

LOOK AND LEARN



incorporating **RANGER**

No. 244, 17th SEPTEMBER 1966

EVERY MONDAY, 1s. 3d.

COVER QUIZ

LONG is the clue to each of these questions. Turn to page 34 for the answers.



1 What are these vessels called and who sailed the ocean in them?



2 There is a monument in Westminster Abbey to this American poet. Who is he?



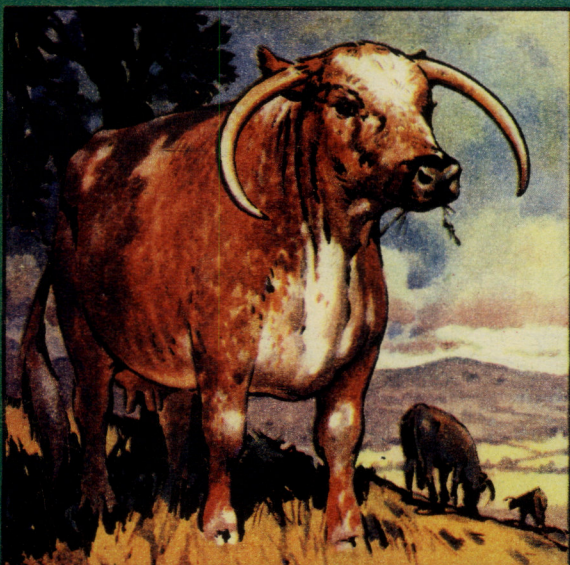
3 This gun was used by the Boers in the South African War. Can you name it?



4 Called 'Hammer of the Scots', what was this English King's other nickname?



5 Can you name this stately home, its owner, and one of its recent attractions?



6 Here is a specimen of a breed of British cattle. Can you identify it?



7 Name this historical war weapon and a famous victory it helped to win.



8 This is a stretch of water in the west of Scotland. What is its name?

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You Write...

The Editor will be delighted to receive letters for possible publication. The address to write to appears at the top of this page.

The Right Bank

Dear Sir,

We have taken your magazine since its introduction and our observant son pointed out to me your article on page 26 of LOOK AND LEARN, issue No. 215 dated 26th February, 1966.

The interesting part of this article, The Story of Christianity in Britain, is that we have a 'copy' of the original of the picture of monks relaxing and fishing, hanging in our bar.

This is particularly interesting to us, as many of our customers thought this picture had been taken on the opposite bank of the river to us, until we showed them your article. By the way, the picture, or print we have, is stuck on to a railway timetable dated 1909-1910.

W. G. Burgess, Royal Oak, Stretton, Ely, Cambridgeshire.

Star Struck

Dear Sir,

In your 25th June issue, your article, 'Why Did the Earth Blow Up?', was a very good one.

I am 13 years of age and I am interested in astronomy, astrophotography and astrophysics.

I would like to hear from some readers who are interested in my hobbies.

Roger Talbot Botting, Box 68, Wheelersburg, Ohio, U.S.A.

Perhaps, one day, one of these appealing stray puppies may win a prize for their proud owners.



Dog Shows for Mongrels?

Dear Editor,

I am a dog enthusiast. I have a dog, he is a mongrel. Are there any mongrel dog shows, and if so, is the training the same as in pedigree dog shows?

Carol Ascon, 177 Devonshire Road, Blackpool, Lancashire.

I'm afraid that there is no national mongrel dog show, but there are exemption shows, where both pedigree and mongrel dogs are shown. Often

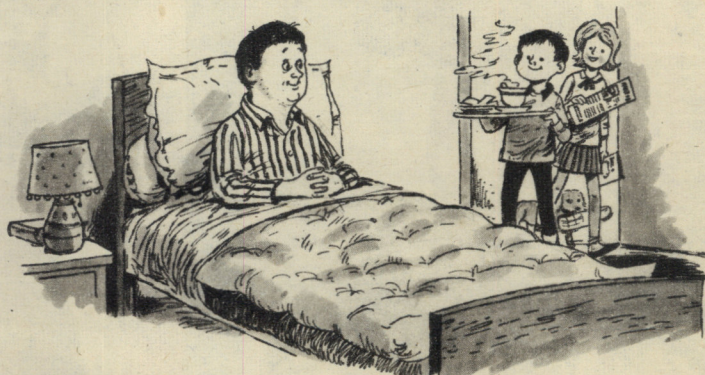
there is an obedience section which any dog can enter. Local fêtes sometimes have open dog shows, including a novelty section which offer prizes for the dog 'with the most beautiful eyes', or the 'longest tail', etc.

Training is important for any dog. Your pet should come when he is called and walk to heel. And even if your dog doesn't have any luck at a show, remember that mongrels are often more intelligent and affectionate than pedigree animals.—EDITOR.

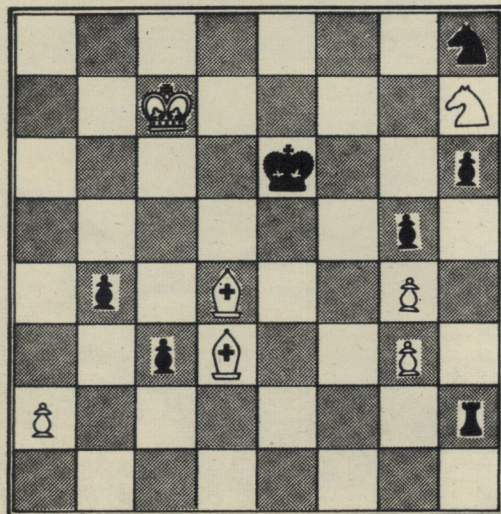
HERE AND THERE

The first Father's Day was celebrated in 1910, when Mrs. John Bruce Lloyd, of Spokane, Washington, started the festival. Over the years, the custom spread throughout the United States of America, and American servicemen stationed in Britain during World War II popularised the idea on this side of the Atlantic.

Mother's Day, or Mothering Sunday, has been observed in England, on the fourth Sunday in Lent, for many years.



FOR CHESS PLAYERS



This week's problem was sent in by a reader, Nigel Jones of Bromley, Kent. White is to play and checkmates Black in three moves.

SOLUTION:

1. B-B4 ch. K-K2
2. B-B5 ch. K-K1
3. N-B6 mate



MANKIND IN THE MAKING

No. 1 of a fascinating series about our distant ancestors . . .

HE lay sprawling on his stomach, by the edge of a gently rippling stream. The deep-set eyes in his heavy face, with its beetling brows and chinless jaw, stared into the water. He eased his naked, hairy body across the rock which overhung the water, for he knew that a speckled, brown trout was underneath it.

A hippopotamus came swimming lazily downstream. It reached a small, rocky island and heaved itself out of the water to bask in the early sun. On the opposite bank, shaded by palm trees, was a dense thicket of bamboo. Suddenly there was a sharp snap. The man glanced up. With a squeal, a huge, hairy elephant crashed through the bamboos, ears outspread as it reached for the shoots and bit them off with its powerful jaws.

The man waited patiently. The breeze was blowing against him and the elephant did not catch his scent. He leant slowly forward again. The trout was still there. His fingers closed round it, just below the gills, and in one swift movement he swept it out of the water.

He shambled back to his camp a few yards

upstream, to join his two children and their mother. The woman was digging up roots for their morning meal with a rough wooden stick. The elder boy sat in a fig tree, throwing fruit down to his younger brother.

The man picked some flints from the river bed which the running water and tumbling rocks had worn away, leaving useful cutting edges. These the boys used as hand-axes to cut down firewood.

The family spoke very little to each other, for their brains were small and they had not yet learned to express themselves and exchange thoughts: and in their strange, lonely world they hardly ever met other human creatures, for there were, as yet, very few of them in existence.

These people, known as the Abbevillians, were the first human creatures to inhabit Europe. They used wooden and stone tools; they could make fire; they lived on fruit and roots, fish and, perhaps, occasionally the flesh of animals. They camped by the sides of the rivers. This is all we yet know about them.

They lived during the European Ice Age, which lasted half a million years. This Ice Age was not one continuous cold spell, but four icy periods with three

THE FIRST EUROPEANS

by MARY CATHCART BORER

warm spells in between—and the Abbevillians lived during the first of the warm periods, when the climate of Europe was much as it had been before the first ice, as warm as the tropics are today, with similar trees, plants and animals.

All we have yet found of the Abbevillians was discovered near Heidelberg, in the upper Rhine valley, and consisted of a human jaw bone with, close by, a few bones of elephants, rhinoceroses and hippopotamuses. But elsewhere in Europe, flints of the same geological age have been discovered, some made by hands, others so primitive that it is difficult to say whether they were formed by nature or by man.

The ice and snow of the second phase of the Ice Age began slowly to creep down from the north over Europe. Gradually the animals wandered south, towards the warmer latitudes of Africa and Asia. Did Abbevillian man go with them, or did he stay behind to die of cold or starvation? We do not know, for we have never found later traces of him, and the next human beings did not appear in Europe till the second warm spell of the Ice Age arrived, thousands of years later.

Young David Balfour (who is telling the story) has been shipped aboard the *Covenant* against his will by his evil Uncle Ebenezer. When they are passing the coast of France, they run down a rowing boat. The only person they are able to save is a man named Alan Breck, who offers the captain gold if he will place him on the coast of Scotland. The captain agrees but, inflamed by the sight of all the gold Alan is carrying, determines to kill him. David warns Alan of the danger he is in, and stands side by side with him when the captain and his men launch an attack.

ROBERT LOUIS STEVENSON'S

KIDNAPPED



The attack, when it did begin, started with a rush of feet along the deck. "Look to your window," said Alan. I had never fired with a pistol in my life. But it was now or never. Taking my place at the window I fired into their midst as they went past me with a battering ram.



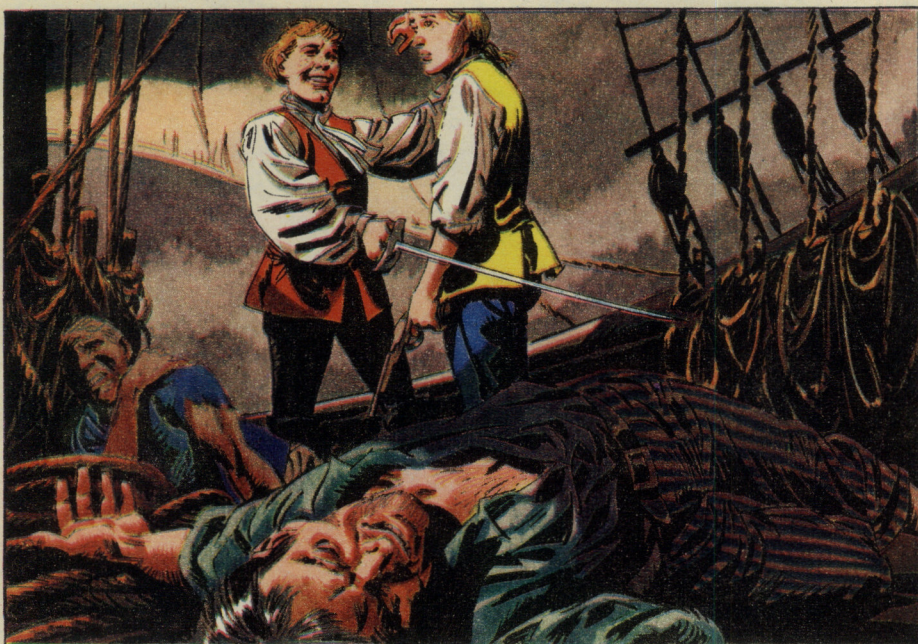
A few seconds later, the door burst open, and Alan was crossing swords with one of the sailors on the very threshold of the round-house.



Even as I watched, I saw Alan pass his sword through the man's body. At the same time I sent another ball into the mass of men crowding in the doorway.



The sword in Alan's hand continued to flash like quicksilver, and at every flash there came the scream of a man hurt. And then suddenly they began to retreat, with Alan driving them along the deck as a sheepdog chases sheep.



The seamen tumbled into the fore-castle, and disappeared from sight. The round-house and the deck was like a shambles, with dead and wounded. Alan came towards me victorious and unhurt. "Well now," said he. "Am I not a bonny fighter?"



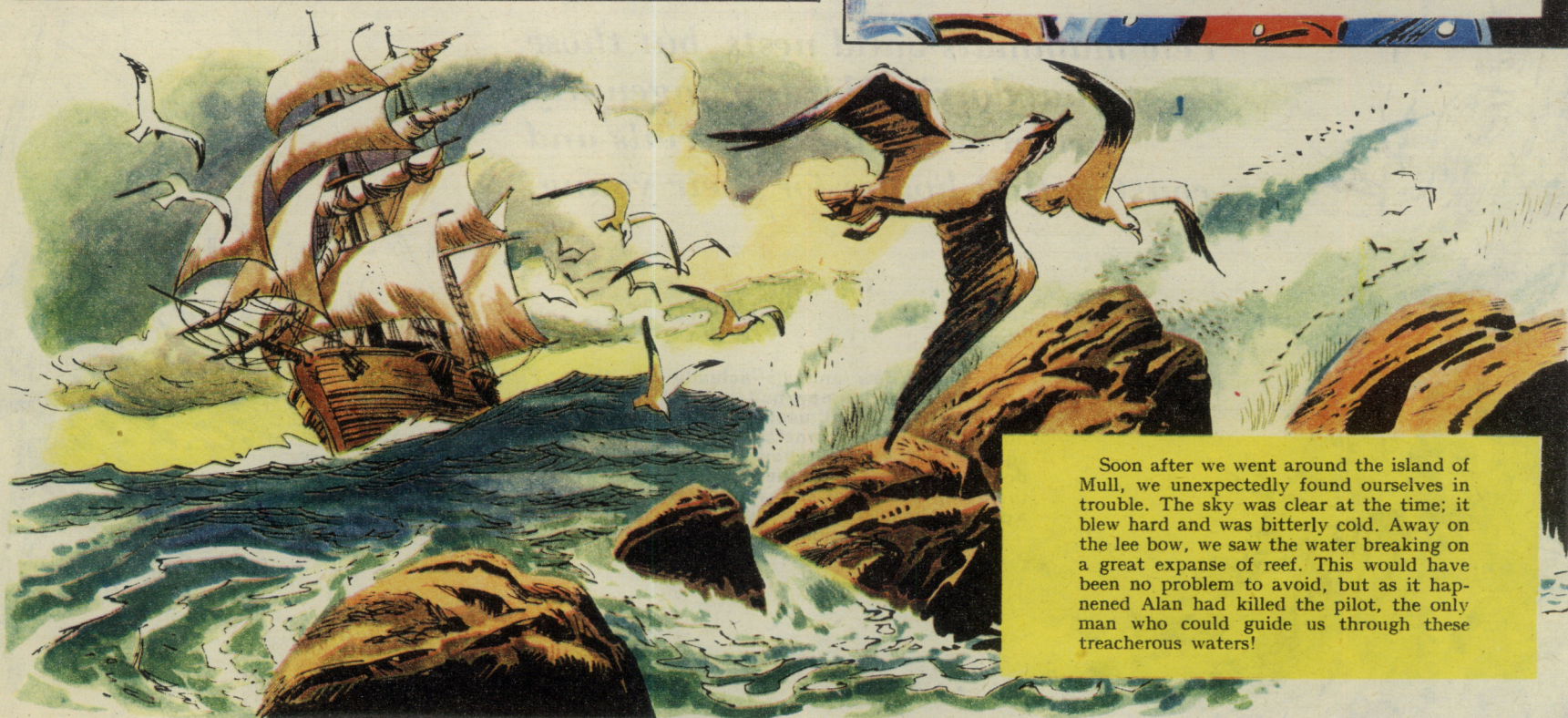
We were still congratulating ourselves on the outcome of the battle when we were hailed by the captain, asking for a parley. This was agreed to by Alan and the captain came immediately. Alan held a pistol to his face. "Now sir, I'll ask you to keep our original bargain."




The captain, unnerved by the loss of so many men, hastened to agree, and from then on we were left in peace. We stayed mostly in the round-house, but occasionally we went on deck. It was on one of these occasions that I learned something of Alan's story. He was a condemned Scottish rebel, who had fought for the French king, until he had grown weary for the sight of heather and deer again.



Despite his misfortunes, it was only when he spoke of the chief of his clan that his face grew grim. "Ardshiel is his name, David," he said. "And he now lives in poverty in France, thanks to one Colin Campbell, known as the Red Fox. When we were broken at Culloden, it was the Red Fox who fawned on the English king, but the time will come when I will collect the Red Fox's brush."



Soon after we went around the island of Mull, we unexpectedly found ourselves in trouble. The sky was clear at the time; it blew hard and was bitterly cold. Away on the lee bow, we saw the water breaking on a great expanse of reef. This would have been no problem to avoid, but as it happened Alan had killed the pilot, the only man who could guide us through these treacherous waters!



WONDERS
OF NATURE

THE NEST BUILDERS

by Dr. MAURICE BURTON

Few mammals build nests, but those that do, rival birds in ingenuity when collecting materials and constructing homes for their young.

Surprisingly few animals actually use their paws for collecting new building material. The harvest mouse, right, uses its nose to weave a home among the cornstalks, while the grey squirrel, left, scurries about with mouthfuls of dead leaves. But even these are surpassed by the flying phalanger, top, which uses its mouth, a paw and its tail respectively to pluck, pass and hold bundles of leaves.

MANY animals make nests, either for resting or to lay eggs or give birth to young. Birds build nests only for laying their eggs. They sleep elsewhere, either perched in trees or on buildings, or squatting on the ground.

We do not usually associate the furred animals, or mammals, with making nests, yet most of them do, usually as sleeping quarters. Gorillas, for example, select a place in a tree and bend the smaller leafy branches in towards it to make a sleeping platform. They make a fresh nest each night.

Rodents, such as rats and mice, as well as squirrels, are particularly given to making nests. Squirrels make elaborate nests of twigs, known as dreys. These they line, usually with leaves. The pack rat of North America makes a house of twigs with four compartments and connecting passages.



The animals which do use their limbs include the gorilla and badger. The gorilla prefers to bend a tree to its own liking rather than collect nest materials, while the badger drags bracken along in a most laborious way, leaving a tell-tale trail of dropped pieces to its home.



It is interesting how the mammals transport their nesting material. A badger gathers bracken or grass and drags it over the ground, moving backwards. It is a laborious task, and the noise made as the bracken is dragged along can be plainly heard. Usually quite a lot is spilt along the way, especially when grasses are used. What with the track a badger wears in the ground as it walks to and fro, and the pieces of grass littering the track, it is easy to follow this nest-builder.

A grey squirrel is more skilful. You can sometimes watch it collecting dead leaves. It will pick up a leaf in its mouth, run over to another, lay the first leaf neatly on the second, then pick up both. By repeating this, it will finally have a bunch of half a dozen leaves in its mouth. Then it will run to a tree, climb rapidly up the trunk, disappear inside its drey and, a few seconds later, reappear empty-mouthed.

Apart from apes and monkeys, which use their hands, and badgers, which use their paws, there are remarkably few mammals that employ anything but their mouths for nest-building. Even small rodents, like the harvest mouse, which build woven nests of grass, do not use their paws as 'hands'. To weave the walls of their nests, they thread the grass by pushing it through with the snout and pulling out the other side with their teeth.

The outstanding exception is found in some of the Australian animals. These, as everybody knows, are unlike the furred animals in other parts of the world. They are mainly pouched animals (marsupials), in which the females have a pouch on the abdomen for carrying their babies. The marsupials include kangaroos, wallabies and opossums. Because they have this pouch, they do not need a nest for their young, but many of the smaller marsupials make a nest for sleeping in, and they transport the materials needed to build it by



wrapping the tail round a bundle of grass or leaves.

One opossum, known as the lesser-flying phalanger, which is two feet long, including its foot-long tail, spends its days sleeping in a hollow in a tree. At night it comes out to feed on blossoms. To reach these it launches itself into the air and glides from tree to tree, using a fold of skin on each flank as a parachute, and the tail as a balancer.

When building its nest, however, it climbs along a branch, hanging by its feet like a sloth. It picks off leaves for its nest with its teeth while hanging by its hind feet. It passes these with its front paws to its tail, which it wraps round them. Eventually the phalanger climbs back into its nest in the hollow tree, holding a bundle of leaves with its tail.

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WHAT DO YOU WANT TO BE?

Another in a special LOOK AND LEARN series on careers by Joan Llewelyn Owens



Even the most brilliant journalist needs a sub-editor to correct manuscripts

CHECKING COPY

POLLY was checking the proofs of an article which had been returned by the printer. In one line two words had been changed over, and she made the recognised mark in the margin to correct it. Finally she marked it "O.K."

Into the office, which she shared with another sub-editor, walked the Editor of *Brighter Homes*. Handing her three sheets of typescript, he said, "Cut this to five hundred words, will you? It could do with a more striking intro and title, too."

Polly eliminated several repetitive paragraphs and tightened the construction of a number of sentences, corrected two grammatical errors and changed the 's' in realise to a 'z', to conform with the magazine's style.

When she had finished she went to 'chase' the Gardening and the Shopping Editors for their overdue copy. This she would check for grammar, punctuation and length, then pass it on to the art editor, who would mark it up in the right size type and decide on the sort of title to be used.

Though the art editor chose the illustrations, Polly captioned them. In order to make a caption fit exactly into the space allowed, she had to write and rewrite until it was perfect.

Polly joined the staff of *Brighter Homes* as secretary to the editor. He found that she was good at drafting letters and asked her to answer readers' queries, which involved her in a good deal of research. Within a year a vacancy arose for a sub-editor and Polly got the job. Her ambition is to become either Merchandise or Furnishing Editor, when she will write her own features.

There is no recognised way of training as a magazine sub-editor, though an evening course for magazine staff is held at London's Regent Street Polytechnic, and some secretarial colleges offer courses in journalism.

Many girls do begin as juniors or secretaries. If they are intelligent, able to recognise good writing and to judge what will appeal to the magazine's readership, then they will quickly be given a chance to 'sub' and later to become editors.

For instance, the secretary to the Fashion Editor assists at photographic sessions and may be sent to cover minor fashion shows. If she notices an interesting design and writes about it well, then she has taken the first step towards the top.

Secretaries on magazines get from about £11 to £15 and the minimum rate for a qualified journalist is £25 a week. Higher salaries are paid to those with proven ability.



Sometimes the dulllest job can provide the 'scoop' for which every reporter searches

A NOSE FOR NEWS

FRANK looked at the diary on the chief reporter's desk. He was marked to cover the routine news-gathering calls and to attend a presentation that evening to the retiring clerk to the council. That would mean long speeches, from which he would have to extract an interesting item.

"I'd hoped I'd be sent to interview that pop-singer who's bought a house in the park," he said to Mike, one of the senior reporters. "After all, I did find out he was moving into the district when I went the rounds of the estate agents."

"You'll get the plum jobs in time," said Mike, who had been assigned to cover the Petty Sessions court.

The routine calls that morning provided one good story. At the police station Frank heard of a constable who had jumped into the river to rescue a child who had fallen off a house-boat. He interviewed the constable, then went to see the child's parents.

Frank is doing a three-year apprenticeship on a weekly paper, under the scheme arranged by the National Council for the Training of Journalists (6 Carmelite Street, London, E.C.4). Before being accepted, he had to have at least five G.C.E. O levels (including English language and literature) and to serve a six months' probationary period.

Training is a mixture of practical experience on the job and study at a technical college, by means of day-release or evening classes, or, preferably, two block-release courses each lasting eight weeks.

The course includes English, local and central government, newspaper law, shorthand, and other subjects, in which examinations are taken. Finally comes the Proficiency Test, an assessment of practical journalistic ability and of the quality of the candidate's vocational training. Those who pass are awarded the National Council's Certificate.

There are more applicants for employment than there are vacancies, but the persistent youngster with a lively and intelligent interest in people and events will eventually succeed. He or she should apply to editors of provincial and London suburban newspapers, listed in the *Newspaper Press Directory* and *Willing's Press Guide*, or study the advertisements in *World's Press News*.

Rates of pay depend on the type of newspaper and the size of the area it serves. In 1967 the small weekly paper junior aged sixteen will receive £7 a week, while his senior aged twenty-four will get at least £20. The present London rate for national newspapers is £28 10s., but very much higher salaries are often paid.

If readers care to write and tell the Editor what careers they would like to take up, he will do his best to include these in this series. The address to write to is given at the top of Page 2.

FROM THEN TILL NOW

THE CALENDAR



Man first measured time by sunset and sunrise, and by the march of the seasons. In 4241 B.C., the Egyptians were civilised enough to start a written history and to begin a calendar. Their year had 365 days, divided into twelve months. They used the star Sirius for time-keeping.



The Babylonians tried using the moon to reckon their calendar. When the Greeks took over the Babylonian system, they adjusted it by adding three extra moon months every eight years. This did not work very well and sometimes led to disputes as to what time of the year it was.



The Romans used moon-time, but gave the year 366 days too long by 18 hours. The calendar was three months 'out of year' when Julius Caesar ruled. On the advice of astronomers, he gave the year 365 days and added an extra day every 4th year to catch up with the sun.



From the Roman calendar we get the names of our months. July was named after Julius Caesar and when his nephew Augustus came to power, August was named after him. Augustus disliked July having 31 days so he took a day from February and put it on his own month.



The great circle of stones which comprises Stonehenge may have been built for astronomical purposes, by providing a method of keeping a calendar for predicting the seasons and foretelling the eclipses of the sun and the moon. Stonehenge dates back nearly 4,000 years.



This stone was carved about a century before Christ. It is the oldest American antiquity. The stone's surface is covered with the writings of the Maya race, who lived in Central America and Southern Mexico. It bears the equivalent Mayan date of 98 B.C.




About the year A.D. 900, as we reckon time, all Christian peoples decided to count the years forward and backwards from the birth of Christ. The Mohammedans chose a year in the life of their prophet, and the Jews count back to the date believed to be the year of creation.



In 1582, the Julian calendar was gaining a day every 128 years, and Pope Gregory XIII modified it. However, the Gregorian Calendar was not accepted in Britain until 1752, and then under protest. Many people thought it was an attempt to change the sacred saints' days.



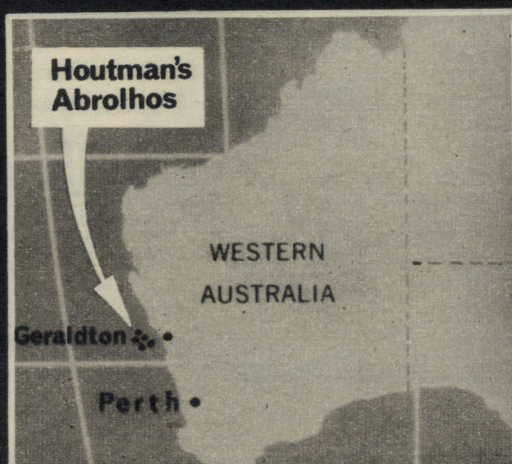
Today's calendar is a relatively simple and satisfactory affair, although it is still not quite right in relation to the sun and gains 26 seconds every year. If our descendants drop one day in the year 4,000, that will put it right with the sun again.



Australian skindivers discovered the remains of a Dutch merchantman which kept its grisly secrets for 336 years.

THE MUTINEERS OF MORNING

Off the coast of Western Australia lie three groups of islands known as Houtman's Abrolhos—from the Portuguese 'abri vossos olhos', meaning 'open your eyes'. They are the graveyard of many 17th century sailing vessels . . .



IN the year 1629, a stately Dutch merchantman set sail for the East Indies. On board were some 300 passengers and crew. After a voyage lasting many months, her commander, Captain Francisco Pelsaert, watched anxiously for signs of land.

But, like many other seamen of the period, Captain Pelsaert and his navigating officer, Ariaan Jacobsz, had sailed too far eastward after rounding the Cape of Good Hope. Now they were hundreds of miles off-course and heading for a disaster which was to become known as one of the bloodiest in the history of Dutch colonization.

With her square sails set full to catch the breeze in the hot southern Indian Ocean, Captain Pelsaert's ship, the *Batavia*, came out of a haze of heat and struck Morning Reef, one of the many treacherous coral reefs which lie 35 miles off the coast of Western Australia.

It was almost the final tragedy for the tough Dutch captain, for during the voyage he had been threatened with mutiny. But now that death faced them all, the mutineers abandoned their plans to attack their captain and throw him overboard.

Within minutes of the *Batavia* striking the reef, it became obvious that she was doomed, and it was decided to set ashore 180 men, women and children on islands about a mile from the ship. Most of the mutineers remained on board, looting and carousing.

On the third day after the wreck, Captain Pelsaert and Ariaan Jacobsz sailed with 45 people in two small boats for Java, leaving the others to await rescue.

They reached Java in 30 days, but it was four months before Pelsaert returned to find that the mutineers, led by a man named Cornelisz, had left the wreck when it foundered, and had instituted a reign of terror among the survivors.

In a dreadful orgy of murder and drowning, Cornelisz and his men had killed 125 people and kept the remainder in a state of terror.

The mutineers' plans to seize the rescue ship were thwarted and Cornelisz and the other ringleaders were eventually tried and hanged.

Many old sailing ships suffered the same fate as the *Batavia* when they ran aground on the same reefs.

The incredible story of the Mutineers of Morning Reef has been pieced together partly



Many Dutch merchantmen suffered the fate of the *Batavia* when they struck the hidden coral reefs.



REEF

from journals left by Captain Pelsaert, and partly from evidence brought up by skin-diving expeditions mounted by Australians.

Among the impressive haul brought up by divers were bronze cannon, many coins including silver dollars dated 1575, pewter ware, gun barrels and navigational instruments.

On the islands were found gruesome reminders of the massacre when diggers unearthed skeletons still bearing the marks of the death-dealing swords which had struck them down.



SPOILS FROM THE OCEAN BED

A 17th century bronze cannon (above) is hauled up from one of the old Dutch wrecks near the Abrolhos Islands.

On the right are two silver coins, one of which shows the head of King Philip IV of Spain, and (below) a large Dutch wine bottle, a cannon ball and other utensils used by the Dutch traders and emigrants.



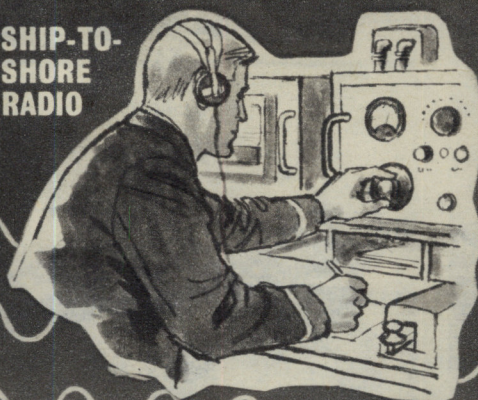
Around the world the babel of radio and TV

THE AIR IS

TELEVISION



SHIP-TO-SHORE RADIO



ROYAL AIR FORCE



WE live in an age of noise. The streets of our cities resound day and night to the throb of car engines, the hooting of horns, the rattle of pneumatic drills, riveting machines and pile-drivers on building sites. Jet planes whistle overhead. We have come to accept it as a part of life.

Yet this noise is as nothing compared with the babel of radio signals which fill the 'air waves' over every square inch of the earth's surface.

When we listen on a radio set we sometimes hear these signals as voices and music. But there are thousands of others which to the ear are mere noise but which, on the right apparatus, can be turned into a television picture, a business message, a picture to be printed in a newspaper, a radar signal guiding a ship or plane, information from an orbiting satellite or even from the moon itself.

Do you find it difficult to understand how all this can take place, or get a clear idea of what exactly a radio wave is?

Not surprising, for even the scientists do not really know what radio waves *are*. Their nature is as mysterious as the unseen forces of gravity and magnetism. Yet scientists and engineers know a great deal about how radio waves behave; how they can be generated and received at the other end.

You probably find that printed radio programmes are a bit of a puzzle. The BBC Light programme, for example, is described as being broadcast 'on a wavelength of 247 metres'. It is also described as being broadcast on 'a frequency of 1,214 kilocycles'. Well might you ask why we have to have both!

But here we come up against radio history and tradition. The engineers do not want to talk about 'wavelengths' at all; it is a relic of the early days.

We have become so used to 'tuning in' a signal on a radio set that we are apt to forget that 'tuning' had to be invented in the early days so that one transmission could be separated from another.

'Tuning' means that transmitter and receiver are adjusted to what might be called the same vibration. (Have you ever noticed that when a note is struck on a piano, something in the room will 'ring' as well, although nothing has touched it? This is the same as a radio set responding to a transmitter. It was once said that a famous singer could emit a note that shattered a wine glass, for the same reason!)

by CHARLES HATCHER, B.Sc.

A radio signal, after being generated in a transmitter, radiates from the aerial as a series of 'bursts' or 'waves' of electricity.

In the early days the actual length of these waves was measured in metres, so that a transmitter was said to be radiating on 'a wavelength of 200 metres'. But as the number of transmissions grew, this became rather cumbersome, for, to be strictly accurate, fractions of a metre had to be quoted as the wavelength.

Engineers decided that it would be better to measure the transmissions according to how many electrical 'bursts' radiated from the aerial every second.

Thus our Light programme on 247 metres is found to have a few hundred thousand bursts, or *cycles*, per second. A thousand cycles a second is called a *kilocycle*.

A TV signal, on the other hand, which has a very short wavelength indeed, consists of some millions of cycles per second, which are called *megacycles*.

Your broadcast receiver is marked in 'wavelengths' only because people have become used to talking about short, medium and long waves.

Wavelength problem

But in spite of the very wide range of frequencies or wavelengths used, we are getting a real 'traffic problem' in the air.

It is not a new problem, either. Even before the war the growth of broadcasting in Europe created serious interference between one station and another. The European Broadcasting Union was formed so that all the countries could get together and agree on the wavelengths they should use.

This worked fairly well, until the pirate radio stations came along, broadcasting from ships and unused gun towers off our shores. They just butted in wherever they could, mostly at the bottom of the medium wave channel and, although clearly received in this country, they are said to be

creating serious interference with broadcasting stations in Europe.

Imagine, too, how the thousands of civil aircraft crossing our skies have added to the radio traffic, as well as police cars, taxis, amateur transmitters, ships—and even private cars which can now be equipped with telephones.

What can we do to stop a complete radio traffic jam?

We can make sure that stations stay right on their frequency or wavelength. Slight differences in temperature or humidity, or power from the mains can change the frequency.

It has been found, however, that a thin slice of quartz crystal will vibrate electrically to a very accurate frequency, depending on its size and the way in which it is cut, ground and polished. These are used to keep the radiated signals 'right on the line'.

But it has also been found that many radio signals between two fixed points *need not travel through the air at all*. They can be sent through a pipe! Experiments on these lines are now being carried out in Britain.

The radio waves are piped through tubes made of copper and can be carried for thousands of miles.

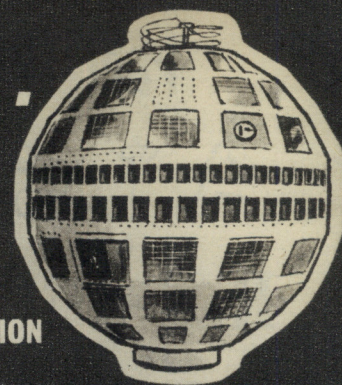
The copper walls of the pipe very effectively 'screen' the radio signal moving along inside it from all other waves *outside* the tube, even radio waves of the same frequency.

In recent experiments, scientists working at London University have been able to design a scheme for piped radio which could carry a *million* telephone messages or the more complicated details of a *thousand* TV programmes at the same time.

Perhaps in the future we may have an extra pipe leading into our home, in addition to gas and water mains. This pipe would carry a hundred or so TV and radio channels for us to choose from, quite free of interference.

Radio and TV will go on increasing. But the aerial pathway around our world must be saved from chaos.

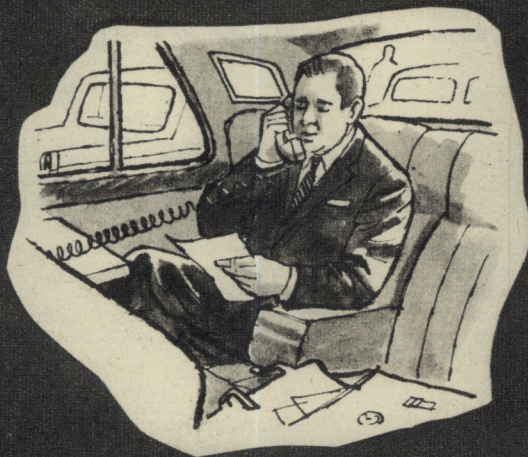
has grown ever greater, and now . . .
FULL UP!



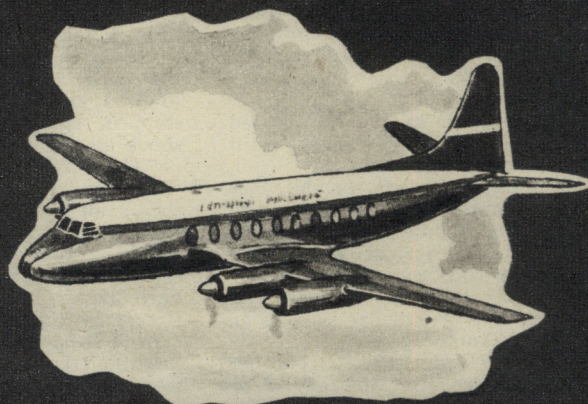
COMMUNICATION
SATELLITES



BROADCASTING



CAR RADIO TELEPHONE



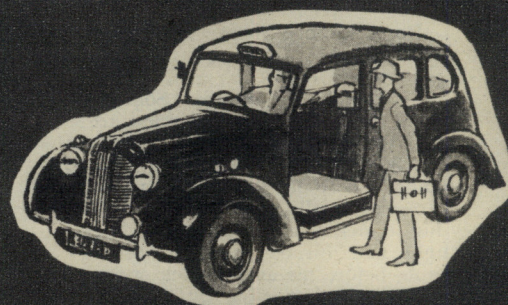
AIR LINERS



TV MOON
PROBE



TELEPRINTER



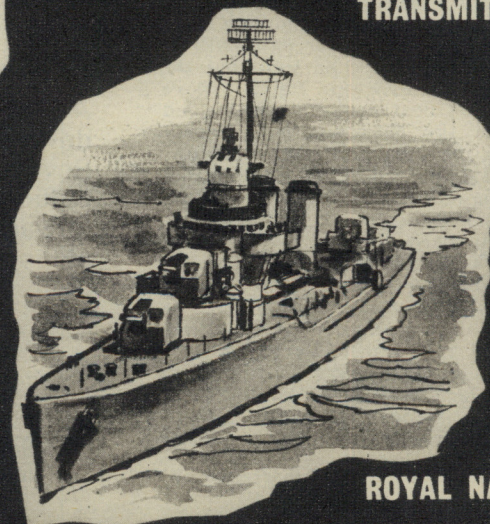
TAXI RADIO



'Z' CARS



AMATEUR
TRANSMITTERS



ROYAL NAVY

One solution to
the 'traffic jam'
is to send
radio through a pipe!
TV and radio might
come into your home
like the gas and water
supply!

A LEOPARD COMES TO CALL

ROGER woke with a start. Something was on top of him. A leopard? He was about to scream and wrench himself free, when another thought came to him.

Hal had said he would get him later. He had scared Hal out of his wits by pretending to be a wild beast about to spring upon his back. Now Hal was trying to scare him—make him think that a leopard had pounced on him. He would fool the big boob. He'd just lie there as calm as you please.

"Ho, ho, hi, hum," he yawned. "Go back to bed, you big stiff. You're not fooling me a bit."

He felt hot breath on his face. Sharp points like claws pressed through the blanket on to his arms. "You ought to cut your finger-nails," he said.

The answer was a roar that sounded like a circular saw going through a knot.

Roger laughed. "Pretty poor imitation of a leopard. Now get off me—I want to sleep."

"What's going on over there?" came from the other side of the room.

Roger's blood froze.

"Where are you, Hal?" he quavered.

"IN bed, of course. Something woke me up. Sounded like a leopard."

There was a scampering sound on the floor. Whatever it was that had landed on Roger leaped off and went careering madly round the room. Hal dug under his pillow for his flashlight and turned it on. Roger saw spots before his eyes—black spots on yellow, chasing a big rat!

The leopard caught the rat, gripped it between his teeth, jumped on Roger, squeezing a wild yell out of him, then leaped out of the window.

Roger found himself shivering and sweating at the same time. Hal got out of bed and came over.

"Have you had enough fresh air?" he asked.

He closed the window. Without saying anything more, he went back to bed.

Shaggy Beasts

It seemed only five minutes later when they were aroused by a knock on the door. The door opened and the warden, Mark Crosby, came in. "You boys want to go on dawn patrol? It's the best time of day to see the animals. Pull on your clothes and we'll have some coffee."

When they came out on to the porch, they found the native kitchen-boy had already placed a coffee pot and cups on the table. Morning mists were rising. The lower part of Kilimanjaro could not be seen, but the snow-crowned top rising above the mists floated like a white cloud in the sky. The sun had already struck the snow and glaciers. Below, it was still so dark that the shapes moving among the flat-topped acacia trees looked more like blobs of ink than animals.

Mark and the two boys climbed into the warden's Land-Rover and set out. They had not gone more than half a mile before the trail was blocked by a herd of buffalo. Almost a hundred of the great, shaggy beasts faced them, with heads lowered.

Crosby stopped the car.

"I don't think we'll try to plough

THE STORY SO FAR:

When poachers threatened to wipe out the entire big-game population of Tsavo, Africa's largest game reserve, Warden Mark Crosby called in two teenage brothers, Hal and Roger Hunt, to help.

Crosby took them in his four-seater aircraft to his headquarters at Kitani Safari Lodge in the heart of Tsavo.

Despite Crosby's advice, Roger opened one of the windows of their cabin before retiring for the night.

through that," he said.

A huge bull buffalo came out from the herd, advanced some 20 feet towards the Land-Rover and then stopped. He glared at the car and shook his big head.

"That's their leader," Crosby said. "If he takes a notion to charge us, they'll all follow—" he paused. "If a poacher's arrow or spear has ever wounded that bull, he will hate everything human and he will very likely take it out on us. But I think I recognise him by that twisted right horn. I believe he's been around the camp and I gave him a drink. Let's see if he knows me."

He opened the door and prepared to climb out. At once there was an angry roar from the big bull. The herd behind began to stamp and bellow.

The bull started forward and Hal longed to get his hands on the gear lever and back away.

But as the warden stepped down to where the buffalo could see him

from head to foot, the bull stopped and appeared to be thinking things over.

Then he turned towards the herd and said something that might have been bull-language for, "This two-legged one is okay." With great dignity he moved off into the woods and the herd followed him.

Hal and Roger breathed again and the warden climbed back behind the wheel.

* * *

They drove through some pleasant woodland where they saw long-faced hartebeest, waterbuck, gerenuk and the lovely, leaping impala, expert in both the high jump and the long jump. The clown of the woods, the wart-hog, humph-humphed out of their way, and a family of baboons barked savagely as they passed.

They returned to the lodge at nine and had breakfast. They had seen so much—it hardly seemed possible that they had been out only three hours.

Now they must impatiently wait another three hours before Hal's men would arrive and they could make their first expedition against the poachers.

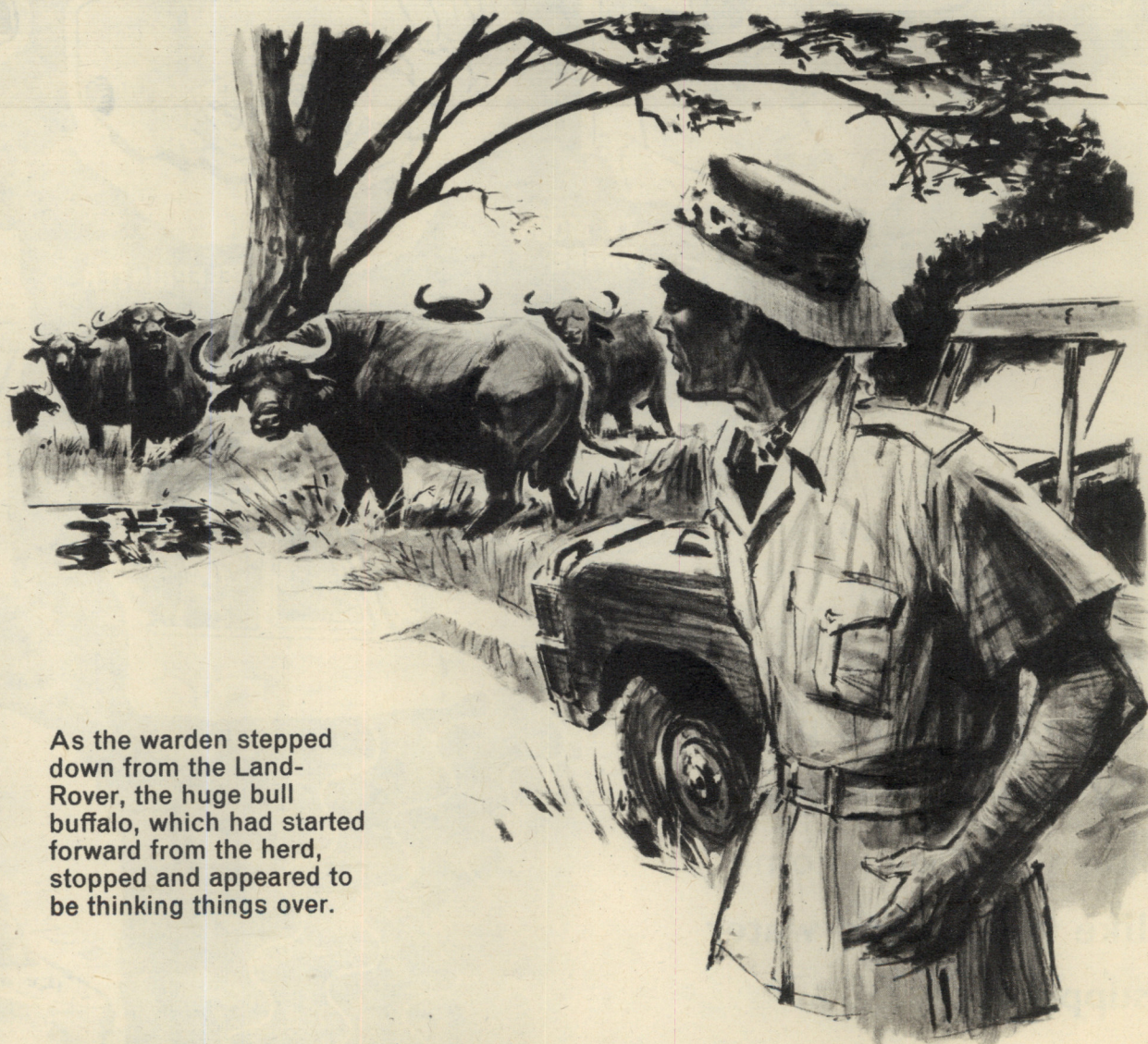
At midday, the fourteen lorries, trucks, jeeps and Land-Rovers of Hal's safari rolled in.

Hal's 30 black safari men, with smiling faces behind a red film of road dust, climbed down. They showed plainly their affection for their young masters, and the boys were equally pleased to see them—these fine, stalwart fellows who had been their partners in so many adventures, capturing live animals of every sort for the world's zoos. They were eager to get on with the job they had come to do.

Warden Crosby addressed them. He told them of the poachers' camp that he and the boys had seen from the aeroplane seven miles to the west. He told them of the terrible slaughter of animals. He stirred them until they could hardly wait to get at the poachers.

"But there is one thing you cannot do," Crosby continued. "You can't kill them. You will take no guns with you. That's going to make your job dangerous and difficult, there's a law against killing poachers. They have to be arrested and taken to court. They are tried, and the

Continued on page 23



As the warden stepped down from the Land-Rover, the huge bull buffalo, which had started forward from the herd, stopped and appeared to be thinking things over.

RANGER

Your favourite entertainment features collected together in a special pull-out section...

In the year A.D. 2805 Cadets Jason January, Nick Ringold and Tom Bolt took off from Portsmouth in a craft that could break through the time barrier. Thanks to the cowardly bully, Bolt, losing his nerve, the craft got out of control, and now they are back in Portsmouth in the Stone Age!

To make matters worse, their time-craft has been stolen!

JASON JANUARY SPACE CADET

Jason and Nick rushed out, to find the citizens of pre-historic Portsmouth in a panic. "Tom Bolt's missing, too," said Jason. "Whoever's taken the craft has taken him, too!" Although they felt angry with Tom for landing them in this predicament, they knew they must still help him.



The prints of bare feet led out of the settlement and down to the water's edge. Their friends pointed across the Solent and gabbled excitedly, "Wabun . . . Wabun . . . Wabun!"



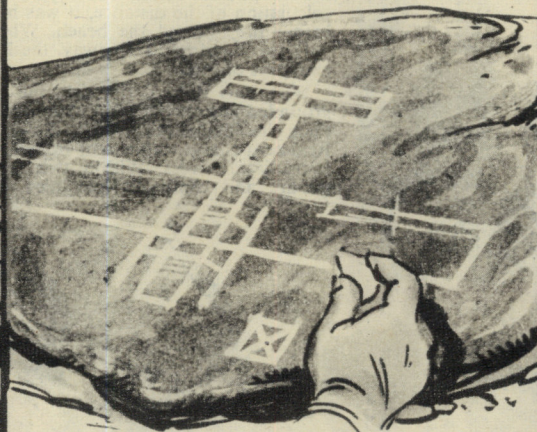
"I've got it!" cried Jason. "The Wabun are obviously an enemy tribe who live on the Isle of Wight and own boats. They're the culprits!" "And our chums are scared to death of the Wabun by the look of it," added Nick, grimly.



They settled down to try to solve the problem. It became obvious that their friends did not own any boats, and had no intention of going after the fearsome Wabun. "There's only one thing for it," said Jason. "We'll have to build a boat of our own."

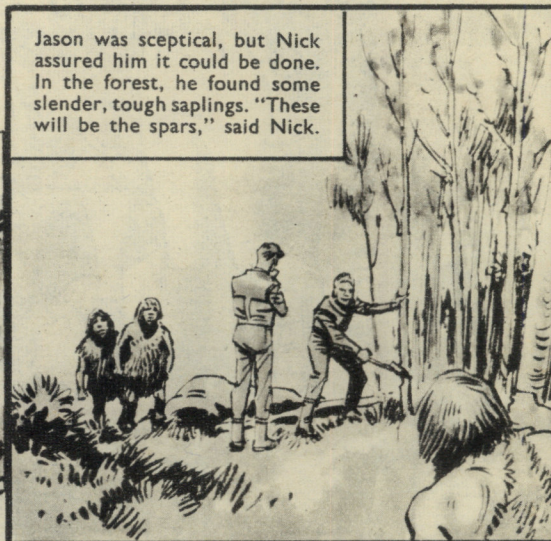


Nick Ringold was an enthusiast of the ancient 20th-century sport of gliding and sailplaning, and had built craft of his own. There and then, he sketched out a design . . .



"Here's a better idea," said Nick. "Let's build a glider and fly to the Isle of Wight!"

Jason was sceptical, but Nick assured him it could be done. In the forest, he found some slender, tough saplings. "These will be the spars," said Nick.



The building of the glider was a masterpiece of planned mass-production. Every man, woman and child in the settlement was given a task to do . . . and the women sewed light skins on to the lifting and control surfaces.



Continued on page 22

ABERCROMBIE at ABOUKIR BAY



IN 1801, the Napoleonic Wars were still being fought and it seemed that neither Britain nor France was any nearer to victory. However, the British Government was continuing its policy of isolated expeditions against the enemy and it was decided that Napoleon's army in Egypt must be destroyed.

Under the command of Sir Ralph Abercrombie, 15,000 troops set sail in ships of the Fleet for the Mediterranean. Their destination was Aboukir Bay, not far from the scene of Nelson's victory at the Battle of the Nile two years earlier.

At 2 o'clock on the morning of 8th March, 1801, the troops were rowed inshore, but due to a miscalculation of the distance, it was broad daylight before they neared the beach. When they were only two hundred yards away, the French troops and guns opened fire.

With only three craft sunk, the leading boats grounded and the troops rushed forward, among them the 42nd Black Watch (shown above). This Regiment charged a force of French infantry with immediate success. Within twenty minutes the gunfire and confusion had died down as the

French hastily retreated towards Alexandria.

Among the many other Regiments that took part in this engagement were the 28th Gloucestershire Foot, shown on the left. It was during the campaign in Egypt that they wore for the first time a newly designed shako, or hat made from lacquered felt and fitted with a leather peak. The Grenadier company wore a white tuft on their shakos, the Light company a green tuft and the Battalion company a white and red tuft. Their coats buttoned down the front and a bar was laced across each buttonhole.

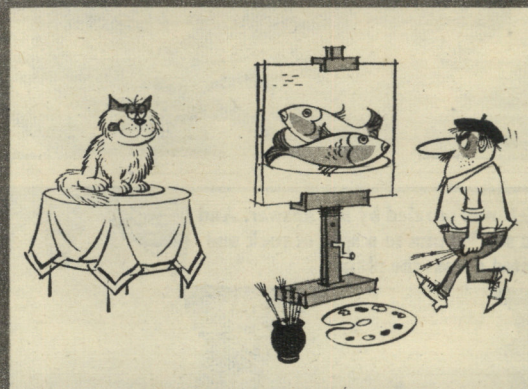
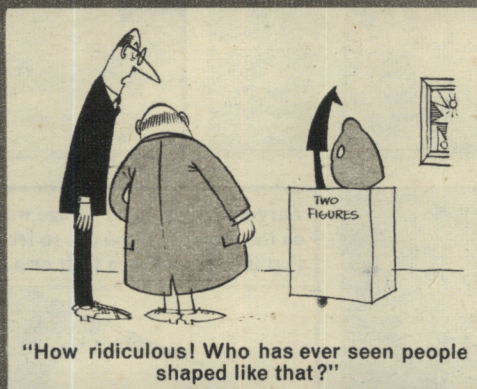
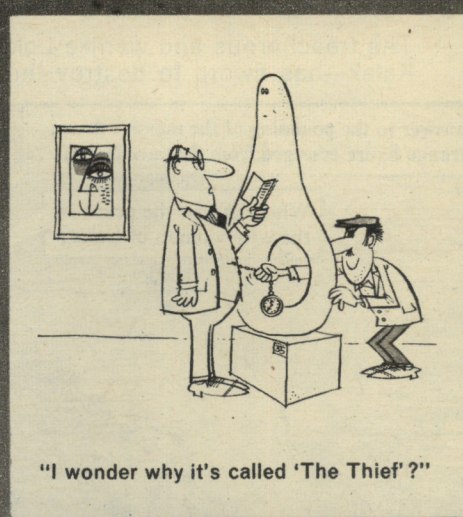
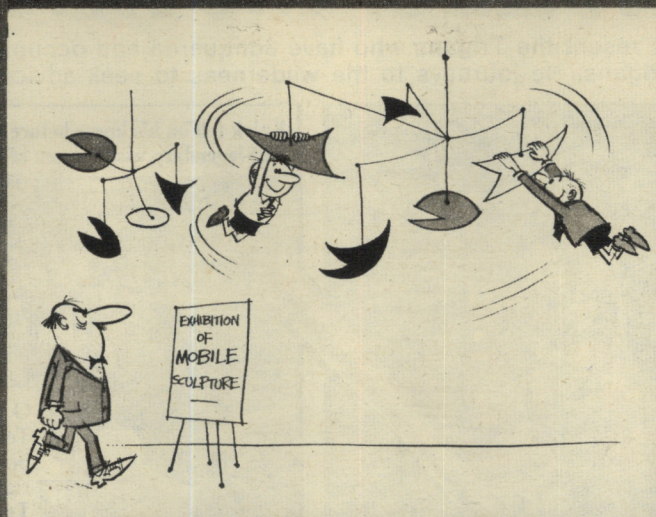
Thirteen days after the landing in Egypt, the Battle of Alexandria was fought, and it was during this engagement that the 28th won their 'back badge'. During the initial stages of the battle, the brunt of the French attack was borne by the 42nd Highlanders and the 28th Gloucestershire. The 28th were standing in line ready to repel a column of French Grenadiers, known as the 'Invincibles'. Both sides showed great bravery, but the 28th managed to beat back the 'Invincibles', and earned themselves the distinction of wearing a cap badge on the front of their head-dress and a smaller version of the badge on the back.



A few days after he had landed at Aboukir, Sir Ralph Abercrombie made a reconnaissance of the countryside with the 90th Perthshire Light Infantry and the 92nd Highlanders. On sailing from England the 90th had been hastily issued with the only available headgear—Dragoon helmets—and when, during the reconnaissance, they made contact with the enemy, the French cavalry mistook them for dismounted Dragoons. The cavalry attacked, only to receive a very unpleasant surprise when they realised that the British troops were in fact hardened foot soldiers.

FIDDY HAS FUN with art and artists

(Cartoonist Roland Fiddy draws for
LOOK AND LEARN every week)



LOOKING INTO THINGS . . .

CAR AFLOAT!

AMPHIBIOUS vehicles—those which will operate equally well on water as on land—have always been a challenge to designers and engineers.

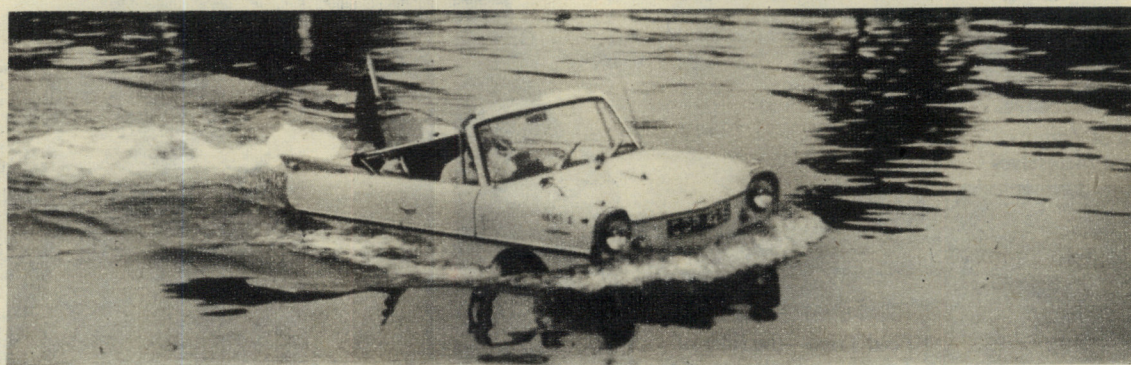
Although many were built and used successfully during the last World War, such as amphibious Jeeps and assault craft, only one successful commercial road/water car has been manufactured.

Called the Amphicar, it has a German chassis and body and a British engine. The body is, of course, completely waterproof, and the doors and windows are also made watertight through a special rubber beading and can be secured additionally from the inside.

On land the four-cylinder Standard Triumph Herald engine gives the Amphicar a top speed of about 70 m.p.h. In the water, however, its twin propellers give it a maximum speed of only 7 knots, or about 7½ m.p.h.

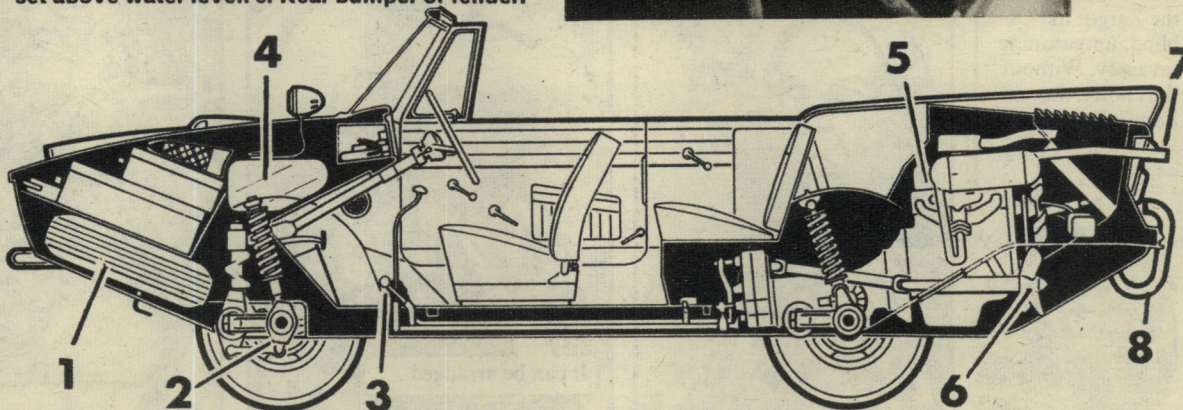
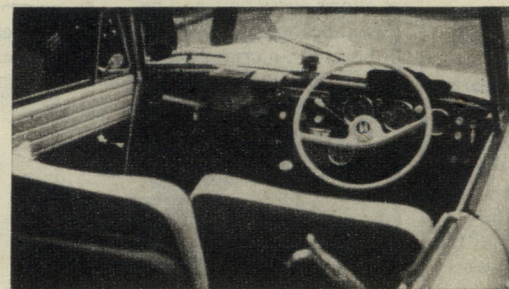
In September last year, two of these cars, with British crews, attempted a crossing of the English Channel—a severe test and not the sort of water in which the manufacturers intended the car to be operated.

In spite of the fact that one of the cars had the bad luck to break down in mid-Channel and had to be towed by the other, both reached France safely in 7 hours 20 minutes, and after a stop for servicing, were then driven all the way to West Berlin to the factory where they are made.



The calm water of rivers and lakes is ideal for the Amphicar. Apart from the special clutch to engage the propellers, the driving controls of the Amphicar are normal.

Key: 1. Spare wheel and luggage stowage. 2. Front wheels are used for steering in water as well as on land. 3. Lever for bringing propellers into action. 4. Petrol tank. 5. Rear-mounted engine with waterproofed electrical system. 6. One of the two propellers. 7. High exhaust outlet set above water level. 8. Rear bumper or fender.



The RISE and FALL of the TRIGAN EMPIRE

The treacherous and warlike Lokans resent the Trigans who have conquered and occupied their country, and one of them—Kalek—has sworn to destroy the Trigans. He journeys to the wilderness to seek advice . . .

In answer to the pounding of the massive drum, a strange figure emerged from the cave mouth . . .

Who disturbs the peace of the wise woman of Loka?

Kalek fell on his knees before the half-legendary wise woman of his people.

O Wise One . . . Tell me how our people can be rid of the Trigans who oppress us . . .

The Trigans are powerful, but their very strength can be their destruction. You must make them destroy themselves!

Kalek was puzzled by her answer. And then she led him to a spur of rock and pointed across the plain.

What do you see?

A herd of Zargots . . . fighting amongst themselves . . .

Zargots . . . the most savage wild beasts on the planet Elekton . . . so ferocious that they fought even their own kind.

Then the old woman stooped and picked the red flower of a plant growing nearby.

The Zargot eats nothing but the flower of the wild choris. It is the poisoned sap of the choris that gives the Zargot its blind, unreasoning savagery. Without the choris, the Zargot would be harmless, for all its size . . .

Feed Trigo—the ruler of Trigan—with the sap of the choris every day, and he will become like a wild beast . . . a cruel tyrant who will speedily be overthrown by his people. And without Trigo, the Trigan Empire will perish!

Kalek saw the wisdom of the cunning plan . . . but . . .

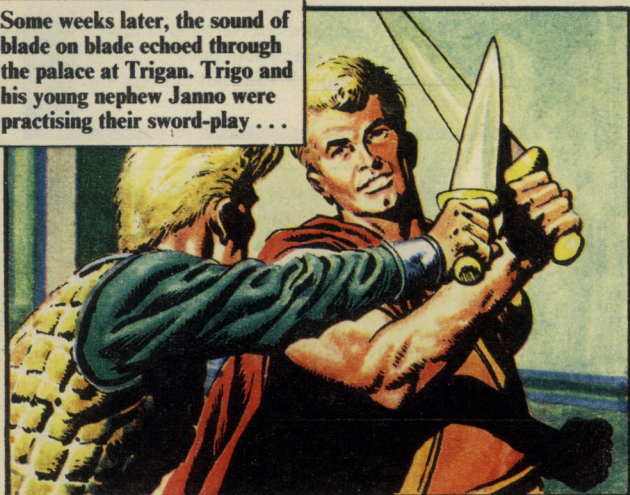
But . . . how can Trigo be made to eat the choris every day?

It can be arranged . . .

The wise woman called out . . . and a girl emerged from the cave mouth . . .

My granddaughter, Amala, will journey to Trigan and do what has to be done!

Some weeks later, the sound of blade on blade echoed through the palace at Trigan. Trigo and his young nephew Janno were practising their sword-play . . .



Well done, lad . . . we'll make a master swordsman of you yet.



A sweetmeat, uncle. There's a young Lokan woman who sells sweetmeats from a stall in the market place. Like one? . . . They're very good.



You're forever eating, you greedy young rascal. What is it now?

Good-humouredly, the ruler of the Trigan Empire accepted a sweetmeat . . . and in doing so he condemned his empire to a disaster!



Mmmm . . . very good. I must ask Salvia to get me some . . .

. . . by the way, I'm thinking of ordering a new sword. One of tougher temper . . .

Next day, Salvia . . . who acted as housekeeper in the palace . . . went shopping in the market place. She went to the sweetmeat stall.



Your sweetmeats have found favour with Lord Trigo.

I am honoured.

Amala turned her face away to hide her smile of savage triumph.



I will make a special supply for Lord Trigo . . . every day!

NEXT WEEK: THE POISON BEGINS TO WORK!

Trees in Britain



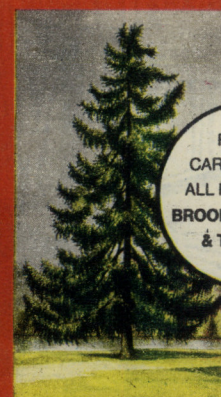
Can you spot a willow or a spruce?
Collect the new Brooke Bond picture cards and be a tree expert!

Imagine it – being able to spot the trees of Britain on sight! To be able to say, "That one is a larch", or an oak, or a yew – and be right every time! That is what you can do when you collect the new Brooke Bond 'Trees in Britain' picture cards. There are two cards to each tree (one shows the tree, the other shows the bark, the leaves, the fruit – all the recognition details). And there are 50

cards in all. Start collecting! **Get the special album.** It holds all the cards – and gives lots of extra facts and illustrations, including the winter identification of trees and twigs. It costs just 6d. from your grocer (or write to Brooke Bond Tea Limited, Picture Card Division, Goulston Street, London, E.1. Enclose 6d. postal order). Cards and albums available in U.K. only.

Trees in Britain

BROOKE BOND PICTURE CARDS



PICTURE CARDS FREE IN ALL PACKETS OF BROOKE BOND TEA & TEA BAGS

ILLUSTRATED & DESCRIBED BY MICHAEL YOUENS

PRICE SIXPENCE

ROB RILEY

Rob tells in his own words of the trouble that follows when Westhaven School goes co-educational. "War" breaks out between the boys and the girls ...

That afternoon, when lessons were over, Ham led me to the windows of the main hall ...



What is all this?
... where are you taking me?

I just got news that those girls are starting to rehearse their concert ...

We peeped in through the windows of the hall. The girls were on the stage, and Polly Maddocks was leading them in what looked like the opening number ...



The opening number was terrific. The act that followed was Fiona Fotheringhay-Ffinch, the ventriloquist of 2-B.

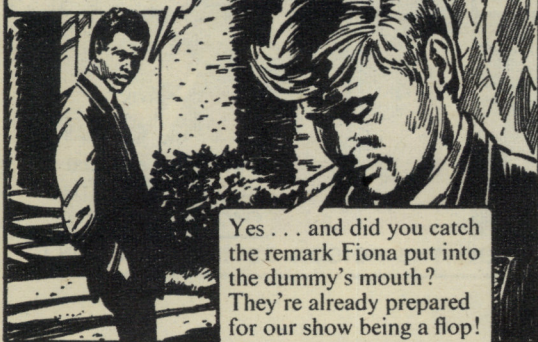
Well, now ... and are you enjoying the show?

Yes ... a lot better than I enjoyed the boys' show last week!



We watched it till the end, and then crept away with our hearts in our boots.

It's ten thousand times better than our show!



Yes ... and did you catch the remark Fiona put into the dummy's mouth? They're already prepared for our show being a flop!

We saw Polly Maddocks and her chum next morning ...



Your show's tomorrow, isn't it? We're looking forward to it, aren't we, Fiona?

Rather ... we expect to die laughing!

... Ham and I exchanged worried glances.

What did they mean by that?



I don't like it, Ham ... I don't like it at all ... Those girls are up to something!

On the night of the show, I left home straight after tea ...



Good luck, Rob. Your grandad and I will be in our seats before the show starts ... and we'll be all ready to applaud.

Well, if you're going in grandad's car, I hope he drives carefully!

My spirits rose when, later, I peeped round the side of the curtain and saw the size of the audience.

It's going to be all right, Rob ... you see ... we've got a smashing little show, and it's going to be a ripping success!



Well ... we've got a full house at any rate.

I felt quite elated when I gave the order ...



Right! ... start the Overture!

No Overture!



For heaven's sake, Joey ... get playing!

I ... I can't find my glasses!

The audience was getting restive. Someone laughed from the back (I could swear it was a girl's laugh) ...



Play it by ear!

I can only play from music ... where are my glasses? ... I only put them down for a moment ...

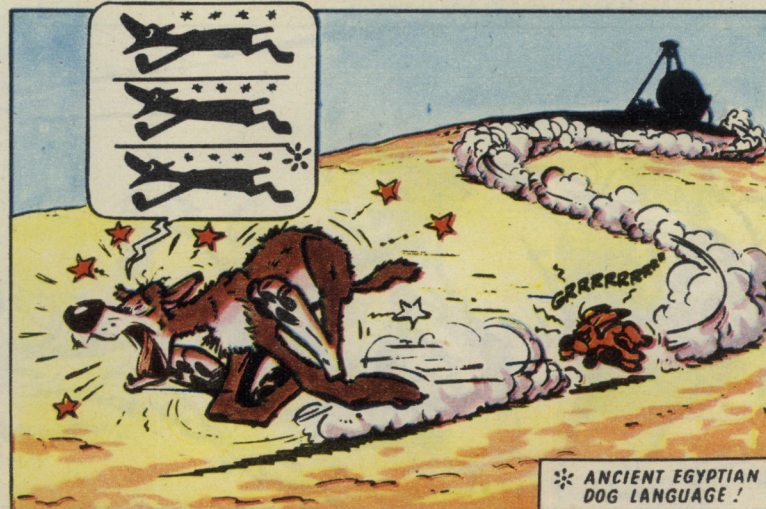
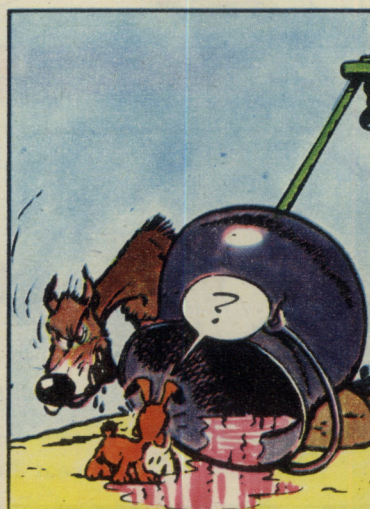
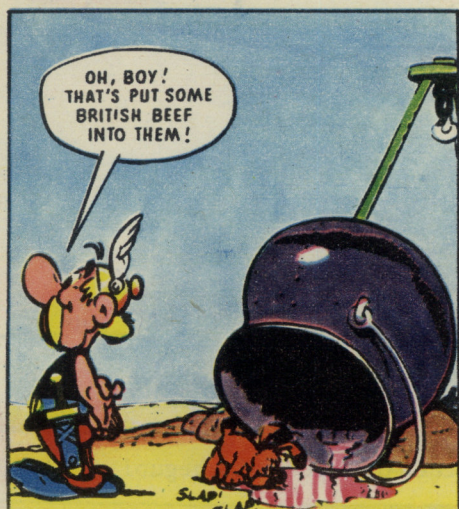
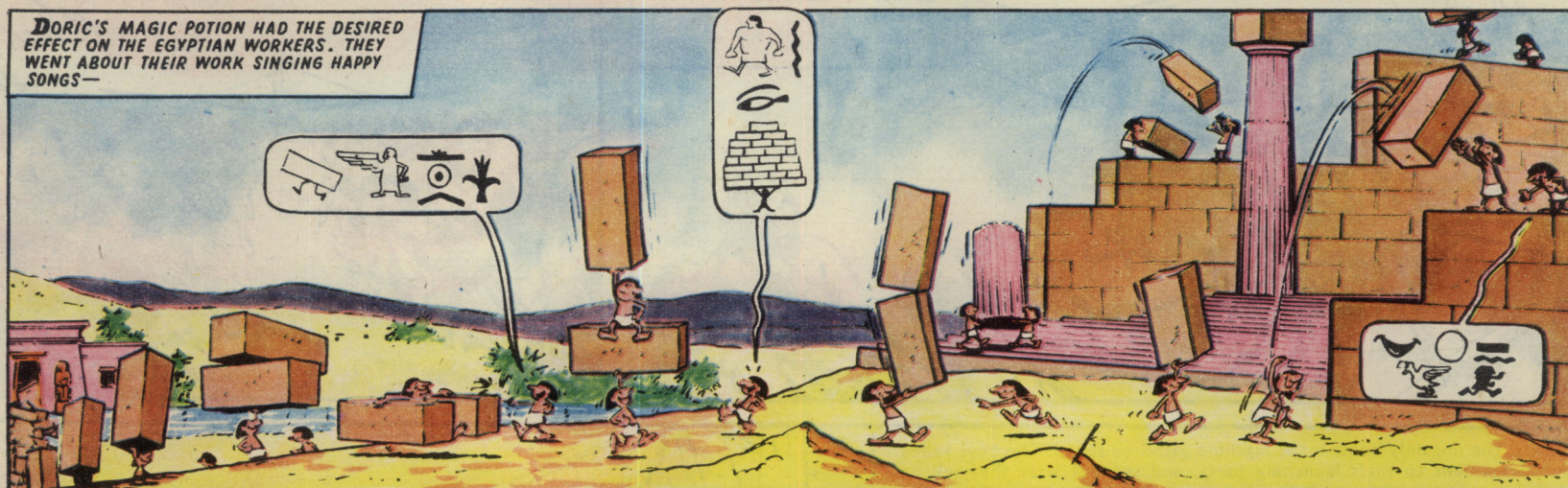
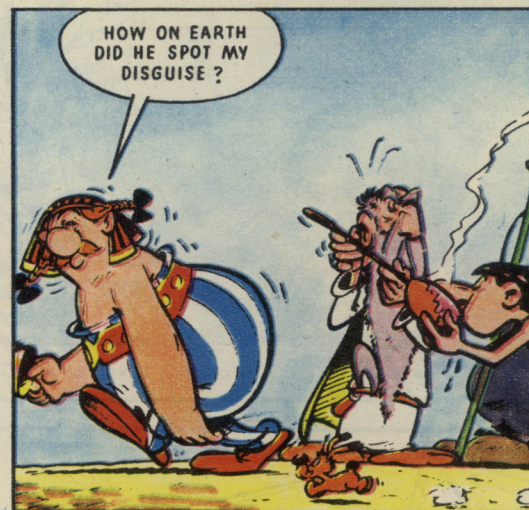
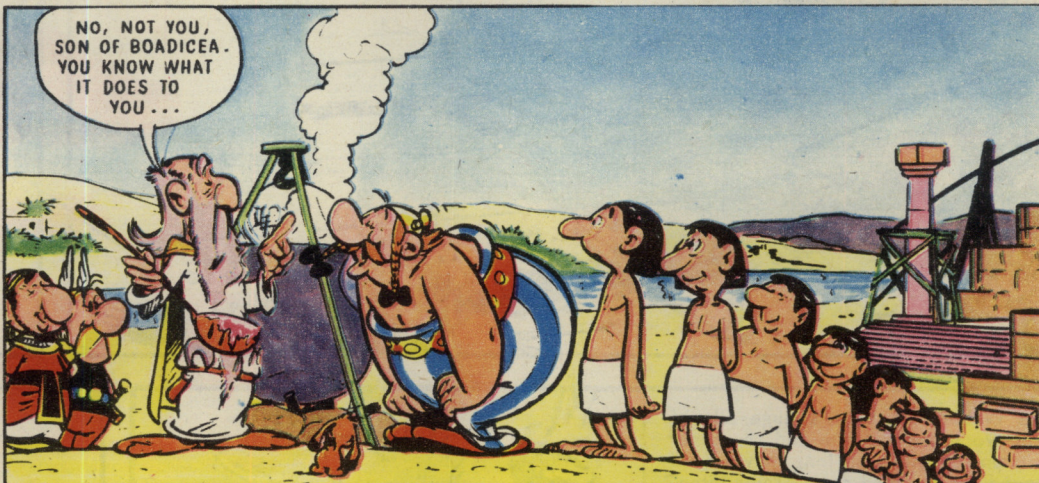
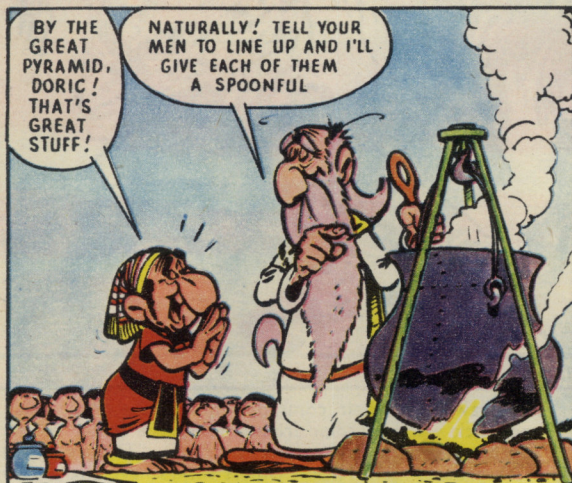
And then ... I knew!



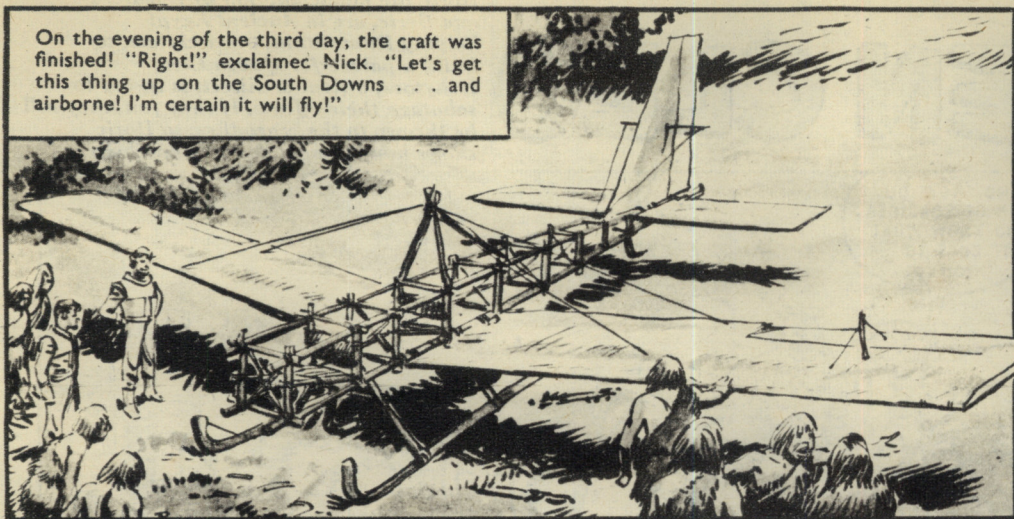
The girls are behind this ... they're out to wreck the show!

In the days of GOOD QUEEN CLEO

Doric the magician, Son of Boadicea and Beric, are in Ancient Egypt helping Rummitum, the architect, to build a palace for Queen Cleo. Itchytoes, a rival architect, is trying to sabotage their efforts. If they fail, they will be thrown to the crocodiles, so Doric shows how a magic potion could help . . .



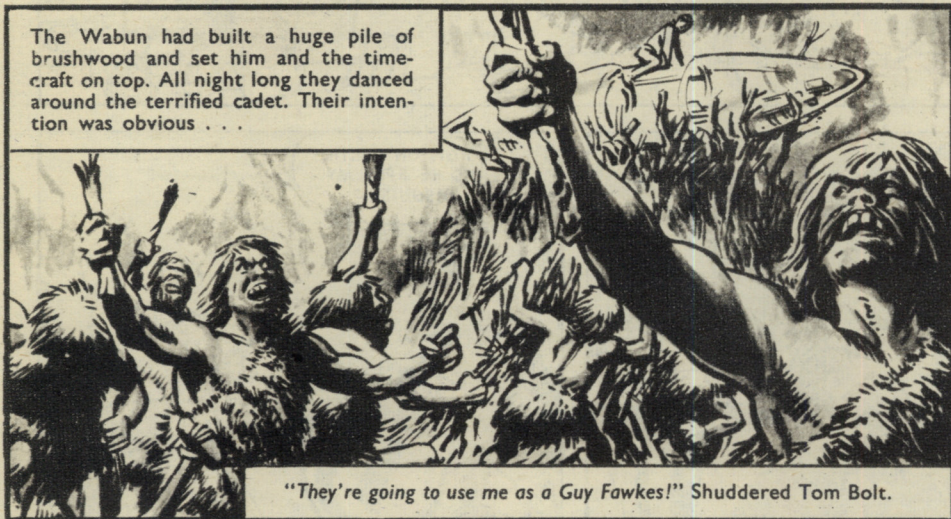
On the evening of the third day, the craft was finished! "Right!" exclaimed Nick. "Let's get this thing up on the South Downs . . . and airborne! I'm certain it will fly!"



That night, in the encampment of the fierce Wabun on the Isle of Wight, Tom Bolt sat shuddering . . . He had never been so scared in his whole life.



The Wabun had built a huge pile of brushwood and set him and the time-craft on top. All night long they danced around the terrified cadet. Their intention was obvious . . .



"They're going to use me as a Guy Fawkes!" Shuddered Tom Bolt.

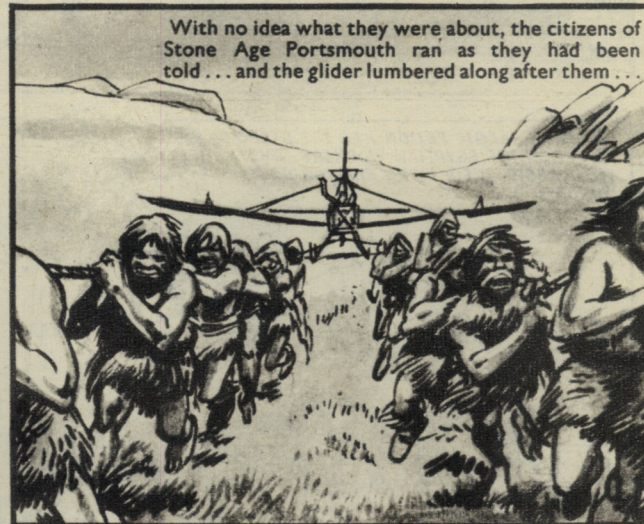
All unaware of their comrade's immediate peril, Jason and Nick watched their friends carry the glider to the top of the South Downs next morning. "There's a nice fresh breeze," said Nick. "Unless things have changed in all these years, the thermal currents will be just right between here and the island!"



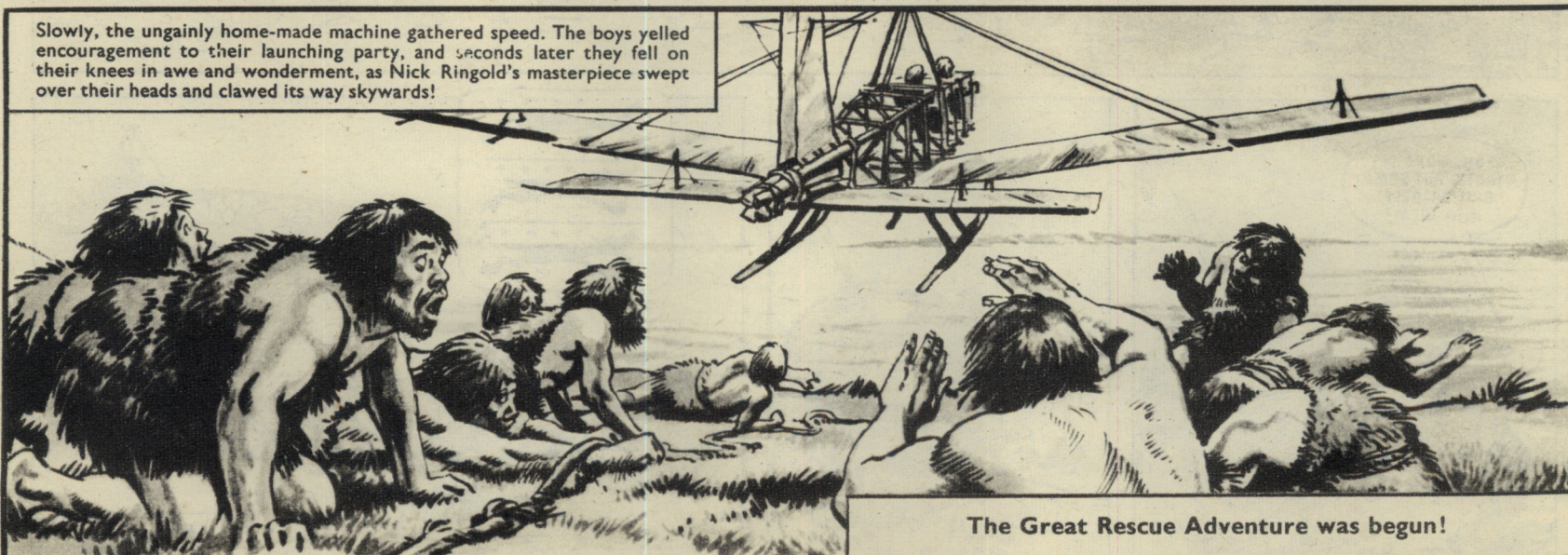
Their Stone Age friends had been instructed by sign language on what to do. Soon, all was in readiness, and Nick gave the signal . . . Let her go, chaps! . . . Heave away!"



With no idea what they were about, the citizens of Stone Age Portsmouth ran as they had been told . . . and the glider lumbered along after them . . .



Slowly, the ungainly home-made machine gathered speed. The boys yelled encouragement to their launching party, and seconds later they fell on their knees in awe and wonderment, as Nick Ringold's masterpiece swept over their heads and clawed its way skywards!



The Great Rescue Adventure was begun!

judge fines them or puts them in prison.

"I know it doesn't seem fair," he went on. "They will be well armed and you will not. But you must not kill them—you must take them alive. You have had experience in taking animals alive. All right, these are animals—and you must capture them alive just as you would any other savage beast."

The men were not smiling now. This was going to be worse than they had thought.

All the same, when the cars started off a few minutes later, not one man stayed behind. Hal was very proud of his crew.

Crosby and the boys, sharing the same Land-Rover, discussed the problem as the cars bounced their way westward over the rough trail.

"There is a chance," said Crosby, "that the poachers will take fright and run away when they see these 14 iron monsters roaring in on them. Though if Blackbeard is with them, he will make them stand and fight."

Hal had forgotten Blackbeard, the man of mystery whose real name was unknown.

"If we could nab him," the warden said, "that would probably end wholesale poaching in Tsavo."

But how to do it? Deadly weapons were not allowed. What weapons could be used that were not deadly?

Hal reviewed in his mind the contents of the supply van.

"How about sleep?" he said suddenly. "Does the law say we can't put them to sleep?"

Crosby stared. "Of course not. But how would you do that?"

"We do it with animals all the time. I don't see why it wouldn't work with poachers. If you'll stop the car and let me out, I'll flag down the van and see if we have all the sleep we need."

"I don't quite get you," said the warden, stopping the car.

Hal hopped out. "No time to explain now. See you later."

In the supply van he busied himself filling several dozen darts with a thin, white liquid. The darts looked harmless enough. They were only eight inches long and no larger round than your little finger. At one end of the dart was something like a hypodermic needle. At the other end was a tuft of feathers.

The van ground to a halt. Ahead was the thorn fence. The warden had stopped his car 500 yards before reaching the fence, and the other drivers had followed his example.

Sleep Darts

It would have been foolish to go closer. Because then the poachers could fire their arrows from behind the fence. Now it would be necessary for them to come out in front of it to attack.

Hal leaped out with a bucketful of darts. First he went to the warden.

"Will you help me distribute these?" he asked.

"What are they?" Crosby asked.

"Darts—filled with dope."

"Aco? But I told you—we're not allowed to kill..."

"This won't kill anybody. It will just put him to sleep. It's Sernyl—a muscular anaesthetic. Our men have used it in catching animals. They find Sernyl a hard word, so we've taught them just to call it Sleep. I've made enough for us to give each man three darts."

The men had piled out of their cars and were looking for the enemy.

There was not a poacher to be seen. Beyond the thorn fence among some trees were the poachers' grass huts, but there was no sign of life—except the life of suffering animals, struggling in snares in the gaps of the fence, raising pitiful cries of pain and terror.

The boys and the warden distributed the darts. But what good were darts if the poachers had fled?

The men lined up in front of the cars facing the fence. Itching to get into action, they were disappointed at finding no enemy.

After a while, the waiting grew tiresome, but Hal would not let his men move.

Poacher Round-up

"If there are any fellows hiding behind the fence," he told the warden, "it's just as well to let them think we're afraid to come on."

Zulu, a big Alsatian, began to bark furiously. He started to run towards the barricade. His master, Mali, fearing the dog might be caught in a trap, called him back. The dog returned to the line, but kept on barking.

Suddenly a black head appeared in one of the gaps—then another and another.

"They're giving us the once-over," Hal said. "I hope we look harmless."

Seeing no guns, the poachers grew bolder. They crept out through the gaps past the dead or dying animals. They were all well armed with spears and bows and arrows. Doubtless every arrow carried its smear of deadly poison.

Black figures continued to appear until there were nearly 50 lined up in front of the thorn barrier.

The poachers were staring as if they couldn't believe their eyes. These fools who had dared to invade their camp held no rifles, no revolvers, no bows, no spears, nothing but some little sticks!

The poachers began to pick their way forward, stepping carefully to avoid the traps concealed in the long grass.

"Be ready," Hal called to his men, "but don't fire till I tell you."

Joro repeated the command in Swahili for those who knew little or no English.

Someone else was giving orders. He was not in the line of advancing poachers. He stood in one of the gaps of the thorn fence. He was not bare-chested and bare-legged like the men he commanded. He was dressed in a bush-jacket and safari trousers, and his whitish face was half-concealed by a black beard.

"There he is," Roger exclaimed. "Blackbeard."

"He's smart," Hal said, "to let his men do the fighting and save his own skin."

The safari men had their eyes on Hal, waiting for his command to let go. Hal delayed until the poachers were within 20 feet.

"Ready!" he shouted, and each man raised his dart.

It was lucky, Hal thought, that the Sleep darts which his men had used in taking animals in Uganda and the Congo were unknown in this part of Kenya. The poachers were in for a big surprise.

"Fire!" Hal shouted.

The darts flew straight, guided by their tail feathers. The needle tips plunged into black flesh. They did not go in more than a quarter of an inch—they didn't need to. The shock was enough to send the liquid flying into the nerves beneath the skin, and these nerves telegraphed the bad



Roger Hunt

news all over the body.

The result was terror.

"Aco!" yelled someone.

The cry was taken up by others. They all knew Aco, the deadly arrow poison, and supposed at first that this was what had hit them.

They hastily plucked out the darts and saw that the liquid dripping from the needles was white. They

knew that Aco was a brownish black. So this was not Aco. But this discovery gave them no comfort. Probably this stuff was something new, even worse than Aco.

Whatever it was, it acted faster than arrow poison. It went straight for the muscles and turned them into dishrags. Legs that were strong a moment ago became weak and refused to hold up the body. The drug—plus fear—paralysed the muscles.

Those who could run, ran—but soon fell in their tracks. Some blundered blindly into traps that they had set for the animals.

Presently the place looked more like a bedroom than a battleground. Everywhere sleeping bodies sprawled in the grass. Even those caught in the cruel traps did not cry out with pain, for they were unconscious.

Two, who had run so well that they had almost reached the thorn fence, were brought down by Zulu. Now they also were asleep.

"Into the Powerwagon," Hal ordered. "Into the cage!"

The Powerwagon was the truck generally used for carrying animals. In it was a huge elephant cage. The happy safari men and rangers dragged the sleeping poachers to the cage and thrust them in.

"Aren't we forgetting something?" Roger said, looking back at the thorn fence. "How about Whiskers?"

But in the general excitement, Blackbeard had disappeared.

NEXT WEEK: OPERATION RESCUE!

Exciting news for all
LOOK AND LEARN readers!

ANNOUNCING THE FIRST-EVER

RANGER BOOK

Here are new tales
of your **RANGER**
favourites:

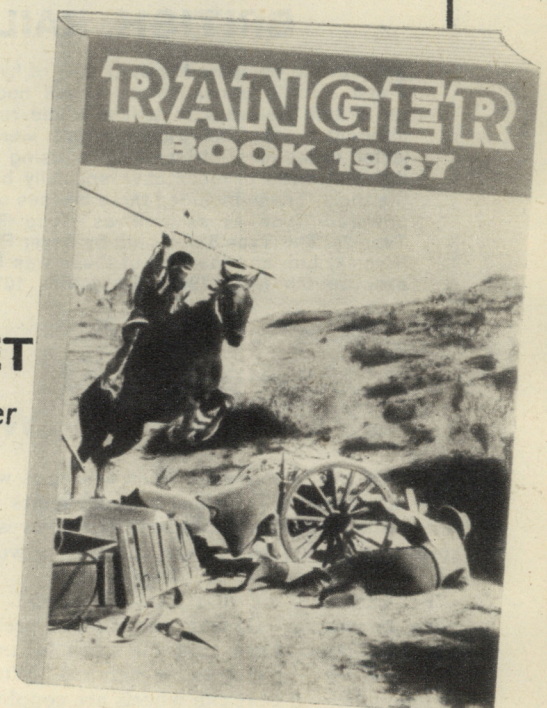
ROB RILEY

**THE TRIGAN
EMPIRE**

SPACE CADET

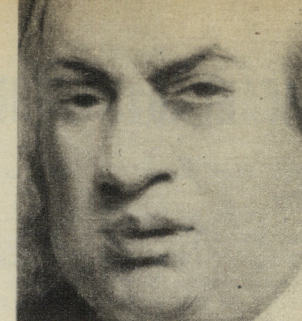
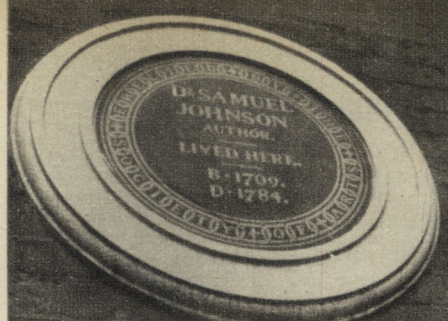
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Have you ever noticed any small plaques on the walls of old houses and other buildings? Those in London look like the one shown in the photograph, and they mark the places where famous men or women have lived. Look for them the next time you are in town.



Dr. Samuel Johnson.

Doctor Johnson Lived Here

JUST behind Fleet Street, in Gough Square, is the former residence of Dr. Samuel Johnson. The house is now a museum.

The son of a bookseller, Samuel Johnson was, as a boy, very fond of reading. This stood him in good stead when he went to Oxford, where the college authorities were surprised by his knowledge of Latin and the breadth of his reading. He was said to be a 'gay and frolicsome fellow' at Oxford but he later denied this and said that he was only 'mad and violent, miserably poor, and meant to fight his way by literature and wit'. Often scoffed at for his battered clothes, he once found a pair of new shoes outside his door and threw them contemptuously away.

Johnson left Oxford early and became a schoolmaster for a short time, and then started a school of his own. When this failed, he came to

London, where he earned a living by writing and translating. He became a regular contributor to the *Gentleman's Magazine* and, although he seldom went to the House of Commons, he reported the debates there with the aid of information gleaned from his friends. Money was a problem, and he sometimes had to walk the streets at night because he could not afford lodging.

Samuel Johnson's great achievement was his dictionary of the English language, which he compiled for a syndicate of publishers. The work was carried out under his direction by six copyists who worked on the project for eight years at the house in Gough Square. Once published, the dictionary was an immediate success and became the standard reference book of the day.

Johnson also edited and published

his own journal, *The Rambler*—almost all the articles in which he wrote himself. *The Rambler* appeared twice a week and lasted two years.

This busy man wrote a number of books, including *Rasselas*, a novel which became very popular. He wrote this book in a week, to pay the expenses incurred by his mother's final illness and death. It ran to several editions and was translated into most European languages.

Dr. Johnson spent much time in taverns and chop-houses, where he made his name as a brilliant conversationalist.

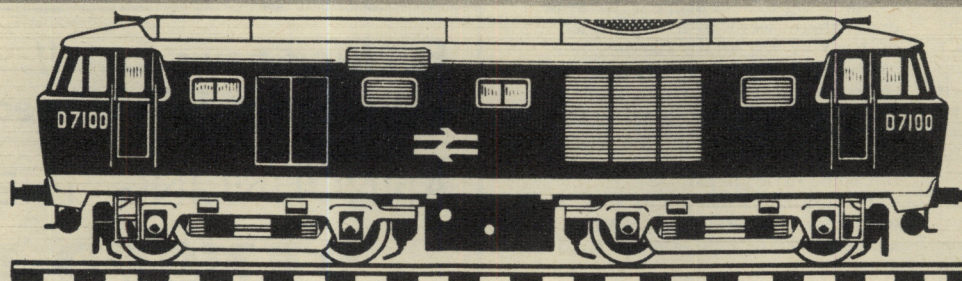
Johnson was a great Londoner. In his own words, 'he who is tired of London is tired of life'. He died, an old man, in 1784, and was buried in Westminster Abbey. You will find his tomb in the South Transept near Poets' Corner.



Johnson's former residence in Gough Square, London.

LOOK AND LEARN ABOUT LOCOMOTIVES

No. 12



BRITISH RAILWAYS 'Hymek' DIESEL HYDRAULIC TYPE 3

IN order to compare the suitability of hydraulic and electric transmission, it was necessary for British Railways to test a whole range of different types. The transmissions were subjected to the most stringent tests, using several different types of locomotive specially built for the trials. These included three classes of high-powered Type 4s as well as Type 3s and Type 2s. The Type 3 was built by Beyer Peacock (Hymek) Ltd. and the first of these was handed over on 6th May, 1961. Altogether 101 were

supplied, each one 51 feet 8½ inches long and powered by a 1,700-horsepower, 16-cylinder Bristol Siddeley-Maybach engine, driving the 75-ton locomotive through Stone-Mekydro hydraulic transmission.

For a while they were used almost exclusively on the London to South Wales express services, and their designed top speed of 90 miles per hour seems not only to have been frequently reached, but exceeded on many occasions.

Heavier loads have caused these locomotives

to give way to the more powerful 'Westerns' on these express services, though they can still put up a sparkling performance. Very often train enthusiasts will quote the occasions when a 'Hymek', standing in for a Type 4 which has failed, put up a performance which would have deserved praise even if it had been achieved by a more powerful locomotive. Today, these Type 3 hydraulics are allocated to Western Region and operate mainly from Bristol, with a smaller number working from Old Oak Common in London.

WHERE HAVE ALL THE 'Os' GONE?

MANY readers have written asking if we have made a mistake in our designation of wheel arrangements on locomotives in our special series about British Railways' locomotives. As there appears to be some confusion about these, we thought a word of explanation might help you to understand what is happening.

For example, the iC-iC and Brush C-C which in the past have always been known as iCo-Co and Co-Co, seems puzzling and readers have correctly pointed out that the small 'o' indicates that the bogie is fitted with independent motors on each axle. When there has been no letter 'o', it has indicated that the wheels are coupled either by gearing or coupling rods.

This has necessarily been the arrangement with Diesel Mechanical and Diesel Hydraulic, but there have been cases of Diesel Electric and Electric locos which have had mechanically coupled wheels.

The question was raised quite early in the development of Diesels—what happens when the motors are electrically coupled? This occurs when the motors are series-wound on a bogie making the coupling just as positive as any mechanical link. British Railways decided they would make it their policy to indicate electric couplings by dropping the small 'o'.

Many early models of the present-day Diesel Electrics were designed and produced with independent motors on each bogie and were correctly described using the 'o'.

In our designations we have been following the guidance given by British Railways Public Relations Department. However, this does not mean that other publications which show the old wheel numberings are wrong. They were correct when they were published, but circumstances have changed.

FLASHBACK

Events that gave this week a place in history

TUNNEL UNDER THE ALPS

ON 12th September, 1871, the Mont Cenis tunnel was opened and for the first time a train could pass under the Alps between France and Italy.

Designed and built by French engineers, the Mont Cenis tunnel is $7\frac{1}{2}$ miles long, 26 feet wide and 19 feet high. It climbs upwards through the Alps and at its highest point reaches an altitude of 4,245 feet. Although a comparatively small tunnel by modern standards, it was, in its day, a tremendous engineering achievement.

Courage, muscles, candles and gunpowder were all the equipment the builders had when they started to bore their way through the Alps in 1857. Most of the rock had to be shattered by charges of gunpowder wedged in holes slowly and laboriously cut with hammers and chisels.

All the work had to be done by the light of candles, of which a ton were burned every week. With no mechanical haulage, every scrap of stone cut had to be hauled away by horses hitched to trucks.

The tunnel was bored from both ends and the surveyors did their work so well that when eventually the tunnellers from the two ends met, there was an error in alignment of only twelve inches.

For the first four years, the rate of tunnelling was only about seven feet a day. This was far too slow to satisfy Germain Sommeillier, the engineer in charge. After many experiments to speed up the work, he invented the pneumatic drill. This made the work of boring shot holes so much easier and quicker that the tunnelling speed was increased by 21 feet a day.



THE ETON CHARITY

ETON school began as a charity on 12th September, 1440, when King Henry VI granted a charter to found the College of the Blessed Mary of Eton at Windsor.

King Henry's charter laid down that the college should consist of a provost, ten fellows, a schoolmaster, an usher, 70 scholars, ten clerks or priests, 16 choristers and 13 poor men. The scholars were to be the sons of poor but worthy men. The king provided also for the education of other boys who were to be the sons of noble and powerful persons.

The poor scholars, called King's Scholars, were to live in the college, while accommodation for the others was reserved in houses and inns in Windsor.

At the same time King Henry founded King's College, Cambridge,

to which scholars from Eton were to proceed. This connection with Eton continues at King's College today, 24 scholarships being reserved there for Etonians who reach the required standard.

Since King Henry VI's day, the rules governing the entry of boys to Eton have changed greatly. There are still King's Scholars, but they gain entrance through scholarships open to any boy between 12 and 14 who is of British parentage. The education and maintenance of these boys was met by college endowments until 1923. Since then a fee has been charged which is remitted in whole or in part in cases of hardship.

The King's Scholars, who number about 1,000, live in the 25 houses attached to the college. The college also maintains a choir school for the free education of about 26 choristers.

BRITAIN'S FIRST MAIN-LINE RAILWAY

FIFTEENTH September, 1830, was a great day for Liverpool and Manchester. The Duke of Wellington had opened the Liverpool and Manchester Railway, the first railway to connect two English cities entirely by steam engine.

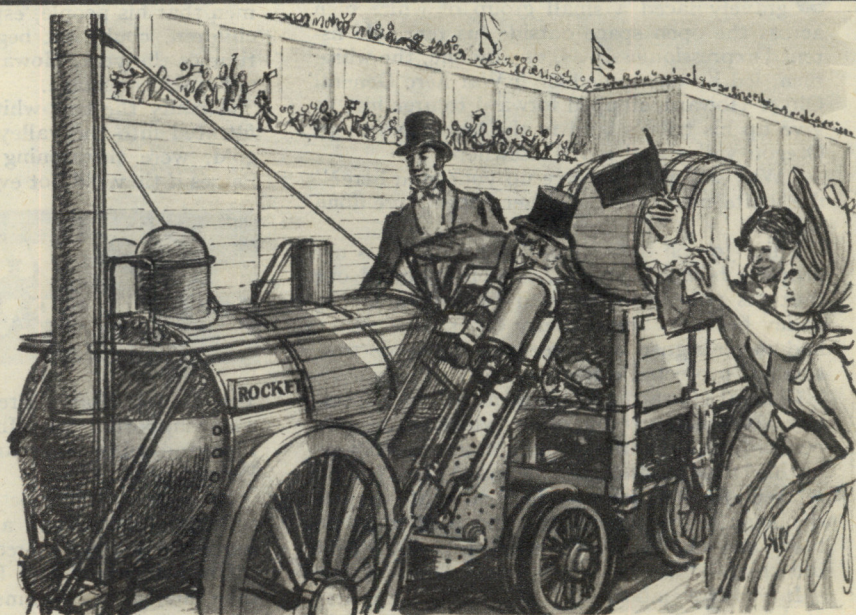
The previous year, while the track was still being laid, the directors had offered a prize of £500 for a locomotive which they would judge to be the most suitable for hauling trains on the new line. Among the nine engineers who entered for the competition was George Stephenson, who had built the engines for the much shorter Stockton and Darlington Railway in 1825.

Only five locomotives were ready for the trials, which lasted for seven days. Stephenson's "Rocket" won the prize after hauling a train at a speed

of $12\frac{1}{2}$ miles an hour: so on 15th September, 1830, it was the "Rocket" which proudly drew the first train from Manchester to Liverpool, carrying passengers, including the Duke of Wellington.

The great occasion was, however, marked by tragedy. A talented member of Parliament, William Huskisson, was run over by the "Rocket" and killed. He was the first man in history to be killed by a train.

The building of the Liverpool and Manchester Railway solved many problems of main-line railway construction. In all, 63 bridges were built; a cutting two miles long and 100 feet deep was dug out; a tunnel 2,240 yards long was bored under Liverpool; and track had to be laid across the famous bogland called Chat Moss.





Chief Joseph.

**To this unusual
chief, war was the
last resort**

RELUCTANT FIGHTER

by
**ROBIN
MAY**

JOSEPH, young Red Indian chieftain of a tribe of the Nez Percés (Pierced Noses), gravely faced a small group of white men across the open space outside his tent. He listened expressionlessly as, one by one, the white men, led by one-armed Civil War hero General Oliver Howard, stepped forward to urge him to give up his tribe's land in the lovely Northern Oregon valley and move elsewhere.

"Why will you not give up your land here?" the white men asked. "Other tribes have done so."

Chief Joseph only shook his head. "It is my people's home," he said. And he pointed out that his tribe were entitled to remain in the valley because, unlike many other tribes, they had never signed an agreement to move to a smaller, protected reservation.

General Howard and his men had been specially commissioned by other white settlers to persuade the dignified young chieftain to give up his tribe's land to them. When Joseph refused, they reluctantly decided that, despite the logic of his arguments, the land must be taken anyway. The tribe *must* move, they told the chief.

It was November, 1876, and already the first of the autumn gales was raging round the tents

of the Indian settlement. Soon the snows would come. Vainly Joseph pleaded with the white men that his people, especially the women and children, could not begin a long trek at that time of the year. Howard replied by seizing an old chief as hostage.

Already the new white settlers, who had infiltrated into the valley in search of land and gold, were threatening to wipe out the Nez Percés if they did not evacuate their tents soon.

TRUE ADVENTURE

The United States President, Ulysses Grant, who supported the Indian cause, was two thousand miles away and unaware of the Nez Percés' plight.

In despair, the tribe agreed to move within 30 days—too short a period for them to round up all their precious stock.

Until now, the Nez Percés—so named from their custom at one time of piercing their noses to wear shell ornaments—had had a long record

of friendship with the white man.

In 1855, the Nez Percés' tribal chiefs had signed a treaty with white settlers guaranteeing them a large reservation. Five years later, when gold was found there, some tribes were talked by unscrupulous settlers into accepting smaller reservations. Joseph's father, however, had refused to do so.

Now Joseph's tribe was on the move, too—and some of his men were calling him a coward and demanding war. He held them together as long as possible, but he knew that trouble would not be long in coming.

Matters came to a head when some of his warriors killed four well-known Indian-haters who had been harassing the tribe. More incidents followed, and by June, 1877, war was inevitable.

Joseph had a fighting strength of 150 men, and a large number of women and children. The men were armed with bows and arrows, ancient muzzle-loading muskets, and a few modern rifles. A hundred white troopers were sent out to round up the troublesome tribe and deal with them severely. But, after a short skirmish, 34 of the troopers lay dead, 63 rifles were in the hands of the Nez Percés—and not an Indian had died.



Winter had come again when, thirty miles from the Canadian border, in blinding snow, the last, heroic struggle of the Nez Percés began.

The American nation was stunned. Their crack troops had been defeated by a handful of Indians! Reinforcements were summoned from all over the West, and war began in earnest. Even peaceful tribes of Nez Percés were attacked, and their survivors, under Chief Looking Glass, fled to join Joseph, bringing his strength up to 200 braves and 350 women and children.

Then began one of the most brilliant fighting retreats in military history. Joseph was given the credit for it by his opponents, and although the actual tactics were in the hands of more experienced chiefs he was certainly responsible for the extraordinarily humane manner in which the war was fought. To Joseph, aged 36, had fallen the most sacred task of the whole retreat, that of protecting the old men, women and children on their flight eastwards.

For the first part of their 1,300-mile journey, the Nez Percés still believed that, if they abandoned their homeland in the west, they might be left in peace. They intended to retreat east and settle on the Great Plains. But soon they realised that the only hope for them was to flee to Canada, where they could live under the protection of the British Crown.

The Nez Percés were helped on their incredible journey by the rough country which made pursuit difficult, by their opponents' mistakes—and by their own indomitable courage. At Clearwater, they were outnumbered six to one and faced a barrage from a howitzer and two Gatling guns. They fought for a full day before retreating, inflicting twice the casualties they suffered themselves.

At first the Indians managed to keep well ahead of the troops, despite the women and children who slowed them down. It was while they were resting in the Big Hole valley of Montana that a surprise force attacked them. But when General Howard reached the spot next day, he found the remaining attackers burying their dead.

THE WORLD OF STAMPS by C. W. Hill

STAMP YOUR LETTERS AND KEEP YOUR FRIENDS!

If a forgetful friend posts a letter to you without putting a stamp on the envelope, the postman, when he delivers it, will ask you to pay double the rate of postage on it. A letter which ought to have had a 4d. stamp on it will therefore cost the recipient 8d. in "postage due".

Many countries issue special stamps for use on unpaid letters, to show that the postage due has been collected by the postman. France was the first to do so, as long ago as 1859. The French authorities suspected that when some postmen collected the extra postage on unpaid letters, they pocketed some of the money. The introduction of postage due stamps made these petty frauds more difficult because the postmen had to account for every postage due stamp used in this way.

Britain's first postage due stamps were issued in 1914 and their design, pictured here, has remained unchanged. Instead of having a portrait of the reigning monarch, as ordinary postage stamps do, the postage due stamps have simply a figure of value in a floral pattern. Similar numeral designs are used in other countries and many issues, like the Belgian 10-centimes stamp pictured here, do not even bear the country's name.

Some nationalities seem to be more forgetful than others. Ireland has managed with only 13 different postage due stamps since the first was issued in 1925, but Austria and Hungary have had 227 and 234 stamps respectively, though some of these issues have been due to changes in currency as a result of the two world wars.

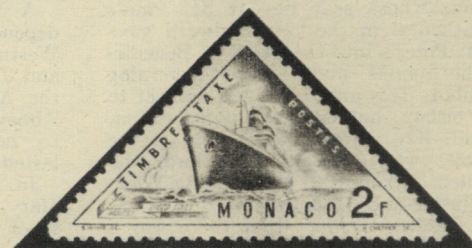
During the 1920s and 1930s several French colonies issued a pictorial series intended mainly for sale to collectors. Pictured here is an example from the French Cameroons, a 2-centimes value.

Monaco, in 1953, issued 18 triangular pictorials showing methods of transport, old and new. The 2-francs value, pictured here, shows the American liner *United States*.

It is not difficult to obtain such issues as these in mint condition, but it is more difficult to obtain them correctly used as postage due stamps on envelopes or postcards which have been mailed without the correct rate of postage. The average person may go for years without seeing a postage due stamp on his mail, and this is an indication of their scarcity.

To help in identifying Postage Due stamps, some of which do not bear their country's name, the following are among the inscriptions used:

Austria—PORTO
Belgium—TE BETALEN—A PAYER
Chile—MULTA
Czechoslovakia—DOPLATIT
Denmark—PORTO
France—CHIFFRE TAXE—A PERCEVOIR
Hungary—PORTO
Italy—SEGNATASSE
Luxembourg—A PAYER
Netherlands—TE BETALEN PORT
Norway—PORTOMÆRKE
Portugal—PORTEADO A RECEBER



The Indians headed steadily on for Canada. They fought their way across the Yellowstone National Park, treating any stray sightseers, including women, with restraint.

Winter had come again when, thirty miles from the Canadian border, they set up camp to rest for a while. Surely they were safe now? But, unknown to them, Colonel Nelson Miles had been summoned by telegraph and was heading for the camp with 600 men.

In blinding snow the last, heroic struggle of the Nez Percés began. On the fifth day of the battle, when General Howard himself arrived, Chief Joseph realised that the end had come. A bullet had killed the tribe's finest warrior, Chief Looking Glass. His people, after four months of fighting and marching, were too weary to fight any more.

And so Joseph rode over to where Miles and Howard waited for him, dismounted, and began one of the greatest surrender speeches in history.

"I am tired of fighting," he said. "Our chiefs are killed. Looking Glass is dead. The old men are all dead. It is the young men who say yes or no. He who led the young men is dead. It is cold and we have no blankets. The little children are freezing to death . . . Hear me, my chiefs, I am tired; my heart is sick and sad. From where the sun now stands, I will fight no more forever."

Miles promised the tribe that they would be allowed to return home to a chosen reservation in the north-west. But instead the American Government shipped Joseph and his people to a hot, unhealthy reservation in Oklahoma, where many of them died.

Their epic struggle was not forgotten, however. Eight years later they were allowed to return to the North West, not to their Oregon valley but to the sort of country they knew. But it was not their homeland, and when Chief Joseph died, in 1904, he was still an exile from the valley he loved.

So That's Why... WE SPEAK OF 'ROBBING PETER TO PAY PAUL'

by Gwen Morgan

IN several ancient oak chests at Westminster Abbey lie the parchment scrolls which are the Abbey records. These records, or *muniments*, as they are called, are evidence of the peculiar right of independence which this great church has enjoyed from any other religious authority since it was founded by the devout King Edward the Confessor in the 11th century.

Included in the scrolls is a 13th century muniment, carefully penned and tasselled with seals, which specifically cites the Abbey's freedom from the jurisdiction of the Bishop of London, in whose area it lies.

This freedom has always been observed. Indeed, with the exception of ten years during the reign of Henry VIII, Westminster Abbey has been a 'royal peculiar' church which means that it has been responsible only to the Sovereign, and no one else, during its history.

The Abbey's independence dates back to its foundation, in 1050 by Edward, who devoted a large part of his revenues to building it. From his palace at Westminster, across the way, he watched workmen struggling with huge slabs of stone on the site he had chosen near an ancient church called St. Peter's, dating back to the 8th century. Edward called his new building the Abbey Church of St. Peter.

Instead of putting his church under the authority of the Bishop of London, whose seat lies at St. Paul's Cathedral in the City, Edward gave St. Peter's into the hands of Benedictine monks under a self-governing abbot. This abbot was not subject to a bishop, but only to the Sovereign, and, like many other abbots of the time, was a wealthy landlord who ruled over most of surrounding Westminster and other estates.

Despite the fact that there was a

Bishop of London with a cathedral of St. Paul's, it became customary for the 'royal peculiar' abbey church to be used for the crowning or burial of all monarchs who followed Edward. From 1289-1547, the House of Commons even met in the Chapter House there.

Naturally there was much rivalry between St. Paul's in the City and the Abbey. The Abbey was called 'Westminster' chiefly to distinguish it from St. Paul's in Eastminster. There was a constant fear among the monks that the Bishop of London would claim the Abbey, and so much was made of a legend that an aged and holy stranger, none other than St. Peter himself, had asked a Thames fisherman to row him across the river to the Abbey site, which he had sanctified as a church.

As the coronation and burial church for kings, Westminster Abbey accumulated large gifts of royal land, and thus became very wealthy.

In 1539 Henry VIII, head of the newly-established State Church, dissolved many of the wealthier monasteries and seized their lands. Some of these lands went to the Crown, others were sold or given away.

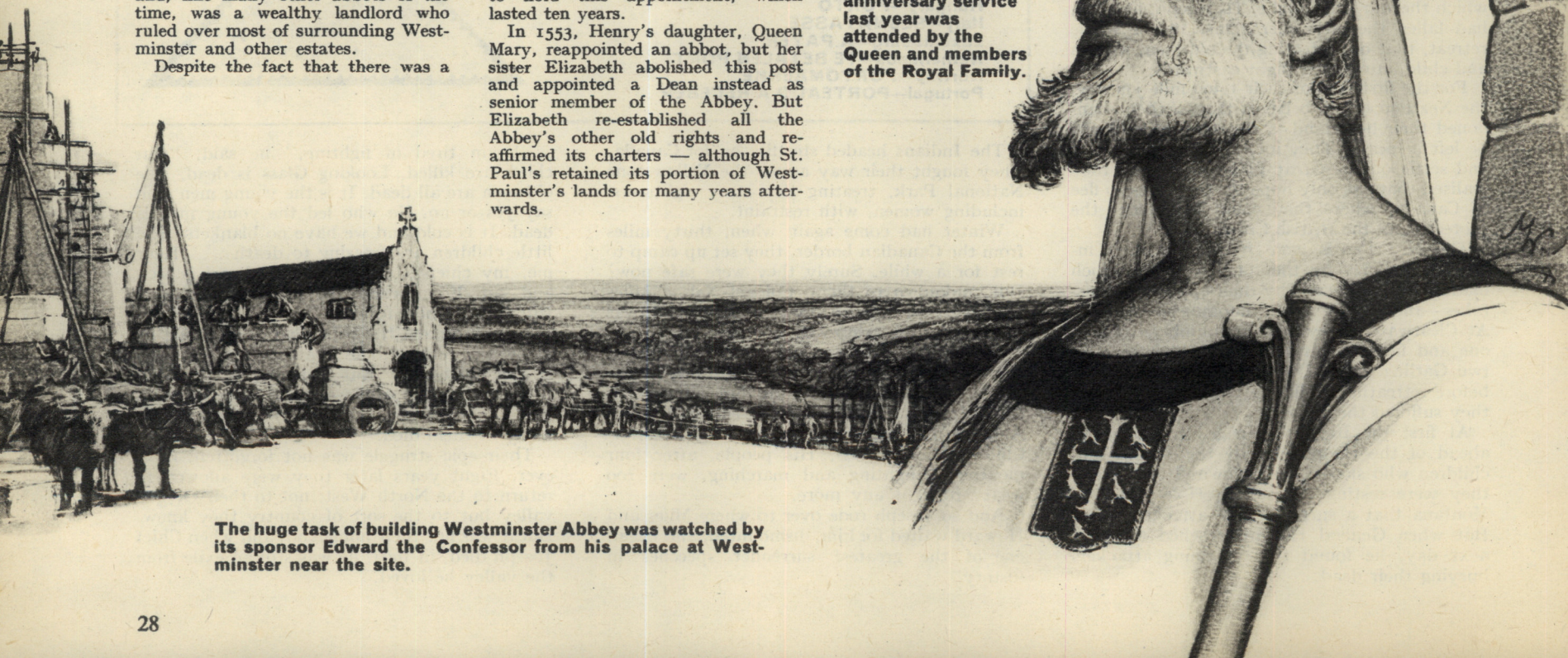
A portion of Westminster Abbey lands was given to the Bishop of London at St. Paul's. This caused much public comment, leading to the disgustful remark, 'robbing Peter to pay Paul'—which has given us our familiar phrase of today.

A year later the Abbey lost its independence for a brief time. In 1540 Westminster was declared a bishopric, and Thomas Thurlby was appointed the Anglican bishop of Westminster Abbey. He was the first and only man to hold this appointment, which lasted ten years.

In 1553, Henry's daughter, Queen Mary, reappointed an abbot, but her sister Elizabeth abolished this post and appointed a Dean instead as senior member of the Abbey. But Elizabeth re-established all the Abbey's other old rights and reaffirmed its charters — although St. Paul's retained its portion of Westminster's lands for many years afterwards.



▲ Although robbed, in 1539, of some of its land by the Bishop of London's cathedral St. Paul's, Westminster Abbey still remained an independent church. As the coronation and burial church of all British monarchs, it received large royal gifts which were used in the Abbey's upkeep. The Abbey's 900th anniversary service last year was attended by the Queen and members of the Royal Family.



The huge task of building Westminster Abbey was watched by its sponsor Edward the Confessor from his palace at Westminster near the site.

WIN AN ALBUM FOR YOUR STAMPS

Stamp collecting enthusiasts will welcome this week's Crossword puzzle prize. Super stamp albums will be awarded to the first 20 readers whose correct solutions are examined on the closing date for this competition which is 23 September 1966. Please send your Crossword solution and completed entry form in ink or ball-point, pasted on a plain postcard to:—

LOOK AND LEARN Prize Crossword No. 13,
1-2 Bear Alley, Farringdon Street, London, E.C.4 (Comp.).

Prizewinners' names, together with the solution, will be given as soon as possible. The Editor's decision is final.

ACROSS

1. The Prime Minister of this S.E. Asia republic is Chou-en-Lai (5)
4. To an American, this word means a biscuit—to us, a firework (7)
8. A saddle-horse, especially for a lady (7)
9. A title once given to Turkish governors and high-ranking officers (abolished in 1934) (5)
10. Special edition of a newspaper giving later news (5)
11. Pythagoras discovered a famous one concerning the

- sides of a right-angled triangle (7)
12. Agricultural implement that is to be seen on the Soviet flag (6)
14. American member of the cat family, rather like a small leopard (6)
18. Part of an ass used by David when slaying Goliath (7)
20. One way of solving a problem is by "trial and —" (5)
22. Capital of the French department of Nord (5)
23. Signallers way of saying 'a.m.' meaning morning (3-4)

24. A treble voice, usually applied to a woman (7)
25. Italian word much used in English meaning "the same thing" (5)

DOWN

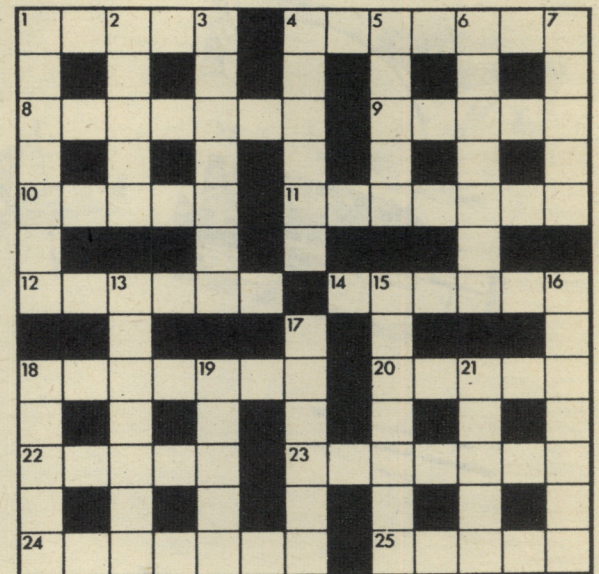
1. Coniferous tree whose branches were once carried at funerals (7)
2. This means a small island (5)
3. If you send a letter to Malta, it goes by this means (3-4)
4. The prairie-wolf of North America (6)
5. Word meaning "abundant" (5)
6. A small species of falcon (7)
7. A province or region or kingdom (5)
13. Kind of primrose that grows in pastures (7)
15. In chess, when the king is —, he must at once get out of it (7)
16. Violent tropical Atlantic thunderstorm (7)
17. Musical direction meaning "smoothly", the notes running together (6)
- 18, 21. Name of the World Cup for soccer (5, 5)
19. The last letter of the Greek alphabet (5)



LOOK AND LEARN CROSSWORD No. 4

Sports Prizes as chosen were awarded to:—

Timothy Baynham, Builth Wells; Michael Birch, Manchester; Ann Chinn, Aberdeen; Sarah Kelsey, Maidstone; Jane Noble, Birmingham.



Full Name
(In block letters).....

Age
(years).....

Address.....

Look & Learn No. 13

— Cut round the dotted line —

THE STORY OF CHRISTIANITY IN BRITAIN

by The Rev. J. M. Roe

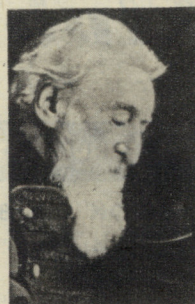
MANY people who would not call themselves Christians, or who may even dislike what they know of Church life in Britain, nevertheless have a respect, even an admiration, for the Salvation Army.

Despite a number of modern touches, such as its 'pop' groups, the 'Army' still reminds us of its origin in the Victorian age, notably by the old-fashioned bonnets worn by its lady officers.

The movement began in the lifetime of William Booth (1829-1912), who was brought up in Nottingham, where he became an active member of the Methodist Church. In 1849, he went to London, where fifteen years later he founded an independent Christian Mission in Whitechapel.

There, in addition to preaching, Booth organised relief of various kinds for the poor and often ignorant people of that district. In this he had the loyal support of his wife, with whom he devoted a lifetime to practical Christianity among the toughest and seemingly least rewarding members of the community—the 'down-and-outs', petty criminals, and other outcasts from respectable society who abounded in the 'East End' of Victorian London.

'ONWARD CHRISTIAN SOLDIERS!'



William Booth.

'Pop' groups, like the 'Joy Strings' shown on the right, are a recent addition to the Salvation Army.

The idea of a 'Salvation Army' developed only gradually. Its basic pattern dates from 1866, though its present form and title were not established until twelve years later.

It was a brilliant idea, which has made the half-forgotten belief in what is called 'the Church Militant' into something really soldier-like. Its officers are expected to give as much loyalty and obedience to those in command as is any soldier on the field of battle. Prayer-meetings become



'knee-drill'; the meeting-hall is 'The Citadel'; and the Salvation Army's own magazine is aptly named 'The War Cry'.

The Salvation Army uniforms, banners, and especially its brass bands brought a touch of colour, discipline, and vigour into many a drab city street, while the officers, both men and women, soon gained a reputation for a mixture of real helpfulness and efficiency.

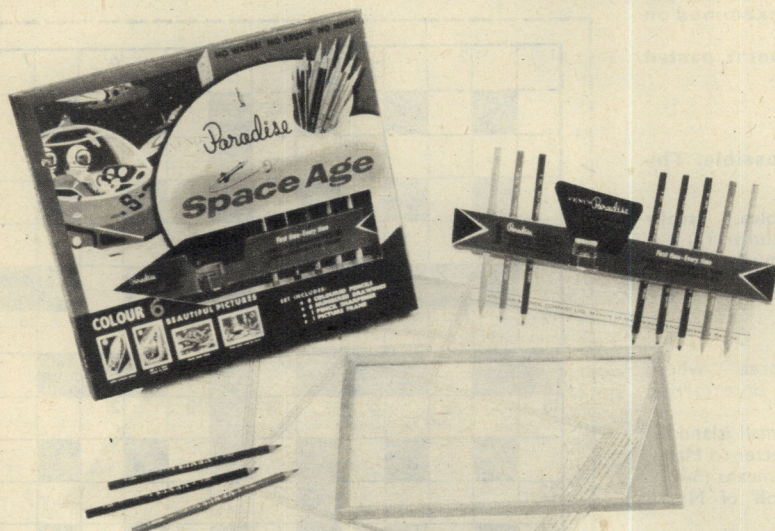
Soup-kitchens, and other centres

for the relief of genuine need were soon organised.

The movement spread to America, and eventually became world-wide. An African officer in immaculate white uniform is brother to his fellow-officer in the traditional British Blue; and the Armée de Salut' of the French-speaking world has the same features as its counterparts from China to Peru. One thing is certain.

No army is more worthy of our salute!

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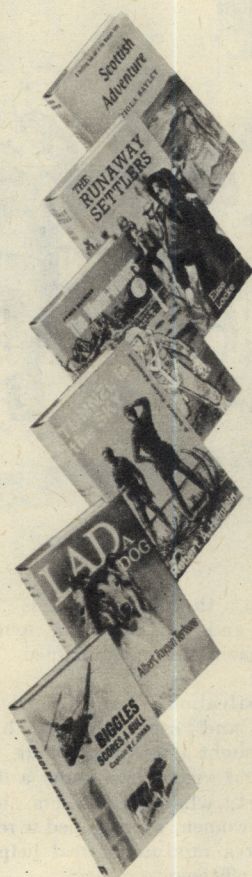
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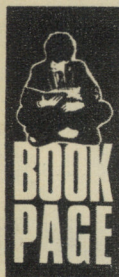
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The HIGH RIDE

Crossing the Andes is easy by plane . . . but David Coleman did it in an Austin Seven!

YOUNG David Coleman was bored and miserable. It was a Christmas holiday, he had the flu, and the doctor had said he must stay in bed.

But he had a book to read, and its title was an intriguing one: *Tschiffely's Ride*. Soon he forgot all about his boredom as he read of 'the most amazing ride ever made by a man on horseback'.

It was in 1925 that Aimé Tschiffely and his two Argentine Creole horses started their 'impossible' journey from Buenos Aires to New York. The equestrian experts of the time laughed in his face and called him a 'mad-man'. No horse, they said, could possibly survive the rigorous climates of such countries as Chile and Peru. And as for climbing the massive Andes mountains . . .

But Tschiffely paid no heed to their warnings. And two years later, in 1927, he proved the scoffers wrong by jogging into New York city at the end of his 11,400-mile ride.

By the time David Coleman finished the book he had dismissed such trivial ailments as influenza. Then and there he vowed that one day, when he was old enough, he would make the same incredible journey himself.

How David set about achieving this, and the various adventures he underwent, are told by him in *Coleman's Drive* (Faber and Faber, 6s. 6d.).

Although David determined to stick as closely as possible to Tschiffely's original route, he made one major change when he prepared for his endeavour. Instead of travelling on horseback, he decided to go by car: but not, as you might suppose, in a specially-equipped Land-Rover. His choice was a battered old Austin Seven.

Ever since his army and university days, he had been fascinated by vintage motorcars. He became a collector of Austin Sevens, and owned in all about 14 or 15 of them. But the model which most caught his eye was a 1925 Chummy.

He repaired the Chummy with parts taken from other forlorn Austins, and on 24th October he arrived at Buenos Aires.

He was hailed as a hero before he had even headed the Chummy northwards. The Latin Americans were captivated by his car, his ambition, his courage, but most of all by his fiery red beard. They named him *Barba Roja*, or Red Beard, after a famous and bloodthirsty Argentinian pirate of long ago.

When the initial excitement died down, *Barba Roja* set out on the first leg of his drive: the 600-mile journey across the Pampas to the town of Mendoza.

David was prepared to meet hazards later on, but almost immediately he ran into torrential rain. Despite the

downpour, he reached Mendoza safely, and readied himself for the 'insane' climb over the Andes.

He began the ascent in bottom gear. At each bend the engine 'laboured and throbbed like a man about to die of heart failure'. Slowly he progressed upwards, past landslide areas, and occasionally peeping over the side of the car 'straight into emptiness stretching thousands of feet below'.

Eventually, after climbing to more than 10,000 feet, David reached 'the top of the world, and my car was certainly the first Baby Austin to stand on top of the Andes, perhaps the only Austin that will ever do so'.

After conquering this, the greatest natural obstacle in his path, *Barba Roja* coasted to Santiago, the capital of Chile, where he celebrated the New Year with fireworks and feasting. Then, on 3rd January, 1960, he once again put his foot down on the accelerator, and made for the Atacama Desert, a 'long, waterless waste, where rain has never been known, stretching for nearly a thousand miles up the west coast of Chile . . .'

It was then that some words of Tschiffely's proved invaluable. David remembered the explorer advising that the 'mere taste of lemons' would 'take the edge off the most violent of thirsts'. He made sure, therefore, that there was always a slice of lemon wedged into the side of the Austin's passenger seat.

Beware of Bandits!

But even this precaution was not enough. David got sunstroke and dysentery, and was soon unable to eat anything solid. He had packed no emergency rations such as milk foods or beef tea. Fortunately he was able to drive to a 'modern American camp' in the middle of the desert. There the workers gave him much-needed drugs, injections and light foods in exchange for his full story and picture for their company magazine.

A week later he was on the road again. His destination this time was Peru, the land of earthquakes and the home of the Incas.

Apart from seeing women from the Inca province in their red and yellow bowler hats, David had a quiet journey until he entered Ecuador. At first the border police there suspected him of being a Peruvian spy, and when he convinced them that he was only an

adventurous Englishman they sent him on his way with warnings to beware of bandits.

To begin with, he paid little attention to this. It wasn't until he reached the town of Duran that his heart 'began to beat violently'. As he drove past open-fronted houses with fires burning on the floor, he saw men and women attacking each other, and knife fights and fist fights were breaking out all round. It seemed like the start of a people's revolution, but a policeman assured him that it was merely the beginning of the carnival!

"They kill and murder each other," said the policeman. "Get out of town

before they realise a stranger is here."

David needed no second telling, and roared from the town with the crowd chasing the car. Suddenly a man leapt on one of the running-boards, and another on the other. Two more landed on the luggage grid, smashed it off and left it trailing by the wire of the rear lamp.

David escaped, but after this his drive proved mild by comparison. He took the ferry to Panama, and on 3rd June chugged into the United States with a police escort of motor-cycles.

There were no more obstacles, and shortly afterwards he arrived in New York.

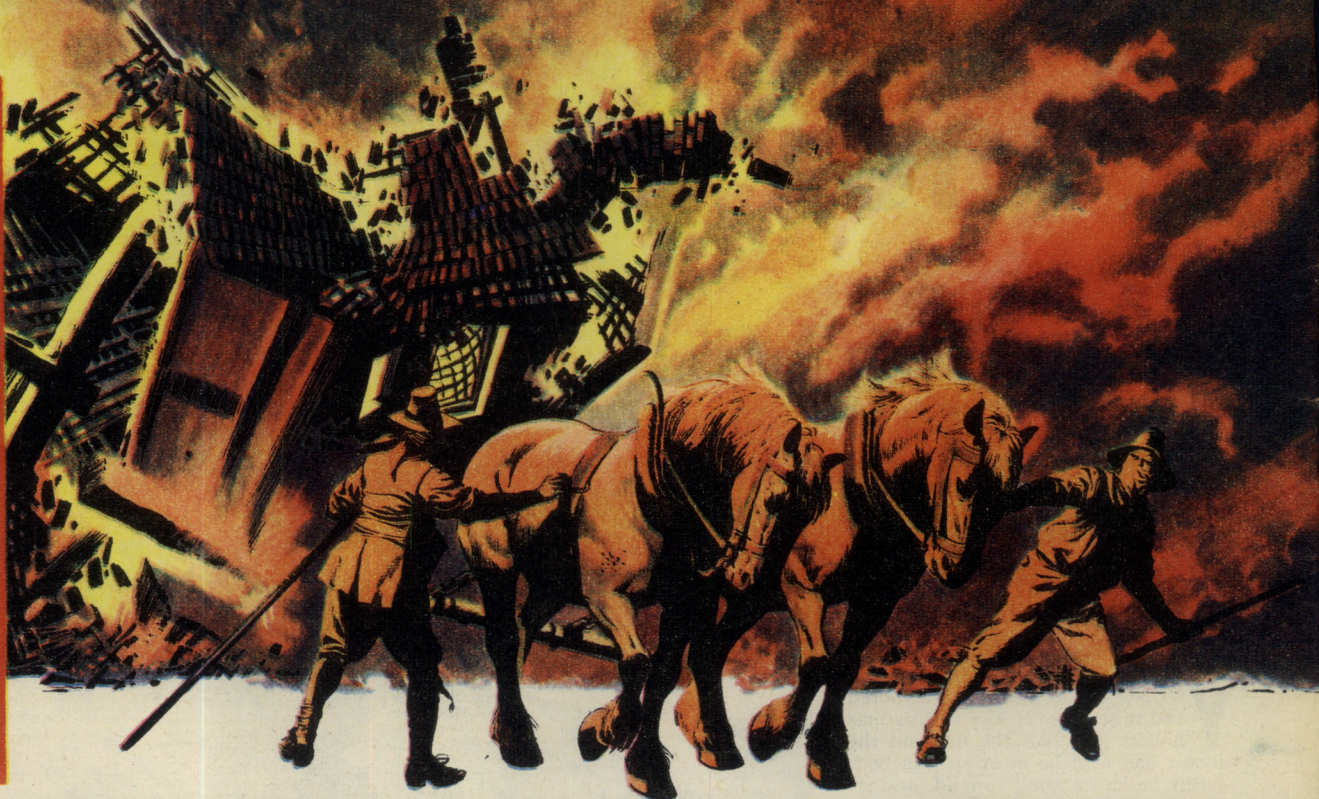


It was a rough town. Many of the men had knives . . . and suddenly one of them jumped on the running board . . .

Continuing:

THE GREAT FIRE OF LONDON

THE FLAMES ARE SATISFIED



▲ 3. Londoners toiled out through the city gates in a steady stream. Many refugees and their belongings lay in the fields at Moorfields, Tower Hill or Islington that night, which was never dark. "Alle the Skie," wrote John Evelyn, the diarist, "were of a fiery aspect, and the light seen about 40 miles."

4. The fire was burning at the bottom of Seething Lane, where Samuel Pepys lived. He had despatched most of his belongings, but on the morning of Tuesday, 4th September, he was "up by break of day, to get away the remainder of my things . . . Sir William Batten, not knowing how to remove his wine, did dig a pit in the garden . . ."



◀ 7. During the night of Tuesday, 4th September to Wednesday, 5th September, the wind dropped and the fire slowly began to come under control. There was still alarm as it approached Whitehall Palace, which was speedily emptied of goods. But in fact the fire never reached it. Samuel Pepys returned from transporting his wife and belongings to Woolwich, "and whereas I expected to have seen our house on fire, it being now about 7 o'clock, it was not. But to the fire, and there find greater hopes than I expected, for my confidence of finding our office on fire was such that I durst not ask anybody how it was—till I came and saw it not burned. But going to the fire, I find that by the blowing up of houses, and the great help given by the workmen out of the King's yards, there is good stop given to it." Pepys walked on through the burned city "the saddest sight of desolation that I ever saw"—"I also did see a poor cat taken out of a hole in a chimney, joining to the wall of the Exchange, with the hair all burnt off the body, and yet alive."

8. London gradually simmered down. A rumour that 50,000 French and Dutch were coming to finish the work that the fire had begun, rippled through the multitude of homeless, and a new outburst of attacks on foreigners began. But the rumour was quenched and the people calmed. On Thursday morning, King Charles rode to Moorfields to speak to the crowd himself. He told them that the fire was the 'hand of God' upon the city and that although he had questioned those people arrested under suspicion, he had found no evidence that London had been set on fire purposely. The King promised to defend and help the people.



1. London was stunned. The fire raged, the people fled, nothing was done. On Monday morning, 3rd September, King Charles took matters into his own hands, relieved tremulous Mayor Bludworth from his command, and organised a band of fire-fighters proper. With headquarters at Holborn, fire posts were established around the edge of the city. One hundred men from the parishes and thirty or more soldiers under an officer were to man each of the posts. Their task was to pull down houses around the fire, but this just could not be done fast enough with hooks and ropes and the fire enlarged itself despite them. King Charles and his brother James, Duke of York, passing Queenhythe by barge, stopped to encourage men fighting fire in the market there. The fire was making progress in every direction. From Queenhythe, it burned westwards along the river bank as far as the Temple; to the east it moved more slowly in the face of a fierce wind. To the north, the devastation was most terrible. By the afternoon, Lombard Street, the city's banking area, and Cornhill with its beautiful and rich merchant premises were feeding the flames.



2. With Cornhill in its power, the fire marched on. The pamphleteer, Thomas Vincent, watched the flames as "they lick the whole street as they go; they mount up to the top of the highest houses; they descend down to the lowest vaults and cellars, and march along on both sides of the way, with such a roaring noise, as was never heard in the City of London: no stately building so great, as to resist their fury; the Royal Exchange itself, the glory of the Merchants, is now invaded with much violence." The Exchange was one of the most beautiful buildings in the city. Merchants carried on their business in a courtyard surrounded by a magnificent arcade of marble columns. There were many shops there too, which sold rare things from the east. "Once the fire was entered" said Vincent, "how quickly did it run round the Galleries, filling them with flames." Everyone knew that the fire was completely beyond control.

5. A cause of great alarm was the movement of the fire towards the Tower of London. The risk of fire there was high. Wooden houses lay round the moat and inside the walls. There were many wooden buildings ripe for burning. The King himself came to direct the destruction of the houses round about the moat. "Now begins the practice of blowing up of houses in Tower Street, those next to the Tower, which at first did frighten people more than anything; but it stopped the fire where it was done" (Pepys).

6. By late afternoon, St. Paul's Cathedral was surrounded by fire, but was as yet untouched. It rose magnificently amidst tongues of flame and, because it held out for so long, people thought it might miraculously be saved. But William Taswell, a schoolboy, described how "about eight o'clock (fire) broke out on the top of St. Paul's church . . . and before nine blazed so conspicuous as to enable me to read very clearly an edition of *Terence* which I carried in my pocket." The roof timbers caught fire and melted the four or five acres of lead covering the roof . . . the melting lead running down the streets in a stream, and the very pavements glowing with fiery redness . . ." (Evelyn). Masonry rained down like hail. The gigantic roof fell flaming into the body of the church below.

By Wednesday morning, St. Paul's was left gutted and desolate: in the crypt, books stored for safety by the city's booksellers smouldered for a week. Several dogs were found burned to death in the rubble, and also an old man who had sought refuge in the cathedral.



9. London stopped blazing but still smouldered. John Evelyn, on the morning of 7th September, went on foot from Whitehall to London Bridge. Surrounded by debris and smoking heaps of rubble, he often could not make out where he was—"the ground under my feet so hott, as made me not onely sweate, but even burnt the soles of my shoes." Smoke hung heavily in the hot air among deserted, threadbare hulks of buildings once familiar.

Business life in the city could not stop for long. Merchants were already meeting at Gresham House and orders were issued to begin the task of making the city a working unit again. Owners of houses were instructed to clear away the debris in the street outside their own houses or what remained of them. The purchasing price of houses shot up and so did rents. According to Pepys, a house originally let for £40 a year before the fire, might now be let out at £150.

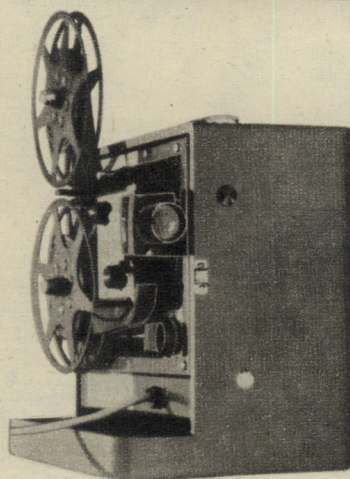
As soon as it was practicable, two City surveyors set about assessing the damage the fire had done. The fire, they found, had burnt 373 acres inside the city, leaving only 75 acres unburnt, and also 63 acres were devastated without the walls. 13,200 houses had been burned down and 89 parish churches. There were 200,000 people homeless.



NEXT WEEK: THE CITY RISES AGAIN

more fabulous prizes from

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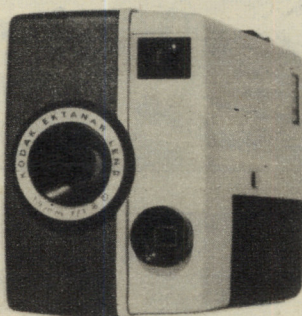
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COVER QUIZ ANSWERS

- 1** Long Ships. For centuries the Vikings used these sturdy vessels, which could withstand the assault of huge Atlantic waves, to sail and explore the northern oceans. A Long Ship was about eighty feet long, with a single sail, and sixteen oarsmen a side.
- 2** Longfellow. The American poet Henry Wadsworth Longfellow (1807-82) was very popular in his lifetime and is still widely read today. His most famous work, *Hiawatha*, was based on Red Indian tales and legends.
- 3** Long Tom. This powerful gun was used by the Boers in the South African War, notably at the siege of Ladysmith (1900). It was a 6-in. 94-pounder, with a range of 11,000 yards.
- 4** Longshanks. Edward I (1239-1307) was known as Longshanks because of his fine physique and long legs. He conquered Wales, but, although he succeeded in defeating the great Scottish leader, William Wallace, he never subdued Scotland. He was one of the ablest of medieval monarchs.
- 5** Longleat. This stately home is near Warminster in Wiltshire. It was built in the 16th century and added to later. Its owner, the Marquis of Bath, has recently added to the estate a Lion Park which is already very popular with visitors.
- 6** Longhorn. The British variety, seen in the picture, is excellent for beef and cheese, but has mainly been superseded by shorthorns. The famous American Longhorns were the descendants of cattle brought over by the Spaniards. They took part in the great cattle-drives out of Texas after the American Civil War.
- 7** Longbow. This was one of the most deadly weapons in military history. It was made of ash or yew, and could be fired three times as fast as a crossbow. The crushing defeats of the French at Crécy (1346), Poitiers (1356) and Agincourt (1415) were mainly due to English archers armed with the longbow.
- 8** Loch Long. This is an arm of the sea between Argyll and Dunbarton on the west coast of Scotland and is seventeen miles long. It is a sea-loch—as opposed to the ordinary loch, which is completely surrounded by land (the word loch means lake).



What is your name?

In the English countryside of the Middle Ages, where most of the people were peasants working on the land, those comparative few who were in service with the lord of the manor were singled out for identification by the name of their occupation. An interesting group of surnames originated in this way.

BUTLER is an adaptation of *bottler*—the man in charge of the wine cellar. The SPENSER was responsible for the larder and stores—he *dispensed* the food supplies of the big house.

The COOK was obviously essential, but under him there may have been the CARVER, the SPOONER, the POTTINGER, who made soup, and the KITCHENER, who turned the spit. The NAPIER looked after the household linen (from French *nappe*, cloth).

In those turbulent times every great noble went in fear of poisoning, and would appoint an assayer, whose hazardous job it was to taste the food before it was served. This word survives in the surname SAYERS.

The PAGE waited at table, after the guests had been shown to their places by the MARSHALL. This last name had originally described an outdoor occupation, that of *mare-schal*, in charge of the horses. An interesting parallel is seen with STEWARD or STEWART, which is derived from *sty-ward*, one who looked after the animals.

HOCKEY



Until 1860 there were few references to the sport of hockey, but in the 19th century an historian said of John Bunyan that "bell-ringing and playing hockey on Sundays seemed to have been the worst vices of this depraved tinker".

MOST non-players think of hockey as a game for women and girls, and so it is. The sight of 65,000 of them cheering the English ladies during an international match at Wembley is one of the most interesting features in the British sporting calendar.

But hockey is also most definitely a game for men, a fast, tough game demanding strength, courage and skill, especially where its variants, like hurley in Ireland, or shinty in the Scottish Highlands, are concerned. In fact, it is a game played by both sexes in many parts of the world, but it is most popular in Britain, Western Europe, Australia and New Zealand, and in India and Pakistan where for a long time the world's finest players have been produced.

Hockey has a long history, evolving as it did from the stick games of Ancient Persia through Greece and Rome to Western Europe, but the evidence suggests that the modern game developed from the Middle East.

Until the 1860s references to the game are few and far between, but one is of special interest. It comes from Lord Macaulay, the great writer and historian of last century,

who said of John Bunyan that "bell-ringing and playing hockey on Sundays seemed to have been the worst vices of this depraved tinker".

Hockey in its modern form was yet another British sports invention and export. The game took shape about 1860, and a year later a club was formed at Blackheath. Their example was rapidly followed in other parts of the country. The Hockey Association, with the Prince of Wales (later King Edward VII) as its first President, was formed in 1886 and a year later the first county match (between Middlesex and Surrey) took place.

Progress went on at a steady pace. The first hockey international match, in which Wales lost to Ireland 3-0, was held at Rhyl, 1895, and by 1900 the game was beginning to make a remarkable impact in India. In 1908 came the formation of the International Hockey Board, the supreme authority throughout the world on all matters to do with the rules of the game. In the same year, England became the first team to win the hockey gold at the Olympic Games in London.

By and large, women's hockey



Hockey is so popular now that 65,000 people or more regularly attend the international matches played at Wembley.

has grown along with educational opportunities for women. A form of the game was played during the 1880s at the women's colleges of Oxford, Cambridge and Dublin universities, but the first actual women's hockey club was formed at East Molesey, Surrey, in 1891. The sport grew fast enough for the All-England Women's Hockey Association to be formed with seven clubs in 1895.

What a contrast the women hockey players of those days present with those of today. "In the 1890s," wrote Marjorie Pollard, one of our greatest-ever players, "a skirt had eight yards of good flannel in its make-up; trains and bustles were common and petticoats plentiful; blouses were of canvas and had high, puffed sleeves; hats were essential and the favourite pattern was a straw boater or, surprisingly, a little boy's cap."

Today, although women play hockey on the same size of pitch as men (100 yards long by 55 to

60 yards wide), there are two differences in the pitch markings. First, the radius of the women's striking circles is 15 yards (the men's is 16 yards) and the women play with a five-yard line, instead of a seven-yard line, parallel to the side lines.

As stated, the Indians and Pakistanis have dominated the men's game for many years. Part of the reason is thought to lie in their natural dexterity of hand and wrist, plus the fact that they play on fast, sun-baked pitches. In addition, the Indians use a shorter-toed club than most European players. This, coupled with a left-handed grip well behind the stick, enables them to reverse the stick (that is, play the ball with the toe of the stick pointing downward) without changing the grip. In this way, they can achieve truly remarkable ball control. In terms of records, the Indians have won Olympic hockey in each Competition since 1928, except in 1960 when it was won by the Pakistanis.

At home, as one would expect, England is the strongest of the four countries. Wales, in fact, have never beaten England since 1898, when matches began; Scotland has done so only three times since 1903. Ireland has the best record against England with nine victories since 1895.

Nowadays, hockey is a flourishing sport both in the men's and women's games. Nor should girls be put off by taunts of 'Jolly hockeysticks!' and the like, because, apart from the quality of the game itself, marriage rates among women's hockey teams are very high. Yet less than 100 years ago elderly, irate gentlemen were wont to invade the pitch waving their sticks and calling the lady players "brazen hussies!" and worse. Some odd things happened in the good old days.

HOCKEY—PAST AND PRESENT



Less than a hundred years ago the sight of women playing hockey was enough to make elderly men invade the pitch, waving their sticks and calling the players "brazen hussies".

Today the game is an accepted part of the curriculum in both boys and girls schools, and certainly the dress is much more practical for such a fast-moving game.

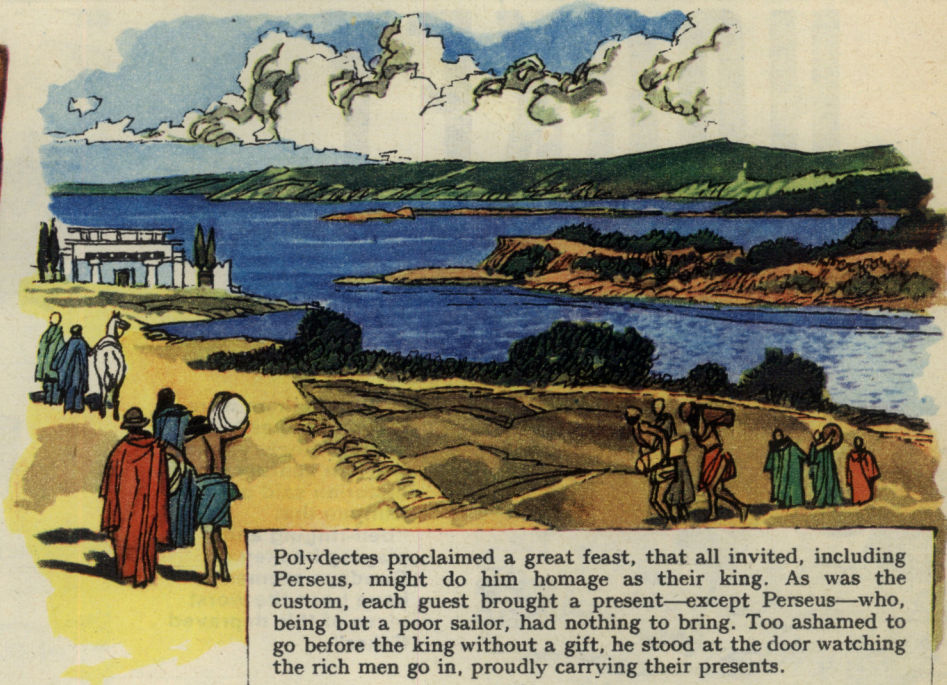


THE STORY OF PERSEUS

Part 6

PERSEUS MAKES A FOOLISH BOAST

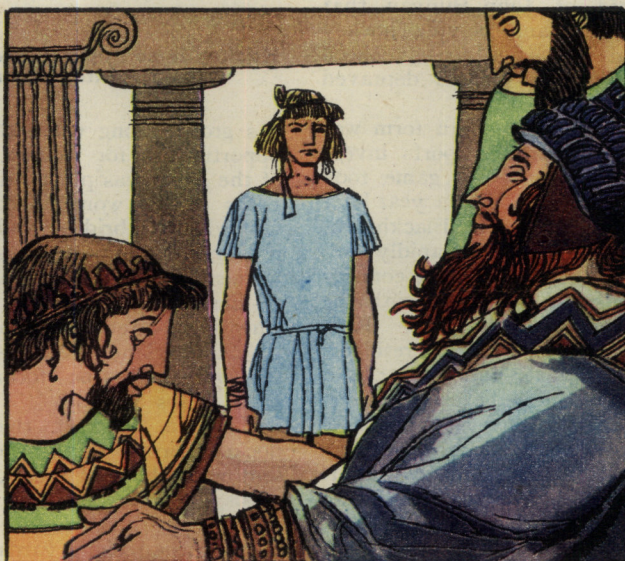
Perseus had returned to Seriphos to find that King Polydectes had made his mother, Danae, a slave because she refused to marry him. Perseus then took Danae to the Temple of Athené for safety. Infuriated, Polydectes knew he could never get her back while Perseus remained, and plotted to be rid of him.



Polydectes proclaimed a great feast, that all invited, including Perseus, might do him homage as their king. As was the custom, each guest brought a present—except Perseus—who, being but a poor sailor, had nothing to bring. Too ashamed to go before the king without a gift, he stood at the door watching the rich men go in, proudly carrying their presents.



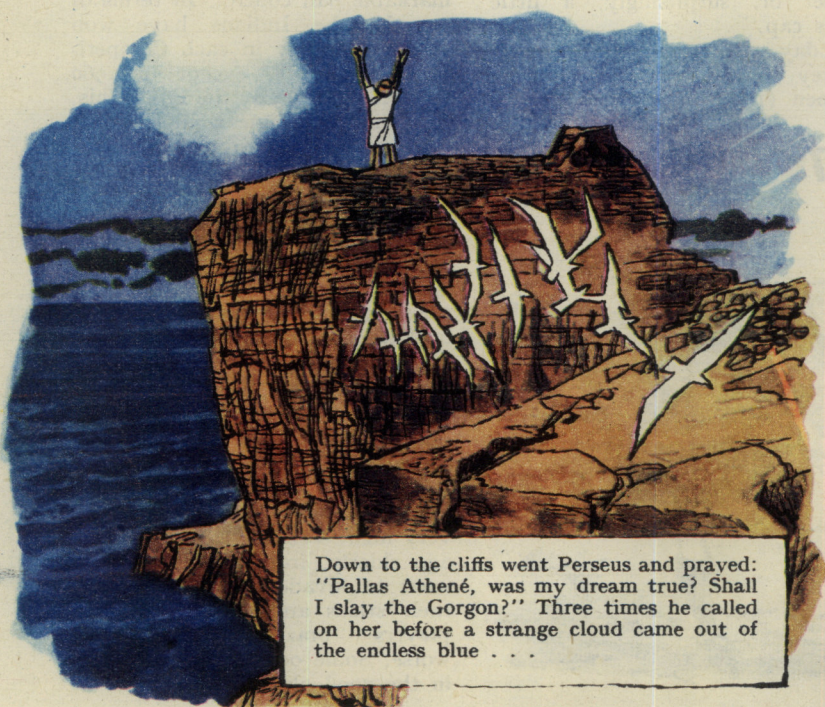
His face grew very red as they pointed to him and whispered: "What has that foundling to give?" This was what Polydectes wanted. He had Perseus brought in and asked scornfully before them all, "Where is your present?" As Perseus blushed and stammered, everyone laughed and openly jeered.



Perseus grew mad with shame and, hardly knowing what he said, he boasted: "I'll bring a nobler gift than all of yours!" When asked what it would be, he rashly answered, "The head of the Gorgon!" At which Polydectes laughed loudest of all.



"You have promised to bring me the Gorgon's head? Then never appear again on this island without it," cried Polydectes, glad to be so easily rid of Perseus.



Down to the cliffs went Perseus and prayed: "Pallas Athené, was my dream true? Shall I slay the Gorgon?" Three times he called on her before a strange cloud came out of the endless blue . . .



As it parted, Pallas Athené appeared, and beside her was a young man whose eyes were like sparks of fire. He had a scimitar of diamond and on his feet were golden sandals, from the heels of which grew living wings . . .