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Courier

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UNESCO
ARCHIVES

HISTORY OF MANKIND

A global view of
cultural & scientific
development



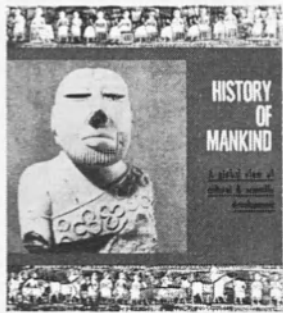
MAN vs. STRESSES OF ANTARCTICA



Men who live hidden like hibernating animals in the scientific stations of Antarctica (above, an ice tunnel leading into a research base) undergo severe stresses and strains. A relentless climate, deprivations of all kinds, utter isolation and the enforced seclusion that comes with the long winter night all try mental and physical resistance to the full. As a leader of Australian Antarctic expeditions, Phillip Law has been able to study at first hand the psychological and physiological ills that affect these polar teams. (See article on page 26)

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COVER PHOTO

This 4,000-year-old statue of a bearded man is the only stone bust found in the ruins of Mohenjo-daro, a city of the mysterious civilization of ancient India (now West Pakistan). The Indus Valley had no stone and all had to be imported, as was the case in Sumer. Cover also shows two details from the celebrated "Standard" of Ur, whose double-sided panels, incrustated with shells and lapis-lazuli, depict a variety of scenes from Sumerian life.

Photos Josephine Powell,
and British Museum

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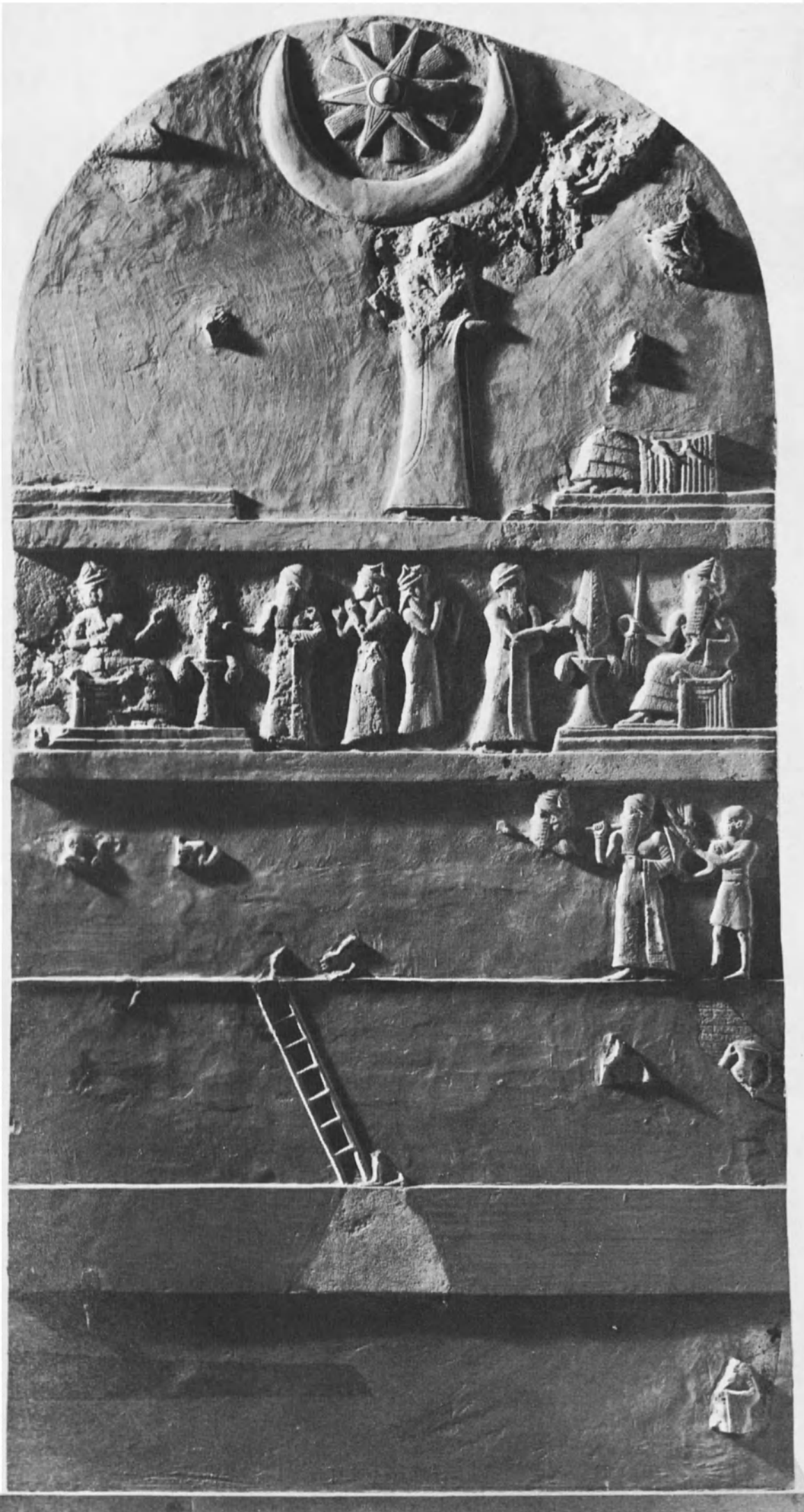
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HIST

by
Dr. Guy Métraux



One of the outstanding achievements of the Sumerians was the system of law they evolved. On the stele (left), Ur Nammu, a ruler of the Ur dynasty in about 2600 B.C., is depicted in adoration before Shamash, the god of justice. Their figures at the top of the stele are incomplete, but the same scene is repeated (intact this time) immediately below them. Some five centuries later, Hammurabi, the Babylonian king, gathered existing laws and legal procedures into his celebrated Code and in the design accompanying it he too represents himself in an attitude of reverence before Shamash as the embodiment of the idea of justice.

All the illustrations accompanying our "History of Mankind" report (pages 4-19 and front cover) are taken from the first volume of this global History.

HISTORY OF MANKIND

A global view of scientific and cultural development

THE publication this month of the first volume of the monumental six-tome *History of Mankind*, subtitled *Cultural and Scientific Development*, sponsored by UNESCO, marks an important date for historical science and for international understanding.

Many of the differences that still divide mankind go back far into the distant past. Yet, as Professor Paulo E. de Berredo Carneiro, of Brazil, points out in the preface to the *History*, a study of the historical antecedents of its peoples reveals links which draw them nearer to one another.

"Beyond differences of race, climate, economic structure and systems of ideas," writes Professor Carneiro, who is President of the International Commission responsible for the preparation of a history of the scientific and cultural development of mankind, "history shows the fundamental identity of the various human groups, making it possible to discern, in many cases, profound analogies among the transformations they have undergone from the Palæolithic era down to the present time. If we consider the human species as a whole, we perceive that the course of its evolution has been accomplished from one region and from one people to another by way of a series of oscillations, greater or lesser in extent, longer or shorter in duration. The different civilizations which have arisen in the course of the ages correspond to distinct phases and patterns of this general movement. Almost every one of them is to be found somewhere in the world of today. Contemporary society appears as a mosaic in which the most widely differing cultures adjoin and confront each other."

Volume One of the *History of Mankind*, which appears first in its English edition, deals with prehistory and the beginnings of civilization. But neither this volume nor the five others to follow trace the national history of any country or people in particular. Instead, what they present is a detailed study of economic and social events, religious and emotional life, the forms of artistic expression and the scientific thinking, and a comparison of these with the forms taken by the same experiences in other countries during the same period.

SIR Leonard Woolley, writing in Volume I on the urbanization of society, for example, examines this economic and social process as it occurred in Egypt, Sumeria, the Indus Valley and China. But he does not describe in the traditional way the thousand and one ups and downs in the fortunes of these countries.

From the first volume to the last, and whether authors are dealing with prehistory or the 20th century, the chapter headings follow a similar pattern. First an introduction gives a chronological picture of the historical events forming the background to the development of the great cultural and humanistic institutions. Then the life of the people, the social structures, economic

activities (crafts, production and trade), the development of spoken languages, of writing and teaching, religious life, the development and applications of science and the forms of artistic expression are all examined in turn.

The study of the origins of language made by Jacquetta Hawkes in the first part of Volume I is followed by Sir Leonard Woolley's survey on the formation of and differences between spoken languages in Sumeria, Egypt and China. The subject is taken up again in Volume II, this time by Professor Luigi Pareti, who surveys the chief languages of the period between 1200 B.C. and 400 A.D., amongst them Greek, Latin and Sanscrit.

Similarly, it will be possible for the reader to follow the development of science and its applications down the road of history from its origins in far off antiquity up to the present 20th century. But once again this is not a history of French science or Russian science or American science, but of the development of science as a whole in which contributions made throughout history by Frenchmen, Russians and Americans as well as by scientists from other countries are given full acknowledgement.

A need for a global history of mankind was made clear at the conference of Ministers of Education held in London while the world war was still raging. The idea was again put forward in 1946, this time by Dr. Julian Huxley, then Executive Secretary of the Preparatory Commission for UNESCO, in his report, "UNESCO: Its Purpose and Its Philosophy." In 1949, UNESCO's General Conference examined the project and after many preparatory meetings and studies, decided on the form the work would take.

In 1951, and under the auspices of UNESCO, the International Commission for a History of the Scientific and Cultural Development of Mankind was formed with its own executive body and secretariat. The Commission's work went on for more than ten years during which time scholars the world over were asked to join the team working on the project.

Those closely associated with the work realized the immensity of the task. From the start it was clear that, like all works of great originality, it too could expect to come under rigorous scrutiny. And the final result must fully justify the expectations of a world public. Furthermore, scholars who normally work in private and seclusion, would here be very much in public view: not only would the UNESCO General Conference periodically discuss the execution of the project, but historians and scholars throughout the world have also have to be kept informed of the progress of the work.

Since 1953 the editorial plan of the *History* has been presented in the pages of the *Journal of World History*, a **5**

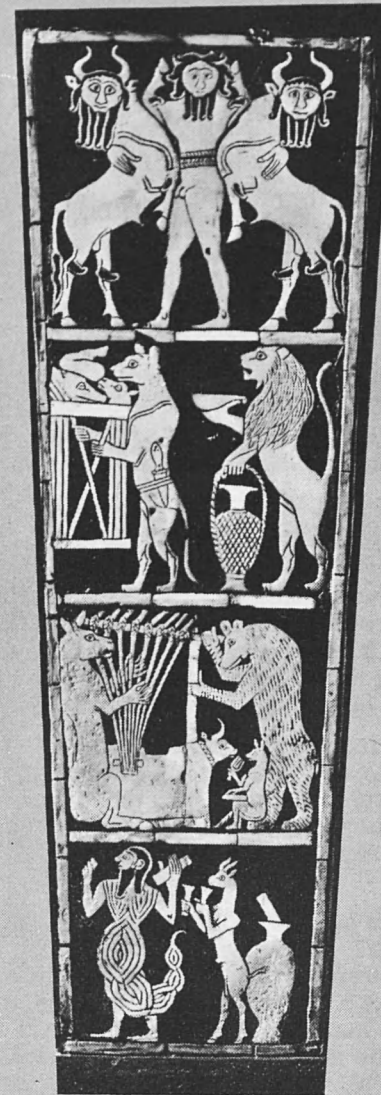
CONT'D ON NEXT PAGE

An unparalleled international venture

quarterly review initiated and published by the International Commission. This review has also published some chapters from the *History* as well as major articles covering a wide range of subjects relating to scientific and cultural development. Commissioned by the authors of the different volumes from their colleagues in all parts of the world to assist them in compiling this work, these articles represent the thinking of scholars from many countries and with every kind of ideological background.

In all cases scholars were given the widest possible bounds in which to develop their subjects: the bounds of human experience. By limiting itself to cultural and scientific development, the *History* seeks to attain the universality which brought UNESCO into being and which guides it today. For, at every stage in the ascent of humanity and in varying degrees of complexity and intensity, culture and science have made their contributions.

The prehistoric man described by Jacquetta Hawkes in Volume I was more or less consciously applying certain scientific principles each time he used a sling, shaped a flint or discovered the advantages of irrigation and crop rotation in agriculture. The complexity of the Sumerian civilization, as seen in its involved structures, scales of values and internal relationships, made it a very different one from that of Egypt. Yet the very existence of both Sumer and Egypt was conditioned by similar factors: the fate of both was linked to rivers.



FANTASTIC BESTIARY

The civilization of Sumer which flourished 4,500 years ago produced a rich art in which the animal-world is portrayed in striking poetic fantasy. The shell plaque (left) decorated an ornate lyre unearthed from the tomb of a ruler of Ur (about 2500 B.C.). It bears a gracefully executed series of little scenes engraved on a black enamel base, depicting animals with human attributes: gazelles with bearded human heads, a dancing bear, a lion bearing a vase, a dog carrying a dagger in its belt and pushing a table, and a donkey musician. Not only does the bestiary show animals behaving like humans, as in the fables of Aesop and La Fontaine, but it also depicts men metamorphized as animals, like the scorpion man (enlarged at right) who is attended by a roguish young goat.

A HISTORY IN SIX VOLUMES

Volume I: **Prehistory and the Beginnings of Civilization**, by Jacquetta Hawkes and Sir Leonard Woolley, 920 pages. (London, George Allen & Unwin, Ltd., 1963) 75/-; (New York: Harper & Row, 1963) \$12.50.

Volume II: **The Empires of the Ancient World**, by Luigi Pareti, assisted by Paolo Brezzi and Luciano Petech. To be published in 1964.

Volume III: **The Peoples and Cultures, 400 A.D. to 1200 A.D.***, by Gaston Wiet, Vadime Eliséeff and Philippe Wolff. To be published in 1965.

Volume IV: **The World, 1200 to 1775***, by Louis Gottschalk, assisted by L.C. MacKinney and E.H. Pritchard. To be published in 1964.

Volume V: **The Nineteenth Century***, by Charles Morazé et al. To be published in 1965.

Volume VI: **The Twentieth Century***, by Caroline F. Ware, K.M. Panikkar and J. Romein, will appear at the end of the same year.

The first volume of the History of Mankind in Spanish (Editorial Sudamericana, Buenos Aires) is scheduled for publication at the end of 1963 or early in 1964. Other editions are being prepared in French, Italian, German, Japanese, Arabic, etc. The History will also appear in paperback form in the United States.

A collection of six paper-back volumes under the general title of Readings in the History of Mankind will appear under the imprint of the New American Library of World Literature (Mentor Books). Based on articles published in the Journal of World History and grouped according to important historical themes, the collection can serve as a companion to the History of Mankind. The first two paperbacks, The Evolution of Science and The Nineteenth Century World are scheduled to appear this month at 95 cents. Ritchie Calder and Mario Praz have written original prefaces for these books.

* Tentative titles.

To attain the goal set by the International Commission, editors of the different volumes worked in close co-operation. Every manuscript was drawn up according to a plan prepared by Professor Ralph Turner and approved by the Commission, and each was meticulously revised after having been widely circulated among UNESCO's National Commissions in all the Member States. Comments, criticisms and additional facts supplied by specialists were used to correct and complete the texts.

Thanks to UNESCO's support, this method was used on a world-wide scale. The long list of historians whose comments were used in the revision of Volume I includes Soviet specialists, American and British prehistorians, French, Italian and German archaeologists and scholars from Japan, Spain, Mexico and India. In editing this first volume, Jacquetta Hawkes and Sir Leonard were able to make use of more than eighty comments from scholars of world-wide reputation.

Where comments have not been embodied in the texts, for reasons of historical or even ideological interpretation, they have nevertheless been included as notes prepared by the editorial advisers.

In the chapter dealing with intellectual development for example, the theory advanced by Jacquetta Hawkes on the origins of languages is supplemented by comments from an American specialist, Dr. W.C. Sturtevant, who has different views on this subject. Similarly, from detailed notes and comments, Sir Leonard Woolley was able to record his discussion on the origins of Aryan civilization with Indian scholars. He was also able to exchange views with Marxist scholars regarding some social institutions which, in dialectical materialism, are given a prominence contested by other schools of thought.

The International Commission has used these notes,



University Museum, Philadelphia

without in any way disturbing the continuity of the narrative, to show readers the great wealth of historical thought in the 20th century and the differences in interpretation which it has produced. On controversial questions, whose interpretation is so often linked to a particular philosophy of history, the Commission carefully avoided adopting a definite position.

Contributors to the *History* were not asked to include in their texts viewpoints with which they disagreed, but in all cases where specialist opinions were available, these other views were included in the volumes in the form of notes or appendices. In Volume I, this type of contribution was compiled and edited by a Swiss scholar, Professor A.G. Bandi, of the University of Berne, and a French scholar, Professor Jean Leclant, of the University of Strasbourg.

Under the auspices of Unesco and the responsibility of the International Commission, the work of compiling the *History* was marked throughout by a spirit of interna-

tional co-operation. But it was no easy task. The distribution of more than 200 copies of original manuscripts and the study of commentaries that were often lengthy involved a great deal of patient work. From the scholars co-operating in this work it required above all their readiness to revise their opinions in the light of information submitted by their colleagues, when this was convincing, even if it did not correspond to their own ideas.

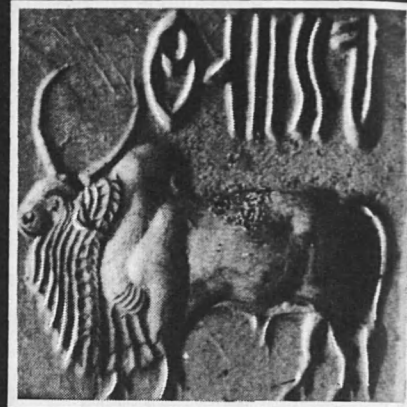
This work has come into being in the middle of the 20th century at a key moment in history when there is a growing consciousness of a civilization embracing all mankind.

In the words of René Maheu, Director-General of Unesco, in the forward to Volume I; "For the first time an attempt has been made to present, with respect to the history of consciousness, the sum total of the knowledge which the various contemporary societies and cultures possess... It departs from the traditional approaches to the study of history, which, as we know, attach decisive importance to political, economic and even military factors... This historical study is itself a cultural achievement, calculated to influence, by its spirit and methods, the present trend of culture. And that, no doubt, is its ultimate end."

The **Journal of World History** (a quarterly historical journal with articles in French, English and Spanish) is published by the International Commission for a History of the Scientific and Cultural Development of Mankind and is issued by the Editions de La Baconnière, Boudry-Neuchatel, Switzerland, \$10.00 a volume (four numbers, about 1,000 pages). The last number is devoted to the development of the sciences in Italy.

GUY METRAUX has been Secretary-General of the International Commission for a History of the Scientific and Cultural Development of Mankind since its inception. Doctor of Philosophy of Yale University, he is co-editor of the "Journal of World History", published by the Commission, and author of "Exchange of Persons: the Evolution of Cross-Cultural Education", published by the Social Sciences Research Council, New York, 1952.

Volume I of the Unesco-sponsored "History of Mankind", which appears this month in its first English edition, is divided into two parts: "Prehistory" by Jacquetta Hawkes, and "The Beginnings of Civilization" by Sir Leonard Woolley, both archaeologists of world-wide reputation. In 920 richly illustrated pages the first volume takes the reader on a fascinating journey into man's earliest past through the Bronze Age to the development of civilizations in Sumer, Egypt and Elam, in Phœnecia, Crete, Anatolia, in India and China. "Prehistory and the Beginnings of Civilization" describes what it was like to be a cave dweller and Stone Age hunter, a weaver, metal worker and farmer, how techniques, arts and crafts grew, and how languages and writing systems developed. It takes the reader back to the first gropings of the early ape-men in Africa and Asia in their efforts to make tools, control fire and form a language, to the mystery of the Indus Valley civilization at Mohenjo Daro and Harappa, to the famous walled "Great City of Shang" which set the foundations of Chinese civilization. On the following pages, The Unesco Courier is privileged to offer its readers a few selected passages from the vast colourful tapestry of Volume I of "History of Mankind", an international publishing venture of unparalleled importance.



Courtesy of Govt. of India, Dept. of Archaeology

THE AWAKENING

THE expansion of consciousness is a main theme of history. Nothing has greater significance than the development and exercise of the human greatness. This must be the estimate of the humanist; if it were added that it is through these gifts that God has made us aware of divinity, then there are few people in the world who would challenge it.

In man's animal past as one of the primates, the sharpening of sight at the expense of the more lowly sense of smell that went with living in trees, contributed to a heightening of mental faculties; only birds, carnivores and primates are equipped with a specially sensitive spot on the retina which provides for great acuteness of eyesight. When to this sharpness of sight the stereoscopic vision was added, while that habit of grasping branches and seizing insects and fruit produced a flexible hand, the way was open for further advance. An ape or monkey fingering at the same time as it scrutinizes some unfamiliar object offers a good symbol for the dawn of both conscious apprehension and skill.

Much has sometimes been made of the great importance for human evolution of the hand with its opposable thumb; it was important, certainly, but only as the servant of a waxing brain. The hands of the higher monkeys would be perfectly capable of the finest skills had they a mind to set them to work; monkeys could be watchmakers had they ever conceived the notion of time.

A further stimulus to mental growth was given our

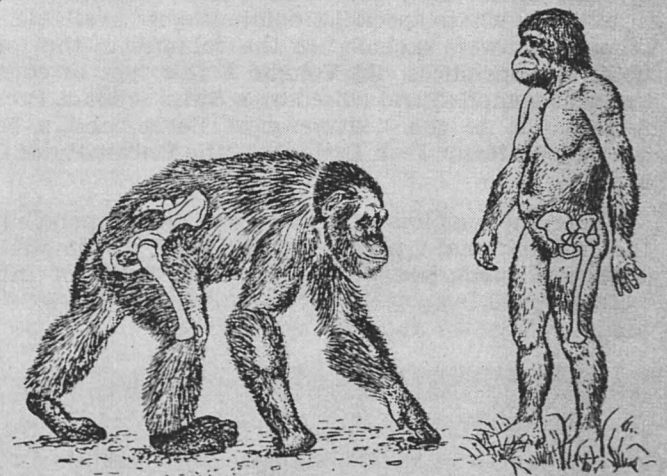
(1) Professor A.C. Blanc (Italy) points out that many authors have challenged the view that our ancestors left the trees and only then began to adapt themselves to living in relatively open country; instead, they consider that life in trees of apes is a form of specialization which the human species never went through.

(2) Professor G. F. Debetz (U.S.S.R.) suggests that the use of the hand in the process of labour activity and of the practical transformation of objects of nature for the purpose of satisfying the material requirements of man, conditioned the formation and development of his spiritual faculties: thinking, attention, memory; it complicated and improved such psychic function as sensation and perception. And our ancestors' requirements for communication, ensuing from joint activities, conditioned inevitably the beginning and development of speech.

ancestors when they left the trees and a mainly vegetarian diet and began to adapt themselves to living in relatively open country and eating meat (1). It may be that the actual chemical constituents of meat were of benefit to their brains; undoubtedly its nutritive value, so much greater than that of herbs and fruit, relieved them of the necessity of perpetual eating.

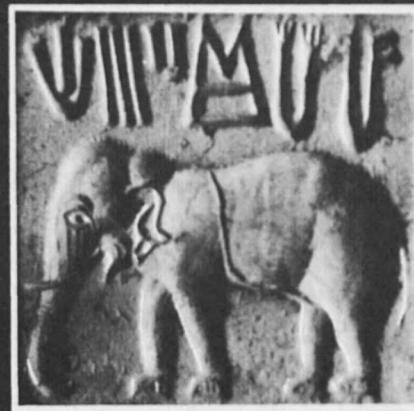
More important, the need for a creature with a relatively flat muzzle and lacking sharp claws of canine teeth to kill, skin and break up animal food must have led first to the use and then to the manufacture of tools. Once manufacture had begun, our forebears had stepped to an altogether higher plane of concentrated visual attention and manipulative skill. It may be that the controlled use of the hand helped to develop another essential human faculty, that of speech (2).

It has been found that movements of the hand pro-



(After Singer et al.)

For many years it was thought that the earliest human species originated in Asia, but it is now generally agreed that Africa was the birthplace of mankind. It is in Africa that Australopithecus (reconstructed above with chimpanzee) the most man-like of the fossil apes has been found. Australopithecus walked upright and shaped stone tools a million years ago.



Engraved seals bearing animal motifs and pictographic signs found on the site of Mohenjo-daro on the River Indus

in West Pakistan. Mohenjo-daro and Harappa, 350 miles away, were the chief cities of the Indus Valley civilization.

OF THE MIND

by

Jacquetta Hawkes

voke a sympathetic movement of the mouth, and it may be that a habit of communicating by gesture helped to induce the controlled emission of sounds.

Here again, however, there is need to be chary in any recognition of cause and effect. Just as monkeys and some other primates have hands capable of executing skilful tasks were their brains equal to it, so, too, their lips, palate and vocal chords are probably capable of speech. It is brain power that is lacking.

It is easy to say that the need for acute vision, the ability to manipulate, the necessity of cutting up meat, the purposeful concentration required to make tools all led to the multiplication of brain cells in hominid and human skulls, while each multiplication of cells led in turn to a further advance in functions.

To this we can add the further idea favoured by many

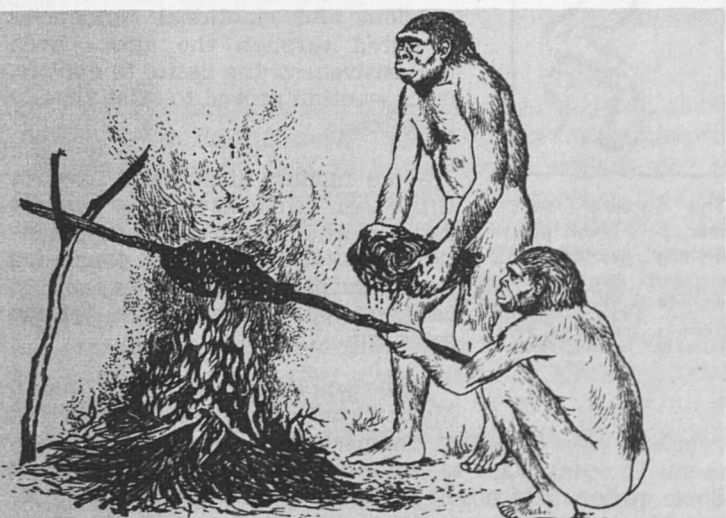
biologists that "man is a foetalized ape," that is to say that the direction of human evolution was towards resembling the young and not the mature primate, and that this postponing of physical maturity gave opportunity for a longer period of learning and experiment and further increase in brain size.

All this interplay of cause and effect can be made to seem very convincing after the event. Yet we should remember that for thousands of years the Egyptians seemed to have very good reason for thinking that the rising of Sirius caused the Nile to flood. It may be that the ultimate cause of the waxing of the human brain, of the expanding of consciousness within it remains as remote from our knowledge as the mountain sources of the Nile were to the Egyptians.

If causes are best treated with caution, there is no doubt that the strengthening of mental power came with the vast expansion of the cerebral cortex of New Brain in man. The two hollow hemispheres of the human cerebrum are so large that they have become deeply folded and convoluted to house them within the plates of the skull.

The great size of the frontal and temporal lobes is particularly characteristic of man, and they include among their millions of nerve cells many groups not enslaved to exact functions but with the storing of memories and their association. Memory, association, leading to image-making powers, these are the capacities necessary for full self-consciousness, for the awareness of past and future, intelligent anticipation and the building of traditions to bind the long life of the race . . .

The self-consciousness that intensified with the elaboration of the cerebral cortex, making man more and more aware of his actions and of his separation from nature, was to take two main and opposing directions. One was towards controlling the environment. This led immediately to tool-making and then on to the whole



(After Le Gros Clark)

Peking man, a reconstruction of the creature whose remains have been found in some numbers in the Choukoutien caves near Peking. Cave deposits proved the ancient human inhabitants were capable of chipping rough tools and of maintaining fires for warmth and protection. Their skulls had a brain capacity just within the modern human range.

A mental legacy from pre-humans

accelerating course of our technical and scientific advance. Here analysis, the breaking down of the whole into manageable parts, has been the means, and the ends are wholly practical and material.

The other direction is towards reuniting the part with the whole, man with the universe from which his consciousness seemed to divide him. This way led to ritual, art, religious faith, mysticism and some aspects of philosophy. Metaphor, simile, symbolical enactments and other unifying forms have been the means, and the ends, essentially, are not practical or material.

The very evident weakness of archæology as a proper basis for history is its helpless dependance on material remains and the resulting tendency to over-emphasize the first of these two great ways of human endeavour. Thus, for example, it is not until the sudden appearance of art and ritual burial towards the end of the Palæolithic Age that we have anything beyond the faintest hint of man's inner, unifying existence although undoubtedly this must have been increasing and refining even while in his extraverted and practical life man went from battering pebbles to shaping a hand-axe.

We can assume at the intellectual level a growing ability to categorize and to draw conclusions from the past to the benefit of the future. At the imaginative level there must have been mounting power to picture things (and particularly objects of desire such as game animals) when they were not before the eyes, comparable to the ability to visualize the completed tool within the unshaped block of stone.

The beautiful shape of the hand-axe itself can, indeed, be used as a proof of the early emergence of an æsthetic sense. It has even been suggested that the finest of these tools, those which seem so much more exquisitely worked than practical necessity demanded, may have become cult objects like the ceremonial axes of the Caledonian Islanders or the very unwarlike silver maces often brought out on state occasions in western Europe.

Whether or not these implements came to possess some special imaginative significance or *mana*, their satisfying proportions show that already a quarter of a million years ago the imaginative mind had its own sense or rightness in pure form which, whatever its source, still holds good for us today.

Consideration of the source of these æsthetic judgments leads to the question of inherent mental patterns of all kinds. It may well be that man's feeling that certain proportions are right or beautiful has always been derived from his participation in the natural world, animate and inanimate, organic and mathematical, from which he emerged.

10 But beyond that there is a widely held and also strongly contested view that human beings are born with certain innate mental forms which have come into being through the experience of the evolving species. They are inherited just as the similarly evolved bodily parts are inherited, but as they are mental they tend to be expressed in cultural forms, most obviously in religious myths, which although they differ in outward form with the tone of the culture concerned, often appear to have an underlying unity that is world-wide and timeless.

These archetypes might correspond on a higher, more complex plane to the undoubtedly innate sense of æsthetic rightness and such universal tendencies as the grotesque in art, animal forms, dragons and other recurrent artistic manifestations.

Although many people cannot accept this idea of the inheritance of mental forms, it is surely far more likely than that we are born with a mental *carte blanche*. At the level of instinct we accept the idea readily enough, even though the instinctual bequest from the past may be highly complicated.

Weaver birds, for example, after six generations of having been reared among other birds and deprived of their own proper nesting material, can still in the seventh generation weave their ingenious nests when given the opportunity. At some time in the remote past this species gradually perfected a most unusual form of dwelling construction, and the pattern for it has become fixed in the brain and central nervous system so that it can be repeated at any time by reference to this "instinctive" pattern book.

Surely, then, it cannot be impossible for man to inherit patterns at a more imaginative level from the repetitive experience of twenty thousand generations? Or, having inherited them, that he should find expression for them in myths and other cultural forms?

At least the possibility is strong enough for it to be unscientific to ignore it, particularly when considering the diffusion of cultural traits. When two peoples at some distance from one another possess some peculiar implement, design, myth, in common it may well have been transferred by trade, migration or a spreading influence. These contacts should always be looked for, but if they cannot be detected, then there remains the alternative that the trait represents two independent expressions of a common mental pattern.

Whether or not human beings inherit mental furniture of this kind, there is no doubt that we bring with us from the past very much more than our bodily parts. Forty thousand years after the death of the last Neanderthaler, *Homo sapiens* still carries with him a most powerful inheritance of passions and emotional tendencies acquired through the ages. Even inquisitiveness, the desire to explore, is an emotion proved to exist already in animals.

Some modern men have liked to think of themselves as wholly rational and their fellows as potentially so, yet others have concluded that our species is never capable of carrying out a rationally formed intention.

The whole course of human history in which so many great peoples have hurled themselves to self-destruction, seems in many ways to support this second point of view. Some rationalists might be happier to have it otherwise, but if we lost our emotional inheritance with its energetic power to galvanize the imagination, the whole creative life of our kind would soon be withered, parched as a mummy.



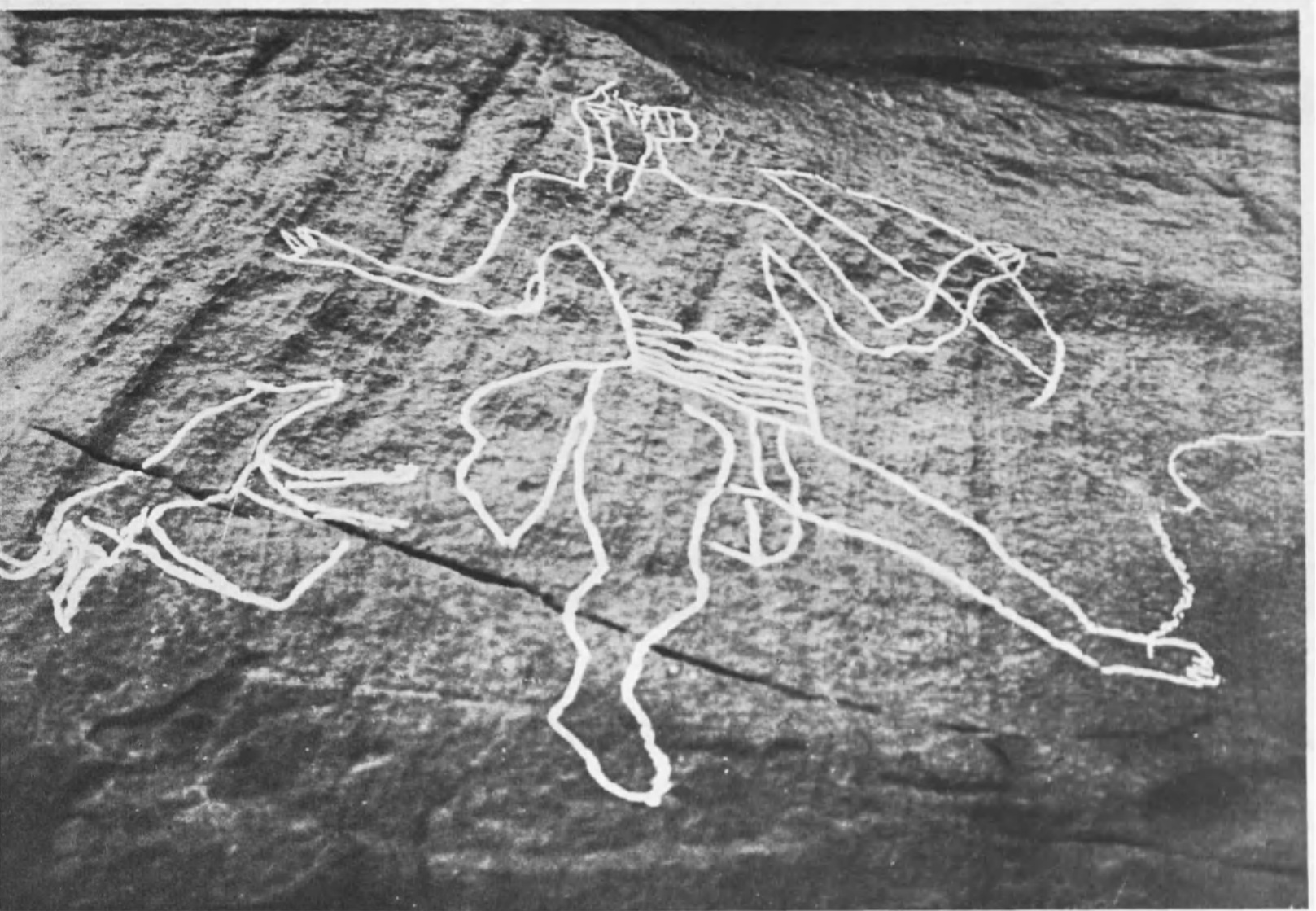
Women in long skirts figure in this ritual scene painted on a cave wall at Cogul, Spain.

(After Burkitt)



The Sorcerer, part man, part beast, part divinity, painted and engraved on a cave wall in S.W. France.

(From a drawing in the Musée de l'Homme, Paris)



R. Perret, Courtesy of the Musée de l'Homme, Paris

There was a rich artistic flowering among the Palæolithic, or Old Stone Age, peoples who produced works of art that can rival anything that has been achieved in the last ten thousand years. Palæolithic paintings and engravings on the walls of caves and cave shelters have been found in great numbers in parts of Europe and Africa. Above, the Masked Hunter, an African rock painting from the Sahara

THE DAWN OF ART

It has been said that Palæolithic art can claim to be the most improbable event in history, and fundamentally it is as impossible to explain why it occurred as any of the other sudden upsurges of creative genius in the arts that, happily for us, have marked the course of our human existence. The tides of the human psyche ebbing and flowing in society remain largely mysterious. Yet at a rather more superficial level there are explanations and interpretations to be made. On the one hand there are the permissive factors. While material prosperity can never be the cause of artistic genius, a society cannot support its artists without an economic margin.

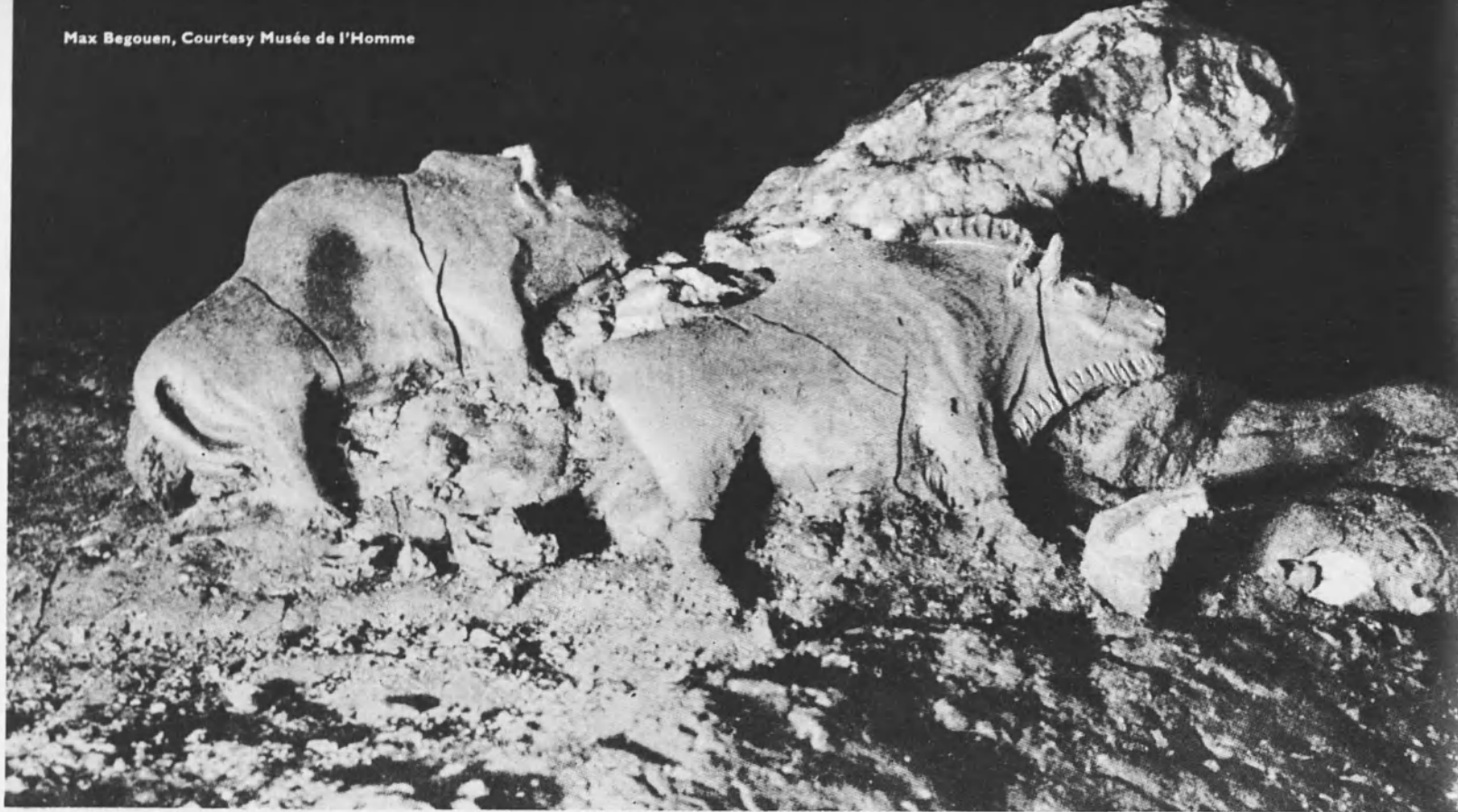
Thus there is no doubt that the abundance of game to be hunted in south-west Europe in late Pleistocene times made a necessary foundation for the development of Palæolithic art. Although the artists were probably themselves hunters, it seems very likely, particularly as skill and professionalism grew, that in exchange for their artistic services to the community they only had to hunt

part-time and were supplied with food while at work in the caves.

On the other hand there are the uses of art—meaning its uses to society and not the satisfaction it gives to its creators. A healthy artistic tradition is seldom without some more or less practical function, and in primitive societies where there is no recognized division between intellectual, practical and religious activities, art always must be an integral part of everyday life.

There's long-standing dispute between those who have wished to see cave-painting and its related forms as an activity undertaken for its own sake, for self-expression and the creation of beauty and those who see it as a purely practical activity undertaken to secure good hunting. This conflict is entirely in the minds of the disputants. Even in the twentieth century, when life is lived so much in watertight compartments, no one even thinks of asking whether the painters of easel pictures 11

CONT'D ON NEXT PAGE



HISTORY OF MANKIND (Cont'd)

A Stone Age art unsurpassed

work for self-expression or because they intend to sell their canvasses. To try to separate art and magic and religion in the unified life of early man shows the folly of the over-analytical mind.

THERE is no doubt at all that cave art had its magico-religious function. In particular it served that form of it known as sympathetic magic, which depends upon a belief that similarity or relationship is identity, and that anything down to an image or related part of a thing will affect the thing itself. It is an idea which has constantly recurred even in civilized life. Potatoes, when first introduced into Europe, were thought to cause leprosy because the appearance of some of the tubers suggested the disease.

It is well known that in modern Europe and America people still make images of their enemies and stick them with pins to secure their death, and this practice makes an exact analogy to one aspect of the Palæolithic hunters' magic.

A considerable number of paintings have spears or darts drawn or scratched on the animals' flanks. There are many instances at Lascaux. At Niaux there is a famous example in which three little pits, naturally formed, have been enclosed by the outline of a bison, and each furnished with a dart to give the semblance of wounds...

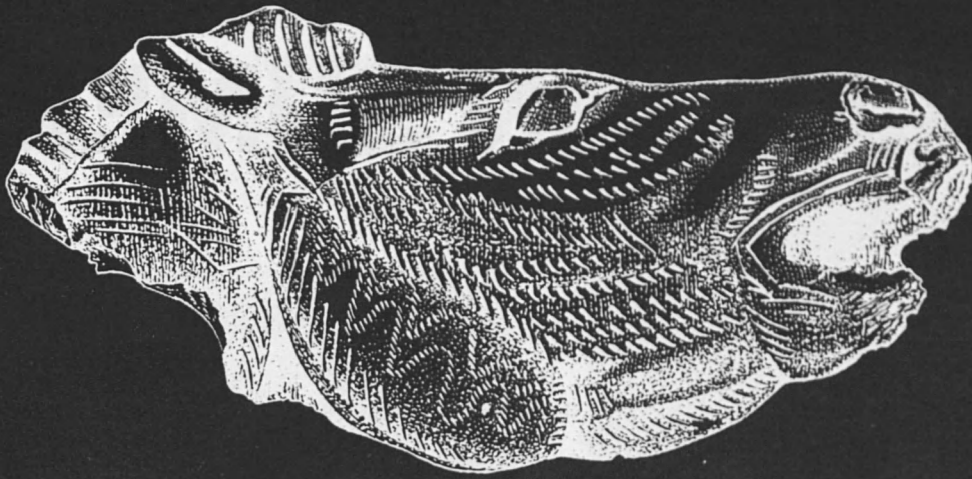
If one form of sympathetic magic was used to ensure successful kills, another was to cause an increase of life. Some of the painted beasts are undoubtedly intended to be gravid, while the careful representation of bull and cow bison at the Tuc d'Audoubert, and the signs of rites having been celebrated in the cave, is very suggestive of fertility magic. That this conception went far beyond sympathetic magic to form the basis of a fertility religion

with a great history before it in Eurasia is shown unequivocally by the Venuses and other crystallizations of the mother goddess concept

A third type of evidence for the close association of cave art with magico-religious activities is that provided by the various drawings of men with animal disguises and possibly of beings that are part man, part beast, part divinity like the great Sorcerer of Les Trois Frères himself. Indeed this cave as a whole proclaims its ritual use as obviously as any chapel. Passages deep in the rock lead into a small chamber with walls thickly netted with engravings of many kinds of animals, including the strange group of a man with bison head and other animal attributes dancing behind two weird hybrid beasts, apparently in a state of sexual excitement. From this chamber a tunnel with further engravings curves upwards to give access to a window opening into a chamber some twelve feet above the floor, a place where an officiating medicine man could appear with dramatic effect and dominate participants gathered below him. It is extraordinarily stirring, then, to find that the antlered, phallic, hypnotically staring figure of the Sorcerer has been painted and engraved on the rock face just beside this opening.

This magical element in cave art must have had less force in the home art. It is quite likely that when deer, mammoth and ibex were carved on spear-throwers, it was believed that these images might help to make them effective against the animals represented.

On the other hand no one can doubt that the carving was done partly for the pleasure of doing and regarding it, for it is pre-eminently decorative. Still more is this true of such little carved objects as the fish palette from the Grotte de Rey and the bone



Paleolithic art was the work of specialists. Its technical inventiveness suggests that an artists' clan may even have existed. Bison (left) each about two feet long, were modelled in clay at Tuc d'Audoubert, France. In their deep cavern they kept their moisture throughout the millenia and when discovered by modern man, they showed only slight cracking.



Paleolithic artists decorated implements with carving in high relief but also transformed broken-off pieces of bone, ivory, antlers and stone into superb carvings. Horse's head (left) in reindeer antler and crouching reindeers in ivory (below) were found in caves in southern France.

Drawings from
"History of Mankind"

silhouettes of animals and even the superb horse head from Mas d'Azil and the horse from Espelugues, Lourdes. What conceivable purpose other than decoration can the artist at La Mouthe have had when he engraved an ibex on his lamp?

There is no doubt that cave art, and to a lesser extent the home art as well, served the animal cult, part magical and part truly religious, that underlay the lives of these hunting peoples. The status of the individual and the life of the tribe was wholly dependent on the multiplication of the game herds and success in hunting them, and art responded to the urgency of these two great needs. Utilitarian in themselves, they cannot be separated from a religious impulse towards a form of communion with animals and nature, a "participation mystique."

And in this religious aspect we rediscover Paleolithic art as genuine imaginative expression, its creators as true artists. Just as mediaeval painters could work entirely in the service of the Christian Church, just as modern painters work to sell their canvasses to furnish houses and galleries, so too (and indeed much more consistently) could the painters of the last glaciation work in the service of hunting and fertility magic and still remain artists.

From that time to this there have been great numbers of primitive peoples living throughout the world, yet none has had a representational art to approach theirs. Peoples who, like some of the Australians, make strikingly effective pictures in connexion with hunting magic lack their realism and technical skill. More often no attempt at realistic representation is made, and symbolic designs or enactments supply the identification needed for sympathetic magic. A visual identity between the image and the object has never been considered necessary.

Yet in the whole range of Paleolithic material only one example is known with anything of the inartistic and grisly character often found among the properties of the primitive magic worker . . . that is the dummy bear with

the real head that had been set up in the sanctum at Montespan.

All the rest may have been intended for magical usages, but was at the same time a true art, and an art in what we have come to call the humane tradition. In fact it comes closer to Chinese drawing and painting than to any other, and the Chinese were inspired by a mystical conception of the relationship between man and nature. The art itself makes it abundantly clear that the Stone Age artists knew an intense self-identification with the animals they portrayed. Perhaps with a strengthening self-consciousness due in part to the development of fully expressive language, a factor which would also have heightened their image-making powers, these people felt a need to re-affirm their participation in nature.

A MODERN poet has said that "the poetic image shows the artist seeking to express unity with all that is and has been," and this was true of the first artist as of the latest. Various attempts have been made to suggest that the cave-painters used dead beasts as their models, or that the sight of shadows suggested the idea of painting shapes on the cave wall. Such ideas are entirely misleading. Anyone with any understanding of the creative process must know that the artists working in these fastnesses so remote from the outer world carried with them intense and emotionally charged images of the animals on which their lives were centred.

The creative act, as in all true art, had already taken place in the imagination; the pigments, the gravers, served only to give it material expression. With all utilitarian magical functions apart, this element of communion with their animal subjects made the activity of these artists at one with the religious life of their societies.

— JACQUETTA HAWKES
Part I Chapter VII (Art & Religion)

A SCHOOLBOY IN SUMER

by Sir Leonard Woolley

THE literate element of the Sumerian and Old Babylonian population was proportionately larger than in Egypt. There were "junior" and "high" scribes, scribes of the temple and "royal" scribes of the palace, scribes who served as leading officials in the government and scribes specialized in particular categories of administrative work, schoolmasters and notaries public, the latter being the more in demand because of the immense importance of foreign and domestic trade and because the law required documentary evidence in any civil action that came before the courts.

It may well be that apart from all these professional writers, who numbered many thousands, the businessman also might acquire at least a smattering of literary education for his own purposes; in any case it is clear that there must have been numerous scribal schools... the best example of a school is one in a private house of the Larsa period (c. 1780 B.C.) at Ur

It was a small school—it could scarcely have accommodated more than two dozen boys—but presumably it was typical of the schools of the time, and certainly it was not just an elementary school but one catering for pupils of all ages.

The bun-shaped tablets [found here], bearing on one face the teacher's fair copy and on the other the pupil's attempt to reproduce it, start with single syllabic signs,

then have lists of words beginning with the same syllable, and go on to proper sentences and extracts from the classics. Of the other tablets found here many were religious texts which were probably used for dictation or for learning by heart; there were numerous mathematical tablets—multiplication tables, rules for extracting square and cube roots, etc., problems in practical geometry, e.g. land surveying or the calculation of the amount of earth to be moved, given the measurements of an excavation, and there were also what one must call *belles lettres*, amongst them a favourite classic describing school life

Only boys attended the schools. Women scribes existed, and examples of their work have come down to us, but how they received their education we do not know; girl students are never mentioned in the literature of the schools

Cases are known in which a charitable person who had adopted an outcast baby—"rescued him from the jaws of a dog"—crowned his benefaction by sending the child to school to "learn the scribal art"

The full school course was a long one, lasting for many years, "from the time of childhood to maturity". but after about two years a lad might qualify as a *dubsar tur*, a junior scribe, and would be entrusted with the task of helping in the education of one of the smaller

PRESTIGE OF THE SCRIBE



The scribe, even if he were not in government employ, had the intellectual arrogance of the better-educated man and his contempt for the manual labourer. There is an amusing illustration of this in the *Teaching of Khety, Son of Duauf*, an Egyptian work perhaps dating as early as the Eleventh Dynasty but current in much later times, in which a father taking his son to school exhorts him to industry by passing in review all the other occupations and trades and showing how ill they compare with the blessings of the scribe's calling:

"I have never seen the smith as an ambassador, but I have seen the smith at his work at the mouth of his furnace, his fingers like the crocodile's, and he stank more than fishes' eggs

"The stonemason finds his work in every kind of hard stone. When he has finished his labours his arms are worn out, and

he sleeps all doubled up until sunrise. His knees and his spine are broken

"The barber shaves from morning till night; he never sits down except to meals. He hurries from house to house looking for business. He wears out his arms to fill his stomach, like bees eating their own honey

"The farmer wears the same clothes for all times. His voice is as raucous as a crow's. His fingers are always busy, his arms are dried up by the wind. He takes his rest—when he does get any rest—in the mud. If he is in good health he shares good health with the beasts; if he is ill his bed is the bare earth in the middle of his beasts. Scarcely does he get home at night when off he has to start again.

"Therefore, apply your heart to learning. In truth there is nothing that can compare with it. If you have profited by a single day at school it is a gain for eternity."

— SIR LEONARD WOOLLEY
Part II, Chapter III
(The Social Structure)

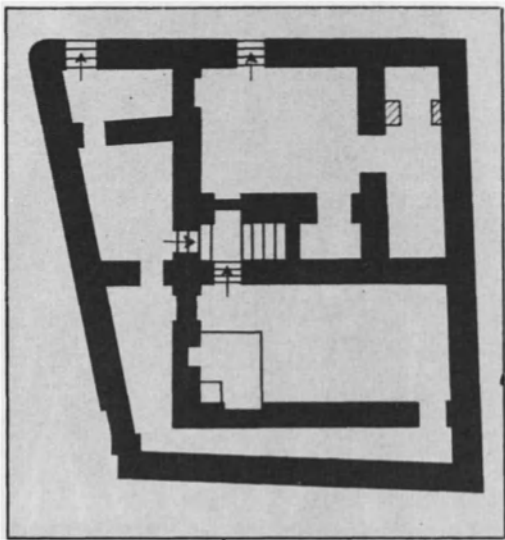


Portrait in stone of an unknown Sumerian who lived about 5,000 years ago. Though seated in an attitude of prayer, the figure recalls the famous Egyptian scribe statuette (left) now in the Louvre Museum, Paris.

Ny Carlsberg Glyptotek, Copenhagen

This seated figure of a woman whose statuette was unearthed at Mari in north-west Sumer has been identified as a chorister. Her songs and dances may once have delighted the court of Mari some 45 centuries ago.

Museum of Damascus



Drawing from "History of Mankind"

Thirty-seven centuries ago the city of Ur possessed numerous schools. Above, the plan of a typical one which comprised several classrooms, a courtyard and a lavatory and could accommodate 25 pupils. Sumerian schools were originally attached to temples but in time became secularized. With an ever-widening curriculum, the Sumerian school became a real seat of learning. "Within its walls", the Sumerian scholar, S.N. Kramer, has written "flourished the scholar scientist, the man who studied whatever theological, botanical, zoological, mineralogical, geographical, mathematical, grammatical and linguistic knowledge was current in his day, and who in a number of cases added to this knowledge".



boys, setting his exercises, instructing him in the way in which they should be done, correcting them (prior to final correction by the headmaster) and flogging him when he deserved punishment.

Discipline was strict. Boys might be "kept in" over long periods; probably already they were given impositions, though it is only in the Neo-Babylonian time that we find actual examples of pupils having to write "fifty lines" or "a hundred lines" by way of punishment: but for the most part correction was by the stick, and the stick was used freely, by masters and by pupil-teachers alike.

This is made very clear in the "Schooldays" essay. "What did you do at school?" "I reckoned up [or, 'recited'] my tablet, ate my lunch, fashioned my [new] tablet, wrote and finished it; then they assigned me my oral work, and in the afternoon they assigned me my written work. When the school was dismissed. I went home, entered the house, and found my father sitting there. I told my father of my written work, then recited my tablet to him, and my father was delighted."

This must have been a lucky day, but on the morrow the boy was to be less fortunate. "When I awoke early in the morning I faced my mother and said to her: 'Give me my lunch; I want to go to school.' My mother gave me two rolls and I set out. In the school the 'man on duty' said to me: 'Why are you late?' Afraid, and with my heart pounding, I entered before my teacher and bowed."

But the teacher was correcting the student's tablet of the day before and was not pleased with it, so gave him a caning. Then the overseer "in charge of the school regulation" flogged him because "you stared about in the

street," and again because he was "not properly dressed" and other members of the staff caned him for such misdemeanours as talking, standing up out of turn and walking outside the gate; finally the headmaster told him, "Your handwriting is unsatisfactory," and gave him a further beating.

The luckless youth appeals to his father to mollify the powers above in the orthodox way, so the father invites the headmaster to his home, praises him for all that he has done to educate his son, gives him food and wine, dresses him in a new garment and puts a ring on his finger; the schoolboy waits upon him and in the meanwhile "unfolds to his father all that he has learnt of the art of tablet-writing."

The gratified teacher reacts with enthusiasm: "Of your brothers may you be their leader, of your friends may you be their chief, may you rank the highest of the schoolboys. You have carried out well the school's activities, you have become a man of learning," the schoolboy, claiming now the proud title of "Sumerian..."

The picture is, of course, satirical to the point of caricature. Admittedly, in the private schools at any rate, the headmaster had to make his living by means of the tuition fees collected from the students and may have been glad enough to receive something in addition; admittedly methods of instruction were primitive and sometimes brutal; yet the Mesopotamian schools did provide a sound education and did uphold the general respect for learning as such.

THE FIRST ASTRONOMERS OF CHINA & BABYLON

POPULAR opinion has mistakenly ascribed to the Egyptians, a profound understanding of astronomical phenomena. It is indeed a fact that various buildings in Egypt and elsewhere were oriented on heavenly bodies; and to people for whom those bodies have no particular significance this seems to be a mysterious fact implying scientific knowledge of a very abstruse sort. It really implies nothing of the kind; it is simply the result of careful observation of what could not safely be disregarded.

Mere observation of the heavenly bodies, if carefully maintained, will suffice to show that their relative positions change and repeat themselves in a definite space of time, and such movements can be related to the agricultural seasons or may themselves determine the times for religious celebrations. The sun, the moon and the planets were gods who, as such, directly influenced man's fate.

Civil life depended upon the regular succession of days and months and years, all of which are fixed by the course of the sun and the moon, and similarly the gods moving about in the upper spheres bring peace or war upon earth, destruction or prosperity; their movements, therefore must be watched and, if possible, interpreted in the light of experience or analogy.

CONSEQUENTLY from a very early time such phenomena were observed and recorded, but that is not the same as saying that astronomy begins early; men's interest in the celestial bodies was calendrical on the one side and astrological on the other. Professor Neugebauer has defined that matter succinctly and authoritatively: "Astronomy does not originate with the recognition of irregular configurations of stars or the invention of celestial or astral deities. Scientific astronomy does not begin until an attempt is made to predict, however crudely, astronomical phenomena such as the phases of the moon." That attempt came later . . .

Only in the course of the first millennium B.C. did Babylonian astronomers succeed in *predicting* the lengths of the lunar months and it was only from Babylon that the Egyptians subsequently acquired such knowledge.

The advance from observation to prediction was really made impossible for the Egyptian by the elementary character of his mathematical system which could not cope with the elaborate calculations demanded by astronomy. It would appear that, having once obtained, by very simple observations, the agricultural and ritual data necessary to an ordered life, he had no urge to pursue the matter
16 further.

Thus we find in the Egyptian texts no reference at all



Chuzeville, Louvre Museum, Paris

This stele, dating back to about 2300 B.C., depicts the triumph of Naram-Sin, a king of Akkad. In his treatment of this scene of historical action, the artist has achieved a remarkable balance between the dramatic and the decorative. It is the only Mesopotamian monument of its kind to have survived to our day.

to lunar eclipses (I); such must presumably have appeared to the Egyptian as isolated events due to some supernatural cause and therefore incalculable and having nothing to do with the regular course of things.

From China we have, in one Anyang bone inscription, a very early record of an eclipse which took place "on the fifteenth day of the twelfth moon of the twenty-ninth

(1) Professor J. Leclant (France), however, suggests reference to a passage of the inscription on the Bubastis Gate at Karnak concerning the year 15 of Takelot II, i.e. c. 820 B.C. [R.A. Caminos, *The Chronicle of Prince Osorkon* (Rome, 1958), pp. 58 sq.]: "The sky swallowed not the moon"—the interpretation of which has led to a very considerable flow of ink.

year of King Wu-T'ing," i.e. on November 23, 1311 B.C. (2) which shows an interest, and possibly a knowledge, antedating anything of the sort in Egypt. The inscription by itself is insufficient to prove that the interest went beyond the recording of a striking phenomenon, and the fact that the record figures in an oracle-text may well raise doubts as to its scientific value.

But in the Chou records we are told that in the thirty-eighth year of the reign of the Shang "emperor" Ti-hsin (1137 B.C.) the Chou ruler Chou-wen-wang ordered a sacrifice to be offered because "the eclipse happened not on the right day": it occurred on the sixteenth day of the month, according to the calendar, instead of on the fifteenth.

This, if the construction put upon it be correct, surely implies that as early as the twelfth century B.C. Chinese astronomers were able to calculate the lunar eclipses in advance, and that with such confidence that an error of twenty-four hours was enough to alarm the authorities. The Anyang inscription may possibly imply knowledge two centuries earlier...

THE Babylonians, possessing a mathematical basis for astronomical calculations much superior to that of the Egyptians, made far greater progress in the astronomical field and started at quite an early date to amass a *corpus* of information which would ultimately supply the material for science. The earliest computations were concerned with (a) the duration of day and night in the different seasons (b) the rising and setting of the moon, and (c) the appearance and disappearance of Venus.

(2) It should be noted that the date is not accepted by all scholars.

From the time of the Third Dynasty of Ur (c. 2100 B.C.) onwards the omen texts, which combine astrological forecasts with astronomical observations, prove the careful attention paid to astral phenomena. (3) Thus the sixty-third tablet of the great astrological series "Enuma, Anu, Enlil" which was put into shape between 1400 and 900 B.C. contains a list of the hellical risings and settings of Venus during twenty-one years of the reign of Ammizaduga; the observations must have been made at the time, i. e. in the late seventeenth or early sixteenth century B.C. But what we have here is simply observation which was carefully conducted over a considerable period; it does not involve any scientific theory...

The evidence that we possess justifies us in saying that by 1200 B.C. in Babylonia the foundations of real astronomical research, as defined by Professor Neugebauer, had been well and truly laid. Further it appears likely, though it cannot be definitely affirmed, that already the first tentative steps had been taken in the direction of scientific thinking over the data which careful observation had amassed, and that certain rather crude and elementary results had been achieved which in the course of the following millennium would be developed into the astronomical science inherited by the Greeks.

— SIR LEONARD WOOLLEY
Part II, Chap. VII
(The Sciences)

(3) The character of the "omen texts" can be illustrated here by two examples; one, dated to the time of the First Dynasty of Babylon, reads, "If the sky was dark on the first day the year will be bad. If the sky was clear when the new moon appeared the year will be happy." A more elaborate text, taken from the Ammizaduga tablets, reads, "If on Sabatu 15th Venus disappeared in the west, remaining three days from the sky, and on Sabatu 18th appeared in the east, catastrophes of kings: Adad will bring rains, Ea subterranean waters; king will send greetings to king."

THE COMMONWEALTH OF MEDICINE

... More perhaps than any other art was medicine in the ancient world internationalized. A famous Egyptian doctor might travel far afield to treat an important patient. Thus Parimachu the Egyptian was summoned to Asia Minor to the sick-bed of the king of Tarkhuntash.

Ramses II, according to a late story, sent his court physician to Hattusas to cure Bentzesh, the sister-in-law of the Hittite king Hattusilis—it is interesting to note that, when the doctor failed to drive out the demon that possessed her, Pharaoh was constrained to send the holy image of the god Khonsu, by whose aid the cure was duly effected.

The same Hattusilis, negotiating for a treaty with Kadashman-Enil II of Babylon, was at pains to explain away the embarrassing fact that a Babylonian physician who was visiting the Hittite coun-

try had been forcibly detained there.

Personal visits of the sort were really not uncommon, but what more than anything proves the universality of medicine is the fact that medical books circulated freely from one country to another; Hittite copies of Babylonian medical tablets have been unearthed at Bogazhöy, and it is evident that the pharmacopœia and the prescriptions based upon it were in some measure the common property of doctors throughout the Middle East.

It is this internationalization of medicine, and the great reputation won by Mesopotamian physicians, that account for the adoption by European peoples (through Greek and later through Arabic) of numerous Mesopotamian plant-names, while, on the other hand, the tablets definitely explain certain plant-names as

being foreign and the herbs consequently imported, as, for instance, *ricinus* from Elam and *cardamom* from Anatolia.

But while the evidence shows that in the art of healing there was throughout the Middle East a certain amount of free trade in medical service and in medical knowledge, it must still be remembered that by common consent the actual drug was held to be less potent than the magic rites with which it was administered.

The successful physician was he who knew both sides of his profession, and it was because of this duality that there was a limit to the international character of medicine. The gods of the different countries were not the same, and a charm that worked satisfactorily in Babylon might fall upon deaf ears in Memphis...

— SIR LEONARD WOOLLEY
Part II, Chap. VII
(The Sciences)

BIRTH OF GLASS

FROM a very early date the Egyptian potter had, as a side-line to his ordinary business, practised the making of vessels in glazed frit. Glaze had been known at the beginning of the Dynastic Age and was applied to small objects cut out of steatite or moulded in frit (or siliceous paste) and soon vases were made in the same way; the technique spread quickly, and beads of glazed frit occur fairly freely in Sumer in the Early Dynastic period.

The glaze, was, of course, glass, and about a dozen objects (nearly all small beads) made of real glass can be assigned to relatively early times—in Egypt to the Eleventh and Twelfth Dynasties and in Mesopotamia to about 2100 BC—and on the whole it seems that Mesopotamia may here have been the first in the field, especially as an example of glass from Eridu is a fair-sized lump, unshaped, a piece of the manufacturer's raw material.

But shortly before 1600 B.C. the discovery was made that slender rods of coloured glass, half-melted, could be twisted round a core into the form of a bottle, then re-heated so that the rods should coalesce, and then polished; during the second stage the soft surface could be "combed" so as to produce waves in the rods, thus variegating the pattern at the craftsman's pleasure; the result was a little polychrome vase, lustrous and semi-translucent, unlike anything else known and certain to command a high price.

THE earliest examples of such come from Syria, to which country the invention may be credited, but by the beginning of the Eighteenth Dynasty the Egyptians had taken it over and were making vases finer in quality than the Syrians had ever made. The same technique was used for manufacturing beads, large balls with polychrome inlay in the form of "eyes" or rosettes.

These gaily attractive ornaments, easily portable and not too fragile, were ideal objects of trade with the peoples of less civilized or of barbarous lands, and they were exported widely, westwards to Italy and across the European continent, to come to light again in graves in Britain, while the eastern trade took them to China and to Indonesia—"eye-beads" from Loyang (the Chou capital) are proved by spectrographic analysis to be identical with others from Qau in Egypt.

The Chinese imitated such imported beads with great success—so much so that the polychrome beads made in South China are only to be distinguished from the foreign examples by their marked barium content, whereas the Egyptian and Syrian glass contains no trace of barium, and also by the presence of lead, which in the west is not found in glass until shortly before the Christian era.

The facts seem to show that lead glass—"flint glass" as it is often called—was a Chinese invention; it is an invention that has had far-reaching results in glass manufacture, but it was due to experiments prompted by the beads of silica-soda-lime glass coming from the Middle East.

SIR LEONARD WOOLLEY
Part II, Chapter IV (Techniques, Arts and Crafts)



WORSHIPPERS OF SUMER



Oriental Institute, University of Chicago

This remarkable group of statues was produced by artists from one of the world's oldest civilizations — Sumer — which developed in the Tigris-Euphrates valley as early as 3,500 B. C. The statues are those of worshippers, standing upright with their hands clasped before their hearts in the attitude of prayer. Their long skirts are simple

sheaths, the upper part of the body together with the arms is schematized in a curiously geometrical fashion, but the heads, however grotesque they may appear, are individual and full of expression. One figure (on right) different from all the others shows a naked man kneeling. Here the treatment of the body is life-like and sensitive.



Boissonnas-Geneva

With the signature of the First Geneva Convention, "For the Welfare of Soldiers Wounded in Action" by representatives of 12 countries (left) on August 22, 1864, the Red Cross was born and given a solid foundation in international law. Today ninety-one states are parties to the Geneva Convention which has been revised and expanded.

THE RED CROSS

CENTENARY OF A UNIVERSAL BANNER

by Hubert d'Havrincourt



“ For three days I have been looking after the wounded from the battle at Solferino and I have tended over a thousand of these unfortunate men. We have had 40,000 in all, both Allies and Austrians. There are not enough doctors, and in their place I have had to make the best use I could of a few local women and the prisoners who are fit enough to help ... ”



Henry Dunant (1828-1910)

Boissonnas - Geneva

THERE were tears in the eyes of the young man who was feverishly writing these lines at the corner of a blood-stained table. Henry Dunant, just turned 31, was the eldest son of a well-to-do Genevese family. He was an enterprising young man and a great traveller always on the look-out for profitable transactions. But he had not come to the battlefield to open cases of lint. His purpose was to put before the Emperor Napoleon III a plan for building mills at Mons Djémila in Algeria.

But the Emperor, caracoling on horseback in the distance in the midst of his brightly-uniformed staff, had other things to think of at that moment. It was the evening of the day of battle, June 24, 1859, and from all sides came the groans of the dying and the agonized screams of the wounded stricken with gangrene. Forgetting what had brought him there, the stylishly dressed traveller hurried about the field of slaughter trying to ease the human agony that had upset his plans.

There was only one dressing-station—in a church at Castiglione, the *Chiesa Maggiore*. Here, Dunant organized volunteers for first-aid. He got the village women to bring linen, water, and lint. He himself helped to wash wounds, distributed lemons and tobacco to the wounded and gave them water to drink. Thanks to his efforts, Austrian doctors among the prisoners of war were “freed” to treat the wounded. Helped by the Piedmontese peasant women he tended and comforted over a

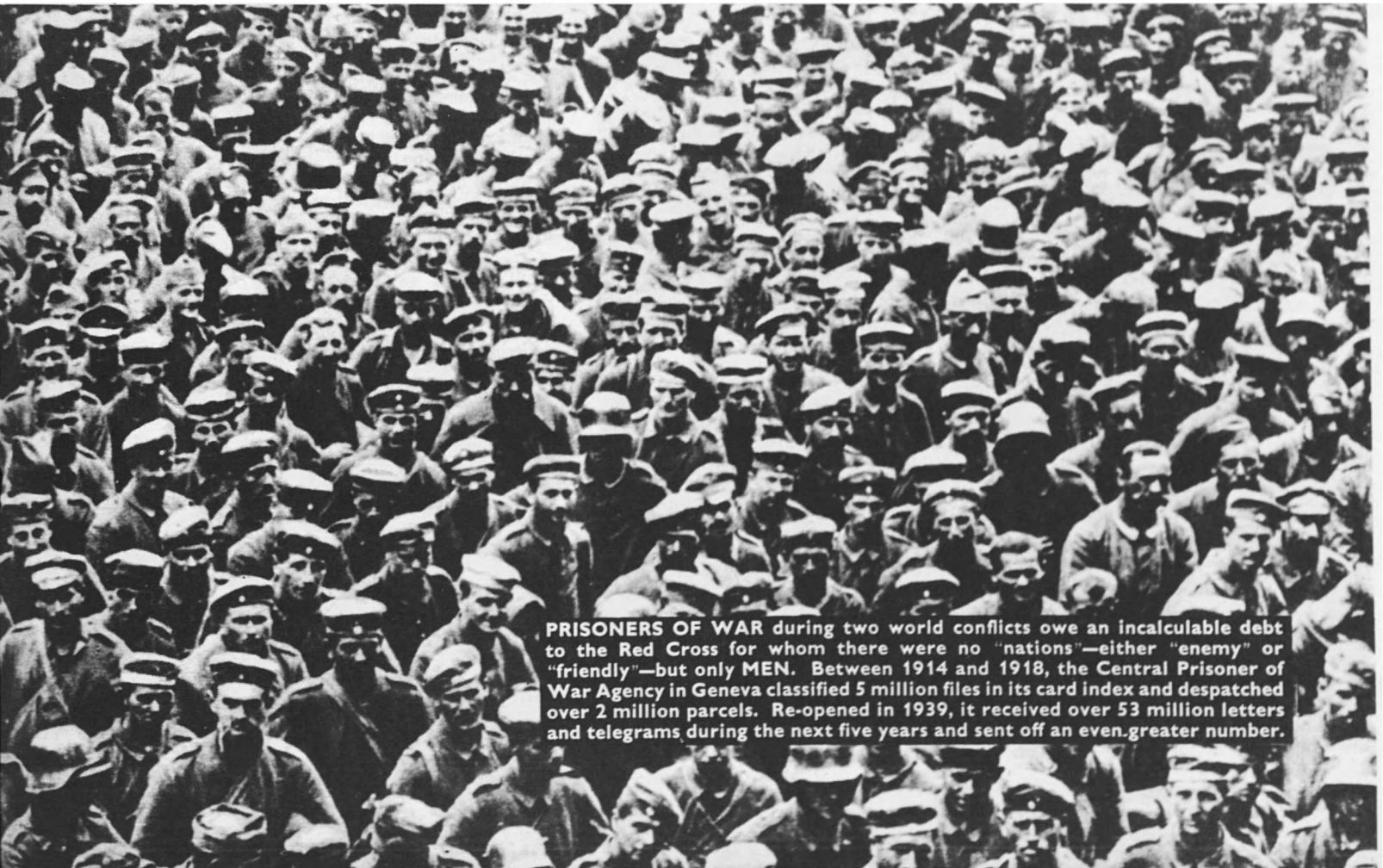
thousand wounded and if he still found time in the small hours to pen some lines, it was because sleep had deserted him and he felt somehow impelled to tell the influential people living peacefully at Geneva about the horror of the battlefield he himself had just left, exhausted with fatigue and emotion.

The terrifying memory of the *Chiesa Maggiore* haunted him and it was only by writing what were to be the first lines of a memoir that he could find some peace of mind again. Entitled “A Memory of Solferino”, this booklet of 128 pages was at first intended only for his family and his numerous friends. It was a private edition limited to 1,600 copies; its subject, “the battle and its horrors, the suffering of the wounded left to die, their cries, their tears, their agony which remain fresh and piercing in the author’s memory”. In conclusion Dunant proposed the setting up in every country of “relief societies” to give aid to the wounded in time of war.

The book was published in 1862. Dunant sent it to the leading citizens of Geneva to governments, to men of letters, to princes. Europe was shaken by its revelations. The Goncourt brothers hailed it as “finer, a thousand times finer, than Homer”, and declared, “one puts down this book cursing war”. Dickens published extracts from Dunant’s book in his “All the Year Round” review.

CONT'D ON NEXT PAGE

WHO



PRISONERS OF WAR during two world conflicts owe an incalculable debt to the Red Cross for whom there were no “nations”—either “enemy” or “friendly”—but only MEN. Between 1914 and 1918, the Central Prisoner of War Agency in Geneva classified 5 million files in its card index and despatched over 2 million parcels. Re-opened in 1939, it received over 53 million letters and telegrams during the next five years and sent off an even greater number.

Henry Dunant, a practical idealist

The king of Saxony asked Dunant to visit him and told him: "A nation that does not take part in this humanitarian work will be censured by European public opinion." Queen Isabella II of Spain organized a "Permanent Committee for Help to the Wounded". The king of Prussia and Sweden, the Tsar, and the Emperor of France all gave Dunant their support.

Having made a triumphant tour of all the Courts of Europe, Dunant felt that the moment was ripe for international action. With the collaboration of four Swiss friends—General Guillaume-Henri Dufour, Gustave Moynier, a barrister, and two doctors, Théodore Maunoir and Louis Appia—he set about persuading the different countries to set up national societies for help to the wounded in time of war.

The five friends held their first meeting at Geneva on February 17, 1863, under the chairmanship of General Dufour, a veteran of the Napoleonic wars, a well-known figure whose presence was an international guarantee for the movement. They decided to set themselves up as a "Permanent International Committee for Help to the Wounded of the Armed Forces." Eight months later, the Committee succeeded in bringing about an "International Conference" to remedy the inadequacy of medical services with armies in the field. Unofficial delegates from 16 countries met at Geneva to approve the suggestions of the "Committee of Five."

The neutrality of the wounded and of medical personnel was discussed, and it was decided that thenceforward they should be protected by a distinctive sign—a red cross on a white field—a reproduction of the Swiss flag with

the colours reversed. This symbol was eventually to win recognition from all governments, except Arab countries which chose the Red Crescent, and Iran which took the Red Lion and Sun as its emblem.

But this was not enough, as the Prusso-Danish war 1864 was soon to prove. The delegates of the Committee to the warring countries found themselves reduced to the role of observers. They could do little more than collect facts, though valuable use was made of this information in pressing home the aims of the Committee. The convening of an international conference of delegates who would sign specific engagements in the names of their respective governments was now considered. The Swiss Confederation invited 25 states to take part in a diplomatic conference at Geneva, starting on August 8, 1864.

THERE WAS, however, a great deal of suspicion to be allayed, vanity to be soothed, and opposition to be overcome. Bavaria and the Vatican did not send representatives. At the outset, the Russians were reluctant. Austria was convinced that her medical services were faultless. More than once, negotiations ground to a halt. Finally, after seven laborious meetings, the first Geneva Convention—the basic charter of the Red Cross, called the "Convention for the Amelioration of the Condition of the Wounded in Armies in the Field"—was signed by 12 countries on August 22, 1864, and was left open for the accession of powers which did not sign.



As war swept over Europe in 1939 millions fled (left), families were scattered and countless men, women and children were deported and interned. More often than not the Red Cross was the last resource for tracing lost relatives (right) or getting news of missing persons. Into the Geneva headquarters of the Red Cross came innumerable demands for help in tracing missing relatives, combatant and non-combatant. Hope lived in the vast card indexes (below) of the Red Cross Agency manned by over 3,000 people. Today the Red Cross still manages to trace many missing persons.

Red Cross Photos





Red Cross-Anpoto, Amsterdam

Today when a catastrophe strikes anywhere in the world where local resources are too small to relieve suffering, the Red Cross goes into action. In 1953 dykes in the Netherlands gave way and the floods this caused (above) affected 80,000 people. Red Cross help was given to thousands of destitute people. That year, 129 million Swiss francs (Nearly \$30 million or over £10 million) worth of aid went to the world's victims of natural calamities, which included floods in Yugoslavia, Japan and India, and earthquakes in Greece and Turkey. In the past 10 years 97 appeals have been met.

However, the event passed practically unnoticed. As for Dunant, who had for the last five years been travelling from one end of Europe to the other, he had somewhat neglected his private affairs. His business in Algeria had been doing very badly and eventually he went bankrupt. Ruined and faced with scandal, he chose exile. Unlucky in finance, he was later to admit that "as a man of letters, he knew nothing about business".

At the same time, Gustave Moynier succeeded General Dufour as President of the International Committee. Dunant now severed all links with Geneva. Shortly afterwards, the Prusso-Austrian War of 1866 broke out. Serious difficulties arose. Critics said the volunteer service was badly organized and that delegates were ill-informed about the situation and the real needs. Help came much too late, or very often, too lavishly where it was not required. There were not enough nurses on the first hospital trains. The wounded were not always cared for in proper time.

Meanwhile, Dunant had settled in Paris. When the Franco-Prussian War broke out, he did his best, with mixed success, to remind the French ministers of the existence of the Geneva Convention which France had signed. He also suggested that certain towns in the Paris area should be neutralized and designated as "cities for the wounded".

By now however, his ideas were being adopted. For the first time in history, 25 national societies offered their help to the belligerents. Here and there on the front, field dressing stations and military hospitals protected by the sign of the Red Cross, were saving thousands of wounded from death. Despite great difficulties, 34 field dressing-stations had been organized at the front by the French Society for Relief of the Wounded. This was still far too little, of course. At Wörth, at Gravelotte, at Sedan, barns filled with wounded, resounded to the groans of the dying, just as they had at Solferino. In Germany, where the funds collected had reached the sum of 70 million marks, there were still only two doctors and ten nurses to a thousand wounded!

Nevertheless, the International Committee sent off 7,000 parcels, organized a mail service between the wounded in enemy hands and their families, and forwarded up to 1,000 letters a day. Governments made hand-

some contributions to the national societies and gifts flowed in. Lists of the French wounded in Germany and of the German wounded in France were drawn up and published for the benefit of their families. Numerous convoys of wounded were repatriated through Switzerland.

Dunant was to save some other victims from death the following year at the time of the Commune of Paris, before he sank into a life of abject poverty which took him across Europe. Sometimes he slept on a bench in some railway waiting room or else took advantage of the temporary hospitality offered by his few remaining friends in London, Paris, or Stuttgart.

DURING this period, he attempted to found a "Universal Alliance for Order and Civilization", lectured in London on the conditions of prisoners of war, outlined a plan for an "International High Court of Arbitration", and preoccupied himself with the campaign against slavery. Then, one day, unobtrusively, he drifted into a poorhouse at Helden in the Swiss canton of Appenzell where he was to live misanthropically on three francs a day—the gift of a friend. He was not then 70 years old but he looked 80.

Nevertheless, he started once again to launch pacifist appeals and humanitarian programmes, and at the same time worked unceasingly on his memoirs which are nothing but the long complaint of a tortured man. There he remained, forgotten by his country and the world at large, until the day he was discovered by a journalist, who had believed him long dead and buried. Dunant was sitting in his armchair with his long white beard and his gentle, sad eyes, but his former eloquence was undimmed.

Long-denied recognition came at last. In 1897, he was awarded the Prize of the International Congress of Medicine, and in 1901 the first Nobel Peace Prize which he shared with Frédéric Passy. On October 30, 1910, the "Man in White", as the soldiers at Solferino had called him, died peacefully. He went almost furtively to his grave, for by his own request, there was no funeral procession. It was the village carpenter who alone trundled the coffin to the graveyard on a simple handcart.

When Henry Dunant died, famous at long last, the Red 23

Ready to help disaster victims everywhere

Cross and its International Committee were already active throughout the world. The International Committee is an independent collegial authority of which all the members (a maximum of 25) are Swiss citizens elected every three years. Aided by State contributions, collections, and gifts from private individuals, the Red Cross was able to lend its services everywhere, including the Boer War and the war between Russia and Japan. On the eve of the first World War, it was ready and equipped to resolutely put into practice its basic principles of humanity, impartiality, neutrality, and independence.

From 1914 to 1918, the Central Prisoner of War Agency received information from the belligerents about prisoners and filed 5,000,000 index cards. As many as 18,000 replies were sent each day. Four hundred and fifty thousand sick and wounded were exchanged. Two million parcels were distributed. Between the years 1919 and 1922, 500,000 prisoners of war were repatriated. Each national society worked to the limit of its resources; by 1918, the British Red Cross, for instance, was spending £20,000 (\$56,000) a year.

When civil war broke out in Spain, only skilled diplomacy won the Red Cross the right to act in an internal conflict. It had already worked in other conflicts: the Gran Chaco war and wars in Ethiopia and in China.



Then came the second World War. For five years, the International Committee gave help to prisoners of war and to civilians who had been interned or deported. Red Cross representatives, some of whom met their deaths while performing their duties, even succeeded in making their way into concentration camps.

Four thousand people worked at the Central Prisoner of War Agency which dealt with 40,000 documents each day, and received in all some 53 million letters. Through the International Red Cross Committee, 10 million civilian messages were exchanged between belligerent countries; 36 million parcels to a value of 3,000 million Swiss francs were sent to prisoners of war in Germany alone. Forty Red Cross ships travelled all over the world carrying sick and wounded, as well as food supplies.

Shortly after the end of the second World War, "Geneva Law" was codified, and the four Conventions of August 12, 1949, are now its legal basis. They concern:

- the amelioration of the condition of the wounded and sick in armed forces in the field;
- the amelioration of the condition of the wounded, sick and shipwrecked members of armed forces at sea;
- the treatment of prisoners of war;
- the protection of civilian persons in time of war.



The Red Cross has carried out its work through all subsequent conflicts, wherever blood has been shed: in Greece, Palestine, Suez, Cyprus, Indo-China, the Lebanon, Cuba, Rhodesia, Algeria, the Congo, Laos, Nepal, Yemen. Everywhere, it raises its voice against suffering and brings effective relief.

In 1919, just after the end of the first World War, Henry P. Davidson, President of the American Red Cross, proposed that a federation be formed of all the national societies so that the impetus of their work during the war should be carried on into peacetime. On May 5, of that year, there was born the League of Red Cross, Red Crescent, and Red Lion and Sun Societies.

Since that time, the League has given help all over

the world wherever there is suffering, and whenever a disaster is too great to be met by a country's own resources.

Thus, practical form has been given an idea put forward by Henry Dunant, who appealed for the organization of international help when floods ravaged the south of France in 1875. Today, the League groups 88 societies totalling some 155 million members. Its aim is to encourage the formation of national Red Cross Societies in countries where there are none, to contribute to the well-being of humanity, and to co-ordinate help in times of national disaster.

The work of the League is co-ordinated by the Advisory Committee on International Disaster Relief which has its offices in Geneva. There are international centres, and a telecommunications service ensures constant liaison with the technicians of each national society. An International Relief Handbook (a complete guide to disaster relief) defines in detail the work of specialists when wide-scale action has to be taken to help refugees, or the victims of epidemics, floods, earthquakes, and other natural disasters, and covers, in fact, all kinds of international relief.

Between 1947 and 1957, the total value of the relief co-ordinated by the League amounted to 400 million Swiss francs. These international activities are a new proof of the co-operative spirit which guides the Red Cross.

Not a year goes by without appeals for help being made to the member societies. In 1953, the sea burst through the dykes in Holland and thousands of people were left destitute, losing their houses and the land they had cultivated. When the water receded, salt had made the soil unfit for agriculture. The Dutch Red Cross received help amounting to 14,639,000 Swiss francs (\$3.4 million or £1.2 million) from 39 national societies.



The year 1960 brought a series of disasters: there were floods in Greece, an earthquake in Peru, and famine in Brazil; the earthquake at Agadir in Morocco left 18,000 people homeless. Red Cross societies sent staff, and gifts of over 10 million Swiss francs (\$2.3 million or £820,000) to meet these catastrophes.

During the last 10 years, the League has responded to 97 international appeals from 47 countries all over the world in order to help victims of all kinds of disasters. The aim is not to duplicate what others are doing already, but to give emergency aid whenever the need arises.

The wide field of the societies' activities, which range from nursing instruction to training first-aid workers to tend the victims of as terrible a disaster as an atomic war, has given them the status of public services, indispensable both on national and international levels. Though born on the battlefield, the Red Cross is above all a great force in time of peace which must be constantly ready to relieve human suffering and to safeguard human values. It is not an institution but a movement able to adapt itself to all circumstances.

Today the International Red Cross must adapt itself to the changing conditions of our contemporary world and with the development of atomic weapons has felt that it cannot blind itself to the consequences of a possible nuclear conflict. Recently the head of the Japanese Red Cross posed the problem openly and squarely and suggested that doctors should be given special training in radioactivity and also stressed the need for a co-ordinated study by all Red Cross societies of radioactivity, its dangers, and methods of treatment.

As Ernest Renan wrote when he sent Henry Dunant a letter of congratulation on the Red Cross: "You have created the greatest undertaking of our century. Europe may have greater need of it than we think."



THOUSANDS SAVED IN MOROCCAN TRAGEDY

In 1959, thousands of persons of all ages were crippled in Morocco when cooking oil adulterated with mineral oil was sold on the market. The victims were left partially or completely paralyzed. Together the Moroccan Ministry of Health, the League of Red Cross Societies and the World Health Organization launched an international rehabilitation programme.

Doctors, physiotherapists, nurses and other health staff sent by Red Cross and Red Crescent Societies supervised and carried out the rehabilitation treatment shown in these photos. When the international phase of this campaign, which saved thousands from incapacitation, was completed, the work was taken over by Moroccan medical staff trained by the specialists.

Photos © Erik Dreyer



THE MENTAL STRAINS OF ANTARCTIC SOLITUDE

Australian Official Photograph by George Lowe



by Phillip Law

Once the ship which brought them to Antarctica has lifted anchor and sailed away (left, the Danish ice-breaker, "Kista Dan"), the men who winter at a scientific research station are cut off from all except radio contact with the rest of the world. For many months they will have to face up not only to harsh weather conditions, but also to the psychological difficulties that communal life in a restricted space produces on the level of human relations. Right, a convivial meeting between two expedition leaders in Adelie Land. Phillip Law of Australia, author of our article entertains, the French explorer, Paul-Emile Victor, with a tune on the piano accordion.



Gaston Rouillon-French Polar Expeditions

LIFE at an Antarctic station is life in a test tube; the environment is one in which men and their behaviour can be subjected to searching scrutiny. Observations which are made on small teams in this remote region will provide valuable material for the social scientist concerned with man in his more complex urban society and are not the least important Antarctic investigations (1).

Men who winter at an Antarctic station are cut off from all except radio contact with the civilized world for many months. Their sense of utter isolation is increased by a number of deprivations—the lack of female companionship, of comforts and luxuries, of variety in food, liquor and amenities, and of daily contact with a wide range of different human beings.

The main stresses at such a station are psychological stresses—those between individuals, those between groups and those between the leader and his party. The mental stresses are aggravated by physiological factors resulting from the disturbance of diurnal rhythms in the body during periods of continuous daylight or darkness; in addition there is the depressing effect of high winds, dull cloudy weather and intense cold.

In a large city a man with peculiar characteristics, strange prejudices, or embarrassing weaknesses, can often escape from stress situations merely by avoiding them. At a remote station a man's avenues of escape are considerably restricted, and his chances of hiding his weaknesses are almost nil. Even the desire to hide them disappears.

Deeply ingrained social or intellectual differences in

men present some of the worst problems in such an environment. They tend to occur mainly amongst men of low intelligence and inferior educational qualifications. A man with a strong sense of inferiority may tend to be aggressive and difficult in his relations with other men and therefore become unpopular. There is thus a descending spiral of deterioration in his morale, often accompanied by a developing persecution complex. Examples of superiority complexes, on the other hand, are not infrequent. Intellectual arrogance is common among young freshly graduated scientists, but the influences at a station tend to correct this fault rather than to accentuate it as the year goes by.

Most men at an Antarctic station instinctively realize the need for holding their emotions on a tight rein. For instance, quarrels serious enough to end in a brawl back home rarely terminate in physical violence in Antarctica. Men seem to be innately aware of the irrevocable nature of an actual blow in an environment where for months to come one must daily meet one's antagonist face to face.

C. S. Mullin and H. J. M. Connery, writing in 1959 of United States Antarctic bases, noted that headaches were the most common psychosomatic complaint and that they occurred more frequently amongst the scientists and officers than amongst the navy enlisted men. They reported that the headaches were apparently related to the sharply felt need for careful control of aggression and they ascribed the difference between the two groups to the more complete repression of their hostilities by the former group.

At Australian stations the commonest psychosomatic symptoms have been those associated with the digestive tract, such as dyspepsia and various abdominal pains.

(1) We remind readers that our January 1962 issue was entirely devoted to "Antarctica, International Land of Science."

The torment of the long polar night

Headaches rate far lower on the list and are not more common amongst the intellectuals. When headaches have been notable amongst Australian intellectuals they have been associated with over-worked, over-conscientious men struggling day after day with heavy routines of observation and instrument maintenance in the face of numerous difficulties, rather than with the repression of aggressive tendencies.

Other ills are insomnia, with its consequent ailments, and rheumatic "aches and pains." Both these have been noted at French and Argentine bases. Argentine investigators also report that at their stations changes in diet and water produce mild gastro-intestinal troubles in more than 40% of men shortly after reaching Antarctica. It is possible that some of their trouble is psychosomatic.

A GRAPH of the morale at a station shows a fairly regular pattern each year. It starts off at a low level during the relief period, when the men who have just arrived, unsure of themselves in their new environment, feel ill at ease in the presence of the previous, experienced party and look forward to the departure of the ship so that they can be completely alone with their new possessions and responsibilities. When the ship sails their morale surges up to its highest point and for several months the general activity and enthusiasm is maintained at this level.

Then the long winter night, with its limitation of outdoor activity and its absence of sunshine, causes a general deterioration in morale, varying in degree with different parties. The graph rises again when the sun returns and men can busy themselves preparing for spring and summer field trips. Another high point is finally reached in the last two months, when the prospect of relief looms attractively close and the contemplation of unfinished work spurs men who wish to complete their tasks to renewed efforts.

During the return voyage, the men's behaviour is in marked contrast with that exhibited during their outward trip. They tend to be lethargic, lacking in exuberance, cynical, more individually isolated, drained of intense feeling and interested in little except their early delivery to a home port.

The mid-winter low in morale is generally accompanied by insomnia in a large proportion of men. In a big party this is not serious; as most suffer from it, it becomes accepted as normal.

However, in a small party, the situation can be more serious. As we all know, the worst thing to do about insomnia is to worry about it, and a man who is the only "insomniac" amongst four or five sound sleepers is hard to reassure.

The interesting feature of insomnia is that it tends to occur more during the mid-winter period of 24-hour darkness than during summer's continuous daylight. No doubt the high peak of outdoor activity which coincides with summer is the differentiating factor here.

ONE of the most difficult subjects for study at an Antarctic station is that of sex. We know very little of the sexual disturbances and abnormalities caused by the deprivation of woman's company suffered by men at these bases. We do know that no single deprivation counts as greatly as that of women. However, this matter is much broader than the narrow question of the lack of natural sexual intercourse. I venture to say that, for a number of reasons, sexual deprivation in the narrow sense is not nearly as important as many people might expect; while the lack of female companionship in the wider sense is felt very greatly.

In our experience men seem to accept the absence of any sex life realistically; their attitude can be summed up by the sentence: "There is nothing you can do about it, so the less you think of it the better." Ameliorating factors are, first, the absence of the constant sexual stimulants which abound in a civilized environment (pretty girls, advertisements, sexy magazines and films, and so on), and, secondly, the sublimation of sexual energy into hard work which undoubtedly occurs.

Food becomes an item of the greatest importance in Antarctica. This is not only because the climate and the hard work encourage healthy appetites; in addition food acts as a psychological compensation for other deprivations.

The incidence of severe mental illness at Antarctic stations is very low, owing to the care with which men are selected. Neuroses of varying degrees of severity, however, are fairly common. Frequently they occur amongst men who are brought face to face in this exacting environment with their own ineptitude in some field or other and who suffer from an acute feeling of insufficiency in the face of problems from which there is no escape other than a neurotic one. Aggressive, blustering behaviour is often adopted by such men to hide their feelings of inadequacy.

Homesickness, fear of the dangers of the environment, family problems at home, violent personal antipathies between men—these can all produce neurotic symptoms.

The anxiety state of the authoritarian type of leader who fails to obtain the support of his party is another example of neurotic behaviour. This is a complex matter in which offended ego, a sense of failure, a tendency to drive himself to the limits of his physical strength, and the reaction upon him of the resentment of the antagonised members of his party all play a part.

J. H. Rohrer has stated that all six people evacuated by U. S. authorities from International Geophysical Year bases in Antarctica for psychiatric reasons developed symptoms of mental disturbance in from one to four weeks after arriving. Experience of Australian stations has been similar, the worst cases of mental disturbance occurring within from two to eight weeks of the departure of the relief ship which landed the men. Apparently the impact of the environment is immediate and severe. Serious breakdowns in Antarctica occur mostly in young men less than 25 years of age.

THE greatest obstacle to the building of a happy, contented, well-adjusted party is the difference in cultural levels of various men. What topics of conversation can be common to all? How does a leader prevent the development of an intellectual clique at meals, when the more erudite men gather at one end to discuss philosophical profundities, and the less informed members, tiring of the continual highbrow conversation, sit and jeer and try to break it up?

It is here that the cinema proves its worth as an amenity; not so much because it provides an escape from the environment, but because it creates talking points for conversation. A cinema is also a source of group enjoyment—men congregate together to partake of what the evening has to offer.

A very marked feature of the psychology of Antarctic stations is the hunger for recognition and praise exhibited by many of the men. This is most apparent amongst those with strong inferiority complexes to whom I have already referred. This desire is a perfectly normal one, which is accentuated when the man down south counts up the hardships, the deprivations and the dangers he has to face in carrying out his work.



H. Evans - AP/ARE

Life in an icy wasteland with buffeting blizzards and all the rigors of the Antarctic winter is a severe trial for the polar teams even when they are housed in a "village" like the one shown above at the Australian base of Mawson. Right, a great moment in the life of a polar station: a relief team takes over (in this photo, at the French Dumont-d'Urville station in Adelie Land). One group will soon begin the long voyage home; the newcomers are at the start of a grand adventure. Meantime, they exchange news and experiences. Below, unexpected polar scene. Moscow music hall artists on tour near the North Pole entertain scientists manning the Soviet base, "North Pole I", adrift on an ice-floe. In Arctic and Antarctic, every effort is made to maintain the morale of the men during their long period of isolation.

VILLAGE ON ICE

© Jacques Masson - French Polar Expeditions



V. Egorov - Tass



ANTARCTIC SOLITUDE (Cont'd)

NATURE'S ICE-BOX.

The conservation of food stocks presents no problem when a natural refrigerator can be built from blocks of ice. Food becomes an item of the greatest importance in Antarctica. This is not only because the climate and hard work encourage appetites; food also becomes a psychological compensation for other deprivations.



Jacques Masson-French Polar Expeditions

The ideal expedition man

When the task is completed he quite naturally expects a pat on the back. It is possible, also, that in Antarctica he suffers from the lack of such everyday recognition and praise which back at home arises normally in the home environment—the commendation and the loving adulation of mother, wife and children.

A good leader can go far towards gaining the loyalty and goodwill of such men by the judicious use of praise, by making sure that other members of the party are notified of the special achievements of individuals, and by guaranteeing that published reports will give adequate recognition of the personal achievements of the separate men.

Obviously, the selection of the personnel for an Antarctic station is a task of the greatest importance. The man I have learned to avoid most in choosing an Antarctic team is the group-disruptive egoist. Overweening egoism is always dangerous, but a certain amount of ambition and pride is essential to produce the driving force which urges a man on when the going is toughest. If one can find a man with ambition, who is proud of his accomplishments and is eager to excel, but who is humble in spirit and self-critical in outlook, then one has a very powerful combination indeed.

The first and most important requirement in an expedition man is that he shall love his job. A man is judged in Antarctica by his companions largely on the basis of his efficiency in his work. The man who won't pull his weight, and slacks or is incompetent in his specialized job, is highly resented. A good man, on the other hand, experiences a double sense of accomplishment—the realization of having done his job well, and the gratification

of knowing that his competence has been appreciated by his fellows.

The second essential is unselfishness, which embraces thoughtfulness for others. Closely behind unselfishness I would place tolerance—tolerance of other men's views, other men's idiosyncrasies, other men's failings.

Optimism, I think is also important. Pessimists I avoid like the plague, also cynics. A sense of adventure and an avid curiosity are desirable, but we have had good men who possessed neither.

Character, guts and "stickability" are basically essential, for a year is a long time and the difficulties which confront a man are many.

Nevertheless, a year in Antarctica can be a most rewarding experience. Apart from the more obvious rewards such as broadened experience, real adventure and magnificent scenery, one may experience the true companionship of men working together, in humour and kindness courage and unselfishness, towards a common goal.

PHILLIP GARTH LAW has been director of the Antarctic Division of Australia's Department of External Affairs since 1949. He led the Australian National Antarctic Research Expeditions which established the first permanent Australian station at Mawson, MacRobertson Land, in 1954. His article is based on an address he delivered to the British Medical Association in Melbourne, later published in the "Medical Journal" of Australia (Feb. 20, 1960).

Letters to the Editor

THE CASE FOR ESPERANTO

Sir,

One has often seen nonsense written about the International Language and about the contemporary world language problem in general. Yet rarely does one find such a concentration of absurd statements as in Mr. Robert H. J. van Kuyk's letter which you published in your March 1963 issue.

Mr. van Kuyk says "Esperanto is an artificial language—itsself a contradiction *in terminis*..." It would perhaps be permissible to use the word "natural" as a *figurative* description of the spontaneous creation of language up to a certain stage in its development, although from a strictly scientific point of view it is absolutely erroneous to apply the term to language. Language did not arise and does not evolve as something "natural": it is a product of human society.

★

The world-famous linguist Antoine Meillet has written: "Language is an institution belonging to the social group", while the Russian linguist A. S. Cikobava states straightforwardly that "language is a social phenomenon." There are no serious contemporary linguists or sociologists who would deny this fundamental truth. And a society, in the sense of a group of people who use a given language to satisfy the needs of mutual comprehension, may be—as history shows—a tribe, a nation, a religious community, even a class or caste, or some other social grouping, not excluding an international collective using the International Language for the purposes of international communication.

There are no "natural" or "unnatural" languages, but only languages as instruments of social communication. For this reason the term "natural", if applied to language, is erroneous, leading as it does to the unscientific treatment of a social phenomenon as biological and, consequently, to fatal mistakes and false conclusions. By the same token, the *a priori* formula "artificial language—a contradiction *in terminis*" is completely meaningless.

Furthermore I find myself quite unable to understand how a person who asserts that Esperanto, as an "artificial" language, is a "contradiction *in terminis*", and therefore impossible, can at the same time state that he has spoken it. If the word "logic" still retains its normal meaning, it would seem utterly impossible to learn a language which simply does not exist, since, being "self-contradictory", it cannot function as a language.

Mr. van Kuyk alleges that the International Language is not "viable" because it lacks the cultural and spiritual foundations that give to a

language its quality of language". So at first, language is something "natural", whereby the "artificial" Esperanto is a "contradiction *in terminis*"; but by the next line language is based on "cultural foundations", that is on a purely social category which, according to Mr. van Kuyk, even gives it its quality of language.

It is not clear what the author understands by "cultural and spiritual foundations", since language as such—even that of the most primitive stages of development—represents the greatest single cultural value, linked to which are all of mankind's other cultural values. He seems to mean not this, but rather the cultural values created in a language, probably mainly those of literature.

Now if this were the case there would not be very many languages in the world. According to Meillet and Cohen's major work *Les Langues du Monde*, the number of languages, not counting the "local forms of languages" is between 2,500 and 3,500. Of these, only about 25 are important by virtue of being widely disseminated and in view of the works written in them, whilst only 40 to 50 languages have any literature at all, important or unimportant. If the criterion for the definition of a language were really "cultural foundations" in this sense, thousands of languages which exist in the world today or which have existed in the past would simply not be languages.

Esperanto, on the other hand—in which a relatively rich literature, translated and original, has already been created (the library of the British Esperanto Association in London contains more than 30,000 items), in which various magazines and literary, scientific and specialist periodicals are published regularly throughout the world, and which is widely used in broadcasting, in international congresses and conferences, for scientific exchanges and for all manner of other international contacts—Esperanto, then, probably belongs with the 25 or so languages which are important by virtue of being widely disseminated, and certainly, at the very least, with the 40-50 other "cultural languages".

★

The General Conference of UNESCO, by its resolution of December 10, 1954, noted, amongst other things, "the results attained by Esperanto in the field of international intellectual relations and the rapprochement of the peoples of the world" and recognised that "these results correspond with the aims and ideals of UNESCO."

Knowing nothing of the cultural values already created and constantly being created in the International Language, and knowing nothing of the spirit of humanism which animates it, Mr. van Kuyk has attempted to define language in such a way as to force the exclusion of Esperanto.

In fact, it was included even by his extremely narrow and quite unacceptable idea of language, while at the same time thousands of "natural" languages were excluded—precisely those which one line higher up were the only "real" languages, since if the word "natural" is to be used at all when speaking of language, clearly it could possibly be applied, with all appropriate reservations, only to the languages and "local forms of languages" which have not reached the stage of being literary languages, as observed by the famous linguist Max Müller as many as 100 years ago.

Mr. van Kuyk would have us believe that his "study of Esperanto" has convinced him that "this language is not suitable for general use and thus can do little to build practicable roads between the nations". It is not bare "study", but rather practical utilization of the International Language in all aspects of international relations, which has convinced hundreds of thousands of men and women of all nations and in all five continents that the opposite is the case, as acknowledged further by the previously mentioned resolution of the General Conference of UNESCO.

★

Unlike Mr. van Kuyk, the great Russian author Leon Tolstoy, who "was able after no more than two hours of study, if not to write, at least to read this language with ease" (Vol. 67, p. 101 of the Russian edition of his "Collected Works"), wrote in 1889 that "this language satisfies the requirements fully" and that he would "endeavour to spread this language" (Vol. 64, p. 34) to the best of his ability.

Lastly Mr. van Kuyk advises us that preferably we should learn English, Russian, Chinese, Arabic, French, and Spanish, rather than Esperanto. Foreign national languages have of course been taught for many years in schools in all countries of the world. Millions of working hours are devoted to this end every week, with the net result that in the vast majority of cases the pupils, after several years' study, are just capable of saying, in the language they have "learnt", that they cannot speak it, or possibly a very little more than that.

Has all this effort of learning foreign languages solved the language problem? Clearly no: prior to the First World War, French was more or less the only language of diplomacy; the League of Nations had two official languages; the U.N. has five, and UNESCO itself, at its General Conference, has eight official languages, of which four are working languages. Such is the reality, and it costs mankind limitless effort and vast material resources. Esperanto does not aim to do away with the national languages,

CONT'D ON NEXT PAGE

Letters to the editor

(Cont'd)

but to resolve this chaotic situation in the interests of international understanding on all levels and at the same time in the interests of all the national languages, both great and small, which represent the most valuable cultural treasures of all nations.

Besides, a knowledge of Esperanto in no way hinders the learning of other languages by people who have the talent and the inclination to study foreign languages. On the contrary, experiments conducted in schools of various countries have shown that a knowledge of Esperanto, by virtue of the logical structure of its grammar and its syntactical transparency, facilitates not only the learning of foreign national languages, but also an improved understanding of one's own literary language.

I myself have active command of seven languages (in five of which I have written books or specialist studies) and passive understanding of another seven; on the basis of this personal experience I can say that (I) knowledge of Esperanto has helped me greatly in the acquisition of those languages, and (II) even with such a relatively wide mastery of languages I constantly, almost every day, face all manner of difficulties due to the language problem.

On reading Mr. van Kuyk's letter I recalled part of the brilliant foreword by Prof. P. Bargellini, one of the foremost contemporary Italian art critics, to the Esperanto edition of Dante's complete Divine Comedy, to be published shortly in the Universal Esperanto Association's "Orient-Occident" series.

Prof. Bargellini, describing the situation with regard to Dante at the end of the fifteenth century, remarks "the humanists, too, had changed their attitude towards the 'vulgar poet', and a scholar such as Cristoforo Landino, who lectured on rhetoric at the Florence 'Studio'... was entitled to deliver a commentary on Dante's poem without violating his dignity as a scholar and a latinist." Nearly two centuries had to pass before the scholars of that day dared to acknowledge this masterpiece of the world's literature without the fear that in dealing with a poem written in a "vulgar" language they would jeopardise their dignity, prestige and reputation. The International Language is not the only language that has had to face, and still does face, the barriers of prejudice and superstition.

Prof. Ivo Lapenna
Hon. General Secretary
of Universal a Esperanto-Asocio
Wembley, England



Dante Alighieri

DANTE'S DIVINE COMEDY IN ESPERANTO



Jacob's Ladder



The Ninth Circle

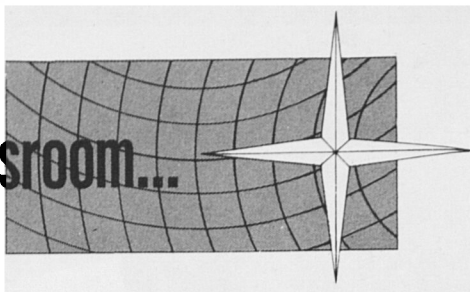


The Inferno



Both Michelangelo and Botticelli produced illustrations for Dante's *Divine Comedy* but the originals have been lost—Michelangelo's in a shipwreck in the 17th century and those of Botticelli (or most of them) through fire in an air-raid shelter in Berlin during the last World War. Fortunately, reproductions of Botticelli's drawings have come down to us. These masterpieces of the great 15th-century Florentine painter are shortly to appear in a special edition of the "*Divine Comedy*" containing, opposite Dante's original Italian, a translation into Esperanto by Giovanni Peterlongo. This magnificent volume, entitled "*La Dia Komedio*" in Esperanto, will be published in October by the firm of Edizione Siei in Milan.

From the Unesco Newroom...



SUBMARINE VILLAGERS: A team of ten men from the French oceanographic vessel "Calypso", now on a research expedition in the Red Sea, will spend about two months on the sea bed, working from a "submarine village" of three houses which will be built for them and their equipment. The divers will also explore the sea bottom to a depth of 6,500 feet.

GRANTS FOR IMPROVING EDUCATION: A grant of \$200,000 from the Ford Foundation and another of \$150,000 from the International Bank for Reconstruction and Development have been made to help establish an International Institute for Educational Planning in Paris. Due to open this year, the Institute will provide training courses for civil servants, educational planners and economists and will co-ordinate knowledge and experience of value to countries developing their educational systems. The establishment of the Institute was authorized by UNESCO's General Conference last December.

KALINGA FILM PRIZE 1964: The Kalinga Film Prize (the equivalent of £2,000 offered through the intermediary of UNESCO by the Indian industrialist, Mr. B. J. Patnaik, creator of the Kalinga Science Prize) is to be awarded, for the second time, in 1964. To be eligible, films must have been made between January 1, 1963 and June 30, 1964 and must deal with an outstanding achievement in education, science or culture resulting from international co-operation. Entries may be submitted only through National Commissions for UNESCO from whom full information can be obtained.

TOYS FOR TEACHING: Girls and boys in Ibadan, Nigeria, recently flocked to a fascinating exhibition of educational toys, ranging from building blocks to model railway trains. Entitled "Learning to Live", the exhibition stressed the special importance of the educational toy in newly-developing Africa where many children lack experience with mechanical and manipulative toys which can be of value from the age of three to adolescence.

MOSCOW FILM FESTIVAL: The third Moscow Film Festival which is held "to choose and award prizes for the best productions of the cinema art, to develop co-operation between cinema workers of different countries and to strengthen friendship between nations", will take place from July 7 to July 21. At the first festival in 1959, 44 countries took part and 134 films were shown. At the second, in 1961, 55 countries participated and 251 films were shown.

TECHNICAL TRAINING IN TURIN: An international centre where workers from developing countries will take advanced technical and vocational training courses will be set up by the International Labour Organization in Turin. For the first two

years about 600 candidates will be accepted annually for training as skilled workers, technicians, instructors, foremen and administrators. Italy is contributing about \$7,500,000 towards costs for the first ten years and is to provide 300 fellowships annually.

KANGAROO SOS: A campaign has been launched in Australia to protect the kangaroo from wholesale slaughter. The kangaroo is killed for its meat, and in 1961-62 over two and a half million pounds of kangaroo meat were exported. Professor A. J. Marshall, the Australian zoologist who started the protection campaign, aims to protect the kangaroo from the same fate as the other 35 species of Australian marsupials—animals which carry their young in their pouch—which he says are now extinct.

SCOUTS FOR HEALTH: A group of Nigerian boy scouts has been working alongside a team of World Health Organization and U.N. Children's Fund health workers. They took part in a campaign which has practically wiped out yaws, a disease which once attacked between 10% and 20% of the population. During a smallpox vaccination drive the scouts checked on 140,000 people, 86% of whom were vaccinated.

SEA-BED ARCHAEOLOGISTS: Divers working with archaeologists have been making exciting discoveries around the coasts of Finland. Wrecks of historical interest have been charted, including a ship dating back to the 16th or 17th century in a perfect state of preservation. The work has been done by members of a Finnish organization affiliated to the World Underwater Federation. This international body, grouping 29 nations, aims to protect submarine archaeological sites of historic and scientific importance.

MOBILE EDUCATION TEAMS: Four mobile UNESCO teams composed of three educators and a woman specialist in home economics, hygiene, and mother and child care (supplied by the U. N. Children's Fund), have been travelling through seven Congo provinces, giving refresher teacher training courses. An average of 100 to 120 teachers has been attending each course. A fifth team in Leopoldville is supplying the roving teams with audio-visual teaching materials and textbooks. It is hoped to extend this operation throughout the Congo's 21 provinces.

GUIDEBOOK FOR INTERNATIONAL UNDERSTANDING: To help Australia's teachers over the problems of a relatively new subject in the curriculum—education for international understanding—the Australian National Advisory Committee for UNESCO has recently issued a newly revised and expanded guidebook to the subject. This manual proposes different classroom

approaches to such subjects as the meaning of race and nuclear energy, and presents bibliographies and quizzes.

PROTECTING NIGHT FLIERS: To prevent night-flying migrant birds from being dazzled so that they collide with the Empire State Building in New York, the all-night beacon at the top of the 102-storey skyscraper was blacked out from April 9 until June 1.

NATURE'S WONDERS: "Harmonies Universelles", a magnificently-illustrated two-volume work, recently published under the patronage of the International Union for the Conservation of Nature, opens a window on the infinite aspects and beauties of nature. For further information and to order, write M. Francis Brunel, Conseil International des Sciences de la Vie, Information et Culture, 6, rue Joubert, Paris (9^e). The two volumes cost 200 Fr. Frs (or equivalent in other currencies) and are obtainable only through subscription.

AID FOR EARTHQUAKE VICTIMS: Young people from Norway, Sweden, the Federal Republic of Germany, Austria, the United Kingdom, France, the Netherlands, among other countries, have volunteered to rebuild the Iranian village of Dusaj, destroyed by last year's devastating earthquake. The project is being carried out in co-operation with youth and voluntary work camp organizations, including Service Civil International.

Flashes ...

■ Thirty-eight million people suffering from the crippling disease of yaws were treated with penicillin during internationally-aided campaigns carried out between 1950 and 1962, reports the World Health Organization. In campaign areas active cases dropped from between 10% and 20% a decade ago to about 0.5% by the end of 1962.

■ Out of 40,500 persons who lost their lives on U.S. highways last year (a 7% increase on 1961), 32,300 died in accidents caused by driver error and traffic law violations.

■ Soviet scientists are planning to raise wind power stations by balloon or airship to the tropopause—a thin layer of the atmosphere about 6 or 7 miles above the earth's surface—to make use of regular windspeeds between 1,000 and 2,000 times greater than those of atmospheric layers nearer the earth. It is thereby hoped to produce cheap electricity for rural areas.

■ At the end of 1952 Unesco had 445 professional staff members at Headquarters as against 223 officials and experts in the field. By 1962, the proportion had been completely reversed: 790 in the field as against 460 at Headquarters.

■ Fifteen years ago the annual fish catch of all western South America was 130,000 tons (1% of the world total). Today, the waters off Colombia, Ecuador, Peru and Chile give six million tons annually. Peru, with 5.2 million tons is the world's second greatest fishing power, after Japan with 6.7 million tons.



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R. A. C., Paris

CENTENARY OF A UNIVERSAL BANNER

The Red Cross, which celebrates its centenary this year, was born of a personal experience. In June 1859, Henry Dunant, a Swiss citizen who witnessed the battle of Solferino, was horrified by the suffering of the wounded. Thereafter he worked for the creation of societies in

each country to succour wounded soldiers. In 1863 an international conference in Geneva created the Red Cross—today a movement of 150 million people. (See article page 20). This scene from the film, "The Man in White", shows Henry Dunant at the siege of Paris in 1870.