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**BULGARIA: 13 centuries of history and culture**

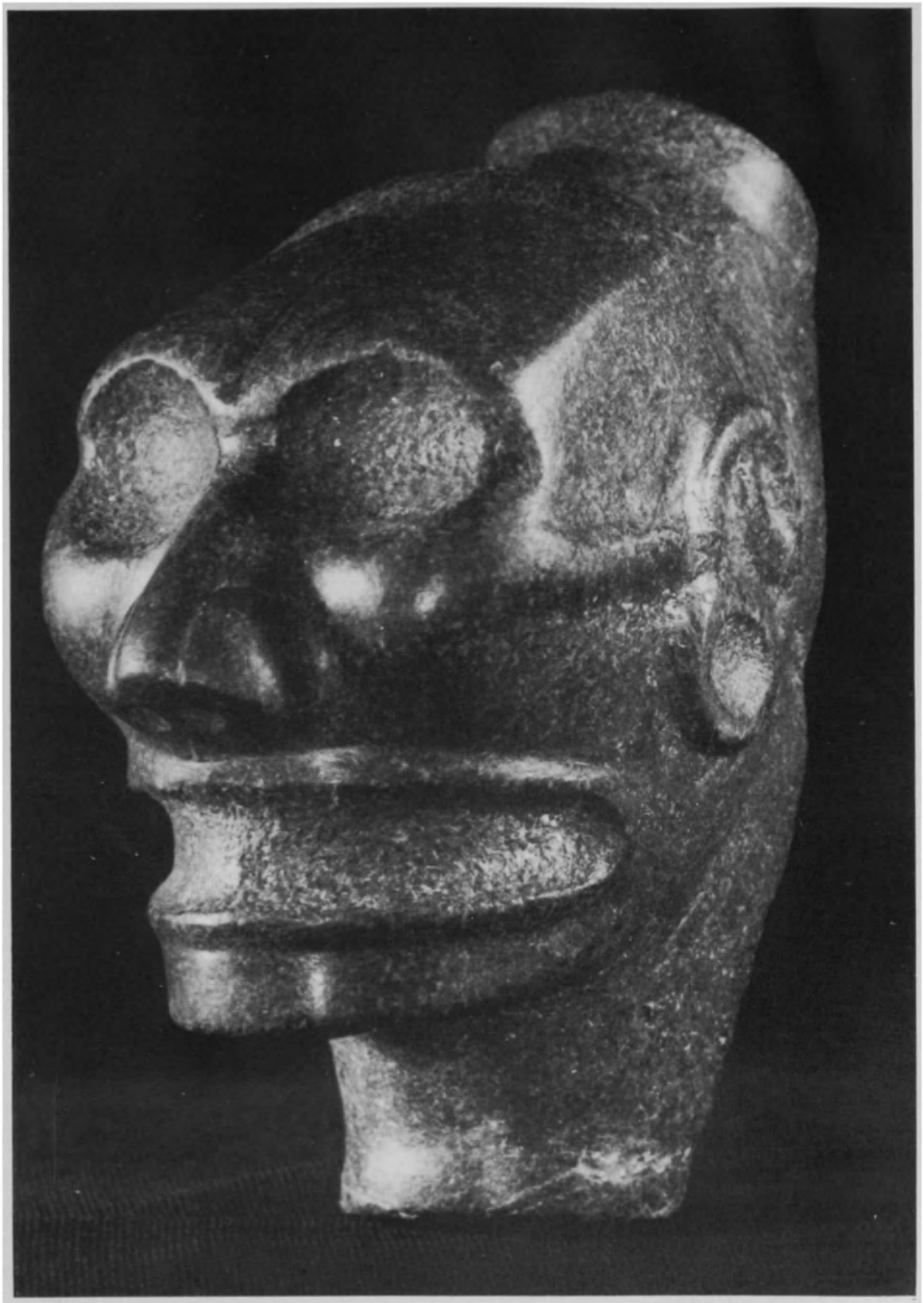


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TREASURES  
OF  
WORLD ART

162

Dominican  
Republic

### Shamanistic idol

The Taino Indians, a peaceful farming people whose culture flourished in the Greater Antilles between the 10th and 15th century AD, created an art which is today recognized as one of the richest and earliest forms of pre-Columbian expression. This stone head (22 cm high) from Macorix, in what is today the Dominican Republic, is a *zemi*, a representation of one of the ancestral spirits or magical forces which, the Taino believed, controlled different aspects of nature. These spirits were invoked by the chief or shaman to provide such benefits as health, rain, or fertility. Unable to defend themselves and vulnerable to new diseases, the Taino soon became extinct after the European conquest, but some vestiges of their art still persist today.

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**Cover**

Two years ago a treasure including a diadem, a necklace (see colour page 21), ear-rings, rings and coins was found at Preslav, ancient capital of Bulgaria. Cover shows a finely-worked gold plaque from the diadem representing the ascension into heaven, in a chariot drawn by two griffins, of Alexander the Great who, over the centuries, became the quasi-mythical hero of all kinds of legends and romances. This year Bulgaria is celebrating the 1300th anniversary of its foundation and this edition of the *Unesco Courier* gives pride of place to the country's eventful story. This year will also see the launching, in June, of a Bulgarian edition of the *Unesco Courier*, bringing the total number of language editions to twenty-six.



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Photo © Gérard Dufresne, Paris

# BULGARIA

A MODERN NATION  
SALUTES  
ITS PAST

by **Magdalena Stancheva**



# I. 'IT GROWS BUT DOES NOT GROW OLD'

**T**HE motto inscribed in the coat of arms of the city of Sofia, capital of Bulgaria, "It grows but does not grow old", seems an apt summary of the history of a vigorous modern State which this year celebrates the 1300th anniversary of its foundation by khan Asparukh in the year 681.

Between the 6th and 9th centuries of our era, when the mix of populations brought about by the great migrations from east to west and north to south was reshaping Europe (as well as Asia and North Africa), giving it the ethnic, linguistic and cultural features it has to this day, the fertile lands between the Danube and the Aegean and between the Black Sea and the Adriatic were undergoing fundamental changes. The former Roman provinces of Thrace and Illyria were breaking away from the Eastern Roman or Byzantine empire, and thereafter Byzantium's influence in these lands was to be mainly cultural.

After successive waves of invasions, Slav tribes settled in the region in increasing numbers during the 6th and 7th centuries. Then came warriors of Turanian origin—the Proto-Bulgarians—from the plains of the Dnieper and the Volga. Bulgaria's characteristic personality and culture stem from

the fusion of these two peoples: the first gave the country its language, the second its name.

But though these events played a decisive role in the history of the country and in the development of its culture, the modern Bulgarians do not forget their more distant Thracian past to which they consider themselves heirs. This past is so rich and monuments from all periods are so numerous—more than 31,000 have been listed and protected in the 110,911 square kilometres of the national territory—that at the same time as the country builds for the future it is in daily contact with the relics of its earliest ancestors. History is part of contemporary life and prehistory is more in evidence here than in most other parts of the world.

Cereal cultivation began in these territories more than eight thousand years ago and the remains of early farming communities are numerous and conspicuous. Mounds or *tells* formed by the remains of successive building levels testify to the lasting nature of the settlements. Most Bulgarian towns are built on superimposed layers of ruins and archaeological deposits. One of the most famous of these tells, discovered near the village of Karanovo in the southern department of Nova Zagora, has attracted considerable interest in scientific circles: it is twelve metres high and its deepest layer dates from the early Neolithic period in the sixth millennium before our era, while the top layer belongs to the Iron Age. An archaeological cross-section shows that generation followed generation on this site—one above the other down the ages. The Karanovo excavations have yielded a rich crop of relics: tools, weapons and utensils of various kinds which today fill rooms in several museums.

Another remarkable find is the Copper Age or Chalcolithic necropolis of Varna on the Black Sea coast. There archaeologists have uncovered a series of tombs built at the end of the fourth millennium and containing hundreds of gold objects, from tiny beads to bracelets weighing 200 to 300 grammes. A particularly interesting feature is the presence of gold sceptres in two of the tombs. These symbols of established power show that even in those far-off times this corner of south-eastern Europe already had a firmly-founded tradition of sovereignty and a fairly complex social structure.

How this happened is still a mystery. One possible explanation is that copper, which was mined in the area at that time, probably gave rise to extensive exchanges with the countries of nearby Asia Minor. Trade, therefore, may well have been a source of progress and prosperity for these miners who buried so much gold with their dead and whom archaeologists today regard as the ancestors of the Thracians.

The Thracians are the oldest people whose name is known in south-eastern Europe. Remnants of their language—which belonged to the same branch of Indo-European as Greek and Latin—are to be found in inscriptions and the names of

towns, mountains and rivers. The Thracians occupied an important place in the literature of neighbouring peoples. During the classical period, from the 6th century BC onwards, the Greeks often referred to Thracian influences on their mythology, religion and arts, especially music. It is only recently, however, that the general public has become acquainted with the Thracians, thanks to a fabulous exhibition of gold jewels, vessels and weapons which has toured several countries. Most of these objects, some discovered by chance and some during systematic excavations, were found in the great tombs that testify to highly developed beliefs: faith in after-life, and perhaps the hope of union with the divine rather than of material survival.

The dead were buried with their most precious possessions and the funerary chamber was covered with a mound of earth the size of which varied according to the rank and wealth of the deceased. Thus the Thracian lands were dotted with *tumuli*, most of which disappeared down the ages, though more than ten thousand still remain and are today protected against unauthorized excavations. They are the most characteristic features of the landscape in certain regions, as in the area of Plovdiv, for example, along the international motorway leading to Istanbul.

One of these tumuli, in the department of Stara Zagora, contained the famous Kazanlak tomb whose wall-paintings dating from the 4th century before our era are of paramount importance to the history of art. The main mural depicts a funeral banquet and is characterized by the extreme finesse of the central figures, the prince and his wife, and especially by the tenderness and elegance of their parting gesture. No less remarkable are the figures of the parents and relatives of the deceased who are shown leading horses or bearing offerings.

The Kazanlak tomb is among the monuments of exceptional importance which Unesco has included in its World Heritage List (see *Unesco Courier*, August 1980). To avoid damage a replica of the tomb has been built nearby for the benefit of the thousands of tourists who visit the area every year. For Kazanlak is in the famous "Rose Valley" where field upon field of flowers flourishes in an exceptionally temperate climate, producing the attar or essential oil used in the manufacture of perfume. ■

Photos © Gérard Dufresne, Paris



In modern Bulgaria the ancient past is seldom more than a step away. In Varna, formerly Odessos, a flourishing port and holiday resort on the Black Sea, many features of the ancient Graeco-Roman city have been integrated into the streets and squares of the modern city, left. In Sofia, above, children on their way to school have living contact with history in this small exhibition room arranged by the City of Sofia History Museum in one of the capital's pedestrian subways, which is itself part of an old Roman road.

**MAGDALINA STANCHEVA**, of Bulgaria, is a leading research specialist in medieval archaeology and head of the archaeological department of the Historical Museum of the City of Sofia. She has published several scientific studies on Sofia's archaeological problems and on Bulgaria's medieval cultural heritage.

# Bulgaria

## II. 5,000 YEARS OF TOWN-PLANNING

**I**N coastal districts underwater research has brought to light the remains of the first sea-ports and relics of early navigation on the Black Sea, including a number of stone anchors used in the late Bronze Age about twelve hundred years before our era. On their outward journeys, the Thracian ships carried cargoes of sheet copper; the goods they brought back enabled the coastal cities to become the country's earliest centres of maritime trade.

So when Greek colonists settled on the Black Sea coast in the 6th century BC they found a string of flourishing Thracian cities. Before long they had imposed their own language, built theatres and introduced their own sculptors and potters; the towns in which they worked long continued to bear Greek names. The close relations the Greeks maintained with the Thracians were not only commercial. The two peoples exchanged customs and divinities and shared common festivals. Such cultural exchanges were often repeated down the centuries and have given Bulgaria its particular character.

But cultural interchange and the legacy of antiquity were not limited to the coastal cities. More than half the Bulgarian towns are at least five thousand years old. Cities like Sofia, Plovdiv, Varna, Nessebur and Stara Zagora are in themselves monuments to the history of town-planning, and in many cases it has been possible to explore their archaeological heritage deep down in the earth beneath the modern cities.

In Sofia, for example, several acres of the city centre are built over cultural layers that are ten metres deep. This area was severely damaged by air raids in the Second World War and its replanning has brought to the fore the controversial problem of preserving archaeological remains in an urban setting.

In Bulgaria the question has been settled once and for all. Every archaeological monument that is brought to light is integrated into the modern environment in the most appropriate way. In Sofia, an underpass built between the new headquarters of the State Council and the Council of Ministers skirts the ancient city wall before passing through the eastern gate and following a 6th century street with marble flagstones bearing Roman inscriptions some four hundred years older.

Further up the avenue, in the centre of another underpass, one can enjoy a cup of coffee opposite a tiny medieval church. Elsewhere the tram-lines skirt the corner tower of the city wall, and remains of another tower can be seen in the basement of a department store. A new bank under construction has had to relinquish half of its basement to another section of the city wall, part of two 4th-century streets and the foundations of a 14th-century church. Opposite this bank, a big open space has been made over to the archaeologists pending the time when the architects draw up plans for safeguarding the remains.

All these towns have found original ways of preserving their archaeological heritage. In Plovdiv (the Roman *Trimontium*) an am-

phitheatre discovered in an excellent state of preservation is to be used for dramatic performances; the ancient forum, naturally, is reserved for pedestrians and the ramparts circling the hills serve as supporting walls for houses of the 19th-century districts. At Stara Zagora (the ancient *Augusta Trajana*) Neolithic dwellings have been enclosed within the walls of a new museum; and a section of a district, including an amphitheatre, baths and ancient streets, is to be preserved in its original state as an open-air museum, while other parts will be covered over or indicated by markings on the floor in the new buildings. Varna (*Odessos*) maintains "archaeological sections" within its new districts, and many features of the Graeco-Roman city plan are to be integrated into the modern streets and squares.

There is only one way into Nessebur and that is through the ancient gate in the ramparts. This small town on the Black Sea which still bears a Thracian name, *Messembria*, deserves more than any other the somewhat misused title of "living museum". It is built on a tiny peninsula linked to the coast by a narrow neck of land, and was one of the main Thracian ports. A Dorian colony was established there in the 6th century and grew rich through maritime trade and farming the fertile hinterland. Under Roman domination Nessebur remained prosperous and subsequently became one of the Byzantine empire's chief ports.

For centuries Bulgaria and Byzantium fought over this tiny strip of land surrounded by sea on all sides, and every time the peninsula changed hands it was endowed with new monuments. The Italian republics, especially Genoa, also asserted their influence at Nessebur, even after the Ottoman invasion. In spite of changing fortunes and the slow decline of its trade the city main-

tained its vitality with the passing centuries and its inhabitants have kept the customs and independent spirit of a seafaring people. Today this ancient city in the heart of Bulgaria's most famous resort areas draws tens of thousands of tourists attracted by its monuments and its picturesque site.

Among the masterpieces left here by three thousand years of civilization, the most impressive are the churches. The dozen that remain represent almost every stage of Christianity in this area, from the oldest built in the 5th century to the most recent at the end of the last century. Most of them, however, date from the 13th and 14th centuries and these are also the most interesting, both for their style and for the originality of the building techniques used in their construction. Small blocks of tufa alternate with rows of bricks to form an unusual kind of decoration. Details such as cornices, arches and niches are embellished with inlaid ceramic circles and four-leaved clover, so that the façades of the buildings shine in the sun like so many pieces of multicoloured embroidery. These vivid patches of colour contrast with the plain façades of the houses, whose wooden facing is weathered by sun and salt.

In Nessebur as elsewhere in Bulgaria, modern life goes hand in hand both with distant antiquity and with the Middle Ages. Workmen digging the foundations of a youth centre some years ago discovered the altar of a church which has long since disappeared. It has been carefully preserved and incorporated into the new building where it is protected by a cement column and can be seen through a glass panel. In summer tourists attend concerts organized in the great 6th-century basilica. But the most persevering visitors are the archaeologists, historians and restorers whose patient work continues season after season. ■



Photo © Sofia Press Agency, Sofia

## Cities that span the centuries

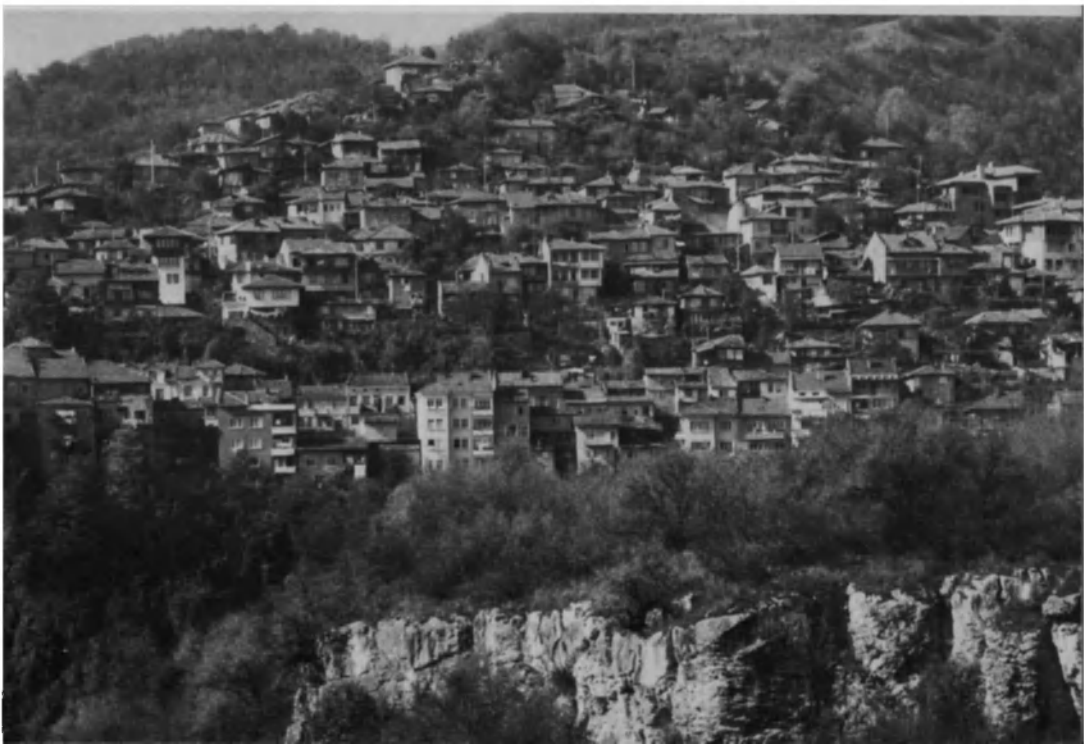
Washed over by successive tides of history, the towns and cities of Bulgaria, more than half of which are over 5,000 years old, constitute veritable chronicles in stone. At Plovdiv, for example, the visitor comes face to face with past Roman glories, such as the fine amphitheatre and the ancient stadium (right), as well as the cobbled streets and 18th-century, timber-framed houses of the National Revival period (centre right) all carefully preserved and displayed within the confines of a bustling, modern city. Thracians, Greeks, Romans, Byzantium, the Genoese all left their mark on the Black Sea port of Nessebur. Its churches, the earliest dating from the 5th century, are representative of almost every stage in the history of Christianity in this region. Among the most outstanding examples are the great 6th-century Basilica and the remarkable 13th and 14th-century churches built of brick and tufa, their arches and cornices decorated with inlaid ceramics (photo opposite page).



Photo © Sofia Press Agency, Sofia



Many Bulgarian towns and villages have been protected and restored as part of a nation-wide campaign to safeguard the country's cultural heritage. One such town is Koprivchitza (right). Famed as the scene of the start of the ill-fated insurrection of April 1876 against the Ottoman Turks, it is noted for its well-preserved 19th-century houses with their richly ornamented fronts and sculpted wood ceilings. The museum-village of Etara (above), near Gabrovo, a town renowned as Bulgaria's "capital of humour", is now a centre for traditional crafts where potters, leatherworkers and wheelwrights can be seen at work in carefully restored workshops.



Photos © Gérard Dufresne, Paris

# Bulgaria

## III. A TALE OF THREE CITIES

**I**n the history of Bulgaria three names of towns have a special significance because of their national and cultural associations. They are those of the capitals which the Bulgarian princes established during the Middle Ages: first Pliska, metropolis of the first Bulgarian State from its foundation in 681, through the periods of its consolidation, its conversion to Christianity and the introduction of the Cyrillic alphabet. Then comes Preslav which was the country's capital during the "Golden Age" of Bulgarian culture when the arts and letters flourished at the court of king Simeon. Finally, Turnovo was the centre of Bulgarian civilization in the 13th and 14th centuries up to the time of the Ottoman invasion and conquest.

Each city still seems imbued with the spirit of the age in which it flourished. Pliska, conceived like a huge fortified camp with the palace of the khan and the temple of his god in the centre, is massive, austere and ma-

jestic. The huge limestone blocks of its surrounding walls and palaces recall the power and might of its founding princes. Their determination to live and last is expressed in the remains of the fortress and the palace, and in the inscriptions engraved on columns by order of the khans. That memory must conquer death was the message left by khan Omurtag (814-831): "Man, even if he lives well, dies, and another sees the light. Let him who has been born later remember..."

Very different is Preslav, built by young king Simeon (893-927) among the softly rounded hills bordering on the Ticha river. Preslav was also an imposing city, but here, instead of uncovering fortresses, archaeologists are intent on bringing to light a town of builders, stone-carvers and sculptors, painters, potters, goldsmiths and writers, for discoveries have shown that these artists and craftsmen were extraordinarily creative and original. It has been established, for example, that a kind of

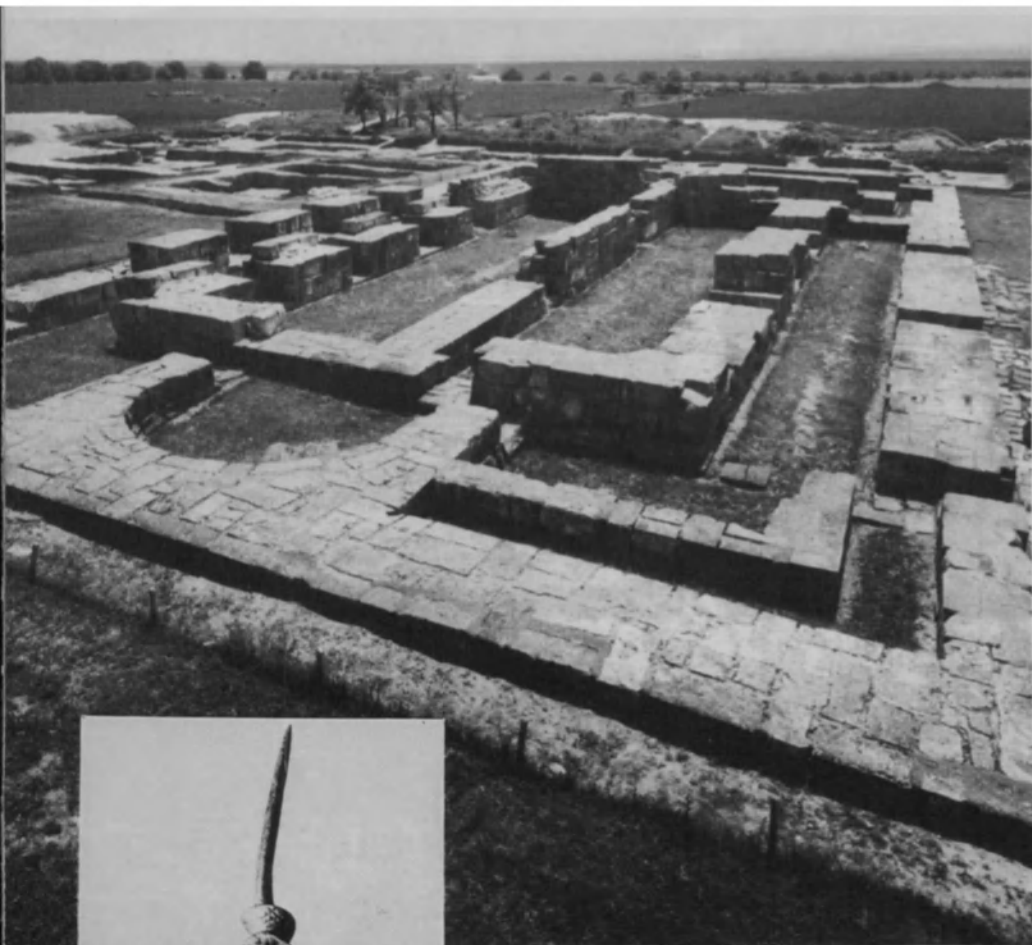
faience used chiefly in mural decoration but also for making dishes was probably manufactured for the first time in Europe at Preslav in the 10th century. The painters even made ikons in ceramic, and faience served as a medium for writing. An earthenware spindle-whorl decorated with enamel has been discovered, on which the craftsman or donor has inscribed the name of the young spinster for whom it was intended.

"Lola's spindle-whorl" indicates the extent to which literacy was then developed in Bulgaria. Preslav is famous in the history of Slav culture for its literary school, represented by a constellation of writers such as Chernorizetz Khrabar, John the Exarch, Constantine of Preslav and king Simeon himself, who is said to have filled his palace with books. Most of the books compiled or written in Preslav during this period were religious works, in particular sermons and commentaries on the Bible. But they also contain interesting discourses on lay subjects and sometimes inspired texts like Constantine's "alphabetic prayer" extolling the historical importance of the Bulgarians' conversion to Christianity.

During the 12th century, after several decades of Byzantine domination, Turnovo became the capital of the Second Bulgarian Kingdom, and so it remained until 1393, when the city was burnt to the ground after the Ottoman conquest. In a fantastic site of steep hills separated by the deep gorges of the Yantra river, a great city was built in a highly complex style which was hierarchical even in its architecture.

Religious and political conflicts were frequent at that time. But enlightened rulers protected the arts and encouraged the development of literature. Among the rare manuscripts from Turnovo which have escaped destruction is the *Chronicle of Constantine Manassès* now in the Vatican, which contains 69 magnificent miniatures including 21 on Bulgarian subjects. Other masterpieces of illustrative painting are to be found in a few 14th-century manuscripts—the famous *Tetraevangelicum* of king Ivan-Alexander now in the British Museum, and the *Moscow Psalter*.

But hardly any examples of monumental painting are still extant in Turnovo. Fortunately the frescoes of the little church of Boyana (1259), near Sofia, said to be works of the Turnovo school, are there to demonstrate the splendour and refinement of the art of the time. The unknown artist who painted portraits full of charm and dignity of the donors of Boyana, prince Kaloyan and his wife Dessislava, showed by the life he injected into the traditional images of saints a dramatic sense and a humanism unsurpassed in 13th century Europe. ■



Above, ruins of the 9th-century palace of the khan at Pliska, the first capital of the Bulgarian State. Founded in 681 by khan Asparukh, Pliska remained the capital for a little over two centuries and towards the end of this period two major events occurred which were to have a profound influence on the country's future—its conversion to Christianity and the introduction of the Cyrillic alphabet. Left, ornamental key representing a lute player and made at Pliska in the 9th or 10th century. The key doubled as an implement of some sort but the precise use of the spike emerging from the musician's hat is not known.

Photos © Gerard Dufresne, Paris





Photo © Gérard Dufresne, Paris

Above, ruins of Preslav, the city that became Bulgaria's second capital during the reign of king Simeon (893-927) and which witnessed the "Golden Age" of medieval Bulgarian culture. In 971 Preslav was captured and sacked by the Byzantine Emperor John Tzimisces and Bulgaria languished for several decades under Byzantine domination. Below, the ramparts of Turnovo, which at the end of the 12th century became Bulgaria's third capital, a position it held until 1393 when it was destroyed following the Ottoman conquest. The art of the illuminated book reached its apogee at Turnovo during the reign of king Ivan Alexander (1331-1371). The king himself is depicted with his family in this illumination, bottom right, from the magnificent *London Ivan Alexander Gospel* which the king himself ordered in 1356.



Photos © Gérard Dufresne, Paris



Photo © Gérard Dufresne, Paris

Gargoyle in the form of a lion's head from a church at Preslav.



Photo © Sofia Press Agency - Sofia

Gold coin dating from the reign of Tsar Ivan Asen II (1218-1241).



Photo © British Museum, London



Photos © Sofia Press Agency



## A national festival of culture

In the second half of the 9th century, Cyril and his brother Methodius created an alphabet for translating the liturgical texts into Slavonic, thus bringing learning "to all men through the medium of their native tongue". For Bulgarians, this achievement by the "apostles of the Slavs", as Cyril and Methodius are often called, became a symbol of their cultural identity which was preserved during five centuries of foreign oppression and domination. The two saints are commemorated each year on 24 May, the day of Bulgaria's national festival of culture. This annual "festival of the alphabet and culture"

is an occasion for art exhibitions, musical performances, book fairs, the presentation of literary and scientific prizes, and cultural events organized by students. Past and present also meet in the ornamental ceramic tiles which began to be manufactured in Bulgaria around the time when the Cyrillic alphabet was being adopted in the Slav countries. These tiles, so lavishly covered with inscriptions as to be virtual books, were used to adorn the floors and walls of monasteries and palaces which were thus transformed into "public libraries"—the ancestors of the book centres and libraries of modern Bulgaria.

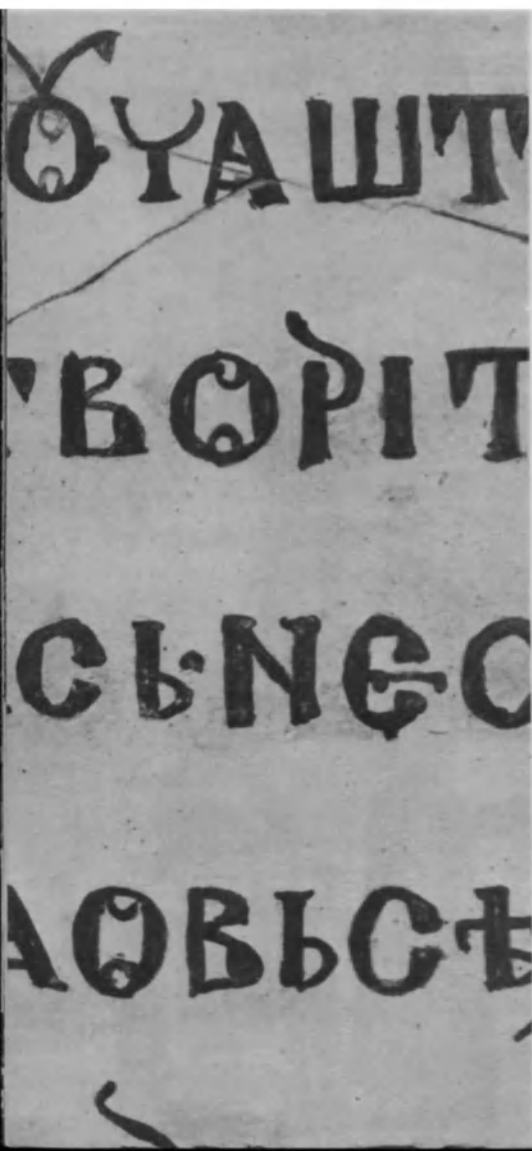


Photo © Sofia Press Agency

Photo © Gérard Dufresne, Paris



# Bulgaria

## IV. FROM SAINT CYRIL TO THE NATIONAL REVIVAL

**I**n Bulgaria the monastic tradition is as old as the nation itself. The first monastery was founded at Pliska by Boris I (852-889), who retired there at the end of his life. The disciples of Cyril and Methodius came to work in this monastery, teaching and spreading the Slav alphabet invented by their masters.

Thus the monasteries early became cultural centres, a tradition which continued at Preslav and became widespread under Ottoman domination when every monastery became a centre and refuge for the national spirit. On the feast days of the great monasteries pilgrims came from far and wide travelling across the country on foot or horseback or by cart. The inhabitants of towns and villages sent offerings of all kinds to contribute to the decoration of the building.

This is still the case at Rila monastery where the monks celebrate divine service in the church and chapels maintaining the tradition of Bulgarian religious chant. This monastery built in the mountains to the south of Sofia is also a national museum with exhibition rooms devoted to a variety of subjects: history, economic activity, ethnography and ikon collections.

Seen from the outside, the monastery is like a powerful fortress. Inside, the huge courtyard is bordered by façades rising up for several storeys and ringed with carved wooden balconies. In the centre stand a big church and a tower dating from the 14th century. On the floors above are small chapels, set between the visitors' dormitories and the monks' cells, where mass is celebrated on certain feast days.

After Rila, the most important monastery is Bachkovo, which was founded in 1083 in a valley of the R̄hodope mountains by a

high-ranking Georgian officer, Grigori Bakuriani, who was governor of the area during the period of Byzantine domination. The monastery at Bachkovo has had an eventful history. On several occasions it has been destroyed, rebuilt, restored and enlarged.

During one of these alterations, in the 17th century, an unusual masterpiece was added to Bachkovo. The mural paintings that decorate the walls and vault of the refectory form an overall composition in which Biblical scenes framed by garlands of foliage stand out against a starlit sky together with some of the great figures of Antiquity. Socrates, Plato and Aristotle, for example, are represented in medieval dress, which in no way detracts from the solemnity of their bearing and the nobility of their expression.

In the centre of this magnificent hall stands a long narrow marble table around which the monks used to gather. The architect's remarkable use of space combines with the power of the painter's brush to achieve a remarkably persuasive effect: under a vault studded with golden stars, surrounded by the philosophers of antiquity, the human spirit seems to soar above terrestrial life.

Outside in the monastery courtyard one of the walls is decorated with a much more recent composition recalling the monastery's main feast which is celebrated in August on the name-day of the Virgin Mary. It is a narrative scene that contains a wealth of information: the monastery is depicted surrounded by the foothills of the mountain. On the hilltops all around are little churches and chapels dedicated to various saints. A solemn procession is advancing through the main entrance headed by prominent citizens bearing the miraculous ikon of the Virgin. The procession goes round each church in turn. After the priests, led by the bishop of Plovdiv, come the monks and, finally, the laity, townsfolk and peasants.

The artist has depicted the geographical details of the site with meticulous accuracy: the river, the bridges and the path on which laggards are still lingering. The ethnographical detail and social characteristics of the figures, many of which are undoubtedly portraits of real people, are typical of the art of Zahari Zograph, self-taught author of this composition and one of the most gifted painters of the mid-19th century.

Zahari Zograph also decorated the two monastery churches. All his compositions show a concern for social criticism. Thus, in the scene of the Last Judgement, he painted the portraits of Plovdiv moneylenders and their haughty wives bound for the ovens of hell.

However, the art of the painters of this period is rarely limited to social themes. The artists delighted in covering the walls of monasteries and churches with roses and leafy branches. Their saints are clad in bright colours and their open faces are lit with a vitality and cheerful optimism

characteristic of the period which has been called that of Bulgaria's National Revival.

After the Ottoman invasion at the end of the 14th century the Bulgarians lost their independence and, for more than five hundred years, experienced ordeals which few peoples have had to endure. But they preserved their national consciousness, traditions, faith and life-styles and were to show a fierce determination in the liberation struggle of the 19th century.

But before the successful outcome of the Russo-Turkish war of 1877-1878 which brought about their liberation, the Bulgarians were to live through a very difficult period, particularly after the April 1876 uprising. The uprising failed despite the heroism of the freedom fighters and the revolt was crushed. The wave of indignation and sympathy which this cruel repression caused throughout Europe certainly hastened the advent of freedom. But the foundations of Bulgaria's liberation had been laid long before by the leaders of the Revival movement, and the country's aspiration to freedom was foreshadowed by the architecture of the same period.

For centuries the Bulgarians had only been allowed to build humble churches, as low and as dark as possible. But in the second half of the 18th century, as the power of the Ottoman empire gradually weakened, spacious, well-lit churches began to be constructed with beautiful decorated façades and magnificently carved iconostases inside. The figures of Adam and Eve are often represented on these big wooden screens surrounded by birds and acanthus leaves. Clad in Bulgarian peasant costume, Adam is tilling the land, while Eve is busy spinning. And naturally, among the images of the saints, Cyril and Methodius, inventors of the Slavonic alphabet, take pride of place.

After the liberation of Bulgaria, for various social, economic and political reasons, the towns developed very slowly and without major upheavals. This stability has made it possible to preserve the architecture of the Revival period which, today, is the object of great attention. In Plovdiv, for example, one of the hills on which this picturesque city is built has kept whole districts of Revival period architecture. Corbelled houses with ingeniously articulated façades seem to vie in exhibiting their brilliant colours, but the general effect is one of harmony and proportion. The graceful lines, the many windows, the arches over the doorways, the skilful combination of wood and metal and the flowers decorating every window-sill—all express the spirit of hope characteristic of Bulgaria when they were built.

These ancient streets and dwellings are as busy and as lively today as the new building sites, towns and villages in other parts of the country. The historic legacy is so full of vitality and enterprise that it can easily be incorporated into the most modern aspects of the country's culture. The youthful spirit of modern Bulgaria can draw upon knowledge and respect for the past.

■ Magdalina Stancheva

### *Opposite page*

St. Cyril and St. Methodius as depicted in a painting by Zahari Zograph, a celebrated 19th-century Bulgarian painter.

May 24 celebrations in Sofia.

The "palace of books" in the town of Plevne. The mural symbolizes the history of Bulgarian literature from Cyril and Methodius until modern times.

Detail of a 10th-century ceramic tablet (6 × 6 cm) inscribed with Cyrillic letters. It is thought to be from Preslav.



Photos © Sofia Press Agency, Sofia



Photo V. Evtimov © Bulgarian National Institute of Cultural Monuments

From the earliest days of the Bulgarian State onwards, and especially during the period of Ottoman domination, the monasteries of Bulgaria have at times provided a refuge where the national spirit could survive by keeping its forms of cultural expression alive. The monks taught in the Bulgarian language, translated Greek and Oriental philosophers, and laid the foundations of a national literature. It was in the monasteries, too, that the heyday of Bulgarian monumental painting began in the 15th century. The frescoes on the walls and vaulting of the refectory in the monastery of Bachkovo are an outstanding example of this religious art. Their wide range of themes includes scenes from the Old and New Testaments, portraits of monotheist philosophers of Antiquity, and pictures showing councils of the church (a rare subject in Bulgarian religious painting). Left, parts of *The Rod of Jesse*, painted on the vaulting, and of *The Last Judgement*, on the east wall of the refectory at Bachkovo. Above, detail of a fresco in St. George's church, Sofia (10th or 11th century).



## BUILDING THE FUTURE TODAY

In the classrooms and lecture halls of universities and technical institutes throughout Bulgaria today, young people, like these students at the Institute of Electro-Mechanics, Sofia (above), are preparing themselves to guide their country into the 21st century. Transformed over the past three and a half decades into a modern industrial-agrarian nation, Bulgaria entered the space age on 10 April 1979 when cosmonaut Gueorgui Ivanov (below) stepped aboard the spacecraft Soyuz 33 and, with his Soviet partner Nikolai Roukovischnikov flew off on a mission plan-

ned within the framework of the Inter-cosmos Space Programme. With a territory of 110,911 square kilometres, Bulgaria ranks in size among the smaller European nations, yet its scientists and research workers have at their disposal the latest scientific equipment, including this experimental nuclear reactor (above right) at the Institute of Nuclear Research, Sofia. The late Bulgarian statesman George Dimitrov once said that in the field of culture there are neither small nor great nations, and the dynamism of modern Bulgaria is firmly rooted in a cultural heritage spanning 13 centuries.



Photo © Sofia Press Agency

# The banner of peace

Just south of Sofia, Bulgaria's capital, rises an imposing concrete edifice hung with bells. Its name, the "Banner of Peace" monument, commemorates an international gathering with a difference— an assembly at which the youngsters of Bulgaria were hosts to 1,300 children from 76 countries. The aim of the meeting, one of the most memorable events marking International Year of the Child in 1979, was to bring together budding writers, musicians and painters from all over the world (below) under the flag of peace and friendship between peoples. Patrons of the Assembly, during which the youthful delegates drew up an appeal for world peace which was later presented to the Secretary-

General of the United Nations, were the Chairman of the State Council of the People's Republic of Bulgaria, Mr. Todor Zhivkov, and the Director-General of Unesco, Mr. Amadou-Mahtar M'Bow. One of the highlights of the assembly was the inauguration of the Banner of Peace Monument, which consists of a central tower surrounded by two semi-circular walls. At the top of the 37-metre-high tower hang seven bells representing the world continents (below right). Hanging from stanchions in the walls below are bells sent from many countries, each accompanied by an appeal for peace on earth. A symbolic "sun" bell dedicated to the children's assembly is also



The children's "sun" bell



Bulgaria



Japan



Turkey



Ghana



Switzerland



Indonesia



incorporated in the monument. The bells vary widely in shape and size (see photos); that of Bulgaria weighs 1,300 kilos, the number of kilos corresponding to the age of the Bulgarian State. Bottom right, commemorative plaque "To the children of the world" was offered by Unesco to the Banner of Peace monument. Another international gathering of children, "Sofia 81", is scheduled to take place this August, the second anniversary of the Banner of Peace Assembly. Its programme will be a prelude to the Second International Assembly of Children under the banner of peace, which will take place in Sofia in 1982.



# The plight of Africa's five million refugees

by Maxime-Léopold Zollner

**T**HERE are currently some ten million refugees in the world, the casualties of wars and various forms of oppression and persecution.

In the aftermath of the Second World War, it was Europe which faced a massive refugee problem, setting up transit camps to house the hundreds of thousands of uprooted and displaced persons who had survived the holocaust. There were still many European refugees in 1951, when the United Nations established the Office of the High Commissioner for Refugees (UNHCR), with headquarters in Geneva. This year, the thirtieth anniversary of UNHCR's creation provides an unwelcome reminder that its work is still as necessary as ever, for year in year out events continue to swell the ranks of the world's refugee multitude. ▶



Photo John Taylor/WCC, UNHCR, Geneva



► Today the problem has moved away from Europe and, as United Nations Secretary-General Kurt Waldheim has urged, world attention is being focussed on the plight of refugees in Africa. What is more, the number of Africa's uprooted has soared alarmingly in the last few years: in 1975 there were a million; in 1977, 3,700,000. Last year the figure reached a staggering five million.

In response to this crisis, the General Assembly of the United Nations last November called for an international conference to be held in order to mobilize the community of nations and to appeal for aid, and on 9 and 10 April, the "International Conference on Assistance to Refugees in Africa", was held in Geneva. Invited to it were Member States of the Organization of African Unity (OAU) and of the United Nations, as well as national liberation movements recognized by the two organizations. The main objective of the Conference was to obtain additional resources for programmes to aid those in

the greatest need and, perhaps even more important, to provide assistance for the African host countries which would enable them to shoulder the heavy burden which the massive influx of refugees imposes on their personnel and their economies.

International action in this field is not new. UNHCR has a long record of efforts to improve the conditions of African refugees, and their plight is clearly a matter of the highest priority for the Organization of African Unity. The Conference on the Legal, Economic and Social Aspects of African Refugee Problems, held at Addis Ababa in 1967, was one milestone in the co-operation between the two institutions. This Conference, the first occasion on which matters exclusively concerning refugees in Africa were considered in an international forum, adopted a series of recommendations aimed at alleviating the burden of asylum countries. Another result of the Conference was the OAU's creation of the Addis Ababa-

based Bureau for the Placement and Education of African Refugees, and the adoption of the OAU Convention governing the Specific Aspects of Refugee Problems in Africa.

The Convention incorporated the definition of a refugee which has been adopted by most governments, in line with the formula established by the United Nations, as any person who, "owing to well-founded fear of being persecuted for reasons of race, religion, nationality, membership of a particular social group or political opinion, is outside the country of his nationality..." But the Convention goes further than this, in stating that the word *refugee* also applies to "every person who, owing to external aggression, occupation, foreign domination or events seriously disturbing public order in either part or the whole of his country of origin or nationality, is compelled to leave his place of residence in order to seek refuge in another place outside his country of origin or nationality". The African States, in line with





Photo Lars Astrom © Skane Reportage, Malmo, Sweden

This sea of improvised tents stretching far into the distance is an emergency refugee camp somewhere in Africa. Half the world's refugees are today in Africa, and their total number exceeds the population of many African countries. The Office of the United Nations High Commissioner for Refugees is collaborating with the Organization of African Unity and voluntary relief agencies on a massive effort to help some of the world's poorest countries provide food, shelter and medical aid for these millions of refugees and displaced persons. Below, women and children wait for food to be distributed at a refugee camp.



Photo E Birrer UNHCR

these provisions, had also recognized that the granting of asylum to refugees is a peaceful and humanitarian act and not an unfriendly act committed by the country of asylum against the country of origin.

Unfortunately, these texts, despite their generosity and the efforts they encouraged, proved inadequate to solve the refugee problem at a time when there was an intensification of liberation struggles, especially in southern Africa, internal conflicts, and inter-territorial disputes. A single figure highlights the dimensions of the problem: in the mid-1970s about 2,000 Africans became refugees or displaced persons each day. This was well over twice the world average of 800 new refugees per day.

Consequently, another conference was held at Arusha (Tanzania) in 1979 in order to define a strategy for the repatriation of refugees to their countries of origin or for their integration into the economic structures of the host countries. The Arusha con-

ference, organized by the OAU, the United Nations Economic Commission for Africa and the UNHCR, also reaffirmed the principles of solidarity and "burden-sharing", and outlined a list of existing and foreseeable needs. These needs have been identified and costed for each country by UNHCR.

African governments have shown extraordinary hospitality by accepting refugees by hundreds of thousands. They have set an example by scrupulously respecting the principles of the right of asylum and the non-refoulement of refugees. But it must not be forgotten that these countries—some of them among the world's poorest—are facing very serious economic difficulties. Not only are they hardest hit by international market forces and mounting energy costs, they are also a prey to natural catastrophes. Somalia, for instance, is a country virtually without resources, but in addition to its own population of 3,600,000 it now has over a million and a half refugees.

Ensuring the survival of the neediest refugees in the poorest countries is the prime target of the aid programmes for which UNHCR is responsible and which it is carrying out in co-operation with the World Food Programme, the World Health Organization, UNICEF, and other governmental and non-governmental voluntary agencies, whose work is absolutely indispensable. But existing resources are barely sufficient to prevent men, women and above all children from dying of hunger in their hundreds of thousands.

Providing for the future needs and lives of the refugees, and bringing them into the African economy, are scarcely less urgent problems which may turn out to be more lasting and more costly. Whether they stay in asylum countries or whether after a few years they wish and are able to return to their own lands, displaced populations do not ask to be helped indefinitely. On the contrary, they want to work. But before

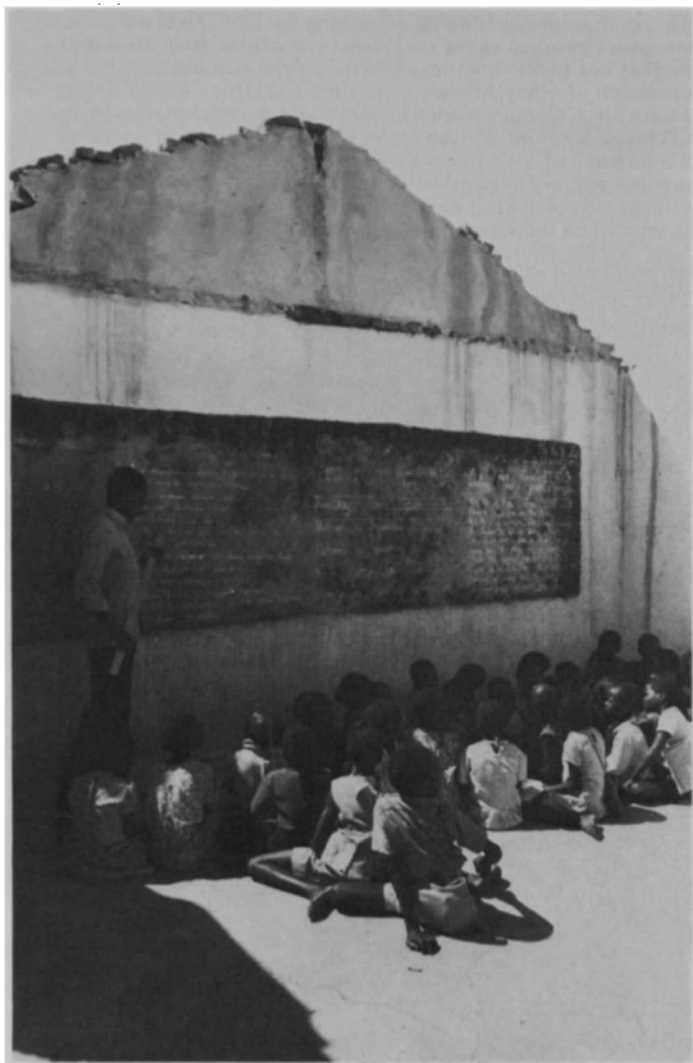


Photo E. Birrer, UNHCR

A group of refugee children learn to read in a ruined classroom.

► they can play a full part in economic and social life, the State which has accepted them must provide them with land, tools, seeds and fertilizer, create workshops, dig wells, build villages, roads, bridges, hospitals and schools. The cost of infrastructures, materials, equipment and personnel required by undertakings of this kind is beyond the capacities of the host countries. If the remarkably limited welcome which most rich countries accord to refugees is anything to go by, it would seem that these countries consider the cost of such measures to be extremely high. And yet no people would refuse to join in a genuine collective effort.

It is to this spirit of international solidarity that the United Nations' appeal has been addressed. UNHCR announced to the ninety-nine governments represented at the Geneva Conference, which was chaired by Mr. Waldheim, that the urgent measures which need to be taken in the next eighteen months will cost \$450 million. In other circumstances, such a figure might have alarmed donor countries who are often at the receiving end of requests for aid. On the second day of the Geneva conference, however, the participants pledged to provide \$560 million, perhaps more than had been hoped for. Then, on the evening of 10 April, the Assistant Secretary-General of the Organization of African Unity announced that other promises, which it had been impossible to make formally, had boosted the sum by at least \$100 million.

Thus the appeal has not fallen on deaf ears. It would be hard to find a better note on which to conclude than these words by Mr. Poul Hartling, United Nations High Commissioner for Refugees: "The suffering of the refugees has been understood; international solidarity exists".

■ Maxime-Léopold Zollner

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**MAXIME-LEOPOLD ZOLLNER**, of Benin, is director of the Assistance Programmes Division of the Office of the United Nations High Commissioner for Refugees, in Geneva. A former Vice-President of the Economic and Social Council of the United Nations and Secretary-General of the Union Africaine et Malgache, he has served as his country's ambassador to the United States and Canada and as permanent delegate to the United Nations in New York.

## Colour pages

### Opposite page

The mountain fastnesses of Bulgaria are dotted with medieval monasteries which contain a wealth of frescoes, painted icons and wooden reliefs. Above this shady portal in the monastery of Rozhen, near Melnik in southwestern Bulgaria, is a majestic painting of Christ Pantokrator (the all-powerful lord of the universe) seated on his heavenly throne. Around Him are twelve medallions with images of the Apostles, above which is a waist-length image of Christ. The monastery dates back to the 12th or 13th century, and the painting bears the date 1597.

### Centre pages

Left, bone figurine (12 cm high) unearthed in the Chalcolithic necropolis at Varna in Bulgaria. It dates from the 4th millennium of the pre-Christian era and is thought to represent a helmeted warrior. The discovery of the Varna necropolis was one of the great archaeological finds of the century. Its tombs were filled with thousands of objects, many of gold, as well as fragments of painted pottery and other artefacts.

Right, miniature praying Virgin adorns the gold and enamel central medallion of a 9th-10th century necklace unearthed two years ago at Preslav, the ancient capital of Bulgaria. It formed part of a treasure which included a diadem, ear-rings, rings and coins. The Virgin's pink and white face is that of a young woman; the features are expressive and not conventionalized in the usual manner of ikon Virgins. The portrait is surrounded by fine pearls and rock crystal.

Photos © Gérard Dufresne, Paris

### Colour page 22

St. Benedict gives the Rule to his monks. Detail from a series of frescoes painted by the Italian artist Sodoma in the monastery of Monte Oliveto Maggiore near Siena (Italy) between 1505 and 1508 (see also page 34).

Photo © Scala, Florence



ANADOLU







*Organized by Unesco at the invitation of the Foundation for Human Rights of Athens, a symposium devoted to a critical review of the pseudo-scientific theories invoked to justify racism and racial discrimination was held in the Greek capital from 30 March to 3 April 1981.*

*Since those who attempt to impose the notion that some kind of "natural hierarchy" exists between different populations or between different individuals often invoke science in support of their theories, it was necessary for Unesco to clarify the situation by making the true standpoint of scientists widely known. Twenty-three distinguished personalities from eighteen countries, representing the various disciplines involved—geneticists, biologists, anthropologists, sociologists, psychologists, historians, etc.—spent a week analysing the most up-to-date findings of science and drawing from them the arguments with which to counter the affirmations of the neo-racists.*

*The collective statement of their conclusions drawn up by the scientists gathered at Athens and addressed to all the peoples of the world is published on page 28 of this issue of the Unesco Courier. The article below, by French geneticist Albert Jacquard, rapporteur at the Athens symposium, highlights the main themes of the debate.*

# Science, pseudo-science and racism

by Albert Jacquard

**M**AN'S spontaneous and apparently natural reaction to a setback is to find the culprit, who necessarily has to be someone else, or "other" people. In a similar situation a group will react by attributing its misfortunes to some other group or, preferably, to a sub-group of its own kind.

These instinctive, infantile, cowardly reactions bear no relation to a reasoned analysis of events in the real world and their causes, but they seem to be so widespread and so persistent that there are few grounds to hope that they can be made to disappear. If, in spite of everything, we must keep this hope alive, we can only do so through "science", a somewhat solemn name for the

efforts of the human mind to understand the real world.

Strangely, it is in the name of science that overtly racist attitudes are beginning to re-emerge in certain Western societies. People refer to "recent biological discoveries" or to "the latest genetic research" as justification for their attempts to classify men in certain categories or "races", and above all to compare these races according to various criteria and to rank them in hierarchies.

However, what scientists are actually saying, especially those working in genetics, the discipline most directly concerned, runs counter to any such claim. Any attempt to make biology serve as a basis for elitist theories is rooted in a fundamental

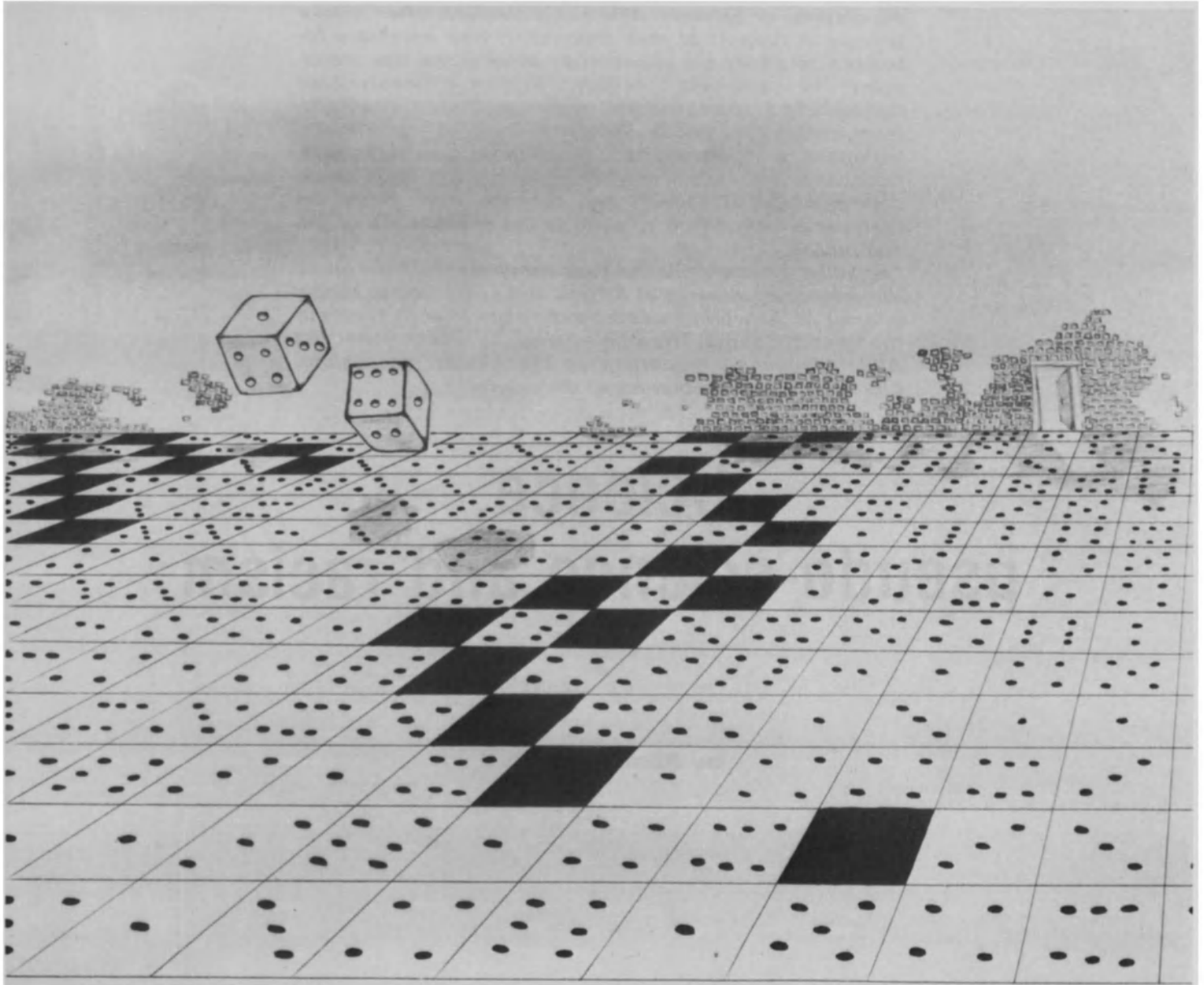
misconception, whether the "elite" consists of certain individuals within each group, or of certain groups in themselves.

It is essential, therefore, that scientists should in the present circumstances speak out, for it is their duty to describe clearly and

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**ALBERT JACQUARD**, French geneticist, teaches at the universities of Paris VI and Geneva, and is head of the genetics department of France's National Institute of Demographic Studies (INED) in Paris. Among his published works are *Genetics of Human Populations*, Freeman Cooper and Co., San Francisco, 1978.

The Arabic word for dice, *az-zahr*, gave its name to a once-popular game called Hazard. As its name implies, Hazard is a game of chance, like all dice-games, since it is impossible to know exactly how the dice will fall. Or is it? If only we knew much more about the phenomena involved in throwing a dice then perhaps it would be possible to predict the result of each throw, thus removing the element of chance from the game. This may seem a far-fetched idea but it serves to highlight the infinitely more complex processes involved when we "dice with life". According to Albert Jacquard the number of potential variations involved in the transmission of genes by parents to their children is so immense that we may never know enough to exclude the element of chance from our understanding of the process, and must predict its outcome on the basis of probability.



Drawing from *Le Second Souffle de la Créativité*, Marthe Seguin/Fontes. © Dessain and Tolra publishers, Paris

► publicize the discoveries made in their disciplines. Reasoned arguments, unswayed by sentiment, are needed to combat the different forms of racism. For this, clarity is vitally important, so we must carefully define the terms we use.

To be "racist" is to despise someone else simply because he belongs to a group. This group may be defined by many different criteria: colour of skin, language, religion, genetic inheritance or cultural heritage. And so it is more realistic to talk of racisms rather than racism. The first requisite of each form of racism is a definition, firstly of how to classify people into relatively homogeneous and distinct categories, and secondly, of how to establish a scale of values applicable

to these categories. In other words, the different "races" must first be defined, and then ranked in a hierarchy.

In the case of a species which has gradually become differentiated into definitively and strictly separate populations as a result of a series of separations, the gap between the genetic or cultural structures of two populations widens as they move further in time from the initial split. It is thus possible to attempt to reconstitute the genealogy of these successive separations, taking as a starting point the structures which can be observed today.

On the other hand, when the history of a species does not take the form of a tree

which has become progressively differentiated, resembling instead a network of amalgamations and exchanges between distinct populations (i.e. migrations), this attempted reconstitution is doomed to failure, save in exceptional cases. Our knowledge of the present state of the groups does not allow the steps which have led to this state to be retraced. In the case of the human species, which is remarkable for its nomadism, this difficulty is particularly great.

To be sure, geographical distance has prevented exchanges between populations living on opposite sides of the globe; migrations have come up against sometimes insuperable natural obstacles; cultural dif-



ferences have raised barriers and isolated certain groups genetically. But the history of human populations is so intertwined that none can be described without reference to its exchanges with many others. Little by little, each has come to be related to the others. At the same time, natural processes (the foremost being that of sexual reproduction) have given rise to and sustained a remarkable degree of diversity within each population.

Mankind is an aggregate of persons, families, ethnic groups, and nations, all of them different. But these differences can only be classified at the cost of an arbitrary impoverishment of our view of individuals and groups. The most rigorous form of classification concerns genetic inheritances: the degree of frequency with which various genes occur in each of two populations being seen as a token of the degree of dissimilarity between these populations.

If confined to a small number of genes, the attempt at classification will soon produce results, but they will vary from one group of genes to another. If, for example, we take the genes responsible for the synthesis of melanin, a pigment which accumulates in the skin and gives it a dark colouring, we find that, where these genes are concerned, blacks differ very greatly from yellow or white people.

As for the genes responsible for the activity of lactase, the enzyme which makes it possible to digest milk, they are very frequent among North European populations, slightly less so in the Mediterranean region, but very rare in Asia and Africa. The classification of people into two groups, based on the frequency of these genes, would set the Europeans apart from people from the other continents.

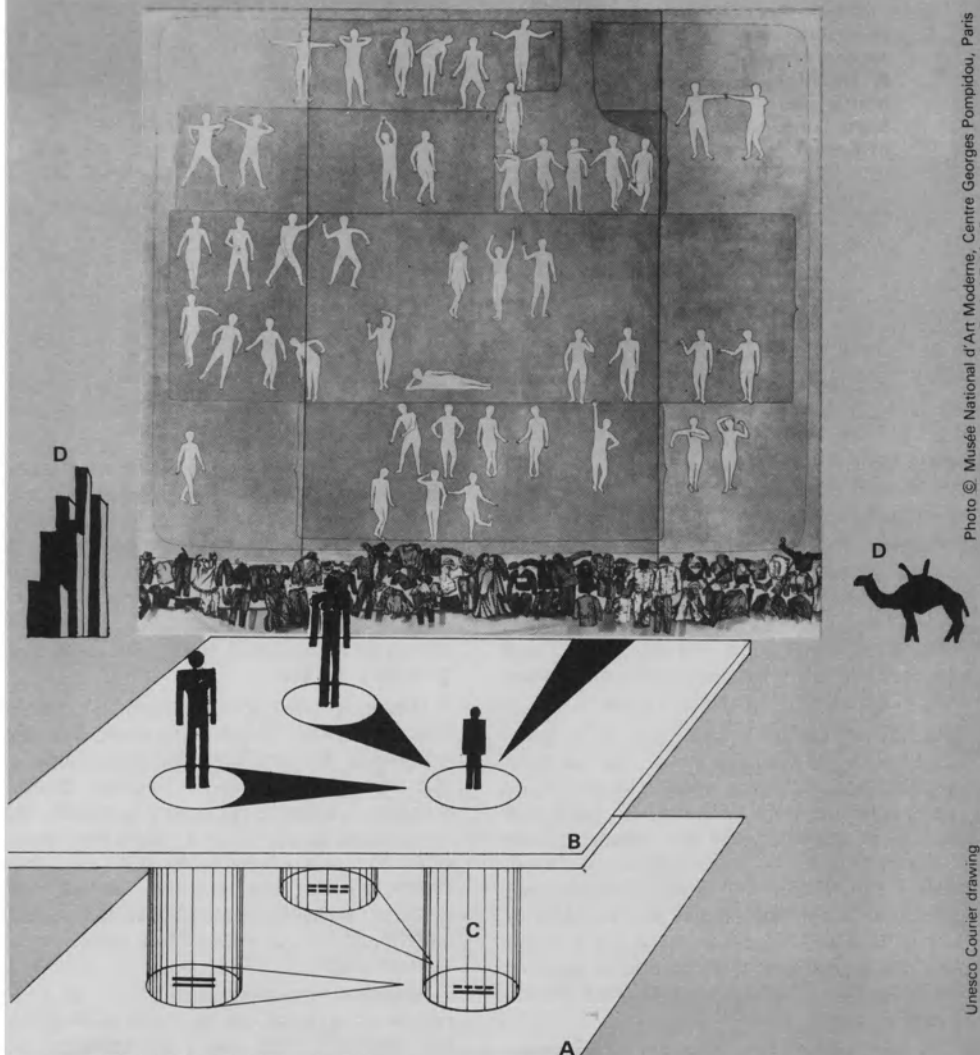
In the case of two biological characteristics whose genetic mechanism is well known, the Rhesus blood system and the HL-A immunological system, both result in a classification of people into two groups, with Asiatics and Eskimos on one side, and Indo-Europeans and Black Africans on the other.

Depending upon the criteria selected—skin colour, persistence of lactase, or immunological “systems”—our view of the relations between the three major human groups classically referred to alters completely: it may arbitrarily be claimed that the populations of Europe resemble those of Africa more closely than those of Asia, or the reverse.

This is because the history of humanity cannot be expressed in the form of a progressively ramified tree. Instead, it consists in a network of exchanges, mergers and separations. It is therefore a mistake to try to devise a classification that can have no global validity.

The impossibility of devising such a classification is confirmed by research which is not based on some arbitrarily selected characteristics, but on a synthesis of information concerning all the different characteristics studied.

Where many sets of genes are involved, it is possible to express the various resemblances and differences between the genetic structures of two populations in terms of “distance”. The definition of race here means attributing populations with small distances between them to the same group, and populations separated by a large



Biologists investigating the way in which characteristics are transmitted from parents to children make a fundamental distinction between what they call the *genotype* (the total of the genes that an individual inherits from its parents) and the *phenotype* (what an individual is: its appearance, bodily structures, etc.) Whatever happens to an individual, its genotype does not change, whereas the phenotype is the outcome of interaction with the environment during the individual's growth and development. Drawing above is a schematic representation of this process. Circles in lower part of drawing (A) represent the genotypes of a father, mother and child. In middle layer (B) the three are shown by silhouettes depicting their “characters” (i.e., their phenotypes). Columns joining the circles to the silhouettes (C) illustrate the way in which the changing phenotype is “governed” by the unchanging genotype. Top layer (D) symbolizes all the physical, cultural and other influences to which the phenotype is subject from its external environment.

"The only value judgement with any scientific backing concerns the importance of differences for their own sake... The more different we are the more I give to my neighbour and the more I receive from him in return". A Neolithic artist carved a human face in this sea-shell from Tongsamtong (Republic of Korea).



Photo Lee Yung jo © Museum of Chongbuk University, Republic of Korea

► distance to two distinct groups. In the case of human populations, this method cannot be conclusive.

Basing his research on the best-known blood systems, the Harvard geneticist R. Lewontin has shown that the distance between two populations belonging to different "races" is, on average, not more than 7 or 8 per cent higher than the distance between two populations of the same race.

In other words, if belonging to a given race or a given nation is not without significance as regards genetic structure, its consequences are very limited; an Eskimo or an African could well be closer to me genetically than the policeman in my village. This is not to deny the differences between the various human groups. But the web of similarities and dissimilarities is so intricate that the picture becomes blurred as soon as an attempt is made to incorporate all the available data.

— So the geneticist's answer, when asked about the meaning of the word "race", is categorical; insofar as the human species is concerned, there can be no objective and stable definition of this concept.

Experience shows that the classification of humanity into more or less distinct groups usually goes hand in hand with a value judgement distinguishing the "good" from the "bad". Thousands of examples could be cited of writers who are convinced that they are not racists and yet take it for granted that their own group is the best. A book read by several generations of French children, *Le Tour de la France par Deux Enfants*, presents stereotyped portraits of Whites, Blacks, Yellow people and redskins, and affirms that "the white race is the most perfect."

Current attempts to establish a hierarchy of races seek to envelop themselves with an aura of scientific respectability by making reference to research in a variety of disciplines, notably those concerned with explaining the evolution of species and those that study the various manifestations of intellectual activity.

For over a century, explanations of evolution have been dominated by Darwinism. The key concept of this theory is that of the survival of the fittest; those individuals best

fitted for the "struggle for life" have the best chances of surviving and transmitting their genetic inheritance to the next generation. According to this theory, the biological structure of the population undergoes transformation as a result of this inequality of individual capacities, desirable characteristics spread, and undesirable ones gradually die out.

When, thanks to the Austrian botanist Gregor Mendel, it was understood that sexed beings transmit not their characteristics but the genes governing these characteristics, it became necessary to modify this theory and to attribute a "selective value" not to the individuals or to their characteristics but to the genes they possess. Darwinism was supplanted by neo-Darwinism whose approach is basically the same.

However, the attribution of a "value" to people or to genes can be highly misleading. By definition, this value corresponds exclusively to the gene's ability to transmit its biological inheritance, i.e. to procreate children. Individuals who die without offspring are thus "of no selective value". To classify them as "inferior beings" is to confuse their selective value and their value as human beings.

This blunder has been made many times by those who have extrapolated a social Darwinism from the original biological Darwinism, and have advocated a type of society in which the powerful must "naturally" prevail over the weak. Contemporary Western thought has been deeply influenced by this kind of reasoning, which many regard as dictated by "the laws of nature". The fact is, however, that nature really teaches us the exact opposite of this hierarchical vision.

One of the consequences of natural selection ought apparently to be the gradual standardization of populations. Since the "good" drive out the "bad", in due course only the best genes remain, and there is less diversity. Now, analysis of the genetic inheritance of various species shows, on the contrary, that this diversity is maintained. One unexpected discovery made by biologists, which has gradually been confirmed over the last ten or fifteen years, is the extent of "polymorphism", the ex-

istence of a wide field of variation within a given population.

This discovery has led to a fundamental revision of neo-Darwinism. This revision has taken two directions: certain scientists are developing a "neutralist" theory, from which the concept of selective value has been eliminated; others retain the concept but give it a much more complex definition, giving weight to the interaction of several genes on a single characteristic. In either case, this revision renders obsolete all reasoning based on the existence of a scale of values according to which individuals, characteristics or genes may be set in a hierarchy.

The mechanisms at work in nature do not select the best and weed out the less good: they preserve the sustained coexistence of a wide variety of characteristics. If we are to learn from nature, then we ought to rank groups not according to the *quality* of their characteristics, but according to the *variety* of these characteristics. The "best" group is the one that has managed to preserve the greatest diversity, whatever the content of this diversity.

Our judgements on our fellow men often concern their psychological rather than their physical characteristics. It is the role of the psychologist to define with greater precision, the various traits of the personality, and for nearly a century now, Western psychologists have sought to turn their discipline, with all its nuances and subtle distinctions, into a "scientific" discipline.

For this, they have introduced quantitative criteria. In particular, they have popularized the intelligence quotient, or I Q, a parameter that supposedly measures the activity of our intelligence. Admittedly, psychologists themselves denounce the abuses that have arisen in connexion with the cult of I Q. Even so, this quotient figures prominently in many misconceived arguments; it serves to justify often harsh decisions concerning children's school careers, and it has been the crux of the controversy provoked in the United States by the revival of a certain kind of racism.

This is not to deny the usefulness of the concept of I Q. But it is necessary to define the limits of its significance: I Q indicates the position of an individual on an arbitrarily defined scale of reference within a given population, at a specific moment in time. This indicator is extremely imprecise, and its stability is little-known and probably low.

Despite these limitations, certain scientists have used I Q to compare human populations. The most famous study is the one conducted by the American psychologist Arthur Jensen, who in 1969 compared Blacks and Whites in the United States and concluded that there was a 15-point differential in favour of the latter.

This conclusion depends upon the factors to which the observed difference is attributed. This involves a delicate genetic concept known as inheritability. Certain psychologists have totally misunderstood this concept: they have forgotten that the inheritability of I Q merely measures a resemblance and have used it to attribute I Q differentials between populations to genetic factors.

This is not to deny the influence of genetic inheritance on a characteristic such as intellectual activity. Clearly, the medium for this activity, namely the central nervous

system, is produced from the genetic inheritance, but its ontogenesis also requires the intervention of the environment. The outcome will depend upon the way they interact. But to try to measure the relative influence of each is meaningless.

Thus it is impossible to base a classification of the "intellectual potential" of different human groups on observable intellectual performance, or even to ascribe observed variations, as certain doctrinaire thinkers have tried to do, to genetic differences.

The very concept of intellectual potential is indefinable. Attempts to establish a hierarchy of races on the basis of this criterion are not just mistaken: they are absurd. Experience unfortunately shows that it is harder to combat an absurdity than to clear up a mistake.

The chief lesson to be learned from genetics is that the groups to which we belong do indeed differ from each other, but that the individuals within each of these groups are even more different still.

The only value judgement with any scientific backing concerns the importance of differences for their own sake, without attaching a plus or a minus sign to these differences. I am neither superior nor inferior to anybody else; I am different from everybody; the more different we are, the more I give to my neighbour and the more I receive from him in return.

This is not an assertion dictated by a moral system; it is the central lesson of genetics. It is a serious matter that this lesson should have been distorted to justify racist doctrines. It would be easier to combat this kind of perversion of the truth if communication between scientists and public opinion were better organized. In this field, the activities of Unesco could prove decisive for the future of us all.

■ Albert Jacquard



Photo © Arnoy, WHO



Photo Jacques Huetet © Rapho, Paris



"Depending upon the criteria selected, our view of the relations between the three major human groups alters completely; it may arbitrarily be claimed that the populations of Europe resemble those of Africa more closely than those of Asia, or the reverse... So the geneticist's answer, when asked about the meaning of the word *race*, is categorical: there can be no objective and stable definition of this concept". The criteria used to classify samples of human populations shown here—above, blood group systems; below, anthropometric measurements—bring out many inconsistencies: the Eskimos are close to the Indians in one tree, and close to the Swedes in the other.



Photo © Arnoy, WHO



Photo Christophe Kuhn © Rapho, Paris

# The Declaration of Athens

## Scientists speak out against racism

**T**HE scientists brought together by Unesco appeal to the peoples of the world and to all individuals everywhere to base their attitudes, behaviour and statements on the following conclusions, which represent the present state of scientific knowledge on the racial question.

1. The latest anthropological discoveries confirm the unity of the human species.
2. The geographical dispersion of the human species has favoured its racial differentiation but has not affected its basic biological unity.
3. All attempts to classify the human species so as to give objective content to the concept of race have been based on visible physical characteristics. In fact, the concept of race can only be based on transmissible characteristics, that is to say, not on visible physical features but on the genetic factors that govern them.
4. Modern biological techniques have made it possible to study these factors. They reveal a far greater genetic diversity than had been imagined.
5. It has been found that the difference between the genetic structures of two individuals belonging to the same population group can be far greater than the differences between the average genetic structures of two population groups. This finding makes it impossible to arrive at any objective and stable definition of the different races and consequently deprives the word "race" of much of its biological meaning.
6. Whatever the differences observed, biology can in no way serve as the basis for a hierarchy between individuals or population groups, since no human group possesses a consistent genetic inheritance. In any event, one is never justified in proceeding from observation of a difference to the affirmation of a superiority-inferiority relationship.
7. In fact, each human being possesses a genetic combination that is unique among the countless possible combinations.
8. Man has developed culture, which has enabled the human race to adapt itself to different ecological environments and to transform them according to its needs.
9. The pre-eminence of culture makes the human species unique and invalidates any explanations of human behaviour based solely on the study of animal behaviour. There are no grounds for explaining variations in group behaviour in terms of genetic differences.
10. Intellectual activity constitutes one of the most striking characteristics of man. Certain disciplines have developed techniques for measuring this activity.
11. These techniques are designed to compare individuals within a given population group and cannot, by definition, be used for the purpose of comparing different population groups.
12. It follows, *a fortiori*, that any value judgement on the intellectual capacities of a given group based on such measurements is completely without foundation.
13. Indeed, the complexity of the interaction between biological and cultural factors makes any attempts to establish the relative importance of innate and acquired characteristics completely meaningless.
14. It is unacceptable and scientifically unjustifiable to use the results of psychological tests and the intelligence quotient in particular to promote social ostracism and racial discrimination.
15. The social sciences provide no support for the view that racism is a collective form of behaviour that inevitably arises when certain kinds of social relationship predominate between different ethnic groups. On the other hand, the plurality and coexistence of cultures and races that characterize many societies constitute the most felicitous form of mutual enrichment between peoples.
16. Racism, which takes a number of forms, is in reality a complex phenomenon involving a whole range of economic, political, historical, cultural, social and psychological factors. Effective action to combat racism must necessarily address itself to all these factors.

17. Racism is generally a tool used by certain groups to reinforce their political and economic power, the most serious cases being those involving apartheid and genocide.
18. Racism also takes the form of denying that certain peoples have a history and of underrating their contribution to the progress of mankind.
19. While the quantitative analysis of social phenomena can help to elucidate sociological and economic issues, it can also be used to promote exclusion and segregation. The application of quotas, tolerance thresholds and numerical stipulations for educational purposes based on ethnic or racial criteria should be denounced when it violates the basic principles of human rights. However, legitimate measures can be taken to redress the wrongs inflicted on certain underprivileged groups.
20. Those engaged in scientific activity bear a major responsibility for the social future of their contemporaries. Where racism is concerned, this responsibility involves political and ethical choices. Scientific research, particularly in the field of the human and social sciences, should always be based on respect for human dignity.
21. Recognition of the risks to mankind implicit in certain applications of science should lead not to a rejection of science but rather to the fostering among the public at large of a genuinely scientific attitude, that is, an attitude based not on an accumulation of certainties but on the cultivation of a critical spirit and the continual challenging of accepted views. The struggle against racism in all its forms calls for the extensive involvement of scientists in the fostering of these attitudes, making use in particular of education systems and the media.
22. There is a need therefore for scientists, whatever their differences or divergencies of viewpoint, to strive to maintain the objectivity that will ensure that their work and conclusions cannot be used as the basis for falsifications and interpretations detrimental to mankind.

### Signatories

A. C. Bayonas (Greece), historian and philosopher;  
T. Ben Jelloun (Morocco), philosopher and writer;  
J. Bjørnebye (Norway), philologist;  
A. Bouhdiba (Tunisia), sociologist;  
H. Condamine (France), geneticist;  
E. Czeizel (Hungary), geneticist;  
M. Diabate (Ivory Coast) ethno-sociologist;  
C. A. Diop (Senegal), anthropologist;  
R. Droz (Switzerland), psychologist;  
M. Fraginal (Cuba), ethnologist;  
S. Genoves (Mexico), anthropologist;  
A. Jacquard (France), geneticist and mathematician;  
J. Ki-Zerbo (Upper Volta) historian;  
C. B. Krimbas (Greece), geneticist;  
E. Nevo (Israel), geneticist;  
H. Tawa (Lebanon) historian and mathematician,  
D. Trichopoulos (Greece), professor of medicine;  
T. Tsunoda (Japan), professor of medicine;  
P. Vegleris (Greece), lawyer and professor of law;  
L. P. Vidyarthi (India), anthropologist;  
G. Wald (U.S.A.), Nobel Prize for medicine,  
A. Yotopoulos Marangopoulos (Greece), President of the Athens Human Rights Foundation;  
I. M. Zolotareva (USSR), anthropologist.

Symposium on a Critical Review of the  
Pseudo-scientific Theories Invoked to  
Justify Racism and Racial Discrimination

Athens 30 March to 3 April, 1981

# The man who vanquished yellow fever

by Pedro M. Pruna  
and Rafael O. Pedraza

**A** century ago relatively little was known about the tropical diseases which brought suffering and death to the peoples living in the hottest regions of the globe.

Today, although not all tropical diseases have been eradicated, some of them are on the way to being completely wiped out, or else their incidence has dropped.

Yellow fever was the first tropical disease to be eradicated from the regions where it was considered to be endemic. Coastal cities such as Havana, Veracruz, Rio de Janeiro and other ports of Central and South America were the front-line targets of yellow fever epidemics, as well as relatively large areas of West Africa. The disease sometimes affected regions with a more temperate climate such as the Mississippi valley, where it caused over 13,000 deaths in 1878, and other parts of North America and even Europe.

Two big questions emerged from analysis of the causes of yellow fever. One had to do with the nature of the pathogenic agent which caused the disease; the other with the specific way in which it was transmitted. It was known that it could be propagated over relatively large distances without there necessarily being a carrier in the vicinity of each new infected centre.

The Cuban physician Carlos Finlay (1833-1915) knew that the pathogenic agent responsible for yellow fever could be "an amorphous virus", an animal or plant germ or a bacteria, but he was more interested in discovering how the disease was propagated than in isolating the micro-organism which caused it. Between 1879 and 1880, Finlay concentrated all his efforts on discovering in which organs of the human body the first symptoms of the disease appeared. His studies convinced him that the germ which caused the disease was

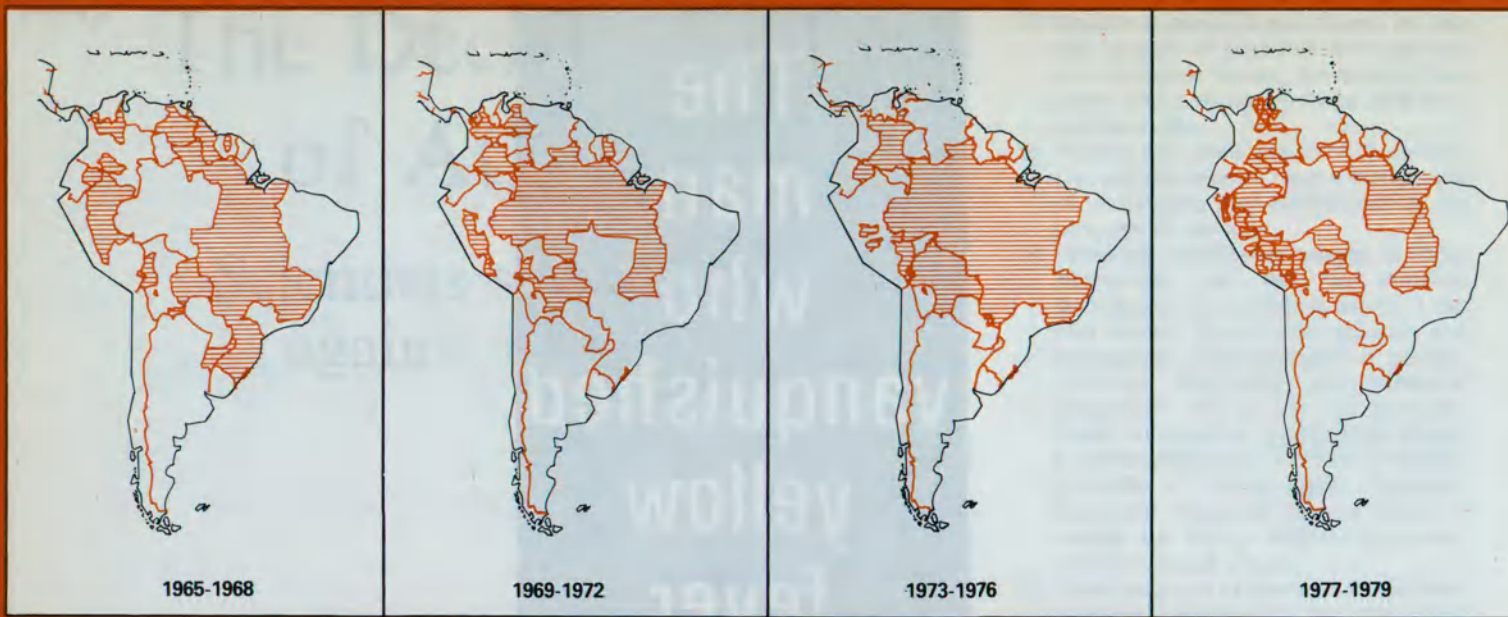


first of all lodged in the walls of the blood vessels. It could thus be supposed that it was introduced into the blood by a medium of transmission which was still unknown.

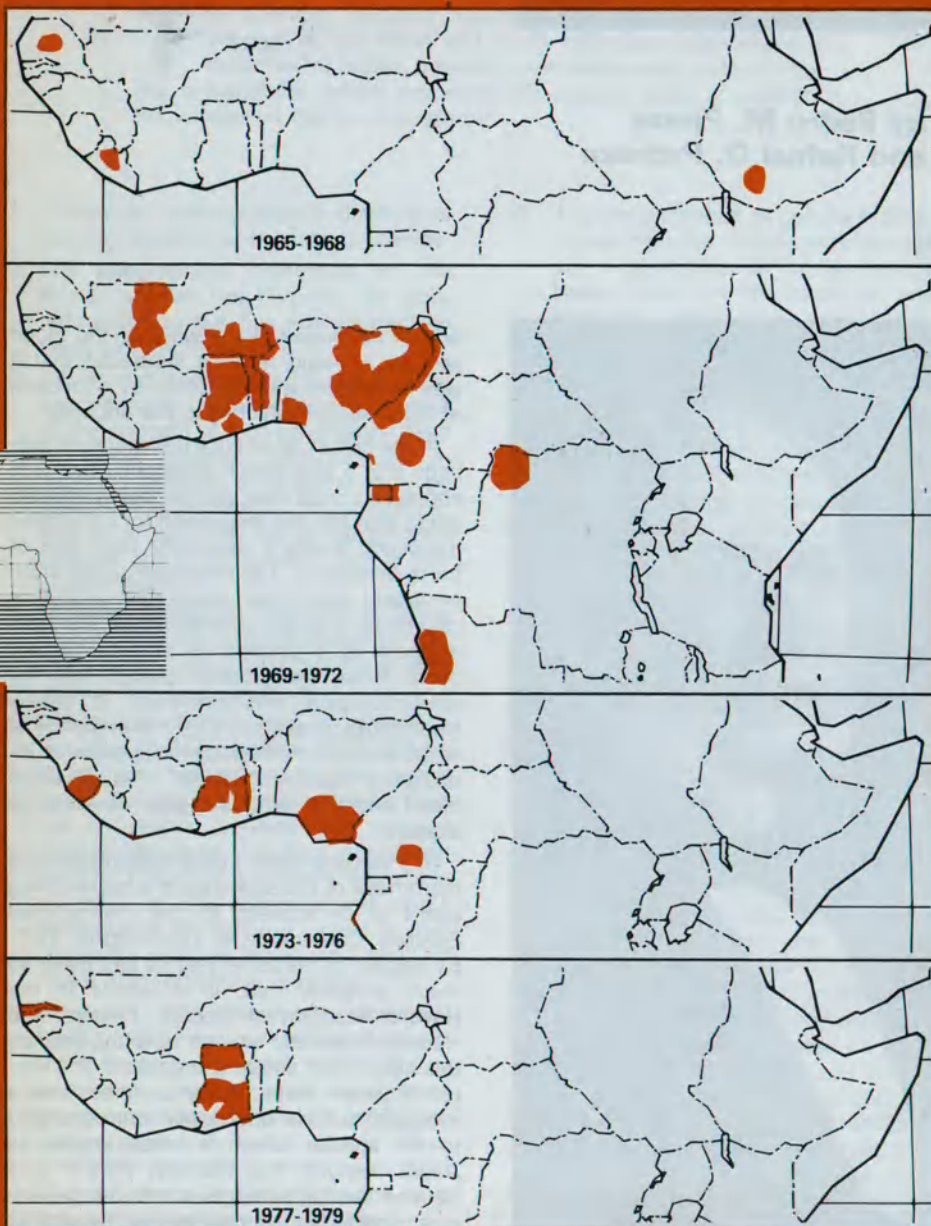
In the history of science it sometimes happens that a fact which apparently has little connexion with the matter being investigated provides the inspiration for a scientific discovery. Finlay's discovery was one of these occasions. The inspiration came from an article describing wheat-rust, a disease caused by a fungus part of whose life-cycle is spent as a parasite on an intermediary plant. Finlay immediately realized that the epidemiological characteristics of yellow fever could be explained by the existence of an active intermediary agent capable of inoculating healthy persons with diseased blood and thus with the germ causing the disease.

In February 1881 Finlay expounded the hypothesis of the existence of a transmitting agent in an address to the International Sanitary Conference at Washington, D.C. By August of the same year he had made so much progress that, in a lecture to the Havana Academy of Medical, Physical and Natural Sciences, he was able to describe this agent with amazing precision. The vector of yellow fever, Finlay declared, was a mosquito whose description corresponded to the species which is today known as *Aedes aegypti*. For the first time it was claimed that a pathogenic micro-organism was transmitted from one person to another by a biological vector.

Before Finlay's discovery, the theories put forward to explain the transmission of yellow fever from an infected to a healthy subject had given rise to a confused debate which brought into confrontation two main schools: the *contagionists*, who claimed that the disease was transmitted through secretions, through clothing and direct con-



Maps from WHO Weekly Epidemiol. Recor., No. 46, 1980



A century ago, when Carlos Finlay discovered that it was transmitted by a mosquito, yellow fever was an endemic disease in much of tropical America and Africa. Today its ravages have been greatly reduced. Shaded areas on maps (top) show the incidence of jungle yellow fever in South America between 1965 and 1979. The four maps showing part of Africa also illustrate the evolution of yellow fever during the same period. Localized outbreaks in three countries spread rapidly before becoming concentrated in two countries by 1979. Generalized vaccination is the main weapon used by national health authorities against yellow fever.

► tact, and the *miasmatics*, who maintained that foul-smelling marsh gas was the culprit.

Seen from a historical perspective, the major contribution of Finlay's work was not only the identification of the transmitting agent of yellow fever, but his realization that certain diseases were transmitted not so much through person-to-person contagion as through a biological vector.

It is today widely recognized that the theory of biological vectors has a double paternity, since it was set forth and demonstrated almost simultaneously by Carlos J. Finlay for yellow fever, and Patrick Manson for filariasis. However, Finlay was the first to put forward the theory in the case of a micro-organism.

Finlay also distinguished himself by explaining why the indigenous population of Cuba suffered less from yellow fever than foreigners who had recently arrived in the country. He supposed, correctly, that the Cubans had developed a certain immunity to the disease, and that for them the mosquito acted as a kind of vaccine. This was an explanation ahead of its time.

In 1898, Finlay put forward the method of combatting yellow fever which four years later would be applied to eradicate the disease from Cuba. This was the destruction of the larva of the mosquito in the water where it lived, using chemicals.

Before the year 1900, Finlay carried out over a hundred inoculations using the mosquito as a vector, and although most of the results obtained corroborated his theory, the latter had been confirmed by no other scientist. An opportunity to carry out an impartial test arose in 1900 when a commission of physicians from the United States, led by Walter Reed, arrived in Cuba. Their aim was to investigate the causes of yellow fever, but they were more interested in isolating the pathogenic micro-organism which caused the disease (through a process of elimination they reached the conclusion that it was a "filtrable virus") than in studying how the disease was propagated.

It was only when Finlay took up the matter strongly with the supervisory authorities of the United States in Cuba that the Com-

The topography of Africa, the 1965-1968, 1969-1972, 1973-1976, 1977-1979, and 1979-1980, respectively, are reproduced by permission of the United Nations.

mission agreed, with considerable scepticism, to examine the theses he put forward and to repeat, in controlled conditions, the experiments he had performed. In so doing they confirmed the fundamental results he had obtained. It should be added that the only member of the Commission who believed in Finlay's theory, the young doctor Jesse Lazear, died in the course of an experiment designed to test it and carried out on his own initiative.

Years later, William Gorgas, who headed the campaign to wipe out yellow fever in Cuba and Panama, wrote to Finlay:

"If we had followed your advice during our stay in Cuba, we should have obtained in 1899 the results we obtained later, in 1901. For myself, I would even go so far as to assert that it is thanks to your work and to the way in which you defended your mosquito theory that the American Commission of which Reed was president was induced to investigate the theory. Were it not for the work you had already carried out in 1900, the American Commission would never have embarked on research into the mosquito theory."

The first scientist of international reputation to recognize the outstanding merits of Finlay's work was the British bacteriologist Sir Ronald Ross, who was noted for his investigations of malaria and was awarded the Nobel Prize for Medicine in 1902. Two years later he proposed Finlay for the same award. But although Finlay never received this prize which he so richly deserved, he was privileged to receive in person many tokens of universal gratitude for his work. He won the Breant Prize of the French Academy of Medicine, of which he became a member, and the Mary Kingsley Medal bestowed on him by the University of Liverpool. He was also awarded the French Legion of Honour.

At the Panamerican Medical Congress of 1933 it was decided that Finlay's birthday, 3 December, should be celebrated each year as American Medicine Day. Several international congresses on the history of medicine have underlined the importance of Finlay's discovery, and some years ago Unesco created a prize bearing his name. But perhaps the finest tribute that could be paid to Finlay's work and to Finlay himself would be for its significance never to be forgotten.

In Cuba there has not been a single case of yellow fever since the first decade of this century, and the disease has been wiped out in many other Latin American countries, in the United States, and wherever the principles established by Finlay have been applied.

■ **Pedro M. Pruna and Rafael O. Pedraza**

**PEDRO M. PRUNA**, Cuban biologist, is scientific secretary of the Carlos J. Finlay Centre for the Study of the History and Organization of Science of the Cuban Academy of Sciences.

**RAFAEL O. PEDRAZA**, Cuban physician, is president of Cuba's History of Medicine Society.

# SAINT BENEDICT OF NURSIA



The only authority for the facts of St. Benedict's life is book 2 of the *Dialogues* of Pope Gregory the Great, which was written around 593-594, almost fifty years after the saint's death. This medieval miniature from the *Miracles of St. Benedict* by St. Gregory, Adrevaldus and Aimoin (1437) shows Gregory listening to testimony about the life of St. Benedict.

## A voice across the centuries

by **Gregorio Penco**

"**H**EAR, my son, the precepts of the Master and lend him thine heart's ear. Receive with gladness the teaching of a good father, that in its practice and in the exercise of obedience, thou shalt return again to him from whom base contumacy hath led thee away".

Thus begins the "Rule of Saint Benedict", a document written some 1500 years ago that was to become one of the foundation stones of monasticism in western Christendom.

All that we know about the life of Saint Benedict, the author of this document, is contained in Book II of the *Dialogues* of Saint Gregory the Great (Pope Gregory I). Benedict was born in the year 480, of good family, at Nursia, Umbria, Italy. After a brief period of schooling in Rome, impelled by a

desire for a closer union with God and by a strong sense of vocation, he withdrew to the solitude of a cave near Subiaco, while still a young man, where he devoted his life to prayer and penitence.

There he lived for three years, attracting by his devoutness so many disciples that he was obliged to found thirteen communities in the region. Later, he left the area, moving south to found the famous monastery (in its chequered history it has been destroyed and rebuilt four times) at Monte Cassino where, in 547, he was to die.

**GREGORIO PENCO**, of Italy, is a Benedictine monk at the monastery of Agrano, near Novara, Italy. A noted theologian, he is a specialist in monastic history.



Photo © Scala, Florence



Photo © British Museum, London

Works of art inspired by St. Benedict, many of them painted by great masters, would have a prominent place in any portrait gallery of Christian saints. In the 15th-century fresco, above, left, by the Italian painter Mariano di Matteo da Roma, St. Benedict is shown deep in meditation. Fingers to his lips, he enjoins his monks to silence. Quite different in spirit is the drawing of the "patriarch of Western monks" by the great Flemish painter Peter Paul Rubens, above right. It was executed around 1605 after an earlier portrait by Giovanni Bellini. St. Benedict, shown holding a crook in one hand and an open Bible in the other, is accompanied by St. Mark. The authority of his gaze and bearing reflects the decisive role played by St. Benedict in European history.



This miniature from the *Miracles of St. Benedict* by the medieval Flemish chronicler Jean de Stavelot shows a famous episode in the life of St. Benedict as recorded by Gregory the Great. St. Benedict is admonishing the Gothic king Totila, who then dominated much of Italy, with the words: "You commit acts of great evil, you have done many wrongs. Put an end to your cruelty!" This appeal for peace and justice, courageously addressed by the sequestered monk to one of the mighty figures of his age, here appears as a symbol of the superiority of the word over the sword.



Photo © Bibliothèque Nationale, Paris.

► Saint Benedict was, above all, an ascetic, a contemplative, a "man of God" as his biographer called him. Yet he was also a legislator who expressed and codified his experience of monastic life in his famous Rule which was destined primarily for application in the monastery at Monte Cassino, but also in other monasteries that little by little came to adopt it.

The monastic movement had, indeed, been in existence in the West for some two centuries before Saint Benedict's time and had already produced a number of notable figures, such as Saint Martin of Tours, as well as various monastic rules. What it lacked, however, was a balanced, reasonable, harmonious code which would make the monastic life accessible to people not endowed with exceptional physical and spiritual qualities and which, above all, would provide monastic communities with a solid, wisely-conceived organizational framework capable of withstanding the vicissitudes of time.

Saint Benedict was inspired by a profound faith, and it was upon this faith that he based his entire spiritual edifice. In this respect, the Benedictine Rule has been described as being "Christ-centred", since, to the eye of the faithful, the presence of Christ can be discerned in everyone, whether abbot or monk, sick person or passing guest.

Since the community for which it was drawn up was formed and exists above all for religious purposes (seeking after God), the Rule gives pride of place to prayer, which Saint Benedict called *Opus Dei*, the supreme work of God. Periods of prayer are allowed for at fixed times of the day, consisting of readings of psalms and lessons. The Bible, accompanied by the commentaries of the Church Fathers, is thus the basic text of prayer. By means of prayer the monk can express the renewed gift of fellowship with God both in personal colloquy and in a collective act of praise in which all creation is united in celebration of the

greatness of God in the world and throughout time. Linked in this manner to the Bible and the liturgy, monastic prayer has an essentially objective character quite distinct from that of other spiritual schools which tend rather towards the introspective, contemplative approach.

Work is another fundamental component of the Rule. Indeed, so essential was it considered to be that later tradition coupled it with prayer in the formula *Ora et Labora* (pray and work), although these words do not actually appear in the text of the Rule. Previously left almost entirely to slaves, work not only offered an escape from idleness, so harmful to the spirit, it also provided a means of subsistence and of helping pilgrims and succouring the poor. The Rule speaks explicitly of *Arti*, that is to say, of the activities undertaken by the monks within the monastery. Work in the fields was left to the peasants, although the Rule provides for the monks to take part in this work when necessary. It also gives instructions on what



Photo © Michel Hayaux du Tilly, Paris

“Slave or free man, we are all one in Christ, and we are militant under one Lord, bearing an equal yoke of servitude”, wrote St. Benedict in his Rule. The abbot, leader and father of the monks, takes no important decision without consulting the community or the council of seniors, and some writers who have described the organization of the Benedictine life have even spoken of “monastic democracy”. This detail from a fresco in the Benedictine monastery of Monte Oliveto Maggiore near Siena in Italy shows the Benedictine community eating in silence which is broken only by the monk reading aloud. It forms part of a series of scenes from the life of St. Benedict painted by the Italian artist Sodoma between 1505 and 1508.

► constitutes a suitable ration of food and the time to be allotted to sleep and rest, the Abbot being allowed a wide margin of discretion in these matters.

These apparently simple regulations, destined for the closed world of the monastery, cut off from society, were to prove extremely fruitful during the succeeding centuries. Born just after the fall of the Western Roman Empire, in 476, Saint Benedict lived in a period of profound change, of crises and upheavals whose effects were felt as much by ecclesiastical as by other institutions.

It was a period marked by intensified transigrations of peoples which were to give birth to the Europe of the Middle Ages. And, although there are no grounds for supposing either that the Popes gave any explicit instructions concerning the formulation of the Benedictine Rule, with a view to the conversion of these people to Christianity, or that this was in the mind of the Saint himself—he had no wish to deviate from his ideal of solitude and detachment from the world—the regulations he had drawn up were to be decisive for the future.

With the foundation of the Holy Roman Empire under Charlemagne, in the 9th century, and under his successors, the Benedictine Rule was more and more widely adopted until it became virtually the sole body of monastic regulations of the period. This meant that innumerable monasteries had the good fortune to find themselves governed on the basis of a wise and compassionate Rule, while at the same time retaining virtually complete autonomy.

At the end of the 6th century, Pope Gregory the Great had sent some forty monks under Saint Augustine to convert England to Christianity. Later, from the 8th to the 9th century, Anglo-Saxon monks, under the leadership of Saint Boniface, were in their turn to land on the continent, penetrating into the heart of Europe to regions untouched by Roman civilization, to convert the Germanic peoples to Christianity. They then took their message to the Scandinavians and the Slavs, and in this way, over the centuries, the spread of Christianity and the expansion of monasticism went hand in hand.

The time came, however, when the monasteries felt the need to emerge from their isolation and to band together into larger associations to defend themselves from external threats. The first of these associations, the precursors of the great religious orders, was centred on the famous monastery founded at Cluny, in Burgundy, France, in 910. Many others followed suit, notable among them being Cîteaux, the monastery which Saint Bernard and some thirty of his relatives and friends were to enter two centuries later.

As it expanded, Benedictine monasticism followed fairly closely the evolution of both Church and society, associating itself with the Church in the task of spiritual reform to counter interference from the outside world, but acting in concert with society in the introduction of new craft techniques and in the development of agricultural production and trade.

Situated, in many cases, beside the main communication routes, whose upkeep they ensured, the monasteries provided hostels for pilgrims and, later, full-scale hospitals for the sick. But, above all, the Benedictine ►



## “Pray and work”

An original feature of St. Benedict’s Rule is the stress it lays on the importance of manual work in the spiritual life, the monk’s day being divided between prayer and work, and governed by a strict timetable. Bells were rung when it was time to pass from one activity to another. Top, the ringing of bells is depicted in the initial “E” in an illuminated Bible (c. 1250) from the abbey of Saint-Eloi in northern France. Above, preaching monk carved on a stall from the abbey of Saint-Lucien, Beauvais (France). Carving on another stall from the same abbey (below) shows a monk working a butter churn. As a result of their “work ethic” the Benedictines made a decisive contribution to the economic and social life of medieval Europe. Manual work is still coupled with prayer in the daily activities of the monk.



By the end of the 12th century there were over 100,000 Benedictine monasteries in Europe. Their impact on European culture and civilization was far-reaching: their scribes and copyists helped to transmit the literature and learning of Antiquity to the modern world, and their schools were the leading educational institutions. Above, 15th-century miniature showing Constant the African, an 11th-century monk in the great Benedictine monastery of Monte Cassino in Italy, diagnosing an illness through uroscopy. Constant was instrumental in transmitting elements of the Arab pharmacopeia to Europe. Below, the *scriptorium*, or scribes’ copying-room, in the abbey of Echternach (Luxemburg) as depicted in an 11th-century miniature.





Photo © Bernd Urban, Antwerp

While St. Benedict was living as a hermit, the fame of his sanctity spread and disciples flocked to hear him preach. Tiny painting (above) in the margin of a mid-15th-century breviary from the abbey of Grammont (France), shows the monks of Vicovaro beseeching him to become their abbot. Later his followers would preach the length and breadth of Europe. In 529 Benedict founded the monastery of Monte Cassino on the site of an ancient temple to Apollo halfway between Rome and Naples. The monastery (below) was an important cultural centre in the Middle Ages when its monks produced outstanding manuscripts and paintings. It has been destroyed and rebuilt several times, most recently after the Second World War.

► monasteries gave an extraordinary impetus to the life of the mind at a time when there existed very few other institutions in a position to do so.

Each monastery had a library and a writing room for the transcription of manuscripts required both for the religious offices and for the cultural education of the monks. At a time when the outside world was experiencing a disturbing cultural decline, the monastic libraries represented virtually the sole repositories of knowledge. In transcribing and preserving not only sacred Christian texts but also classical Greek and Latin literature, the Benedictine copyists rendered an invaluable service to civilization, maintaining its continuity in face of the threat of irreparable rupture.

Nevertheless, Saint Benedict and his successors will be remembered primarily for the spiritual values which they kept alive and spread throughout Western Europe up to the start of the modern era. Then the changing conditions of the times made necessary the development of new religious orders with more clearly defined aims and that were better prepared for the apostolic mission. In the organization of work, in the sense of prayer and in the collective life of the monastery were to be found the specific activities and conditions of life that together constituted the values that Benedictine monasticism sustained and propagated in medieval society. The very soul of Europe was moulded by Saint Benedict and his successors who created a culture which, despite the diversity of its national and local forms, was profoundly unitary because it drew inspiration from a single source, having a single faith based on the Bible and the tradition of the Church.

For centuries, the ideal of saintliness remained that formed by the monastic life, and Benedictine saints, whether canonized or not, can be counted in their thousands, among whom were spiritual leaders, advisers to popes and emperors, founders of monasteries and of cities, and evangelists who carried the word to the people. They included many great thinkers, Doctors of the Church such as the Venerable Bede, Saint Damien, Saint Anselm and Saint Bernard, who contributed to the emergence of a particular kind of theology known as "monastic theology" because it was appropriate to a life of prayer and the quest for union with God. Their writings, highly esteemed by the student of today, are of lasting value because they stress the unity of prayer and life, of faith and charity, of religion and culture. Thus the influence of Saint Benedict's spiritual legacy still makes itself felt across the centuries, and from the past his voice still brings enlightenment to modern man.

■ Gregorio Penco



Photo © I Buga SAS, Milan



Photo © M T Cattoir, Paris

All over the world today there are men and women who live according to the Rule of St. Benedict. Above, two Benedictines from the monastery of Koubri (Upper Volta). Below, monks listening to their prior in the cloister of a monastery near the village of Bédouin in the south of France.

Photo Gilles Mermet © Figaro Magazine, Paris



# UNESCO NEWSROOM

## Soviet scientist and broadcaster wins Kalinga Prize

The Kalinga Prize for the Popularization of Science has been awarded to Sergei Kapitza, professor of physics at the Moscow Physico-Technical Institute. Since 1973, Prof. Kapitza has produced a peak-hour popular science TV series which reaches an audience of some 40 million. Programmes conceived and presented by him have covered such subjects as thermonuclear power, gerontology, humour and jokes, the origin of life, and creativity in art and science. Created in 1951, the £1,000 Kalinga

Prize is awarded annually by a Unesco-appointed jury for work contributing to the popularization of science. It bears the name of the ancient Indian empire which flourished under the reign of Ashoka, the enlightened emperor who renounced war to devote himself to study and religion.

## World Food Day

World Food Day will be observed for the first time on 16 October 1981, the 30th anniversary of the foundation of the Food and Agriculture Organization of the United Nations (FAO), and will then become an annual event. World Food Day will be an opportunity to do something about world hunger through renewed commitment and resources for food and development programmes, internationally co-ordinated action to tackle food problems, sponsorship of activities such as seminars, debates, essay competitions for schoolchildren, etc. Most governments and many non-governmental organizations are planning World Food Day events. For further information write to: the World Food Day Secretariat, FAO Headquarters, Via delle Terme di Caracalla, 00100 Rome, Italy.

## International effort to save the panda

The World Wildlife Fund has launched a major international fund-raising campaign on 5 continents in support of efforts by the People's Republic of China to save one of the world's best-loved animals, the giant panda. This is the first joint conservation project between the Chinese Government and a non-governmental conservation organization. Field work is already underway on the save-the-panda operation, which was inaugurated last year in Wolong Natural Reserve, Sichuan Province. The initial agreement which the World Wildlife Fund and China signed in preparation for their scientific collaboration acknowledged the panda as "not only the precious property of the Chinese people but also a precious natural heritage of concern to people all over the world."

## The threat of military research and development

Some 400,000 highly qualified scientists and engineers around the world are engaged in military research and development (R&D). Their activities, which account for about 40% of all R&D, constitute the major element fuelling the arms race and thus threaten the future existence of humanity. These are two of the grim conclusions reached by contributors to the latest issue of Unesco's quarterly *Impact of Science on Society* (vol. 31, No. 1, Jan.-March 1981). Articles in the issue, which is entitled "Weapons from science: civilization's pitfall", include: "Arms control, disarmament and small nations", "What the arms race means", and "The influence of arms development on new research".

## Satellite send-off for Bulgarian anniversary

Two "Intercosmos Bulgaria-1300" space satellites equipped with Bulgarian equipment will be launched from USSR territory to commemorate the 1300th anniversary of the foundation of the Bulgarian State. Their mission will be to study the interaction of the ionosphere and the magnetosphere. Since the first Bulgarian satellite went into orbit in December 1972, Bulgaria has become a veteran of space exploration.

## New creatures found in Pacific geysers

A research ship off South America has reported discovering sea creatures which may never have been seen before, living at the bottom of the Pacific Ocean. The sea floor was known only as a pitch black terrain, nearly barren of life, until 1977 when hot water geysers gushing up through small "smokestacks" were discovered off the Galapagos Islands and were found to sustain communities of species, genuses and families unlike any evolved elsewhere on earth. The latest discovery, by the U.S. vessel *Melville*, may be the largest of these "ocean vent communities". The vent sites are on the crest of an underwater mountain range called the East Pacific Ridge, where two great plates of the Earth's crust are slowly pulling apart.

## Unesco group votes to launch sports week

A Unesco-sponsored intergovernmental committee has unanimously recommended that all Member States support the organization of a World Physical Education and Sports Week. The 30-member Intergovernmental Committee for Physical Education and Sport also appealed for increased contributions to the international fund for the development of these activities, stressed the need to democratize sport, and called for large scale programmes to provide sports opportunities for everyone.

## Flashes...

■ *The world total of blind people is now estimated at 30 to 40 million, reports WHO, 80 per cent of them living in the Third World.*

■ *In an average year tropical cyclones kill about 20,000 people and diminish the economic resources of the countries affected by \$6,000-7,000 million, according to the World Meteorological Organization.*

■ *The World Food Programme is sending 10,000 tons of grain to drought-stricken populations of Mauritania.*

■ *An estimated \$1 billion worth of technical assistance to Third World countries is expected to be delivered by the United Nations Industrial Development Organization (UNIDO) in the 5-year period 1982-1986.*

■ *The Serengeti National Park and the Ngorongoro Conservation Area in Tanzania celebrate their 60th anniversary this year.*

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• **Made to Measure: Children's Books in Developing Countries**, by Anne Pellowski. 129 pp., 1980 (22 F).

• **Studies in Mathematics Education**, Volume 2, edited by Robert Morris. A contribution to the design of future mathematics programmes. 179 pp., 1981 (24 F).

• **The Concept of International Organization**, edited by Georges Abi-Saab. 245 pp., 1981 (42 F).

• **Methods of Computation of the Water Balance of Large Lakes and Reservoirs**, Vol. 1, Methodology. A contribution to the International Hydrological Programme, edited by H.L. Ferguson and V.A. Znamensky. (No. 31 in Unesco's "Studies and Reports in Hydrology" series). 120 pp., 1981 (32 F).

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• **Alexander Pushkin**, by Dmitrij Blagoj. One of a number of monographs prepared in the context of Unesco's project for the study of Slav cultures and being published, in collaboration with the International Association for the Study and Dissemination of Slav Cultures, under the general title of "Prominent Figures of Slav Culture". 104 pp., 1981 (18 F).

• **Museums in China** is the theme of **Museum**, Unesco's quarterly on museography (Vol. XXXII, no. 4, 1980). Single issue: 24 F; annual subscription: 72 F.

• **Weapons from Science: Civilization's Pitfall**, theme of Unesco's quarterly **Impact of Science on Society** (Vol. 31, No. 1, Jan.-March 1981). Single issue: 16 F; subscription 56 F (1 year); 90 F (2 years). See news item this page.

• **Educational reform-1: Approaches**, theme of the special dossier in Unesco's quarterly review of education **Prospects** (Vol. XI, No. 1, 1981). Single issue: 16 F; subscription 56 F (1 year); 90 F (2 years).

# CONSENSUS AND PEACE



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