VOLUME 14 PONY to RHYME

CHILDREN'S BRITANNICA

Volume 14

PONY—RHYME

ENCYCLOPAEDIA BRITANNICA INTERNATIONAL, LTD
LONDON

First edition 1960

Second edition 1969

Third edition 1973

Revised 1975, 1976, 1978, 1981, 1985

1987 printing

ISBN 0 85229 190 6

Printed and bound in Great Britain by
Hazell Watson & Viney Limited,
Member of the BPCC Group,
Aylesbury, Bucks

Children's Britannica

PONY. There is not much difference in appearance between horses and ponies, except in their size, for ponies are smaller than horses. In some countries a full-grown pony is counted as a horse if it is more than 14·2 hands high. (A hand is 10 centimetres.) Elsewhere, 15 hands is the limit for a full-grown pony. The breed of horse known as the Arab is always known as a horse, whatever its height, and the pony used in the game of polo is always a pony whether it is tall or short.

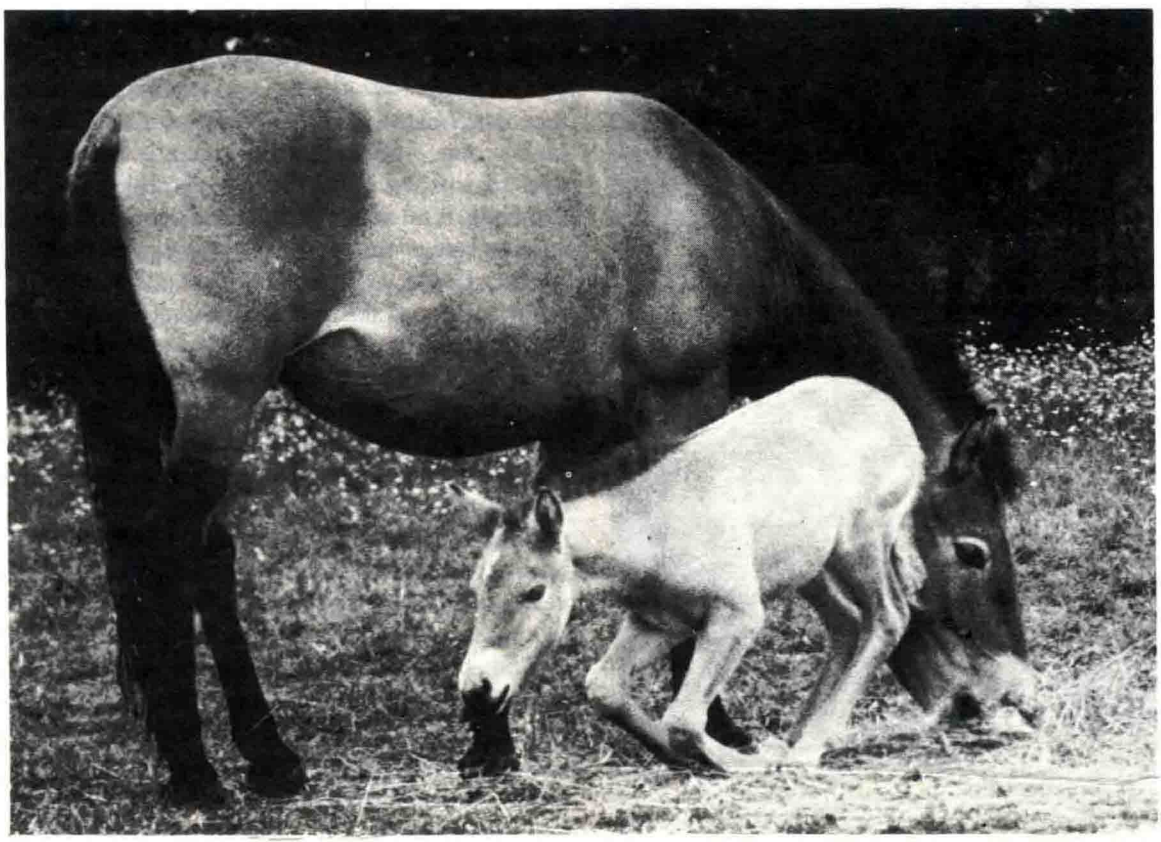
Apart from their size, ponies must have certain qualities. These are hardiness, sure-footedness, ability to live on small amounts of poor food and rather more intelligence than horses —except those of the Arab breed—possess. All true breeds of ponies, wherever they are found, have these qualities, but many modern show ponies are simply small versions of the thoroughbred breed of horses.

It is doubtful whether any true pony breeds exist outside Europe, Asia and Africa. The "cow" pony of the western parts of the United States and the Criollo of South America, which are unbeatable for endurance and the power to live on little, are really horses.

European Ponies

Probably the best known and most important ponies of Europe are those belonging to the mountain and moorland group found in England, Scotland and Wales. There are nine distinct breeds, and each is quite different in appearance from the others.

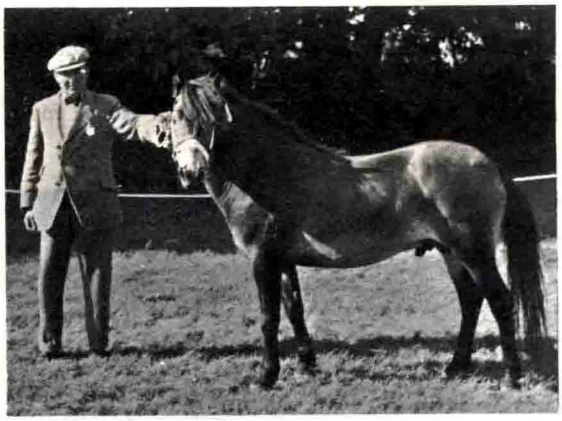
The New Forest. It is not known what the ancestors of this pony were, but it was known as far back as the days of King Canute in the 10th century. It is a handy, sturdy pony, which is good to ride and a useful animal for drawing traps (which are light carts) and it is the most



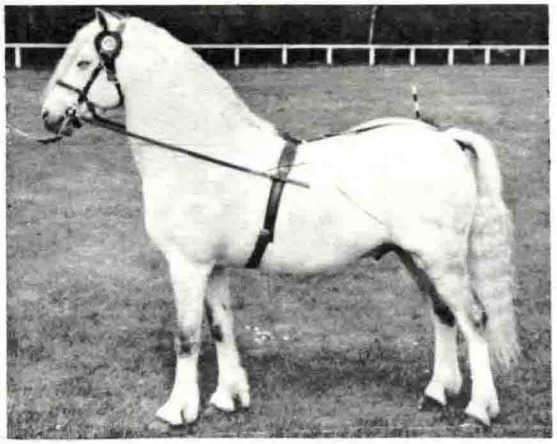
W. Suschitzky

A pony with her young foal. A foal can walk soon after it is born.

Jonathan III, a prizewinning New Forest stallion. The New Forest is a sturdy breed which is found in Hampshire. It is one of the mountain and moorland group.



Heatherman, a champion Exmoor stallion. The rather prominent eyes which are typical of the Exmoor pony can just be seen in this photograph.



Photographs by John Nestle

Coed Coch Madog, a champion Welsh Mountain stallion. White is an unusual colour for this breed, for the ponies are generally grey, brown or chestnut.

easily managed pony of the mountain and moorland group. It is up to 14 hands tall, and is found in the New Forest in Hampshire.

The Dartmoor is a charming and very tough pony which takes its name from Dartmoor in Devonshire, where it roams in an almost wild state. It is an ideal riding pony for children, and it is also very popular in the show ring because it is so handsome. Officially it must not stand higher than 12·2 hands, and it may be any colour except piebald (white with black markings) or skewbald (white with brown, the reddish-brown colour called bay, or chestnut).

The Exmoor. The next-door neighbour of the Dartmoor is the Exmoor pony, which resembles it only in size and hardiness. Its muzzle is mealy, or spotty, and it has the same mealy colouring all round the eyes (which are known as "toad" eyes) and on the upper parts of the legs, often running up into the underside of the body. The colour is bay or brown. The mane is very thick and often falls on each side of the neck, which is unusual. The eyes are very large and stick out, rather like the eyes of Arab horses.

The Welsh Mountain is generally said to be the most beautiful of the mountain and moorland group. It is hardy and tough but very gay and dainty, with a lovely Arab-like head. Officially it must not be taller than 12 hands, and it is therefore the smallest pony except for the Shetland. Greys, browns and chestnut are the main colours. Like the Dartmoor, it is a popular pony for children.

The Fell. This pony is nearly always black, though it is sometimes dark brown or other colours. It belongs to the English Lake District of Westmorland and Cumberland. Before the days of trains it was chiefly used to carry lead in panniers (baskets) from the mines to the coast, for it is good at carrying heavy loads. It is a very hardy, sure-footed pony, with a thick tail and mane of coarse, curly black hair.

The Dales. Though now a very different pony from the Fell, owing to crossing with other breeds, the Dales were originally the same. Fells live on the west of the Pennine Range and Dales on the east.

The Highland. From Scotland come both the largest and strongest of the European group of

ponies—the Highland—and the smallest—the Shetland. There are three types of Highland pony : the Barra, up to to 13·2 hands, the riding pony, 13·2 to 14·2 hands, and the stronger and heavier Mainland, which stands at round about 14·2 hands. This pony is very strong and easily managed, and it is beautiful as well, for it has large, wide-open and expressive eyes and a rather Arab-like head. It will climb steep hills and carry heavy weights.

The Shetland. Although it is the smallest pony, the Shetland is almost the strongest. At one time it was much used as a pit pony to draw trucks underground in coal mines, because of its small size. Today it is mainly a family pet and is used to carry young children. When in its wild state on the Shetland Islands it is the toughest of all ponies. The average height is 9·3 hands.

The Connemara is the only Irish pony. It comes from Connaught, on the west coast, and until recent years it lived in a wild state under very hard conditions. It is a pony of wonderful strength and health and able to endure a good deal. It is also gentle and intelligent. It stands at 13 to 14 hands, and may be almost any colour, though greys and duns (dull grey-browns) seem to be the main ones.

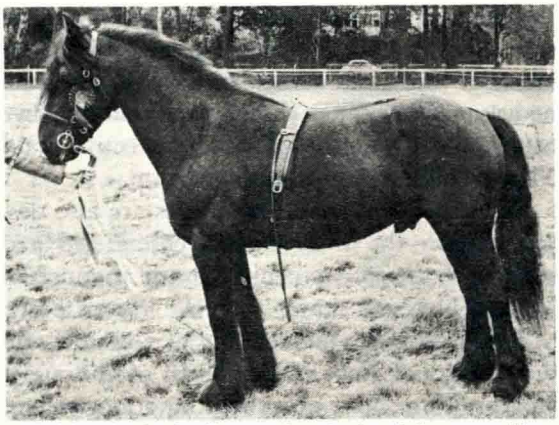
The Iceland. More than 1,000 years ago some Norwegians went to settle in Iceland and took some animals with them, including some ponies. They are very hardy animals and are ridden, driven and used for pack carrying. Many of them are dun in colour, and they have very thick manes and tails.

The Norwegian pony is between cream and dun in colour, with a dark stripe down the back, running from the forelock just above the forehead, through the mane to the tail. The legs are dark and occasionally striped. Norwegian ponies stand from 14 to 14·2 hands high. They are strongly built animals with thick necks and broad chests. It is thought that they may be descended from the wild horse of Mongolia.

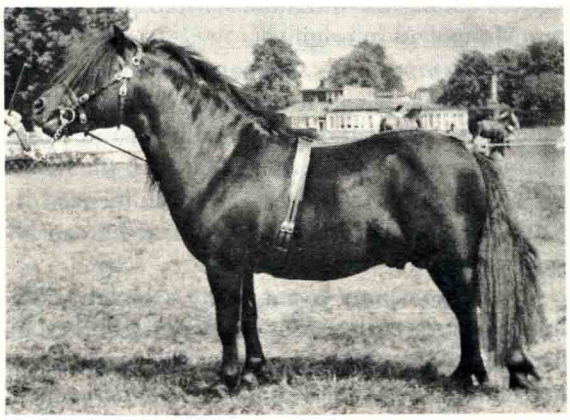
Asian Ponies

There are several groups of ponies in Asia as well. The following are some of them.

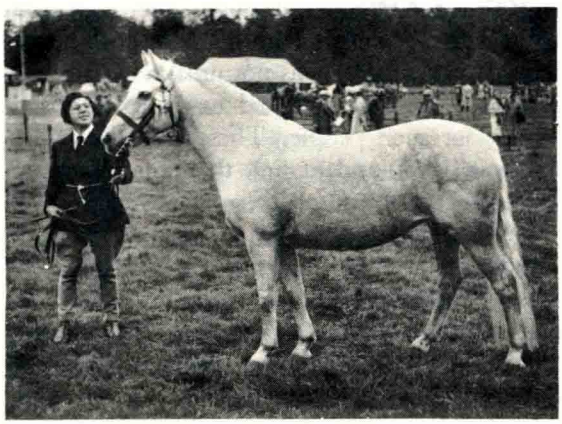
The Russian Steppe. Among the toughest of all ponies, the Russian Steppes stand 13 to 14



Roundthwaite Lucky Jim, a prizewinning Fell pony stallion. This hardy, surefooted pony gets its name from the fells (hills) of the Lake District from where it comes.



Harviestoun Rusko, a champion Shetland pony. The Shetland is the smallest kind of pony but is very strong, as can be seen from its thick, powerful neck.



Photographs by John Nestle

Golden Treasure of the Glen, a prizewinning Connemara mare. The Connemara is the only Irish pony and is very strong and enduring.

☐ Read about PONY TREKKING in the blue pages of this volume

hands, and are immensely strong. They are rather heavy and have ugly heads. Their legs are very short and muscular, with small, hard hooves, and the bitter climate in which they live causes them to grow coarse, protective hair. They belong to the Mongolian group.

Shan or Burmese. These ponies are also descended from the Mongolian breed and are bred in Burma, the Malay peninsula and in much of China. They are slower than the Steppe pony.

The Spiti is the native pony of Kashmir and the borders of Nepal (both north of India). It moves with a short, quick step, and long strings of Spiti ponies can be seen with their heads close to the ground, apparently half asleep. They enjoy walking on the edge of frightening precipices among the mountains. Spiti ponies, too, are Mongolian in origin.

The Manipur pony was named from a state in Assam, India, where it had been bred for thousands of years. Although it may be counted as a distinct breed, it would seem that both the Mongolian and the Arab breeds have influenced it. Carrying packs, riding, polo and racing can all be done by the Manipuris.

The China pony is not really a breed at all, but a mixture of Mongolian and Turkestan breeds. It is small and tough, with a heavy head and shoulders, small eyes, thick neck, deep chest and iron-hard hooves. The coarse mane and tail are long enough to sweep the ground.

POOR LAWS. Although the Christian Church had always taught that poor or ill people should be helped, it was not until the 16th century that laws were passed to set up funds of money for such people. These were known as the poor laws, and at first their main purpose was to keep law and order.

In Tudor times there were swarms of beggars wandering around England without homes or jobs. They were able to work but had been turned adrift because of the enclosing of land; that is, the taking of land for sheep farming. (See ENCLOSURES.) At the same time the prices of everything was very high, and this increased the poverty. The number of beggars alarmed the rich people, for many were strong and sturdy and quite capable of causing trouble.

The first poor law was passed in 1536, but the most important of the early ones was that of 1601, now known as the Old Poor Law. Under this law each parish (see PARISH) collected money for the poor from every owner of a house. With this money old people were to be provided for, poor children taught a trade and beggars given work. However, in country parishes it was often difficult to get these laws carried out.

The coming and spread of the industrial revolution, when factories began to be built and machinery to be used (see INDUSTRIAL REVOLUTION), brought new difficulties. In 1834 the New Poor Law was passed and life became much harder for poor people. It was argued that providing poor people with money helped to make them lazy and troublesome, so more institutions known as workhouses were built and all the poor, young and old, men, women and children alike, were sent to them and treated with great harshness to compel them to do all they could to find work. Charles Dickens had much to say about workhouses in his novel *Oliver Twist.*

In the 20th century, however, when people were beginning to understand the causes of poverty, methods of treating people who could not help themselves were improved. Old people were paid a weekly pension. The government introduced insurance schemes for the sick and unemployed, and the Poor Law of 1834 was broken up. The modern "welfare state" took its place. You can read more about this in the separate articles INSURANCE; NATIONAL HEALTH SERVICE; PENSIONS; SOCIAL SERVICES.)

POP, from "popular", is a term used to describe a style of art which became fashionable in Britain and the United States in the 1960s. In one way Pop artists set out to poke fun at "serious" art, which often seemed to have little to do with ordinary people's lives. They chose for their subjects themes from popular culture, such as films, television, comics and advertisements, which people saw all around them every day, often repeating the same image many times.

Among the best known Pop artists are the American painters Roy Lichtenstein, whose paintings look like comic strip pictures, and Andy Warhol, who has painted soap cartons,

Andy Warhol's soup can was painted in 1965.

Courtesy, Trustees of the Tate Gallery

soft drink bottles and soup tin labels. In Britain Peter Blake and David Hockney are painters who have done work in the Pop style.

POPE, Alexander (1688–1744). One of the greatest poets of the 18th-century "age of satire" was Alexander Pope. Born in London, of Roman Catholic parents, he suffered from ill health throughout his life. He was short and stooped, and was very sensitive about his appearance. But he had a brilliant wit, and at his home beside the River Thames at Twickenham he entertained many famous writers and politicians who became his friends.

Pope became successful for his verse translations of the writings of the Greek poet Homer. He also edited the plays of Shakespeare. In the *Essay on Criticism* he set down his views on the art of writing. But he is enjoyed today mostly for his satirical poetry, in which he made fun of fashionable society and also attacked his own enemies and critics. A good example is *The Rape of the Lock*, written in mock-serious style, which is about a young lady of fashion who is robbed of a lock of her hair. *The Dunciad* contains clever portraits in verse of his enemies and makes fun of their dull, fussy opinions.

Pope made great use of the rhyming couplet: this has two lines rhyming together and containing a complete thought. This is an example.

"True wit is nature to advantage dressed,
What oft was thought, but ne'er so well expressed."

Pope's poetry was admired abroad and translated into French and Italian. He was particularly skilful at putting his ideas into epigrams (see EPIGRAM). Two often-heard examples are "Fools rush in where angels fear to tread" and "To err is human; to forgive, divine."

POPE, THE. The Pope is both a spiritual ruler and the ruler of a state: he is the head of the Roman Catholic Church and is recognized by Roman Catholics as the representative of Jesus Christ on earth. At the same time he remains sovereign of the tiny Vatican City State which has diplomatic relations with many countries and observer status at the United Nations. It is important to distinguish between the Pope's spiritual authority and his power as state ruler. (See ROMAN CATHOLIC CHURCH; VATICAN CITY.)

There have been Popes for 1,900 years—since the time of St. Peter who was the first bishop of Rome. The word "pope" means "father", and it was a name given generally to bishops, the fathers of their flocks. However, from the 4th century onward the title has been reserved for St. Peter's successors, the bishops of Rome. When Jesus Christ died, Peter took charge of the infant Christian Church and after many missionary journeys went to Rome. He was put to death there, probably in A.D. 64, and from the earliest times Christians believed that he was buried there. Early in the 4th century the Emperor Constantine built a church over what was believed to be his tomb. The present Basilica of St. Peter's is on the site of Constantine's church. Archaeologists, working in the foundations in the 1950s, claimed to have found the position of St. Peter's grave.

For 300 years after St. Peter's death the Roman emperors persecuted the Christians, and many of the first Popes were put to death. The places of their tombs can still be seen in the catacombs (see CATACOMBS) under the city. Although the Christians of different cities could not easily communicate with one another there are records which prove that the early churches in other cities recognized the bishops of Rome as their leaders.

In A.D. 313 the Emperor Constantine gave the Christians the right to practise their religion

publicly. Churches were built in Rome and the Popes were everywhere acknowledged as having authority in the church.

In 330 Constantine left Rome and made Constantinople (in what is now Turkey) the capital of the Empire. For centuries Rome was at the mercy of barbarian invaders from the north. The Popes remained in Rome and though they were powerless to stop the invaders they converted many of them to Christianity. St. Leo the Great (reigned 440–461) is the best remembered Pope of this time, and he did much to develop the feeling of unity in the church. But political disagreement and difference of language (Greek in the east, Latin in the west) led to continual rivalry between Rome and Constantinople, and the Christians in eastern Europe and Asia grew farther and farther apart from those in western Europe.

At the end of the 6th century Pope Gregory the Great (590–604) began a great period of missionary work. He sent St. Augustine to England (see AUGUSTINE OF CANTERBURY; GREGORY, SAINT), and other priests to Germany, France and Spain, thus bringing more people to a knowledge of the message of Christ.

In the 8th century the kings of the Franks conquered most of western Europe. When they were converted to Christianity they strengthened the spiritual authority of the Popes by recognizing them as the spiritual rulers of all the Christians of the Frankish dominions.

It was also in the 8th century that the Popes began to have territory of their own and thus became earthly rulers as well as spiritual rulers. In 756 King Pepin of the Franks gave the territories of Ravenna, Bologna and Ferrara (all in Italy) to Pope Stephen III. The idea behind this was to provide the Popes with money and thus make them independent of earthly rulers, and to give them extra dignity. However, it brought great disadvantages, for as soon as the Popes had territories to rule over they became involved in political rivalries. During the 9th and 10th centuries the Papal States (as the Popes' territories were called) were brought near to ruin by internal strife. In the 11th century the disputes between the eastern Christians and the western Christians came to a head, and in 1054 those in the east broke away and set up their own church. (See ORTHODOX EASTERN CHURCH.)

Even before this last blow fell, Pope Leo IX (1049–1054) had already seen that reform was needed, and with the help of his great adviser Hildebrand he began to carry out reforms. The Papal States were freed from the interference of the Roman nobles, the arrangements for electing new Popes were improved and church discipline was restored. In 1073 Hildebrand was elected Pope and under the title Gregory VII continued the reforms. The Popes who succeeded him, especially Urban II, Alexander III and Innocent III, were men of great ability. They played an important part in English history by supporting the bishops against the kings. Adrian IV was himself an Englishman (see BREAKSPEAR, NICHOLAS).

The Popes at this time were called upon to settle disputes between kings, they gave the lead in the Crusades, founded universities and did much to build modern Europe by their efforts to make people obey the law—both the law of the church and the laws of states.

However, the Popes became entangled in national rivalries. As yet nobody questioned their spiritual authority but all the kings wanted to gain their support in the political sphere. The French kings, who were rapidly becoming the most powerful in Europe, had the greatest influence over the Popes and from 1305 to 1377 the Popes (who were mostly Frenchmen) lived in France. Pope Benedict XII built the papal palace at Avignon in southeast France, and Rome was abandoned for more than half a century.

The return of the Popes to Rome did not end the trouble, for national rivalries led to disputed elections. When Urban VI was elected Pope his violent conduct led to the election of a rival, Clement VII, who was known as an anti-Pope. From 1378 to 1417 there were rival claimants, each backed by different states. Unity was not restored until the election of Pope Martin V in 1417. This schism, or series of disputes, was political rather than spiritual, but it damaged the reputation of the church in many countries.

However, the Papacy was restored to full vigour in the 16th century by a long line of most

remarkable Popes. The first of these. Paul III, was faced with many problems. European countries were at war, Martin Luther was leading Germany to revolt against the church in what was known as the Reformation, and the discipline of priests was very slack. (See LUTHER, MARTIN; REFORMATION.) Paul's reforms were successful and the Council of Trent (which he summoned in 1545) condemned the errors of many heretics, stated clearly what the correct beliefs were in cases where there was uncertainty, and inspired new enthusiasm. He authorized the foundation of the Society of Jesus (see JESUITS) which sent missionaries to such far countries as America, India, China and Japan. The Popes Paul IV and Pius V put the reforms of the Council of Trent into practice.

This Counter Reformation, as it is called, greatly increased the spiritual power of the Popes, although their earthly, political power was growing less. Two centuries later their political power was threatened again—by the French Revolution and the Napoleonic Wars that followed it. (See FRENCH REVOLUTION; NAPOLEONIC WARS.) Napoleon captured Rome and Pope Pius VI was made a prisoner in France. His successor Pope Pius VII was also taken prisoner and kept in custody at Fontainebleau in France. Finally by 1870 the Italian government had seized all the Papal States and made them part of Italy.

Pope Pius IX was one of the youngest Popes elected in modern times (he was 54) and he had one of the longest reigns (1846–1878). To begin with he was very popular: he freed political prisoners, started gas-lighting in the streets of Rome, began a railway system and reformed education and the prison service. But after 1848—the year of revolution in Italy—the Pope began to denounce the errors of the contemporary world. His successor, Leo XIII (1878–1903), had a very different temperament. He tried to come to terms with the modern world. He set out the rights of factory workers to decent conditions and a living wage. He also gave great encouragement to missionary work.

The Popes at this time would have nothing to do with the new Italian state which had taken control of the Papal States in 1870. This quarrel was ended in 1929, with the signing of the Lateran Treaty. The Pope recognized that the Papal States were now definitely part of Italy; and in return the Pope was recognized as the sovereign of the Vatican City State.

Pius XII (1939–1958) became Pope just before the outbreak of World War II. His constant pleas for peace were ignored. He denounced Nazism, Fascism and Communism as harmful doctrines which led to crimes against God and man. His successor, John XXIII (1958–1963) was born a peasant. He quickly won people's hearts by his goodness and simplicity. His most lasting achievement was to summon the Second Vatican Council in 1962. (The First Vatican Council was held in 1869.) Nearly 3,000 bishops from all over the world gathered at this meeting to discuss relations with other Christians and with Jews. They tried to bring Christian doctrine up to date. The Council lasted for four years and was concluded by his successor, Paul VI.

Paul VI (1963–1978) became the first modern Pope to travel widely outside Italy. While he was Pope the Mass began to be said in modern languages instead of in Latin, and good relations with other Churches were encouraged. He died in 1978 at the age of 81. His successor, John Paul I, died after being Pope for only 33 days. But in that short time he did much to get rid of papal pomp.

The college of cardinals then elected Karol Wojtyla, Archbishop of Cracow in Poland. He took the name John Paul II to show that he intended to continue the simpler style of his predecessor. His command of language and his easy way in public quickly made him popular.

There are separate articles on some of the Popes. The article ROMAN CATHOLIC CHURCH describes how a new pope is elected.

POPLAR. The word poplar comes from the Latin name for the tree's genus, or group, *Populus*, because it was the *arbor populi* or "people's tree" of the Romans. Poplars belong to the family Salicaceae and are related to the willows. They are found in all northern temperate, or mild, countries.

There are many varieties of poplars, among

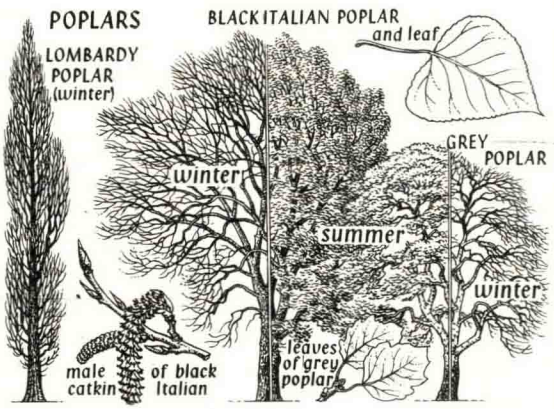
them being the black, grey and Lombardy poplars, and the aspen with its quivering leaves. The best known is the tall and beautiful Lombardy poplar, which is shaped rather like a church spire. It is a favourite tree for planting along straight roads in Europe. All the Lombardy poplars in England are said to be male and to have been raised from suckers and shoots.

The black poplar has pointed, sticky buds and its leaves have jagged edges and are shiny and green on both sides. In the grey poplar the buds and undersides of the leaves are covered with white cottony stuff. The black and grey poplars are not as slender as the Lombardy poplar. They have male flowers hanging in long thick catkins and female flowers growing on separate trees.

The aspen is also known as the trembling poplar because its leaves, which are very pale underneath, quiver in the slightest breeze. It is the only kind of poplar that has not been brought to Britain from another country. (See ASPEN.)

A very tall poplar is the western balsam poplar, so named because of its scent in spring, which is like that of the gummy substance called balsam. Another scented poplar is known as balm of Gilead.

The timber of poplars is used for matches and



packing cases and sometimes for floors. Poplars have very long and spreading roots and are therefore not suitable for growing near houses because they may harm the foundations.

POPOCATEPETL MOUNTAIN. Southeast of the Mexican capital, Mexico City, rise two majestic snowclad mountains, Popocatepetl

Ewing Galloway

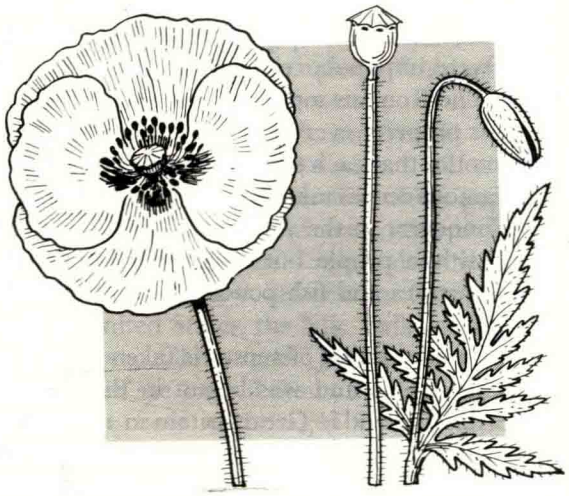
Smoke drifting from the snowy crown of Popocatepetl.

and Ixtacihuatl. The higher of the two is Popocatepetl, 5,452 metres high, which is a dormant (sleeping) volcano. Its name comes from the Aztec language and means "the smoking mountain". (See AZTECS.) Popocatepetl has not had a serious eruption since 1540 but smoke still rises from its crater, which is about 450 metres wide and 300 metres deep. Sulphur is dug from it.

Firs and oaks grow on the lower slopes and higher up there are pine trees and many alpine plants. Higher still, the sun beats fiercely on the slopes of loose lava and ashes and the glare from the snow-covered summit cone is blinding.

Ixtacihuatl (5,286 metres), whose name is Aztec for "the white woman", has three summits and seen from Mexico City looks like a shrouded human figure. For this reason most of the people call it *la mujer gorda*, or "the fat woman".

POPPY. One of the brightest of all flowers is the poppy. In gardens it is grown in many different sizes and shades of red, pink and mauve; in cornfields wild poppies with small scarlet flowers can be seen growing among the ripe corn. The Iceland poppy, which is found in the Arctic



A poppy flower, seed-box, opening bud and leaf.

and Antarctic, is red and orange, and a wild poppy with blue, purple or yellow flowers grows in western Europe, including the west of England, Yorkshire, Wales and Ireland, although the blue poppy grown in gardens comes from central Asia and China.

Poppies belong to the genus, or group, *Papaver* and their family is called Papaveraceae. They open in June and July; the buds lift their heads, the two enclosing sepals fall off, and four or six petals, sometimes with a round black mark at the base, unfold. These petals, as soft as silk and as fine as gossamer, are neatly folded and refolded in the bud so that when they first open they are all creased. In the centre are rings of purple stamens.

A poppy bud hangs down because one side of the flower stalk grows more quickly than the other. When the flower is ready to open, however, the stalk is quite straight and firm. Insects visit the flowers for their pollen. The seed case, which acts rather like a pepperpot, has firm, smooth walls and little holes protected by a cap. Out of these holes the seeds are shaken when the plant sways in a strong wind.

When the stems of some poppies are snapped, a milky liquid oozes out. This is called latex, and is carried by a network of vessels over the whole plant. The drug opium is made from the latex extracted from the unripe seed cases of the opium poppy. (See OPIUM.)

In many gardens grow the gay Shirley poppies, which are not only scarlet but crimson, orange, salmon, smoky-blue and other colours, although without the black mark. They were grown by W. Wilkes of Shirley in Surrey in 1880. He found in his garden a corn poppy which had a white lining to the edges of its petals. He took seeds from this plant and after some years he bred the Shirley poppy.

Poppy Day

World War I ended on November 11, 1918, and after that Britain and many other countries kept November 11 as a day of remembrance in honour of the men and women who had been killed during the war. Since World War II Remembrance Sunday (the Sunday nearest to November 11) has been kept in memory of men and women in the services killed in both wars: the Saturday before is called Poppy Day.

Artificial poppies, made by people who were disabled in the wars, are sold on or just before that day. The money is used by the Royal British Legion to help ex-servicemen and women in need. The poppy was chosen because it grows in the fields of Flanders where so much fighting took place in World War I.

POPULAR MUSIC. The songs and tunes which teenagers enjoy are usually different from those which their parents, or even their elder sisters and brothers, enjoyed when they were teenagers. Generally, popular music is music which is popular at the time it is written: in ten years' time another style of music may be popular. Very few popular songs are written down in musical notation in the way that, say, a Beethoven symphony was when it was composed. Instead, they are often fairly short and repetitive, so that people will recognize them after hearing them only a few times.

Every age has had its favourite songs. But how did people in the past get to hear them? In ancient Rome, street musicians sang the songs which were popular in the theatres. Throughout the Middle Ages minstrels (see MINSTREL) travelled across Europe earning their living by singing contemporary songs at court and in fairgrounds and market places. (See BALLAD.)

Later, when people lived in the new industrial towns, theatres and music-halls (see MUSIC-HALL) provided the popular songs of the day.

The invention of the radio and the gramophone brought popular songs to a much wider audience. Gramophone records were popular in the 1920s but it was not until the 1950s that pop records became the big business they are today. Rock and roll, which had its roots in American Negro blues, became popular among young people. This special popularity with one particular age group made it different from other kinds of music. Also, young fans could see their favourite singers on films and on television. As a result, some performers—Elvis Presley and the Beatles, for example—became famous throughout the world.

At different times, popular music has been influenced by many types of music. See the articles JAZZ; FOLK DANCE AND SONG.

POPULATION. The word "population" comes from the Latin word *populus*, "the people", and means the number of people who live in a certain place, whether it be town, village or country. There are altogether about 4,260,000,000 people in the world. (The population is increasing by about 70,000,000 every year.) The total area of the world's land surface is about 150,000,000 square kilometres, if the frozen wastes of the Antarctic continent are included. Thus, if the whole population of the world were spread evenly over its land area, the number of people occupying each square kilometre would be 4,260÷150, or about 28. This figure is called the world's density of population. The density of population for any country or region shows how thickly it is peopled. It is obtained by dividing its population by its area.

The population of a country can be accurately found only by counting it. This counting is generally done by the government and is called taking a census. Censuses of one kind or another have been taken ever since rulers have had to raise taxes or collect men to fight in their armies. The Bible tells how King David had a census taken of the fighting men of Israel, and how a terrible pestilence broke out shortly afterwards. Many people believed that this was sent by God to show that He did not like His people being counted, and this was partly the reason why censuses were unpopular right up to the 19th century. The Romans took a census of citizens and of their property every five years, in order to fix the amount that each person should pay in taxes. The famous census taken in England by William the Conqueror in the years 1085–1086 counted not only the people but also their oxen, pigs, mills, pastures and fish ponds. (See DOMESDAY BOOK.)

The modern kind of census is taken regularly every few years and was begun in the United States in 1790 and in Great Britain in 1801. The interval between censuses is generally ten years so in Britain the most recent have been 1961, 1971 and 1981. (There was no census in 1941 because of World War II.) The questions asked at a census include not only those about the number of people in each house and whether they are male or female, but also about age, marriage, children, language, education and housing. The answers provide many facts valuable to the government and to social workers. A partial census, in which facts are collected from (for example) one household in ten, may be used to obtain more detailed information. Partial censuses are taken in Britain.

The figures for world population are estimates, for in many parts of the world census figures are rather inaccurate. Where no census figures exist, the population has to be estimated. The Earth's population has not only increased, but has increased at an ever-growing rate. In 1650 it was 545 millions; in 1750 it was 728 millions; by 1800 it had increased to 906 millions and by 1850 to 1,171 millions; rising to 1,608 millions in 1900 and to 2,389 millions in 1950. By 1980 the figure was well over 4,000 millions and scientists forecast that by the year 2000 the population is likely to be over 6,400 millions.

In advanced industrial countries the rate of population growth is slow. For example, it will take almost 700 years for the population of Britain to double, but those of Libya and Kuwait will double in only 18 years at their present rates of growth. The countries with the largest populations are China and India.

For a number of reasons the density of population varies from one region to another. Deserts, high mountain ranges and places with a harsh climate or a poor soil are generally thinly populated either because people are unable to live there or because they do not want to. If a map of the world is shaded according to the population densities of the different regions, with darker shading for the higher densities, the darkest patches show in western Europe, the eastern United States, the Nile Valley in Egypt, India, Java, China and Japan. In western Europe and the United States the dense populations have been encouraged by a temperate climate, fertile soils and rich supplies of coal and other minerals. In Egypt, India and China most of the people live in the basins of the great rivers, where the soil is extremely fertile. Java has fertile soil and a hot, damp climate in which crops grow rapidly.

In other areas of the world, however, the density of population is very low. Northern Canada, the mountainous parts of the western United States and much of South America except the coastal regions, have a density of less than 4 people to the square kilometre. The same is true of huge areas in Africa, Arabia, central and northern Asia and Australia. The Antarctic continent, having no permanent population, has a zero density. One of the illustrations in the article GRAPH shows the density of population in Great Britain.

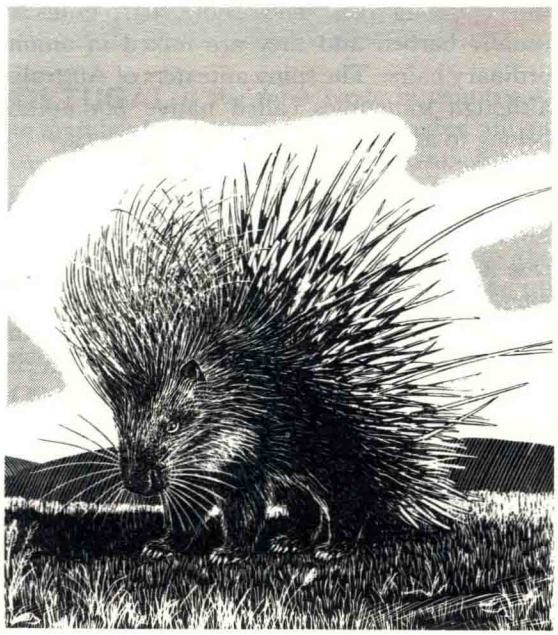
A country is over-populated when it contains more people than it can support. Countries which cannot grow enough food for their populations must buy food abroad, paying for it with money earned either from selling oil, coal, timber or other products, or by carrying goods for other nations or from the tourist trade.

The populations of many poorer, less developed nations of the world are growing at a faster rate than the richer, more industrialized countries. For example, countries in South America, Africa and Asia have the fastest growing populations whereas those in Europe are increasing only slowly. The less developed nations are therefore held back in their efforts to produce enough food and a higher standard of living for their peoples. Any advance made is countered by the continual additions to the number of people who have to be fed, housed and educated. Although in some of these countries there is also a high death rate, and many children die in infancy, this does not compensate for the numbers of children being born.

Programmes to help keep populations steady, by encouraging people to have fewer children, are being carried out by governments in many parts of the world. Improved methods of food production are also being sought.

If these population programmes are not successful, the world's resources, especially of food, will become increasingly strained as countries try to cope with an ever growing demand.

PORCUPINE. Like a hedgehog the porcupine is covered with sharp prickles, but unlike the hedgehog it is a rodent, or gnawing animal, and has strong teeth. Porcupines are slow moving and tend to be solitary. There are many



The crested porcupine is about 1 metre long.

kinds of porcupines and they are divided into two quite distinct groups, the Old World porcupines of Africa, Asia and Europe and the New World porcupines of North and South America.

Some porcupines have more dark, coarse hairs

and brown-black fur than quills. Both hair and quills are erect. It is sometimes said that porcupines can shoot their quills like arrows at an enemy, but this is not true. However, when an enemy attacks a porcupine it is likely to get sharp quills stuck into both face and paws. If attacked, the porcupine drives its powerful tail against its attacker. The quills are easily detached from the skin and bed themselves in the enemy. The spines of baby porcupines are soft when they are born.

Porcupines mostly eat plant food such as bark and leaves. In the tropics some kinds do damage by eating root crops such as yams, and in Canada they often kill trees by eating their bark. They live in burrows, hollow logs and caves.

The largest is the crested porcupine, which is about 1 metre in length and lives in southeast Europe, much of Africa and southern Asia. Its dark brown and white quills are long and sharp.

American porcupines, of which the biggest is the Canadian porcupine, spend quite a lot of time climbing trees. Their short, sharp quills are usually barbed and they are mixed in among ordinary hairs. The spiny anteaters of Australia, although sometimes called native porcupines, belong to another family. (See ANTEATER.)

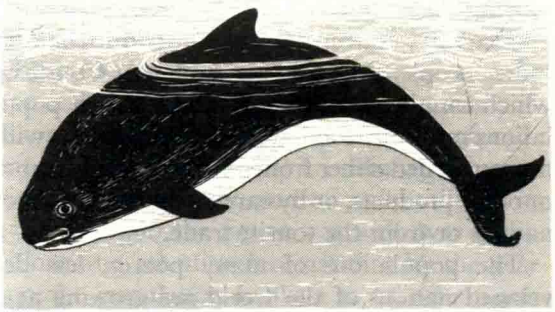
PO RIVER. The longest river in Italy is the Po, which rises near the French border and flows east across northern Italy. It is 652 kilometres long. Its basin includes the low, flat Lombardy Plain which is the most fertile part of the country. To the north and west of the plain rise the Alps and to the south are the Apennines. On the east, the plain ends in the marshy delta where the Po and Adige rivers enter the Adriatic Sea.

The tributaries of the Po that flow from the Alps are bigger and more numerous than those flowing from the Apennines. Many of them rise in the glaciers and snowfields of the high Alps and are particularly full when the summer sun melts much of the snow and ice. They also drain the beautiful Italian lakes. Some of their valleys are followed by the roads and railways coming from France and Switzerland. These tributaries also provide water power to make electricity for factory towns such as Milan and Turin. On the plain, ditches have been dug to carry water from the Po to fields where rice is grown. Tugs and barges can use the river below its junction with the Mincio River near the city of Mantua.

PORPOISE. Among the smaller members of the whale family is the porpoise. It looks like a fish and (except when it leaps out for a few seconds) spends all its life in water—yet it is a mammal. It is warm-blooded, the female feeds her young on milk and it has lungs instead of gills with which to breathe.

There are several different kinds of porpoises, including one that lives only in the Black Sea. The common porpoise, which is more often seen round the coasts of Great Britain than any other member of the whale family, is up to 2 metres long with a rounded, streamlined body. It has a black back and a triangular back fin, which appears above the surface of the water as the porpoise rolls along. It can be distinguished from its relative the dolphin by the fact that its head is rounded, whereas the dolphin possesses a beak-like structure in front. (See DOLPHIN.) The porpoise has about 100 sharp teeth and lives on fish, especially herring and mackerel.

Porpoises go about in small groups known as schools and come into bays and the estuaries, or mouths, of rivers.



The porpoise's back fin breaks the surface of the sea.

PORTSMOUTH is an English city on the Hampshire coast. Old Portsmouth lay in the southwest corner of Portsea Island, but the city today stretches to the mainland beyond. With such a fine, sheltered harbour facing the English Channel, it is easy to see why the Royal Navy has

made its home here. There are sailors everywhere, countless memorials to seamen, Nelson's famous ship "Victory" in dry dock and all manner of modern warships in the harbour.

Today Portsmouth is the greatest naval port in the United Kingdom. Its vast dockyard is a giant workshop for naval ships and near by there are barracks, training schools and supply depots. There are other industries as well, such as brush and corset making, but the navy is the life-blood of this city of about 197,000 people. East of the dockyard area lies Southsea, a residential district and popular holiday resort.

Until the 12th century Portchester, three miles to the north, was the chief port on Portsmouth Harbour. There the remains of a Roman fort and a mediaeval castle still stand. As Portchester declined, Portsmouth grew. An important mediaeval base and dockyard, it has been of outstanding national importance since the 17th and 18th centuries.

Portsmouth suffered severely in air raids during World War II. The main shopping centres have been rebuilt and the Guildhall restored. St. Thomas's Church, since 1927 a cathedral, is the oldest of the few ancient buildings. The house where the Duke of Buckingham was murdered in 1628 can still be seen.

Famous men born in the city include Charles Dickens, the novelist; Isambard Brunel, the engineer; and John Pounds, who started schools for poor children.

Crown copyright

Frigates of the Royal Navy in Portsmouth Harbour

PORTUGAL is the most westerly country of the mainland of Europe and is the oldest ally of Great Britain. Together with the Atlantic islands of the Madeira and Azores groups, the Portuguese Republic covers an area somewhat larger than Ireland. Spain borders Portugal to the north and east and the two countries make up what is known as the Iberian Peninsula. However, there are wide differences between them.

In most places the Portuguese coast is low and sandy and has a fairly wide coastal plain behind it. The main ports are near the mouths of the larger rivers, all of which rise in Spain and form part of the boundaries between the two countries. The Minho River, forming part of the northern boundary, runs through a mountainous district that stretches south to the Douro River (see DOURO RIVER). South of the Douro the country inland rises to 1,991 metres in the Serra da Estrêla, the highest mountain range in Portugal. Farther south the land falls away to the fertile plains of the Tagus River (see TAGUS RIVER). South of the Tagus the country changes greatly, most of the inland regions being flat or gently