HELMETS

The Story of Helmets Limited

Manufacturers of

Cromwell

Helmets

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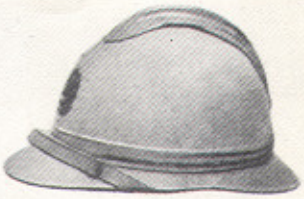

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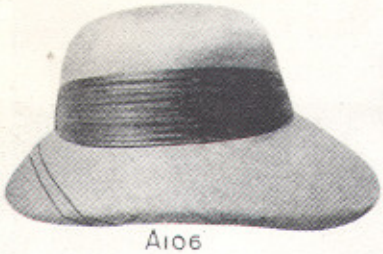

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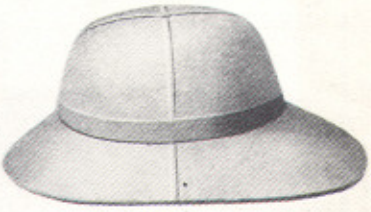

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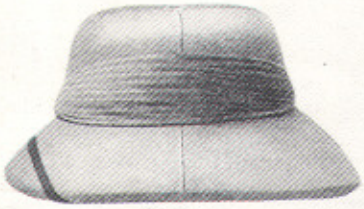

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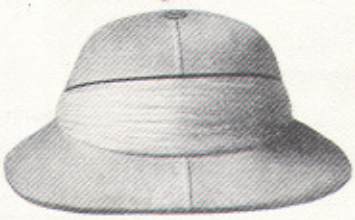

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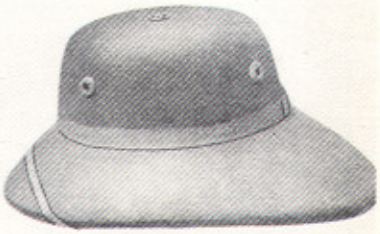

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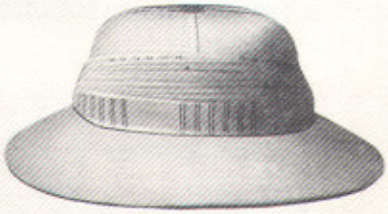

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Foreword

A Diamond Jubilee is a good moment to look back as well as forward, to celebrate what has been achieved, and to try and glimpse what lies ahead. To the older members of the Company, this brief history of the first sixty years will bring back memories; to the younger ones it may be of more than passing interest to see how things have changed and developed over more than half a century. For changed they have, almost - but not quite - beyond recognition.

In 1926, two years after Helmets Limited was founded, King George V, Emperor of India, opened the great Empire Exhibition at Wembley; and the Company's main product was the cork tropical helmet for British soldiers and colonial servants abroad. In those years aviators in their open cockpits wore leather flying-helmets and goggles, and the relatively few motorcyclists roared along on their Nortons and Triumphs and Scott Twins in caps, or bareheaded. Miners went down the pit in cloth caps, and firemen racing to a blaze with bells clanging were protected by helmets of shining brass. The industrial hard hat was unknown and head injuries at work were all too common. As for materials, plastics were in their infancy and helmet-makers relied on cork, vulcanised rubber, and cotton twill bonded with shellac.

So, contained within the boundaries of those sixty years is a small slice of social and technological history. The useful, often life-saving protective helmet is now required wear in many other walks of life than the army, the colonial service, and the fire service, for we have become increasingly safety conscious. Yet with all the changes that have taken place, some links with the past remain. Modern motorcycle crash helmets with their visors are not all that different - except in weight! - from the armour of the mediaeval knight, and jockeys' caps are precisely the same shape as the bronze ones favoured by Roman charioteers.

All this is hardly surprising since the human head has remained much the same shape for a good many thousands of years, and just as vulnerable to a smart blow, whether from a broadsword, a brick, or a lamp-post encountered at 50mph. The helmet that protects it may now contain glassfibre and ABS, Terylene and Kevlar; nevertheless cotton twill, leather and cork are still part of the helmet-maker's stock-in-trade; and so are many of the old skills. Unlike its cousin the hat, the helmet changes not in accordance with fashion but with the more rigorous demands of the modern world. Those demands the Company is well placed to meet, just as it has met all the others during the past sixty years.

Front cover: A tropical helmet of the type the Company was making from 1924 up to the late '40s, and the new Alpha Lightweight aircrew helmet.

Inside cover: A page of cork tropical helmets from an early, but undated, catalogue; and inset, the logo with the brand name Equator.

Topees, Pillboxes and Shakos

Only Englishmen - and mad dogs - Noel Coward noted sardonically, go out in the midday sun; but Englishmen at least had the protection of their solar topees or tropical helmets. Until the early 1920s these were being made by, among others, the firm of E. Day, hatmakers of St Albans. But in 1923 Day's went bankrupt and the business was put up for sale. One section of the company had begun to specialise in helmets, and it was from the opportunity presented by Day's misfortunes that Helmets Ltd was born.

Four men clubbed together to buy Day's helmet section. John Blott, who was a director of a company that made military equipment - Barrow Hepburn & Gale (formerly Alexander Ross) of Bermondsey - put up £1000 and became Chairman of the new firm. Of the other three, T.H. Hobson, a member of a uniform manufacturing company in London, contributed £1000; and his son Henry, who worked for Day's, put in the same amount and became Managing Director. The fourth man was Thomas Noblett: he put up £500 and was appointed Manager. John Blott and T.H. Hobson were both non-executive, and the latter took no active part; so the day-to-day running of the company lay essentially with Henry Hobson and Thomas Noblett.

Thomas J. Noblett - T.J. as he was known - was a helmet-maker by trade and had started his working life with B.H. & G. when it was still Ross; but he was a bit of a rolling stone and had left them to go to work in Paris, the centre for fancy military headgear. On his return to England before the first World War he spent some time with a number of different firms, and latterly with Stone Brothers of Chalfont-St Giles, whose cork helmet works operated, curiously enough, on a farm. He left them in 1916 to start Day's helmet section: both he and Henry Hobson were therefore personally affected by its collapse.

The new company's authorised capital was £5000 but initially only £3500 was taken up. From Day's the four men acquired the helmet-making equipment, and also part of the old Hope Brewery on Brewhouse Hill, Wheathampstead, which Day's had been using as a cork store. It was in fact the maltings, a long brick building with three floors on which no one over five feet tall could stand upright, and hardly suitable as a factory. The old oast-house chimney was still there: it is chiefly remembered for the fact that after it was taken down the roof leaked. It still does.

Helmets Ltd came into being on 24 October 1924 and started work from rented premises in Alma Road, St Albans, making tropical helmets for the Services. But Webdale's, as it was known, proved too big and too expensive, so Thomas Noblett took some of the men over to Wheathampstead and set to work to turn the malthouse building into a factory. Fred Hodgins, who retired from the firm in 1967, remembers the occasion well. 'We removed the middle floor, and it took the three of us all summer.' When the job

Top left: John Blott, Chairman 1924-61
Top right: Henry Hobson, Managing Director 1924-48
Lower left: Thomas J. Noblett, Manager/Director 1924-40

was done they moved in, lock, stock and blocking machines, in 1928. Water came from a well and electricity from a secondhand 50 volt DC generator, but it was a place of their own. The Company has been based in Wheathampstead - though not on Brewhouse Hill - ever since.

The solar topee, introduced during the second half of the 19th century, was the regulation headgear of the white man in the tropics, worn universally by colonial administrators and police, by soldiers on foreign service, and also by the prison officers of the Belgian Congo who became customers of the Company. To go outdoors without one in the heat of the day was commonly supposed to lead to sunstroke, madness and possibly death. This continued to be an article of faith among

Englishmen until about 1941, when soldiers going out to join the Eighth Army in the desert, and already issued with steel helmets, are said to have unceremoniously ditched their topees in the Red Sea. Until the end of the Empire, however, the market remained steady; and the old catalogues illustrating the various models, of which there were a great many, are redolent of those distant days. There was the *Madras* and the *Shikar,* the *Tent Club,* the *Imperial* and the *Punjab;* and for the memsahibs the *Celia,* the *Babette* and the *Betty.* There was a special variant for polo players, another for the police, and yet others for children - who tended to look rather like mushrooms when wearing them.

They were, of course, entirely handmade. At one end of the ground floor of the maltings factory the sheets of cork were cut up and, rather resembling a flower with drooping petals, shaped on a block, two, three or four layers glued together, a process known as knocking-on. The roughly shaped shell then went to the blocking machine which, by means of steam heat outside, a rubber bag of water inside, and a certain amount of pressure, fixed and set the helmet's shape.

Upstairs - the women's domain - was the covering room where the shells were given their outer skin of fabric; back then to the blocking machine to press it firmly into place, then upstairs again for the final rounding and finishing. This included binding the brim with either self material or leather, and fitting the internal headband. As a last touch some but not all had a pugaree, a kind of silk or cotton scarf swathed round the base of the crown. The completed helmets returned to the ground floor for inspection, packing and despatch to the outposts of Empire, India, the Gold Coast or the rubber plantations of the Malayan archipelago. Prices wholesale ranged from £1.25 for the top quality *Roosevelt* to a modest 25 pence for the *Minto.* Such prices reflected the wages: between five and seven pence an hour for a skilled man, though those on piecework earned more; three pence an hour for women. But the Company was one of the first to introduce the five-day week, of 45 hours.

To this day the cork shells of firemen's helmets are made in much the same way, even though the blocking machines have gone for scrap and cork crumb bonded with resin is formed into the shell in a gas-heated mould in a more recent, but still venerable, piece of equipment known as the French Hat-Making Machine.

The same materials and methods as for topees were used for policemen's helmets, which were another of the firm's specialities; and much of the workmanship then, as now, was carried out by women. Kath Petchey, who started at the Brewhouse Hill works as a girl in the early '30s, remembers those days with pride and pleasure: pride in their skill at producing not only tropical and policemen's helmets but pillboxes, shakos and tarbushes; pleasure in the friendly, almost family atmosphere where all the girls were local and knew each other, and many remained friends for life. It had the feel of a cottage industry - one thinks of the straw-plaiters of this part of Hertfordshire, the lacemakers of Devon, the guernsey knitters of Cornwall, working and gossiping on their doorsteps or on the quayside - and to a remarkable extent in these automated days, it still has.

The helmet-makers, those who actually made the shells, were invariably men, however, and a skilled craftsman on piecework could turn out a dozen a day. As headgear for a particular purpose in a particular climate the tropical helmet was light, comfortable, elegant and effective; and they are still being made - though not by the Company - in small numbers, notably for the Royal Marines, whose bandsmen wear them on ceremonial

Fred Hodgins 'knocking on' a tropical helmet shell cut from sheet cork; each layer was glued down, forming a light but strong laminate.

occasions, and for local police forces in Africa. They occupy a special place in the early history of the Company.

One day in 1926 Thomas Noblett barked a question at his eldest son, Tom, then 16:

'What was the name of that fellow who had the Ironsides in the Civil War?'

'He was known as Oliver Cromwell in the history books,' Tom answered dutifully.

'Cromwell! That's the chap! That's what I shall call my helmets.' And *Cromwell* - he was, after all, also The Protector - duly became the Company's trade name for its products, and the factory was called Cromwell Works.

The occasion for this unorthodox christening ceremony was the introduction of a new line, helmets for motorcyclists. Dirt-track racing, recently imported from Australia, was creating a demand for them. These crash helmets were made not of cork but of up to ten layers of cotton twill soaked in shellac and ironed on to a block. (Shellac is a natural varnish from S.E. Asia; it came in the form of 'golden flake' and had to be rendered into a liquid by hot water with a dash of ammonia. Water-based shellac was known as 'coogle', a word not to be found in any dictionary. It was extraordinarily sticky to handle.) Later on, wood pulp impregnated with linseed oil and baked was used: such shells were manufactured by a Suffolk firm and Helmets Ltd bought them in for finishing.

The quest for speed, pure speed, was one of the thrills of the inter-war years: Henry Seagrave in his *Golden Arrow,* Malcolm Campbell in *Bluebird,* were both customers for hard helmets as they tore across Bonneville Salt Flats in pursuit of the land speed record. And there were other lines which the Company was making then and which, unlike the crash helmet, have been relegated to the costume museums. Telegraph boys, riding bicycles and much given to whistling the popular tunes of the day, wore pillbox hats; and postmen trudged the streets in shakos, a cap with vertical sides, based, like the word, on the picturesque headgear of the officers of the Hungarian army.

T.J. Noblett now had three young sons, and the time had come to move from St Albans into a larger house nearer his work. He picked on the old rectory of St Helen's, the parish church of Wheathampstead, which no longer housed the vicar but was being used as a laundry; and it turned out to be a shrewd choice. Just off the High Street and with two acres of land bordering the River Lea, it was to provide the Company in later years with a useful site on which to build. When he bought it off the Ecclesiastical Commissioners in 1929, however, this was by no means apparent. The land by the river was a marsh and flooded in the winter, and was divided from the rest of the property by the 'moat' so-called, a loop of water like a mill-leat which drained back into the river at the northeast corner. Dammed and widened in those early years, it provided a jolly, if rather muddy, swimming-pool: later the pitiless logic of expansion caused it to be filled in and the riparian land reclaimed with many tons of spoil excavated from the bank at the back of Cromwell Works.

Today Moat House, as it is known, is Helmets Ltd's Head Office - and very pleasant too, with its lawns and trees and mellow brick wall, and the unusual brooch spire of the church behind - and the land by the river has been developed as a factory site. Yet it all remains completely inconspicuous. The Noblett family finally moved in in 1930 and it remained their home for the next 25 years while the works grew up in, as it were, their back garden.

'The moat', out of which a natural, if rather muddy, swimming pool was created. It was later filled in, and now forms part of the road, lawn and car park in front of the offices.

Helmet Ltd's head office with the garden, and the church beyond.


HELMETS Ltd

Miners' Caps and Drop Tanks

Helmets Ltd, unlike many small firms, succeeded in riding out the Depression of the early '30s, but it was a difficult time. Helmet-making was - it is less so now - a seasonal trade since much of its work came from the Service ministries and they normally waited for the beginning of the financial year before putting out their contracts. Therefore the summer tended to be a rush, with work gradually slackening off towards the end of the year. A combination of small overheads, small profits and quick returns kept the Company afloat during the bad times.

Responsibility for its survival rested mainly upon Henry Hobson and Thomas Noblett, who was elected to the Board on T.H. Hobson's death in 1933. John Blott remained Chairman. Tom Noblett, a countryman at heart, went off to try his luck in Australia but found work as hard to get there as at home and joined the firm in the early '30s. He drove the van for a couple of years, and then took over as foreman in the helmet shop. There he was joined by his younger brother Len, who started work as assistant to the cutter, the man who with the aid of a tool known as a 'clicking-knife' cut the leather and cloth. There was no separate company secretary-that was Henry Hobson's other hat - and the office staff consisted of a chief clerk and two secretary-typists. The Company, though reasonably well established, was still very small with a work-force of about a dozen men and 30 women. Again because of the nature of the trade, numbers varied with the season. In 1934 the outstanding £1500 of shares were issued, bringing the Company's capital up to its authorised limit of £5000.

In that same year things began to look up. As if in celebration of the completion of its first decade, the Company was invited by the Safety in Mines Research Board to submit samples for a miners' cap or hard hat. They made it out of vulcanised fibre, a tough rubberised fabric; but in order to interest those hard men, the mine owners, it had to compete in price with the miners' traditional cloth cap, which then cost 2/6d (12½ new pence). The samples were accepted and production started. The design, material and method of manufacture - but not the price - continued virtually unaltered until the mid-'60s, when vulcanised fibre gave way to plastics.

The fibre came in six by four foot sheets, was cut up into suitable pieces, at first with shears - which meant, says Len who was in charge of making the shells, very sore hands! - later by machine, and soaked overnight, to be moulded into shape on the French hat-making machine. They were then trimmed, hand-painted black, and fitted with a headband and adjustable cradle - all for half-a-crown. The miners' cap was as important to the Company's fortunes as the topee; more important, even, for it led, a year later, to another useful and long-lasting contract.

To begin with there was no formal procedure for testing helmets, no BSI standard to which they had to conform. But testing there was, of the most practical kind. The policemen's helmet had to stand up to 'a

Miners of the '30s examining the new cap. The construction - two sections riveted together - shows up clearly.

Otto Brandes moulding firemen's helmet shells from the cork crumb and resin mixture on the French hat-making machines. The comb is added later.

Pat Bramley stretches the cotton cover over a fireman's helmet exactly as was done over solar topees sixty years ago.

thump from a truncheon'; and the miners' cap was passed if it withstood being jumped on by Thomas Noblett, who weighed seventeen stone - the equivalent, perhaps, of a moderate roof-fall. Soon, however, more scientific if less picturesque methods were introduced by the Research Board. An eight pound steel ball was dropped from a height of eight feet on to the crown of the helmet, which was mounted on a wooden block. Between the helmet and the block were two pieces of paper with a sheet of carbon between them: if either sheet of paper was marked by the carbon, the helmet was failed. Except that instruments have replaced the paper, the same test, in essence, is used today.

Production of tropical and policemen's helmets already occupied most of the space at Cromwell Works and there was nowhere to expand to. But Moat House possessed, among its other attractions, a large tithe barn and in 1934 this was taken over for the production of the miners' caps. A garage and a lean-to shed were also pressed into service; and two brick buildings, one of which is still there, were put up to house office, workshops and paint shop; but the shells still had to go back to Cromwell Works for finishing. Cromwell Works thus came to be known as the 'top factory', and this was the first step towards the development of, and ultimately the transfer of all work to, Moat House. The Company bought the house and land from Thomas Noblett for £2500 in 1940, the year he died, but his widow continued to live there for the next fourteen years.

In 1935, as a result of the success of the miners' cap, the London County Council asked the Company to submit a prototype firemen's helmet to their Fire Department to replace the existing brass ones. These were heavy and cumbersome, and one of them was reckoned to have caused the death of a fireman by electrocution. The sample Helmets Ltd submitted was made of cork, and besides being light and strong - and non-conductive - had the additional distinction of having been designed and modelled by Sir William Reid Dick, one of the most distinguished sculptors of the day: but it was as a practical head protection and not as a work of art that it was eventually accepted, and the Company was given the full contract for between two and three thousand. All firemen's helmets at this time were black; when a similar helmet was adopted by other fire services the only difference lay in the shape of the comb, for which there was a choice of five. With certain modifications dictated by changing techniques and materials - the latest has a GRP/Kevlar shell, for instance, and yellow for the men, white for the officers, are the present standard colours - the same type of helmet is being produced today, and the Company continues to hold over ninety per cent of the trade in the United Kingdom.

Audrey Morris binding the brim on a firemen's helmet on one of the vintage Singer machines.

Despite this double success and the expansion at Moat House, the Company was about to enter its most difficult decade. By 1938 only the most incorrigible optimist had any doubt that, sooner or later, war with Germany was inevitable; and in that year they were awarded a contract by the War Office to make linings for steel helmets. As demand for them rose to 3000 a day more women had to be recruited to make them, and eventually there were over 300, many of them part-time, on the books. Louie Turner, who had joined Helmets Ltd from Day's right at the start and was now employed on finishing helmets at the top factory, was brought down to Moat to supervise them. Long retired now, Louie Turner was one of the Company's outstanding characters. Efficient, and a tough disciplinarian, she rose from chargehand to foreman and finally to Works Manager. Never afraid to speak her mind, she is remembered, rather as sergeant-majors are remembered, by everyone who worked with or under her.

One urgent problem was somewhere for them to work. Now it so happened that T.J. had put up two large greenhouses in the Moat grounds and these were turned into temporary workshops. The arrangement is formally recorded in the Board's minutes for February 1939: T.J.N.'s greenhouses to be leased for £10 per annum. But even more unusual accommodation lay in the offing.

At about this time Thomas Noblett bought a property in Marshalls Heath Lane, a mile or so out of Wheathampstead. In addition to a dilapidated cottage it had five acres of land and some stables and byres. Next to these, in 1939, he built a range of Danish pigsties with the intention of going in for some serious pig-breeding as a sideline. The venture, to be known inevitably as Cromwell Piggeries, was cut short - as were the pigs - by the war; but the piggeries with their airbrick floors and all

mod. cons. were not destined to remain empty for long.

In the meantime the war had started, Cromwell works was gradually closed down and all work concentrated at Moat. There was still a demand for tropical helmets for troops destined for Suez and points east - though not for much longer - and for miners' caps. Firemen, however, went into tin hats for the duration, which, with the amount of hot metal flying about during the Blitz, was probably just as well. Cork helmets, good as they were, were never designed to be shrapnel-proof. The sewing women, in addition to the helmet liners, made gasmask containers, those useful little canvas hold-alls which after the first few months of the war were rarely found to house their intended contents but were ideal for carrying packed lunches, cigarettes, matches and other such un-warlike comforts.

In 1940 Thomas Noblett died. He was sixty. He had been in at the birth of the venture; and it was he who provided the hard, practical experience which the young company needed.

Not long before his death the Company's capital was increased to £20,000, divided into 11,000 ordinary and 9000 cumulative preference shares. Hobson, now sixty-eight, remained Managing Director; and two years later Tom and Len Noblett joined the Board.

For the first two years of the war the firm was able to continue with its proper job of making helmets and liners. The miners' cap was easily adapted, by the addition of a rubber pad over the brow, to provide head protection for tank crews, and there was a steady demand for crash helmets for Army despatch riders. But during the desperate years of 1941 and 1942 they were also called upon to make something rather different. In order to increase the range and endurance - a mere 90 minutes at full throttle - of the Spitfire, it was proposed to fit them with a jettisonable extra fuel tank underneath the fuselage. These early ones contained 30 gallons and were made of vulcanised fibre, a material with which Helmets Ltd was familiar. But every building on the site was occupied. So Cromwell Piggeries were hastily cleaned up and modified to become workshops for the production of drop-tanks for the hard-pressed RAF. The same team also produced aircraft 'stowages', those useful pockets and slots for maps, navigational instruments and so forth. Such was the complexity of supplying the innumerable components of the fighters and bombers the country needed.

But in 1942 the Company received a blow to the solar plexus. Under the rationalisation of industry required by the 'war effort', and the consequent direction of labour which this allowed, all the Company's military contracts were scrapped and most of the men who still remained were called up or sent to other seemingly more urgent jobs; the firm was left with a labour force consisting largely of skilled seamstresses, and little for them to do. There were still the miners' caps, and a variation of them for air raid wardens, and not much else.

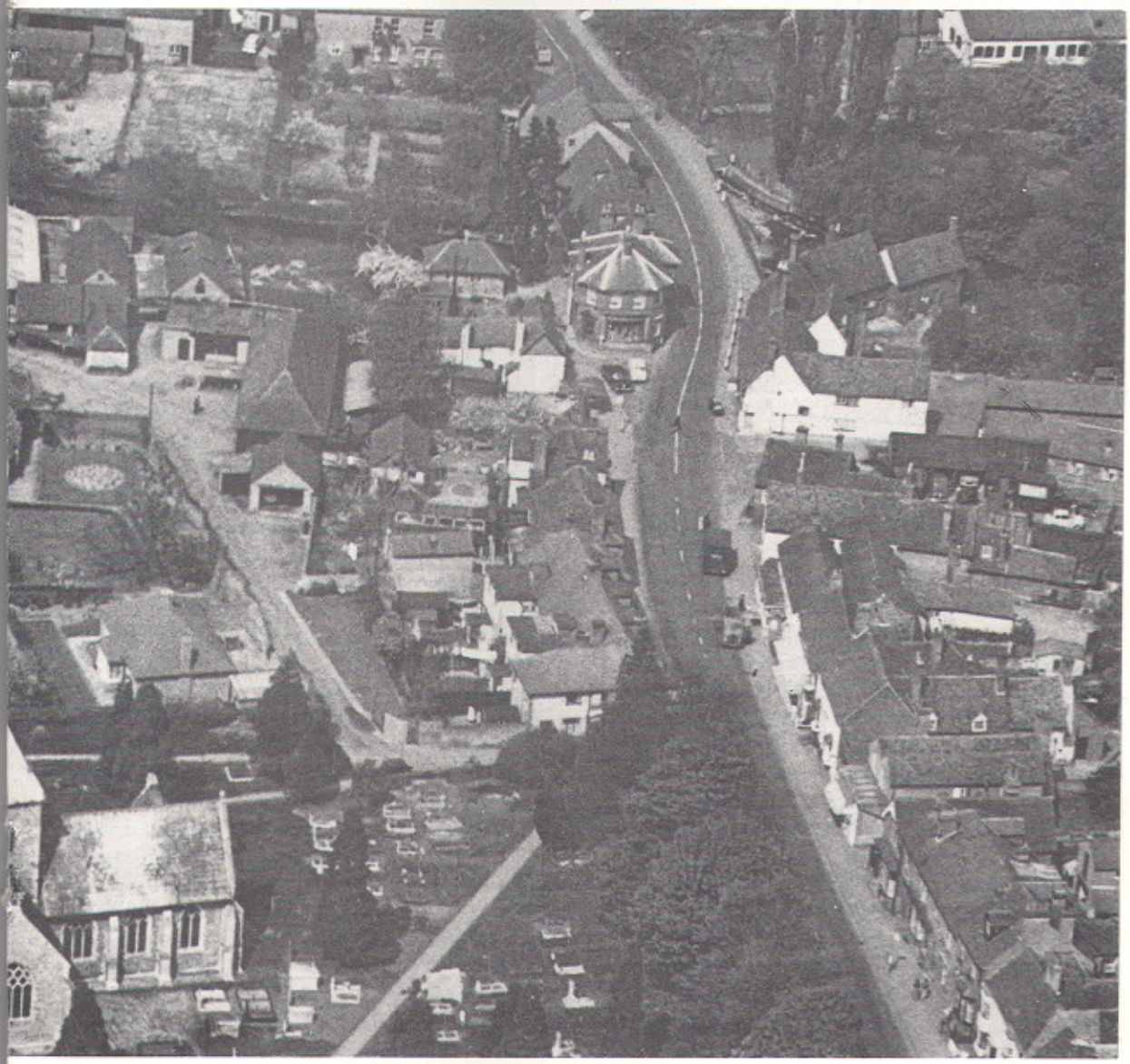
In some desperation Tom Noblett went to the Ministry of Aircraft Production and managed to secure a contract to make C-Type flying helmets, those comfortable soft leather ones worn by aircrew of all the flying services before jet aircraft and ejector seats made something tougher desirable. At the same time they were put on to making dinghy packs, the canvas containers in which aircrews' inflatable dinghies were stowed, and green cotton jungle hats for the 'forgotten' Fifth Army in Burma. In 1943 twenty or thirty women were even put on to the assembly of various types of electric meters and switches - an odd anticipation, as it turned out, of certain, rather similar work, in a completely different context which is being carried out now.

By such hand-to-mouth means, and mainly due to the efforts of women working part-time, the Company struggled through the second half of the war, one small component in the gigantic mobilisation of industry which, with the comparable efforts of our allies, led to victory in 1945 and 1946.

Hard Hats and Bone Domes

Gradually life began to return to something like normal. Many of Helmets Ltd's old workforce returned to the firm from war service and took up their old task of making tropical helmets, for which there was still a brisk demand, especially from West Africa. In the relatively less hazardous fires of peacetime firemen were able to go back to their lighter traditional headgear with its crest and badge, and the Middlesex Fire Brigade became early customers. In the late '40s also the Company secured a contract from RFD of Godalming to provide helmets for the protective clothing which they made - an association which continues. One of these was the first 'up-Draught' helmet, which was produced for the refinery staff at Abadan, then still belonging to the Anglo-Iranian Oil Company; and specialised

Moat Factory site about 1960, with St Helen's Church, the old vicarage - now the offices - beyond the spire, the tithe barn, and the workshops bordering the River Lea in the background.



industrial helmets are still one of the Company's products. Miners still needed, even under nationalisation of the pits, to protect their skulls; and a similar design could be adapted for other industries.

In 1948 Henry Hobson, Managing Director for almost a quarter of a century, died in harness at the age of 76. His death marked the beginning of the end of an era, for none of the family followed him into the business. Tom Noblett, who had in fact assumed full control the previous year, replaced him, with Len doubling as Company Secretary and Technical Director. The youngest of the three brothers, Eddie, joined them in the same year, first as manager of the top factory - which had been brought back into commission during the war - and later as Sales Manager.

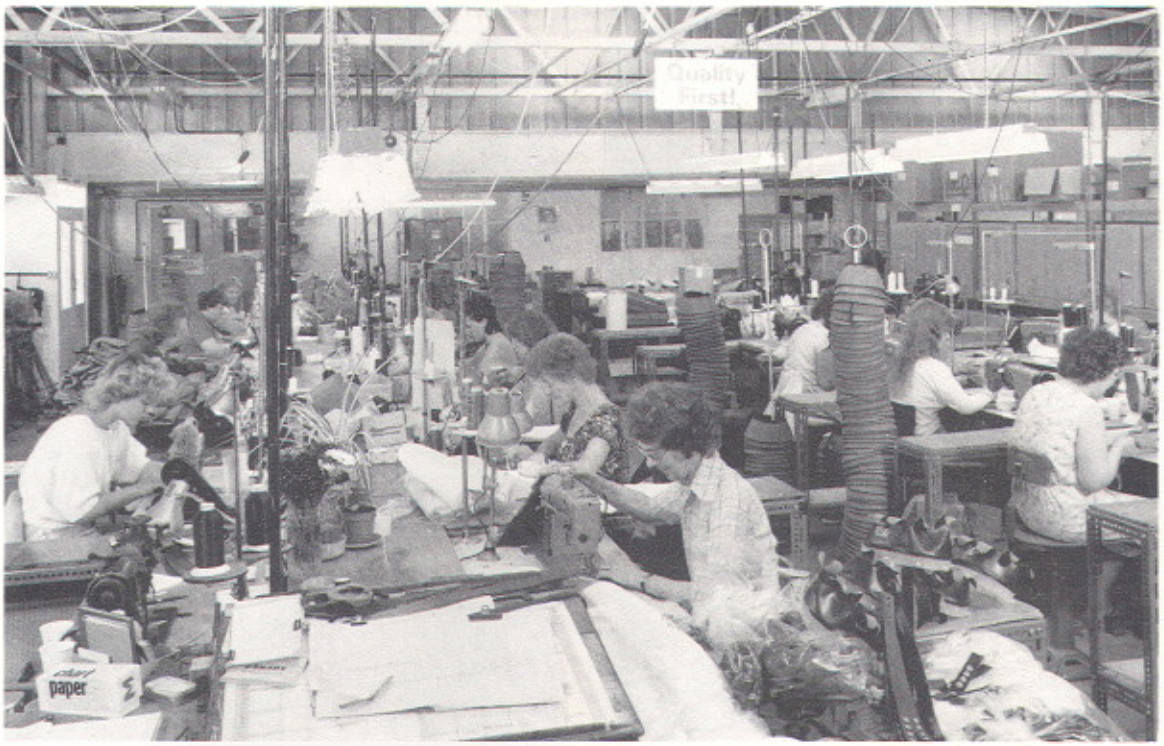
There was a feeling at this time that the firm would do well to try and widen the range of its products, and about 1949 they started a small concern called Preform Products, installed it in the top factory, and explored a number of un-helmetlike possibilites. Objects as varied as special splints and other items of medical equipment, model boats and herring-boxes were suggested in order to make use of Preform's moulding capacity; and in fact they did make a couple of 10 foot sailing dinghies out of GRP. But the problems of marketing them proved too complex, the idea was abandoned and Preform Products was wound up. At least with headgear they knew exactly what they were doing - though even in this, their own field, they were not invariably successful. An attempt to break back into the market for policeman's helmets, for instance, was foiled by rivals who already had the bulk of that particular trade.

In 1950 the Company's capital was again increased, this time to £40,000, and a pension scheme was launched that was later to be extended to include weekly as well as monthly paid employees. Helmets tend to keep the established people who work for it - only recently a number of men and women retired with forty and more years' service - and one who joined, and stayed, was Mike Briggs, the present Technical Director. An engineer by training, he came to the Company from war service in the Merchant Navy as maintenance engineer, only to be struck down by polio in that brief, savage epidemic before the introduction of the Salk vaccine. Mercifully he recovered sufficiently to rejoin the firm a year later, and became Len Noblett's assistant, concentrating on research and development. No one has been more closely involved with the technical changes of the past thirty years.

Another old hand who joined just after the war is the present Works Manager, Dennis Crawley. Parallel with the tendency to stay with the firm throughout a working life - and many women who had joined as girls return after they have brought up their children - is a strong family tradition. Daughters follow their mothers, sisters each other, into the works; names, Field, Archer, Stoker, Shield, recur; and so do the names of the villages round Wheathampstead - Kimpton, Whitwell, Sandridge - from which many of them hail.

During the early '50s business remained brisk. The police, the Army, racing drivers and assorted motorcyclists both at home and abroad - notably in the USA - were demanding helmets: indeed, at one time 100 a week were being packed and shipped for the American market alone. They were fashioned from wood pulp and precipitated resin, and were normally given a varnished finish. Posh ones, however, had an outer cover of white leather. There was also a lightweight one, in the style known as 'the pie dish' and christened *The Noll*, after one of the Protector's nicknames. With the introduction of BSI standards for crash helmets - the first, BS 1869, was issued in 1952 - and increasingly stringent design specifications subsequently, these became obsolete in Britain, though they still sell well in Japan. The wearing of crash helmets by motorcyclists in Britain did not become compulsory, however, until 1973.

In 1950 the Air Ministry, recognising the problems created by high-speed jet aircraft and following the trend already set in the United States, commissioned the Company to develop the first hard flying helmets, quickly to become known among aircrew as 'bone



The sewing room as it is today gives some idea of how much handwork goes into the Company's products.

domes'. Severe buffeting at near- and transsonic speeds, and the introduction of the ejector seat, made such protection essential. The Mk 1/Type F which resulted consisted, in fact, of two helmets: an inner one of washable linen and an outer hard one which fitted over it. The latter was built up of five layers of nylon, interleaved with reinforcing material, bonded with phenolic resin and oven-cured: a unique process which had been devised by Len Noblett and was subsequently patented. The combination, with ample choice of size and fitting, proved comfortable and was very popular with those who had to wear them.

Trials - 300 helmets had to be provided - were completely successful, and the Mk 1/F went into service not only with the RAF and the Fleet Air Arm but with many foreign air forces as well. Later Marks included an anti-glare visor which, with the introduction of more powerful ejector seats, was designed to close automatically as the pilot was catapulted out of the cockpit and to protect him from a slipstream of anything up to 650 knots.

Another new product from these years was the hunt cap. Tom Noblett introduced these mainly to keep the sewing women busy, which they did, for the next twenty years. They too sold well in the States, and it was only cheaper imported versions which finally made them uneconomic.

In 1954, 'owing', so the minutes of a Board meeting of that year declared, 'to the steadily increasing business and the deterioration of certain temporary buildings', plans for extending and replacing parts of the existing offices and premises were drawn up. Thomas Noblett's widow was moved out of Moat House into a newly built bungalow nearby and the house was turned into offices. The staff moved in two years later. A new engineers' workshop and new garages were built. And this was to be the pattern over the next 30 years. It gradually made possible the running-down of the top factory for the

second time, and that was sold in 1970. It was there that one of the other special products of those years, welding shields of either cotton laminate or fibre, were made.

In 1958 Arthur Douglas joined the firm as cost accountant and two years later was appointed Company Secretary. This left Len free to concentrate, with Mike Briggs, on the technical side with all the research and development which new materials and ever-higher specifications required.

With the beginning of the '60s the optimism of the previous decade temporarily dried up. The rest of England might be 'swinging': the Board reported 'disastrous trading results' in 1960; and the purchase of a small business in Hastings failed either to solve the problems of space at Moat, or to fulfil its expectations. It lasted a year and was then wound up and sold, not without some bitterness. In the light of the disappointing performance, Tom Noblett brought in a firm of industrial consulstants to scrutinise the Company's methods. They recommended 'full production control', and the introduction of bonus schemes - a suggestion that was not popular with one or two of the older women. On the whole their advice was sound enough, for the foundations of future prosperity were there: the problem then, and in the future, was to build successfully on them in the context of ever-rising costs.

In 1961 John Blott, founder member and Chairman from the very beginning, retired at the age of 88. He died four years later. His son Bill, who had been appointed a Director in 1955, succeeded him and retained the chair until 1984, when he became Chairman of Helmets Ltd's parent company Middlemace and of the Group. *His* son, James, followed him into the business in 1973, and after a period of training started to take over the selling of the Company's products at home and abroad. Now Sales Director, he travels all over the world meeting agents and customers, as well as attending trade exhibitions and conferences and that most important of military equipment show windows, Farnborough. At several of these Helmets Ltd often has a stand.

'A-hunting we will go', our heads protected from tumbles and overhanging branches by hunt caps.

One of the spurs to developing the Moat site was the introduction, and steady increase in the use of, glass reinforced plastics (GRP) as a material for helmet shells. This was in line with the relentless advance of plastics of every kind throughout industry, and the Company was alert to making use of them. Miner's caps had been made of fibre for thirty years; in 1963 the National Coal Board accepted a new model of moulded plastic, but proved even more cautious than the old coal-owners and delayed giving the Company the contract until they had seen a comparable product from another manufacturer: they then gave the lion's share to the rival firm. Industrial helmets were now being laid up with GRP, or vacuum-formed in ABS. What is surprising is that even now, twenty years later, firemen's helmets are still being made of cork, though admittedly with an ABS inner shell. Moreover, a number of brigades regard

them as superior to the plastic ones which are beginning to replace them.

Other things were changing, too. Motorcycle crash helmets were required to be 'open-face', that is with protection extending over the temples, and were first introduced at the end of 1959. The United States had actually asked the Company to design such a helmet in the mid-'50s and work had started. But the research and development had been slow, and by the time the first ones had been produced the original instigators had lost interest. The design was exhibited on the Britax stand at the Motorcycle Show at Earl's Court in 1959. Full-face crash helmets, protecting cheeks and chin as well as temples, and with names such as *The Duke*, the *Super Duke* and *The Prince*, are one of the firm's continuing, and highly successful, lines. Another new product still produced today was a special helmet for military and sport parachute training.

In the increasingly technical and fast-moving world that was evolving, jumping on a helmet, even if you weighed seventeen stone, was not considered a precise enough way of testing a product. The 'large man test' was replaced by the 'dropped weight' to test impact absorption, or alternatively the weighted helmet would be similarly dropped. Which form of test is used depends on the likely punishment the helmet may be expected to undergo: in the case of a fireman's, things landing from above; in the case of a crash helmet, the helmet itself with its occupant is usually going to hit something. Aircrew helmets are also subjected to wind-tunnel tests and are often included in ejector seat trials.

In keeping with the tighter and more exact control of quality went the creation of two trade associations: the Industrial Safety Personal Equipment Manufacturing Association (shortened, mercifully, to ISPEMA), of which the Company was a founder member; and the Protective Headwear Manufacturers' Association (PHMA). The two bodies, separate but linked, are there to look after members' interests and are represented on the relevant BSI committees.

Bill Blott, son of the first Chairman and present Chairman of Middlemace Ltd and of the Group.

One can thus see the '60s as marking the halfway stage in the introduction of the new materials and new methods evolved by post-war technology, and a period in which the Company was engaged in coming to terms with them and the problems they created. As far as this record is concerned, however, the halfway stage was already past, and the Company's 40th anniversary in 1964 was celebrated with a party for all the staff in Harpenden Public Hall, during which every member received a memento of the occasion.

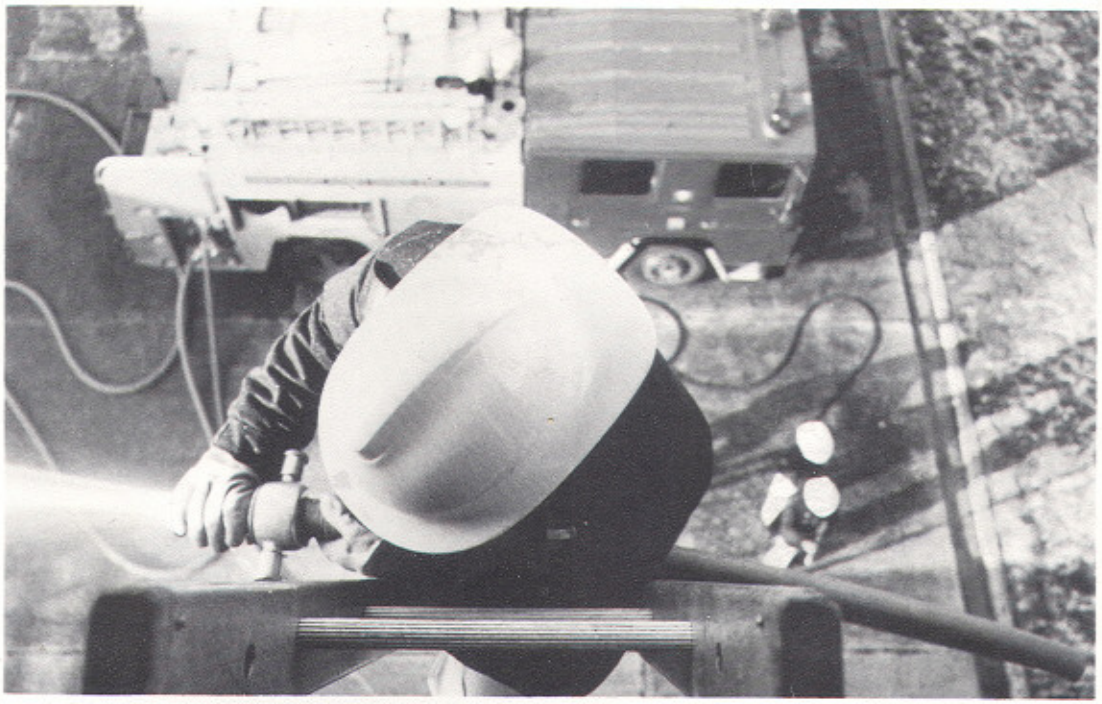
New Products, Old Skills, New Men

In 1963 the Company's capital had been increased to £75,000 and at the same time a number of new projects got under way. The Air Department ordered a special helmet with a metal gauze visor for aircraft crash-tender crews; while the Civil Aviation Authority asked for a visor that could be attached to a standard firemen's helmet for their airfield fire services. A later model of this is still in production. The Army, becoming involved in the troubles in Northern Ireland, asked for brackets for their motorcycle helmets to which anti-riot visors could be attached; and later on, in 1981, when street violence flared up in mainland Britain and the Police, ill-equipped for it, were forced to go to the Army for all the anti-riot gear they could lay their hands on, an entirely new anti-riot helmet had to be developed specially for them. This, dark blue in colour with POLICE in white, and a deep visor made of polycarbonate, is still being produced at Moat Factory, a sinister reminder of events in Belfast and Londonderry, Toxteth and Brixton, and more recently at Orgreave Colliery.

Despite the increasing use of plastics, firemen's helmets were still being made throughout the '60s by the traditional method, using cork sheet. But Tom Noblett had discovered a simpler and quicker method in use in France, and arranged to introduce it under exclusive licence at Helmets. Under the name of SOFALM, it consisted of cork crumb bonded with resin and formed in the French hat-making machines. With it one man can turn out up to 250 shells a week, whereas by the old method he would have been doing well to make 50. When the last of the old traditional helmet-makers retired in 1970 the traditional method went too. What did not go was the fitting of the cotton 'skin' over the shell, though the finished helmet no longer received, like a Rolls Royce, its ten coats of paint laid on by hand with a final coat of varnish. Now they are spray-painted; and where there used to be six or seven women in the covering-room there are only two.

Both Bill Blott and Tom Noblett were, and indeed still are, keen yachtsmen, and this may explain why, when the SOFALM licence also brought the opportunity of becoming once more involved with boats, they grasped it. This time it took the form of the *Fennec*, a 12′6″ GRP sailing dinghy, designed and moulded in France, which the Company imported and fitted out with British gear. *Yachting Monthly*, reporting favourably on it after a test sail in 1963, remarked, however, that 'faced with yet another sailing dinghy' they had quailed; and it may have been this saturation of the dinghy market that led to the idea being eventually abandoned - though not before they had sold some 200 of them.

At this time the top factory, under Dennis Crawley's management, simply did not have the capacity to turn out enough motor-cycle shells, so a local sub-contractor, Joe Lemaire, who was already making the moulds for them, was invited to rent space at Moat and produce shells to the Company's specifications. This arrangement continued until the '70s, when Joe wound up his company and became manager of Helmet Ltd's own moulding shop - a position he still holds.



Cromwell Firemen's Helmet in operational conditions.

Tom Noblett, Managing Director 1948-75.

The Company has always had a flourishing export market, and Tom Noblett did the rounds of the USA and Canada, Australia and New Zealand, Hongkong, Singapore and India, as well as many European countries, visiting the firm's agents and customers. The main export lines were motorcycle helmets, hunt caps and in recent years aircrew helmets. These last now go to several NATO air forces as well as to the Arab states. There are unlikely customers for other products as well; and there is a pleasant incongruity in the thought of the firemen of Bahrain going about their duties protected by cork helmets identical with those worn by British fire brigades, and made in Wheathampstead.

Space, as usual, was a problem; and at one point the Board seriously considered moving the entire operation to one of the Development Areas, possibly South Wales, where new factories were going begging and considerable inducements were being offered to firms which would transfer there. Of all the

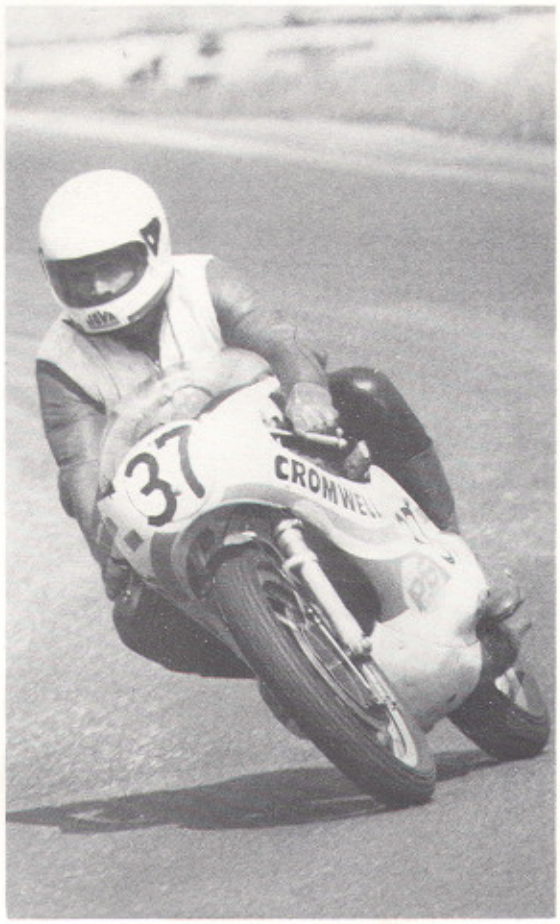
obstacles in the way of such a move - cost, disruption and so forth - perhaps the final one was the unanimous voice of the workforce. 'None of us', they said firmly, 'want to go...' and that was that. They were too valuable to lose.

Most of Helmets Ltd's products, the firemen's, aircrew and motorcycle helmets, the industrial hard hats and hunt caps, were sold then as now under the Company's name and through its own agents; but the useful connection with RFD, and a separate one with the breathing apparatus firm of Martindale, continued - as they still do - and Helmets supply them with a variety of protective headgear for different hazardous occupations. An increasing concern for safety at work and on the roads is reflected accurately in successive catalogues and publicity leaflets. And, of course, there was a steady programme of research and development, both to evaluate new materials and to match the increasingly strict standards set by the BSI. In addition, the needs of customers change, and the Services in particular were regularly altering or upgrading their specifications. In the last case each new or modified type had to be submitted for testing - for design to the RAE at Farnborough, for so-called 'human engineering', comfort, wearer safety and so on, to the Institute of Aviation Medicine - and the process from prototype to production could take many months and involve considerable expense. Development costs are, however, normally funded by the Service Ministry concerned.

The '60s and early '70s were not, all the same, particularly easy years. There was plenty of work, and Helmets' reputation stood high; but Tom Noblett was growing increasingly aware of the need for a more professional style of management - one which he had never had the training to supply. Like his father before him, he was essentially a practical man, more at home with the nuts and bolts of helmet-making than cost-accounting, happier on the shop floor, where as 'Mr. Tom' he was extremely popular, than in the office. Although he had a sound team of experienced old hands - men of the quality of Mike Briggs, Fred Jones and Dennis Crawley - what he did *not* have was a young, energetic, management-trained assistant to take off his shoulders some of the weight of administration and, eventually, to succeed him. Though the order book was full, profits were dismayingly low; and the cumulative effect was increasingly severe physical and nervous strain on the man most closely responsible for the Company's performance. In the end he paid for it with his health.

One possible solution would be to arrange a merger with one of the other helmet-making companies; and with this in mind, the Company was divided into two. Helmets Ltd continued as it had done from the beginning as a

'Duke' motorcycle helmet, also in operational conditions.



Wendy Clarke, Irene Winn, Avril Goldie, Audrey King, Lesley McGuire and Sue Bird assembling Mk3 aircrew helmets.

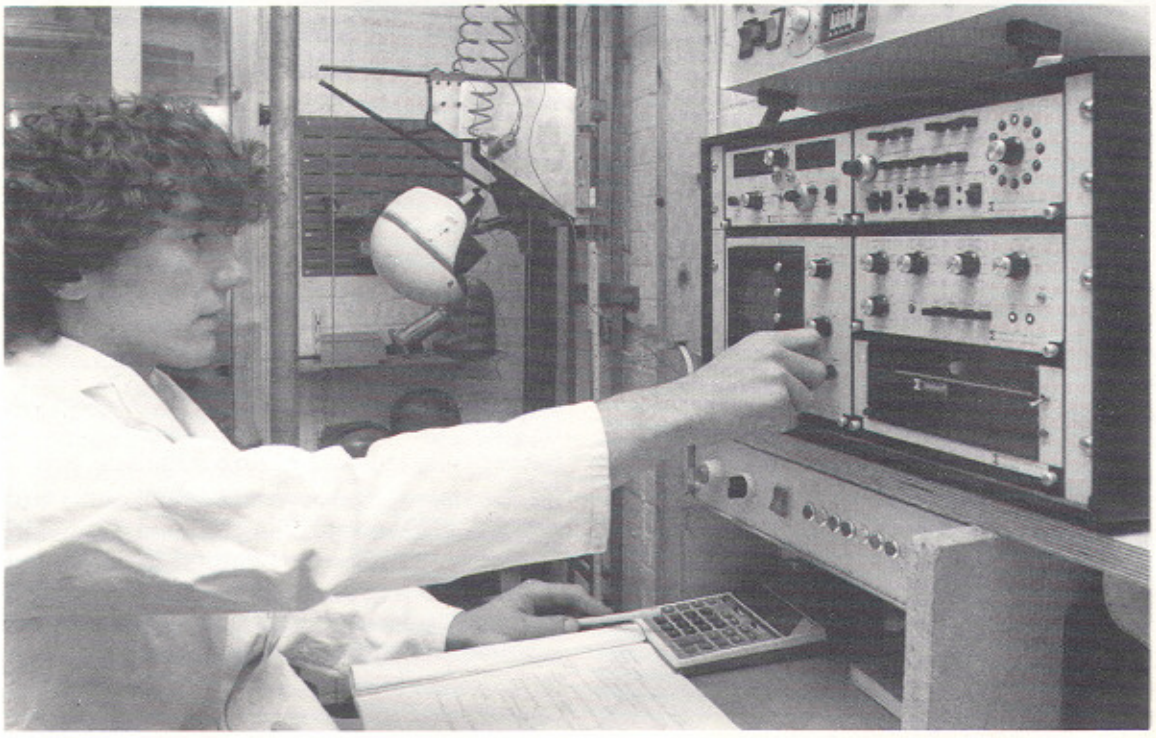
manufacturing entity with its plant and equipment and transport, while the buildings in which it worked and the land on which they stood were transferred to a new company, Middlemace Ltd. What this meant, in effect, was that if the position deteriorated beyond redemption Helmets could be sold, with its name but without the loss of the site, which could be handled separately. Subsequently Middlemace Ltd became the parent company of the Group.

Fortunately the need did not arise, for late in 1974 Tom Noblett met a man who looked likely to have the answer to the Company's, and indeed his own, problems. Ian Hoyle had been Company Secretary and Managing Director of Cambridge Scientific Instruments, but had left them in the wake of a takeover Helmets Ltd seemed to offer exactly the sort of challenge he was looking for, and in the following year he accepted the post of Company Secretary for a trial period of six months.

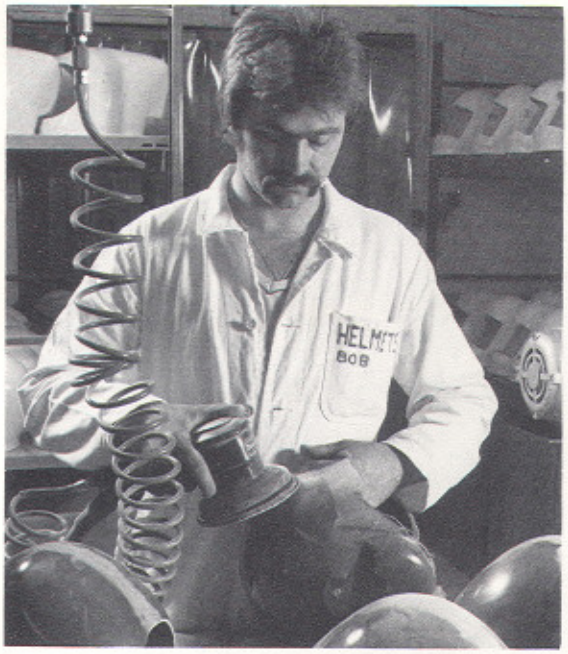
The first half of the decade was therefore a time of special importance, and crucial change, in the story of the Company. When the six months were up Ian Hoyle was appointed Managing Director and Company Secretary of Helmets Ltd; and early the following year a former colleague of his, Roger Phillips, joined the Company, and within a few months was appointed Financial Director and Company Secretary. Tom Noblett retired in 1975, but remains a Director on a consultancy basis. With his stepping down yet another link with the past was snapped, and a fresh chapter opens.

'To protect and enhance the senses above the shoulders'

When Ian Hoyle had first considered joining Helmets Ltd, four things about the company had particularly struck him. The first, and most important, was that it had survived through half a century of industrial, technical and social change, intact and with its essential spirit undimmed. Second, it had succeeded in remaining independent; and, third, it was still manageably small. Fourth, it had a number of first-class products. These were what attracted him; and much of the credit for them belonged to the retiring Managing Director, Tom Noblett. What it needed now was a fresh view of its role in the changing world of protective headgear, and, it had to be admitted, the energy and skills of younger men, especially in management. What it did *not* need was to lose its essential character, that of a small, closely-knit family firm in which everyone knows everyone else, and there is no sense of distance between managers and the shop-floor.



'Prince' motorcycle crash helmet on test rig. As the helmet is more likely to strike a solid object than vice versa, it is tested accordingly.



Bob Waller buffing motorcycle shells in the GRP moulding shop. At the back, crash tender and industrial helmets.

For airfield fire fighting, the firemen's helmet - the outer shell of cork, the inner of ABS plastic - has a visor to protect the face and neck.

But the overriding need was to restore the firm to prosperity. At the root of the problem lay the fact that in certain fields, and notably those in which the Company had been most successful, much more was being demanded of a helmet than simply saving the wearer's skull. One way of expressing it is the sentence quoted at the head of this chapter; or, as Mike Briggs puts it, 'a helmet is now something on which to hang all the gear.' The most obvious example is the modern flying helmet, the Mk3s and 4s which are the firm's outstanding product, the most complicated, the most beautiful in the detail of their workmanship - and the most expensive. The ear capsules, for instance, must not only muffle the howl of the jet engines but, with their radio equipment packed within them, allow the wearer to hear his radio and intercom clearly. There has to be a fitting for a microphone, and an oxygen mask, and the twin visors must not only protect from flash and glare but be optically perfect; and possibly in the future act as tiny screens on which information can be displayed.

In essence, none of this is new. The shift to more complicated flying helmets had started a decade or more earlier, but the firm had been forced to buy many of the components from outside manufacturers with the inevitable delays and expense which this entailed. Over the last few years this has changed. Injection-moulding machines turn out the various plastic components and a number of specially trained girls make and assemble the headsets and test them. In the same way, the polycarbonate visors are now being formed and finished in the firm's own workshops, and the whole operation, from laying-up the GRP shells to packing the finished product in its lined box complete with a bag to keep it in, is self-contained. (Ironically, if survival equipment officers are to be believed, this is the last time aircrew helmets are treated with such consideration!)

The new policy has had a number of important consequences. First, and vital, turnover has increased steadily and in 1983 topped £2M for the first time, and the Company is profitable. Second, the number of technical

Barbara Smith fitting out polycarbonate riot visors, which are formed in the ovens in the background; and beyond her, Ronnie O'Grady working at a bench loaded with agricultural spray guards for RFD. The visors are covered with a protective film.

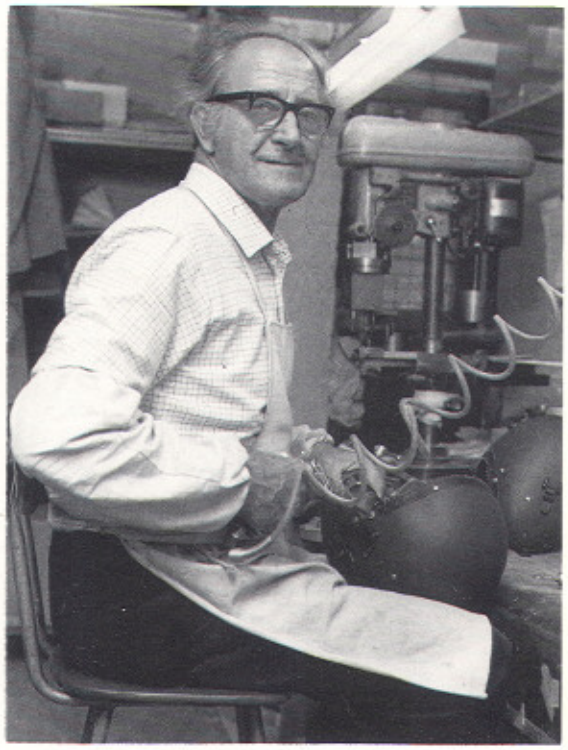
staff has increased in relation to those actually engaged in helmet-making, and the ratio is now in the region of one to three, where before it was more like one to nine. Third, in Ian Hoyle's words, 'for sophisticated helmets people come to us.' Helmets Ltd has the highest Ministry approvals, civil and military, for its products, and their aircrew helmets, when vouched for by Mike Briggs and his staff, can go straight into service without any outside tests or inspection.

All this has meant considerable capital investment in buildings and equipment. Injection-moulding machines and test-rigs have been installed; and a large new workshop, completed last year, now houses a laser for cutting Kevlar, the almost uncutable reinforcing fabric made by Dupont and used now in firemen's helmets. This remarkable piece of kit automatically follows the pattern and simultaneously cuts the material.

The cumulative effect of the fresh approach has been a restoration of confidence in the future of the firm and the quality of its products, and this is reflected in the intense pride which people take in what they are making. The women especially, perhaps because they tend to have the fiddliest jobs, seem to revel in the deftness and skill which go into their workmanship, however repetitive, however much it may have become second nature to them. Whether in the sewing-room machining linings or chin-straps, in the covering room where they produce the immaculate finish on firemen's helmets, or at the benches where the aircrew helmets are trimmed and given their innumerable fittings, one finds the same pleasure in a job well done.

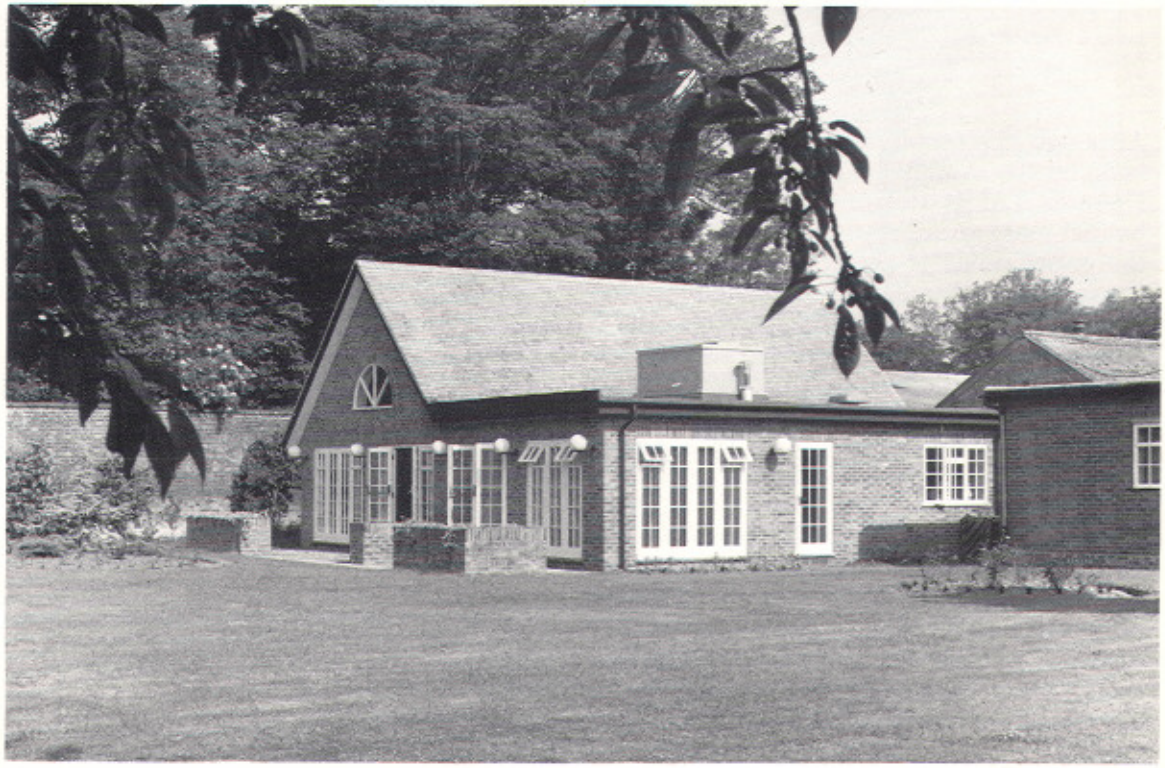
The helmet trade has been described as essentially a cottage industry. If this means that the work is small-scale and intricate, and that a great deal of it can only be done by hand, much of it by women, then the cap fits.

The phrase 'a family firm' can, of course, mean two different things. Until 1948 three, and thereafter until 1975 two, families were the main shareholders and were responsible for the Company's destinies, and in that sense the continuity has been broken. But in Kath Petchey's sense, of its having the closeness of a family, it has continued: different, the older members would say, a little less casual, perhaps, its structure a little more formal, but in essentials much the same as it has always been. That the Company is still relatively small - around 120 - and situated in a village in pleasant surroundings and largely staffed by people living within a few miles of their work, many of whom know each other out of working hours, all contribute.



'I want to see that every helmet that goes out is perfect.' Wally Collins, who retired in the summer of 1984 after fifty years, sums up the attitude of Helmets Ltd's staff.

The french windows of the new canteen, opened in 1983, lead out into the old walled garden.



The resin-impregnated nylon fabric combat/ parachutists' helmet, is lighter and affords better ballistic protection than its steel equivalents.

Although the emphasis in this chapter has been on the introduction of new technology, Helmets Ltd is the only company in the helmet-making business to produce virtually the entire range of protective headgear. On the one hand they can research and develop the most highly technical products to a customer's own requirements, and on the other they can produce something simpler, in quantity, if required.

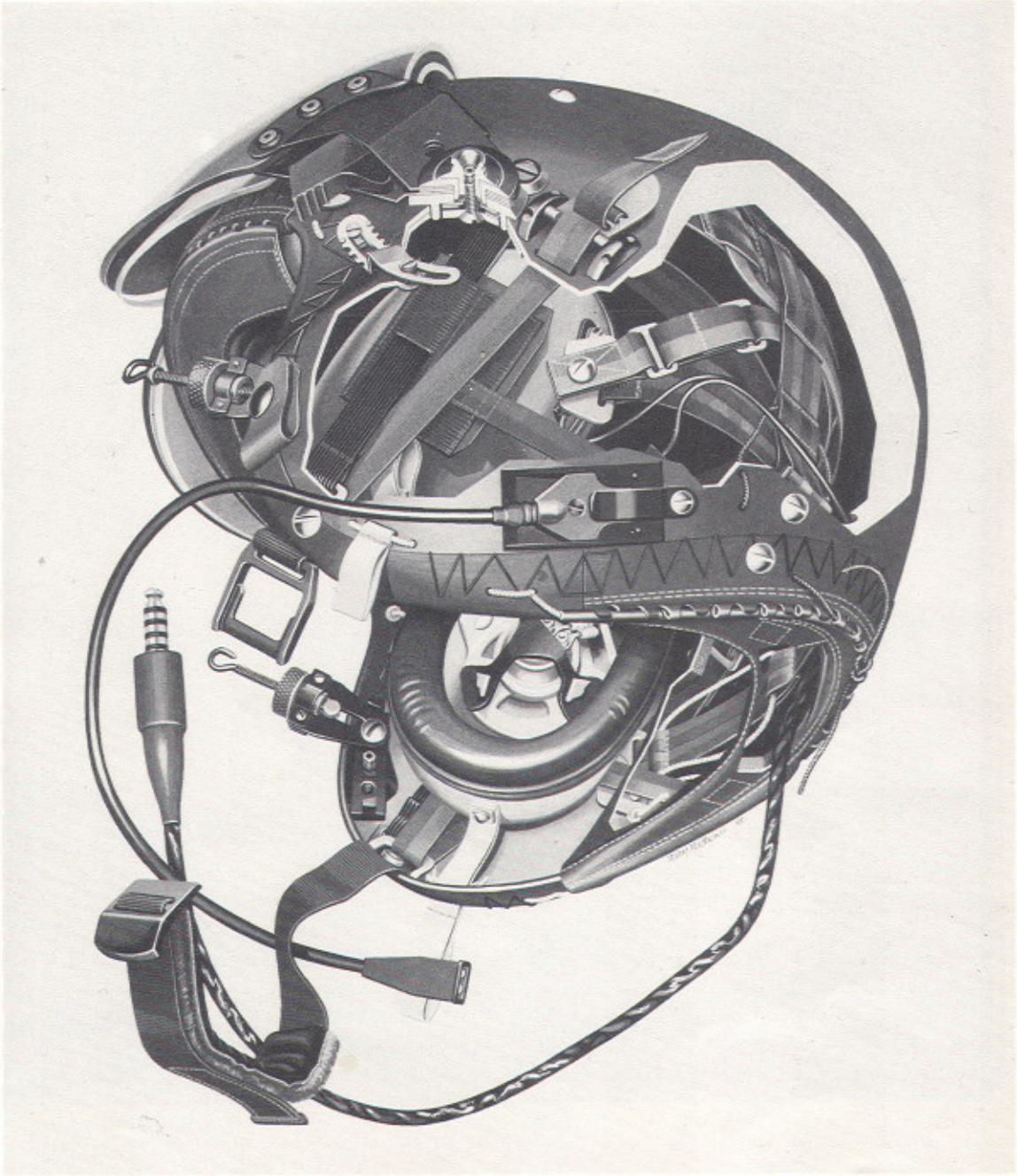
In 1983 Middlemace Ltd, as the parent company, bought the helmet-making division of Kangol (of beret fame), Top Tek, at Stranraer on the west coast of Scotland. As Top Tek International, it has joined Helmets Ltd and Cromwell Helmets Ltd (a dormant company registered in order to protect the name) as an associate company in the Middlemace Group. Its acquisition is another sign of the Company's renewed self-confidence and success.

The helmet-maker's trade is in many ways an oddity. Related to the hat, it is both more and less than that unfashionable, but fashion-conscious article of adornment. Its scope has always been limited: so much so that its main tools have been borrowed from other trades, the blocking machines from the hat-makers, the guillotines from the shoe-makers. At the same time the importance of head protection has been increasingly appreciated over the past half-century, and in many cases has been the subject of legislation. This trend is unlikely to diminish. Inevitably it is a trade that has always had close links with the Services, and among the Company's current products for the forces, in addition to the well-established MK3s and 4s, are the Alpha, a lightweight aircrew helmet (illustrated on the cover), and a combat/parachutists' helmet which, although made of a resin-impregnated nylon fabric is lighter than steel but has better ballistic protection, and which was shown in Britain for the first time in 1983.

Up to the minute in its design and materials - though part of a long tradition - every finished helmet is dependent on the skill of human hand and eye. 'People don't realise', one woman remarked, 'just how much work goes into a helmet': it seems improbable that there will ever be much scope for robots here, something mere humans may find cheering. Change there has been over the sixty years of the Company's existence, with no doubt more changes to come; but combining traditional skills with modern methods and materials, and having the priceless advantage of a keen and loyal work force, Helmets Ltd is in good shape to look forward to the next sixty years.

Inside cover: A cutaway drawing of the Mk4A Flying Helmet lends point to the description of them as 'something to hang all the gear on', and illustrates their complexity.

Back cover: Pilot in an Alpha lightweight helmet becomes part of the Hawk aircraft behind him.



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