two parts, one the old Vicarage, which dates back well over 100 years, and an adjacent new, single storey building. Both buildings are used to their fullest advantage but last year there was one room in the Vicarage which served no purpose at all.

The empty room and the fact that refreshments

had to be served from a table in the corridor gave the leaders their great idea. They would build a contemporary coffee lounge.

However, before they could start work on the lounge, they had to have some idea of what it was to look like . . . And so members of the club went on a tour of Liverpool's clubs and coffee bars to get ideas for the design and decor of the place.

It was finally decided to build it after the style of a Swiss log cabin and so for six months members were hard at it, planing, sawing, nailing and painting. Len was there regularly and he told *Tone* that he had never enjoyed himself so much in his life! And when the transformation was complete it seemed as if all the hard work had been more than worth the effort.

Now comfortable basket-chairs are grouped around tables in congenial surroundings and members can relax after a hectic rock session or a tough game of table tennis. It is just another of the attractions that this club offers to the youth of Garston.

The lounge had its grand opening in June. The club entertained 22 students from Europe and among the distinguished guests was Mr. Richard Bingham, M.P. for Garston.

The students were over here on an exchange visit scheme and came from such places as Denmark, Austria, Germany, Sweden, France and Norway. The party was sponsored by the Garston Rotary Club.

Len takes a hand in most of the activities of the club. For instance, he organises twice-yearly trips to Wales as well as other excursions. However, his own province is the Youth Fellowship which is held on Monday nights.

Len runs it with the help of another leader and told *Tone* that it was always very well supported.

There has been a church at Garston since the Middle Ages and the present one is the third. Times have changed since then but we are sure that if the priests and monks of the day could see what Len Salt and his colleagues were doing for the youth of the district in the Twentieth Century they would give their full approval!

People may complain about the younger generation but while there are men and women like Len Salt and his colleagues to look after their interests, this country can look forward to good citizens for many years to come.

Jack Hughes demonstrates his guitar technique while Len shares a joke with one of the foreign students and Bill Edge, another helper at the club

A control room manufactured by ATE recently installed at Bristol

Push Button Power

Power Signalling Division

Introducing the product to the people is a service offered by Tone. *In this article, third in the series, the work of the Power Signalling Division at City Factory is described. The products of this division, perhaps not so obvious to the layman as traffic signals or trunk telephone circuits, play just as important a role in modern living.*

ATE HAS BEEN ASSOCIATED with the British National Grid since 1932. Visible signs of the Grid in the form of pylons and power lines can be seen striding the fields and countryside. It is the largest Integrated Power Supply network in the world.

Many of the substations on the British Grid system are provided with ATE supervisory equipment. The Grid control systems supplied by City Factory are those for Central Scotland, North West and South West England areas. ATE is currently installing the National Control centre equipment at Bankside, London.

The Grid is controlled from seven major control centres with overall control from a National Control room operated by the Central Electricity Generating Board.

For the efficient functioning of these control centres it is necessary to indicate to them the power flow in the lines, the power generated at some three hundred generating stations together with the positions "open" or "closed" of the various switches (circuit breakers) situated in power stations and Grid Switching stations throughout the country.

ATE supervisory control and indicating equipment enables all this information to be transmitted over a single pair of telephone conductors from each power station or Grid substation to the respective control rooms. In addition a comprehensive telephone system is woven into the indication and control system to enable verbal instructions to be given on the day to day running of the Grid.

Supervisory control and indication equipment is

installed in smaller units to open and close the circuit breakers of an electric substation over a single pair of wires. The areas controlled can have a radius of more than forty miles. When several substations are linked to one central control point there are various means of transmitting meter readings including "Rythmatic" control and power line carrier.

"Rythmatic" control was originally designed for street lighting and uses the electricity supply mains as its signalling medium. Each point requiring to be signalled is equipped with a "Rythmatic" relay. Voice frequency signals are impulsed on to the supply system at a common point on the network and the relays respond if the impulses are sent out at the predetermined rhythm. The system has been used most extensively in New Zealand for controlling the domestic water heating load in addition to street lighting, the different signals being determined by the impulse rhythms sent.

With the aid of power line carrier equipment the power line can be used as an ordinary telephone circuit. This is economical in countries where telephone lines are few and distances between signalling points are great. High frequencies are fed on to the power lines (frequently at 132,000 volts) through suitable coupling equipment and are modulated with speech or voice frequencies.

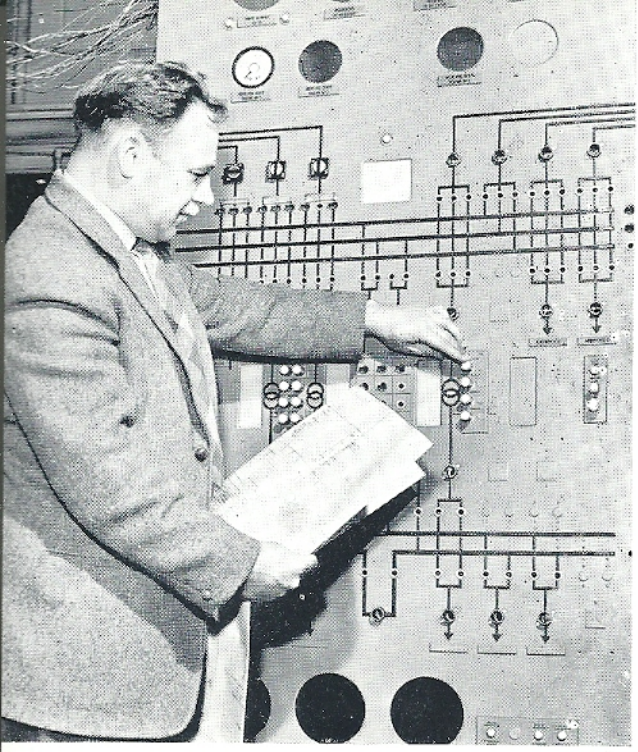
These systems are manufactured and engineered at ATE's City Factory located in the heart of Liverpool. In this multi-storied building are situated all the departments necessary. The factory includes fitting and sheet metal shops, a small machine shop, plating and painting shops, relay assembly shop, wiring shops, coil winding shops, filter design and assembly shops, engineering production and contract departments and draughting facilities.

Contracts for home sales are handled through the Contract Department in City Factory. Enquiries from overseas are routed from the Export Department in the London Office to the Liverpool factory.

Apparatus developed for the National Grid is broadly similar in all cases. Standardisation developed naturally from nationalisation in 1948. The full benefits of a centralised control could only be realised with a readily extensible and standard system for general indications, telephony and telemetry. Standardisation does not mean stagnation. Engineers are continually developing and improving apparatus.

The production of control units begins on the ground floor where materials are cut and prepared. Materials are either painted or zinc plated and a framework is assembled.

Engineer Jean Turner discussing the lay-out of a diagram with Inspector Len Hind



The final testing, by Eric Bevan, of a control panel for Buenos Aires

Signwriter, Sidney Mole, designating interposing relays

A remote control system comprises a control panel and a substation cubicle or cubicles which are connected to the control panel.

The control panel is virtually a switching diagram made up of thousands of interchangeable plastic squares (made by Birkby's). These are either blank or engraved to portray various items of Transmission equipment and switchgear and coloured to represent the appropriate system voltage. By replacing blanks with symbols it is a simple operation to keep the diagram in step with system development.

The control panel and ancillary framework are first drawn to scale in a draughting department. In another drawing office detailed plans are made of the wiring of the apparatus.

While the covers for the control panel and substation cubicles are being assembled and painted, racks are fitted with shelves and brackets, tag blocks and relays. They are then completely wired and returned to the fitting shops where the covers are fixed in position.

A detailed inspection takes place. The continuity of the wiring is checked. A mechanical test is made to make sure the parts fit properly and that the equipment is coded correctly. A visual check is made to see that the finish is good, the locks fit and the paint is perfect. Finally a comprehensive electrical check is made in mock-up conditions. The apparatus is tested to function correctly as it would on site.

Installing of units in this country is done by ATE engineers. Overseas the equipment is usually installed by the customer but, depending on the circumstances, is sometimes tested by ATE engineers.

The output of the division is not solely for the Central Electricity Generating Board. Contracts for remote control systems have been fulfilled for electricity distribution authorities overseas and private organisations, for Gas and Water Boards and British Railways. Recently a great deal of work has been done for the latter owing to the extensive electrification programme.

Remote control systems have been despatched to India, Australia, New Zealand, South Africa, Brazil, Argentina and many other countries in five continents.

Control units hidden away in generating stations are not immediately impressive to the man in the street. Without them, however, many aspects of modern life would function less efficiently.

ACF medal for Captain Cropper

IN JUNE CAPTAIN LESLIE CROPPER, Department 414, was presented with the Army Cadet Force medal for long service. With other military and police personnel receiving medals for service and gallantry, Captain Cropper was invested by Lord Derby, Lord Lieutenant of Lancashire, at Knowsley Hall.

Captain Cropper to the Cadets, Les at Edge Lane, has been associated with the Army Cadet Force since the end of the war. He began as a junior officer and eventually became second in command at the Aigburth Road barracks. In 1954 Les thought his attack of coronary thrombosis would end active life with the cadets. However, he was able to continue his work in an administrative capacity. He left Aigburth Road where he had been responsible for three hundred boys and began duties at Wellington Road where the battery numbered forty.

After the ceremony in June, Captain Cropper had officially retired. He confessed, however, that after so many years of service with the Army Cadet Force he would find "civilian" life somewhat alien. He planned to continue helping the Liverpool contingent in an unofficial capacity.

Les is enthusiastic about the training given by the Force and Reggie Strickland, shop clerk department 14, is in complete agreement. Reggie, who is a captain, joined the cadet force shortly after Les and ever since they have been known as the "terrible twins" in cadet circles. Reggie is now the Commanding Officer at the Mather Avenue Barracks. He plays a keen and active role in all the different aspects of cadet life, drill, map reading, field craft, section leading, shooting etc.

"The aim of the Force is not purely military," explained Les seriously, "We aim to turn out a good citizen. A good citizen must necessarily be a good soldier. This is my opinion," he added, "and not official doctrine."

Until National Service ended last year many boys joined cadet units knowing that by so doing they would stand a good chance for commissions when call-up came round. Although this incentive has gone boys are still joining the Force.

In a grey and gold room at Knowsley Hall Capt. Cropper receives his medal from Lord Derby

"We have many types of boys," said Reggie, "but they have one thing in common. They enjoy the training we have to offer."

The type of programme covered by the Force offers a full and exciting life for boys aged between fourteen and eighteen. Reggie and Les described typical evenings at the barracks, Sunday shooting, week-end and annual camps with such enthusiasm it was obvious that enjoyment of activities is not confined to cadets. Their leaders like the work as well. In fact they are prepared to spend two evenings a week and Sundays at the barracks and attend week-end camps every month.

"And of course," added Reggie. "I also spend my spare time planning schedules, etc."

The training is partly military and partly social. The latter includes working for the Duke of Edinburgh's Award scheme. Football, athletics, boxing and swimming competitions are popular. The Force also provides clubs for members with libraries, reading rooms, indoor games and a canteen.

A group, assisted by John Owen, Pam Watson and Tom Kerr, practise on the dulcimers

Club with a difference

THERE ARE MANY EMPLOYEES who spend a great deal of their spare time in voluntary work. These "Good Samaritans" however are not the easiest people to find as they are usually folk not given to talking about the good work they do. But *Tone* has discovered a number of employees all connected with the same organisation—the Liverpool Society for Mentally Handicapped Children.

In 1958 the Society formed a Boys' Club which meets every other week. Gladwys Jones of Welfare Department, Strowger Works, heard about the club which was run by Mr. A. Siddall and Mrs. Anne Redfern, and she decided to become a voluntary helper. Her enthusiasm made up for lack of nursing experience with handicapped children. It wasn't long before another Welfare Dept. employee, 22 years old Pam Watson, also became interested and she too volunteered to help.

"The club was formed to enable the children to meet each other and really enjoy themselves," explained Gladwys. "It also gives parents an evening when they can relax knowing that their childen are in safe hands and having a good time."

One of the biggest problems which cropped up was that of getting the boys to and from the club. Luckily there were kind car-owners only too willing to help out. Amongst these are Mr. & Mrs. Wilson, Depts. 97 and 96, Harry Withe, Dept. 56 and Tom Kerr from the same Department, and Mr. E. A. Butcher from 01. Also on the rota of regular drivers is Roy Rogers of Dept. 55. They are just a few of the Strowger Works employees who have helped to ease transport difficulties. Every other Wednesday they collect the boys from their respective homes and take them to the club. There they wait until it is time to deliver the members safely back to their grateful parents.

When *Tone* visited the club the boys were half way through a lusty rendering of "Neath the Spreading Chestnut Tree". They are between the ages of eight and twenty-four although their mental age is of course much less. In one corner a basket work section was in progress, watched with interest by Pam and Gladwys. The girls informed us that a woodwork section is on the programme for this autumn. And the man behind the idea is John Owens, a joiner at City Factory. "I'm really looking forward to teaching the boys something about woodwork," said John.

All the children attend special occupational schools. A mentally handicapped child cannot go

to an ordinary school and will not grow up with the mind of an adult. Yet with patience and skill he can be trained to do things for himself, to read and write a little and even to learn a simple trade.

With clubs such as this he can also enjoy a social life and meet other children with similar problems. At the same time he will gain more confidence.

Half way through the evening a break was called for "pop" and biscuits. Single dulcimers were set out on a long table and Gladwys and Pam explained how they are played. Eight boys are each given a separate note to play and a corresponding colour. As each colour is called the boy concerned hits his particular note. "It's difficult to tell who enjoys it most," said Gladwys, "musicians or audience!"

The children often entertain each other. At this point the helpers can sit back and take a rest. "One boy gives a very good impersonation of Tommy Steele", we were told. This naturally goes down extremely well with the rest. Ball games and physical jerks are guaranteed to use up any surplus energy. Some nights puppet shows are held and building kits are provided.

The children can count many ATE employees among their friends. Last year a record player was presented to the Club—the result of a collection in Department 27, Strowger Works.

Outings are arranged during the summer months. Last year the boys were taken to Pensarn, North Wales, and this year's destination was Lytham St. Annes.

It is an alarming fact that one child in every 400 in this country is severely mentally handicapped and one in every 100 to some degree. However much they are loved they are still, in a sense, cut off from children around them. By giving up a few hours every fortnight people like Gladwys, Pam, John and all the other voluntary helpers are doing a valuable job of work. In their Annual Report the Liverpool Society for Mentally Handicapped Children paid a special tribute to the work done in this particular club by commenting on the remarkable improvements in speech and action.

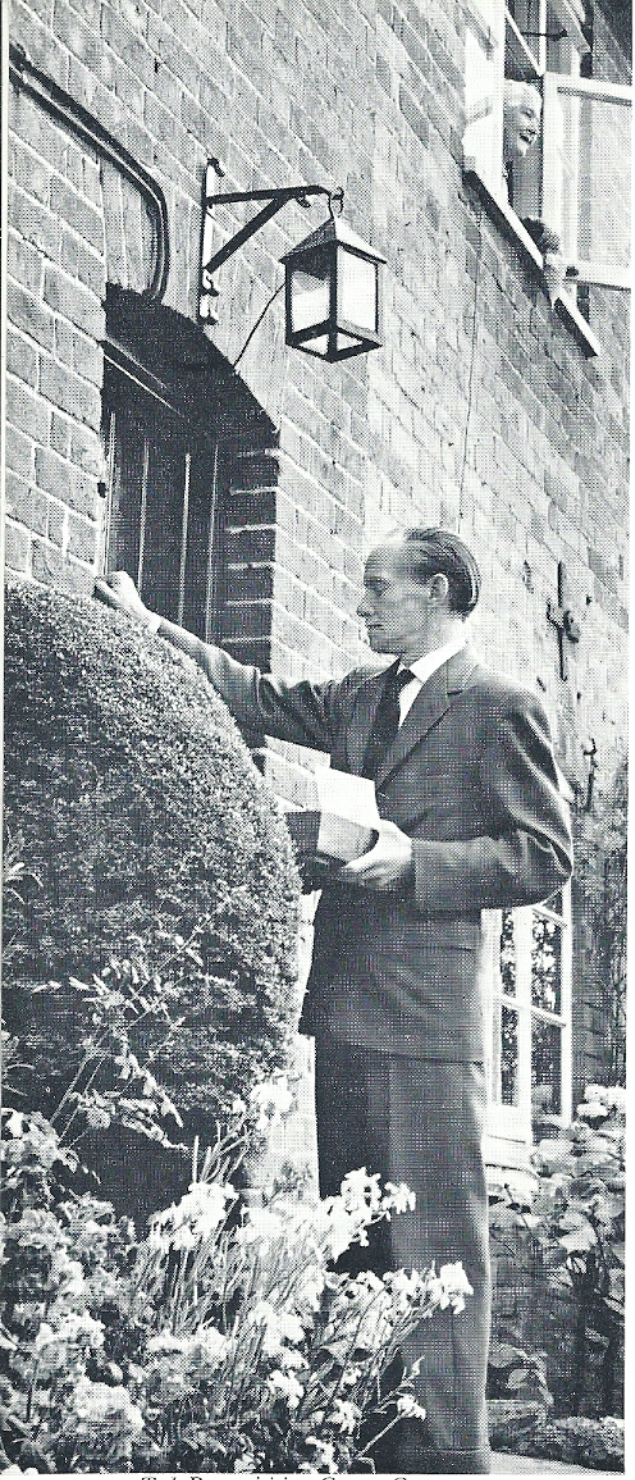
If you are a car-owner and are interested in joining the rota of drivers, or even if you are just interested in the club itself, more information will gladly be given by any of the people mentioned.

An evening spent at this Boys' Club is a rewarding experience. Why not go along and see for yourself?

And to Gladwys, Pam, John and their colleagues we say "Carry on the good work."

John Owen, left, watching another club activity

Anne Redfern and Gladwys Jones at the annual outing



Ted Byrt visiting Crown Cottages

Cottage Industry comes to CHESHAM

IT NEVER REALLY LEFT. In rural England industries have been carried on in the home since long before the Industrial Revolution. In Chesham, a small Buckinghamshire town, the cottage industry has been revived by Hivac Ltd, an associated company which has been a member of the ATE group over twenty-one years.

Cottage industry is usually associated with spinning wheels and hand-looms. Electronics is quite another problem. Hivac must be one of the few electronic industries in this country which utilizes this idea to help meet the heavy demands for its products.

There are many reasons for accepting this state of affairs as a necessary and extremely useful part of industry. It provides a large pool of labour which would be otherwise unattainable and gives useful employment to people who, for one reason or another, are not able to take up full time work in the factory.

The Hivac factory at Chesham has more than fifty people who are engaged at work in their own homes.

"There is an acute shortage of labour as far as factory jobs go," explained Fred Cameron, factory superintendent. "Without this extra labour we would find it difficult to meet our commitments."

Some of the outworkers are girls who worked in the factory until a young family kept them at home. Mrs. Mollie Pedder, whose young son Stephen is just four, worked at Hivac for eight years. Now she takes in a process known as "sleeving", placing plastic sheaths on to neon indicator wires. She works for two hours every afternoon while young Stephen is having his nap, and can finish 2,000 indicators at a time.

Sometimes she takes her work down to 7 Lyndhurst Road where her friend Mrs. Shirley Cordes can be found busy with the same process. Shirley has two young children, five years old Jacqueline and baby Kevin.

These two young women are helping the company by getting a necessary job done in their own

homes and so saving valuable space in the factory, and they are earning the extra money all young families need.

A van calls every day with more supplies and returns to take away the completed items. It also brings the wages on Friday. Driving the van is Jim Brown and with him is Frank Pearce, who has worked at Hivac for twenty years and is Chairman of the Social Club. Before he took over the job of keeping the outworkers supplied with material, answering their queries, paying their wages and working out their bonus, Frank was in the factory as a Production Supervisor.

Visits are made each day to the outworkers to keep a close eye on the standard of workmanship. Their journey takes them through much of the lovely countryside surrounding Chesham at the foot of the Chiltern Hills.

Ted Byrt, Senior Production Engineer, has taken a keen personal interest in the scheme from the beginning. He spends several hours of his free time teaching the various employees their different jobs.

One Sunday afternoon a few months ago he spent with a group of outworkers from the Hill Top estate. The meeting was held in the home of Mrs. Annette Bradley, a widow who lives in one of the charming bungalows on the estate. Ted took along drawings to demonstrate the work entailed.

Since then Mrs. Bradley has regularly spent every morning in her kitchen inspecting glass

Frank and Jim returning to the factory with the completed items

Mollie and Shirley at Work

Rose learns how to test neon indicators

bulbs. Jim and Frank arrive every day with a batch of 4,000.

"It is only a couple of hours work," explained Mrs. Bradley. She finds the work interesting and takes great pride in achieving a high standard. It passes time for her in between visits from her son, a lecturer at a nearby police training centre.

"The pay is very reasonable," she added. "It could, on no account, be described as slave labour, as some people think about outwork."

Having called at the fourteen outworkers on the Hill Top estate the van then drives down the hill, across the valley and up to a picturesque village on the outskirts of Chesham. There at 1 Crown Cottages, Ley Hill, lives Mrs. Rose Smith. Rose has been suffering from disseminated sclerosis for several years now and two years ago spent some time in the famous hospital at Stoke Mandeville. She finds it difficult to get about and could not attempt ordinary work. She finds that being able to earn money and do a useful job has given her fresh confidence, renewed interest and brought new friends.

"I'm quite content doing the work," she said, "I find it is just like knitting. I can pick it up when I feel like it. I would miss it very much," she added.

Rose uses a tester with which she tests neon indicators. She gets 2,000 indicators in one batch and tests 12,000 a week.

"I never sit a batch out," she said, "it takes between two and a half and three hours to do one batch."

Other jobs done by outworkers include illumination testing, bulb inspection, cutting of indicator and resistor heads and the soldering of tags.

The age group of outworkers ranges from young mothers in their twenties to old age pensioners.

"The work done by outworkers," explained Mr. Cameron, "is of a very high standard. There is nothing slipshod about it and there is the same rigid control of quality outside as well as inside the factory, which is so essential in Hivac products."

The scheme has operated for a year now and is so popular that the personnel department has a constant stream of enquiries. There are more people wanting outwork than there is work to give them.

At the Hivac factory we find an old time idea brought up-to-date and put into current use. Electronics in the home! It is an investment for the company and for the people concerned.

Busy Lines

PEOPLE · PLACES · EVENTS

SIR ARCHIBALD GILL has retired after being for the last five years Chairman of British Telecommunications Research Ltd.

MISS DOROTHY AMBROSE, Accounts Department, Superintendent of the Women's Nursing Division of the ATE St. John Ambulance Brigade, has won the Rally Shield for the second time. The shield is awarded in an annual competition for nursing skill. The competition is open to all women officers of St. John in the Merseyside area.

A GROUP OF SOVIET RADIO ENGINEERS visited Strowger Works in July. After being welcomed in the cinema by Mr. G. F. Sargeson, Commercial Manager, they toured several departments. J. McGavin and H. V. Paris demonstrated Gfeller Concentrators in conjunction with Rural Radio in a link with ATE Bridgnorth. The visitors also saw the production of Magnetic Drum and STD equipment. One of the interpreters was Michael Watts, Strowger House, who also acted as interpreter on the ATE stand at the British Trade Fair held in Moscow in June.

DURING THE COMMONWEALTH APPRENTICES TRAINING WEEK some months ago, school parties toured the factory. The visitors were invited to submit entries for an essay competition, organised by the Apprentices Association, describing what they had seen. A few weeks ago the prize winners were invited to spend a further day at Strowger Works. After a tea at which Mr. J. R. Lloyd, Assistant Manager Education and Training, and Mr. J. H. Stark, Training Officer, were present, they received their medals from Norman Constantine, Chairman of the Apprentices Association. Winner Mervyn Sudlow, is a student at Dovecot Secondary Modern School. Runners up were John Ferguson of the Florence Melly Secondary School, Michael Hayes and Dennis McMaster, both students at All Hallows Secondary Modern School. The medals, one silver and three bronze, had been specially struck for the occasion.

Russian visitors, Aneyd, Anna, Lary and Tom

Left to right: John Ferguson, Norman Constantine, Dennis McMaster, Michael Hayes
Front: Winner, Mervyn Sudlow

REMEMBER STRAWBERRY FIELD—the Children's Home which received presents from employees at City Factory last Christmas? On Saturday, 17th June their Annual Garden Party was opened by Miss D. H. Cubbin, Women's Welfare Superintendent for ATE. Miss Cubbin is a member of the Board of Directors at Strawberry Field. Two of the children presented her with a spray of carnations.

Miss D. H. Cubbin at Strawberry Field

The ATE stand at Washington

TWO CRYSTAL CHRONOMETERS, each capable of operating at will on either sidereal or universal time, have been supplied by ATE for use with a photo-electric stellar interferometer now being built for Sydney University, Australia. The interferometer is an instrument for measuring the apparent angular size of visible stars. It will also be used for observing radiation from the sun. Since this largely originates in the sun's outer atmosphere observation from an optical instrument is very difficult.

The interferometer has two composite mirrors each 25 feet in diameter. These will be located on bogies running on a 600 feet track which will surround a control building. The chronometers, one of which was on display recently on the Communication Systems stand at the Laboratories Exhibition held in London, will form part of the equipment in the control room. They will be used to control the tracking of the mirrors to allow for the movement of the earth in relation to the stars. Each of the giant reflectors is built up in honeycomb form from 252 hexagonal mirrors. A hangar will house the two reflectors when not in use, i.e. particularly in hours of daylight.

The programme of investigation to be performed with the interferometer in New South Wales is expected to take at least three years. The reflectors are required to follow a selected star's path across the heavens.

The chronometer will play an important part in measuring stars, a major problem in astronomy.

MR. D. G. HOLLOWAY, of British Telecommunications Research Ltd. gave a lecture in Warsaw a few months ago on line communications. The visit was arranged between the I.E.R. and the Association of Polish Electrical Engineers.

ONCE AGAIN ATE were the only British-registered company to be represented at the Armed Forces Communications Electronics Association Exhibition held in Washington DC in June. The exhibition was staged at the Sheraton Park and Shoreham hotels and included about one hundred and twenty exhibitors. Representatives of the company were Mr. H. R. A. Wood, Manager Transmission Export, and his assistant Mr. W. Carsbury, Mr. Adrian Clark, BTR, and Mr. Peter Hunt of ATE Bridgnorth. Among the exhibits on the company's stand was Telegraph Testing equipment and the Swift Data Transmission System.

The High Road

EIGHTEEN MILES from the Scottish border and eight miles north of Hadrian's Wall is the "Tone" Inn, standing by Dere Street, an old Roman road. Nearby is "Tone" Hall, from which the surrounding estates derive their name. The building, originally a monastery, is long and low with five feet thick walls to withstand the northern gales.

These rolling hills and dreaming wooded valleys are steeped in legends and mysteries. Roman Legionaries once guarded the land and paced the Wall watching for marauding Picts. Dere Street is as straight now as then. On the road one can almost hear the Legions, months of marching from their native land. No "rolling English drunkard" built this road! Straight as an arrow to Scotland, it crosses hills and moors without a single curve.

Long ago merchants with pack horses slowly making their way along bridle paths used to stop at Tone Inn. The bridle paths can still be traced in the heather.

After the dissolution of the monasteries in 1585 Tone Hall became a private residence, and the surrounding moors became the scene of bloody Border battles. The Hodgson family who lived in Tone Hall for over two hundred years were ardent Jacobites. They rode north over the border with dispatches. One of the daughters disguised herself, followed the army and gained intelligence for the rebels.

Local folk tell these tales round the bar in Tone Inn where time seems to stand still. Some of the blocked-in windows tell of the days of Queen Anne when light was taxed. The name, Tone Pit Inn, which was used during the last century, recalled the days of the now disused pit nearby.

The name *Tone* was first used for this magazine six years ago, being a word much used in telephony. The Tone Inn and surrounding estates derived their name from the middle ages when the hall was known as Tollands. Later the name became Towland and subsequently was changed to Tone. Tone Hall and the inn seem so very old one can almost believe a local, who remarked with a twinkle in his eye, "perhaps the inn was once the Naafi canteen for the Roman troops."

Cover Picture : *Tone Inn.*

Photographic Competition

Results of the above will be published in our next issue, when more space will be available to publish the prize-winning photographs.

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