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# Courier

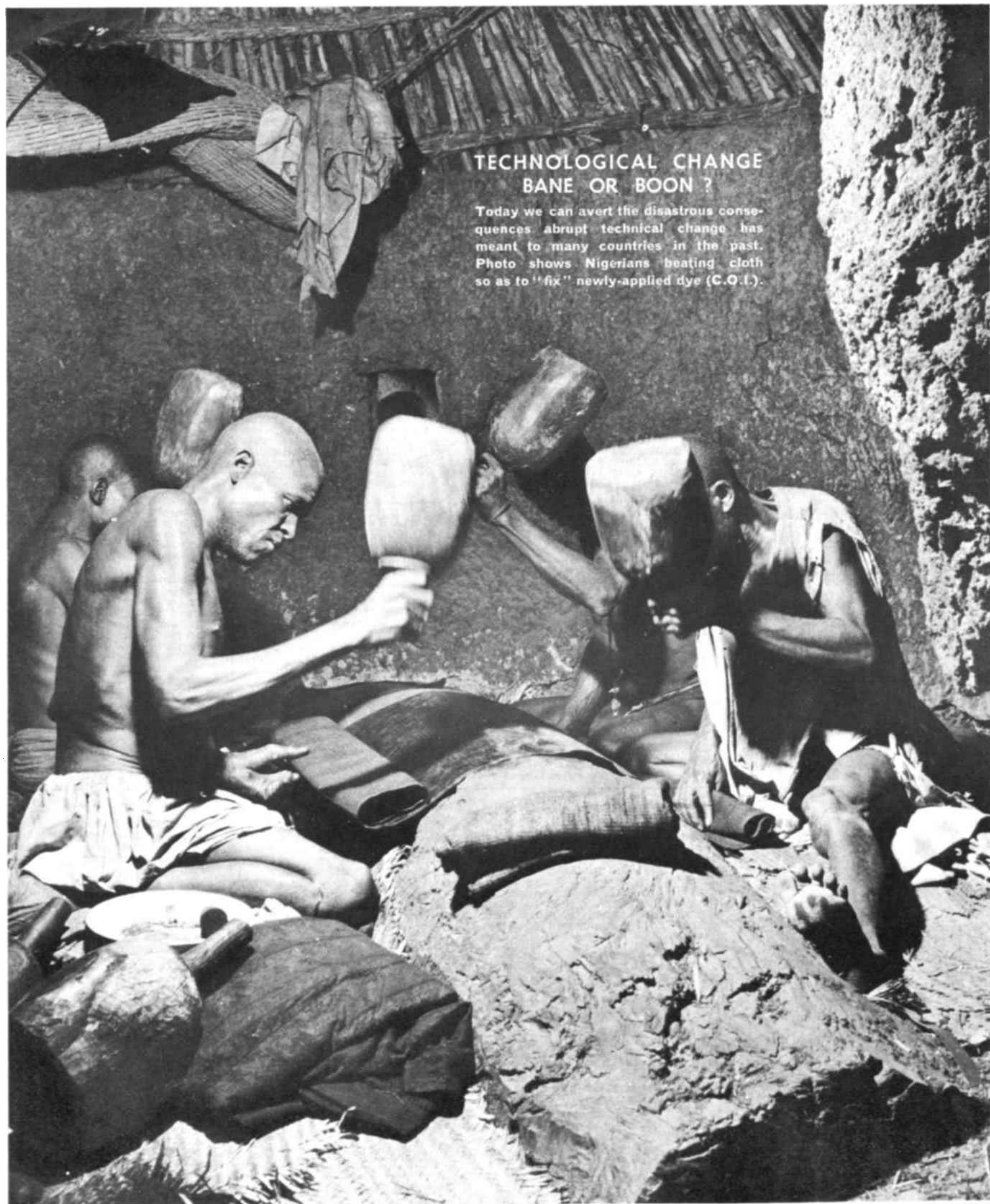
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## TECHNOLOGICAL CHANGE BANE OR BOON ?

Today we can avert the disastrous consequences abrupt technical change has meant to many countries in the past. Photo shows Nigerians beating cloth so as to "fix" newly-applied dye (C.O.I.).



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## FROM THE UNESCO NEWS ROOM...

★ **Korea**: Libraries in Korea will soon be receiving the first shipment of a total of 50,000 new books which are being purchased for them by the United Nations Korean Reconstruction Agency under a book replacement programme for educational institutions that lost most of their school supplies and equipment as a result of military operations. The book programme was undertaken with the help of Unesco which sent a planning mission to Korea.

★ **Belgium**: The 12th annual Belgian International Art Week organized by the country's Ministry of Education will begin on July 30. This enables visitors from many countries to inspect, under expert guidance, Belgium's ancient and modern art treasures. This year eight countries are organizing similar "Arts Weeks" in collaboration with the Belgian authorities.

★ **Netherlands**: Though still struggling to regain land lost to the sea in the recent floods, the Netherlands continues to supply experts to help other countries. A group of Dutch engineers and technicians has just planned a ten-year scheme for Syria that will turn about seventy-five thousand acres of marshland in Northwest Syria into a fertile agricultural region capable of supporting sixty thousand people.

★ **Mexico**: The first exhibition on the history of books and engravings in Mexico is being organized with the co-operation of both official and private cultural organizations. The exhibition will record the impressive development of book production and engraving in this country, from the time the first printing press was introduced to Mexico until today.

★ **Italy**: The island of San Giorgio, opposite the Piazza di San Marco in Venice, is being transformed into an international centre of culture and the arts. Artists and scholars from many nations will be able to stay in a guest home in San Giorgio's famous abbey. Two modern schools have also been built for children from the poorest Venetian families. Buildings are being transformed into a hostel for Italian and foreign students. An amphitheatre to seat 1,400 spectators is being built for special theatrical performances.

★ **Pakistan**: In the past during monsoon storms, lightning has many times struck radio transmission lines at Dacca, East Pakistan, cutting off broadcasts for several days. Now Mr. S.A. Azziz, "Radio Pakistan's" research engineer, and Mr. W.C. Lee (New Zealand), a Unesco technical assistance expert, have installed "protection tubes" which prevent electrical charges from being built up on cables during these storms. Radio listeners now hope to enjoy uninterrupted broadcasts throughout the monsoon season.

★ **Ireland**: Art critics from many nations are to meet in Dublin this month for the Fourth International Congress of Art Critics. The Congress will deal with matters of professional interest, and at the same time will study the relationship of a work of art to the culture of its time, the relations between art and science, and also art criticism through the medium of films.

★ **Burma**: British books are now reaching people in even the most isolated parts of Burma thanks to a book-box

scheme which the British Council has introduced to widen its library services in this South East Asian country. From the British Council library in Rangoon boxes of books go out by rail, river and sea on five routes dividing the country into regions, each of which has four or five stations or borrowing points.

★ **Portugal**: The Portuguese Government has launched a vigorous campaign against illiteracy—a campaign that may affect as much as forty per cent of the population. Primary education will be compulsory for all children between seven and thirteen. Army recruits are to be released from service only after completing educational courses. Moreover, beginning in 1955, no company will be allowed to hire personnel who failed to complete their primary schooling. Government courses are being organized

★ **France**: Children's literature usually is written by adults, selected by adults and published by adults, but a new French literary jury will give the children themselves an important voice in the matter. The jury, which will award a prize for the best children's book of 1953, will be made up of ten youngsters between the ages of ten and fourteen from primary and secondary schools in Paris and the suburbs.

★ **Unesco**: More than twelve thousand publications received as gifts and exchange offerings from governments, libraries, publishers and private individuals were distributed through Unesco's Clearing House for Publications to libraries in fifty-five countries during the second half of last year. Nine thousand additional volumes were exchanged by libraries among them-

adopt the metric system for weights and measures. By doing so, it will simplify the present system and bring it into line with measurements used by scientists in most other countries.

★ **United Nations**: The United Nations Postal Administration has issued a commemorative stamp honouring the work of the Universal Postal Union. The new stamp's design shows a globe with an envelope superimposed. The emblem of the United Nations appears in the middle and the abbreviation "UPU" at the lower right.

★ **Norway**: King Haakon of Norway has opened a nation-wide campaign to finance Norway's new Aid to India scheme. The project involves technical assistance to India, under a three-way agreement between the United Nations and the Governments of Norway and India. Funds will first be used to send experts and equipment to help modernize fisheries in the Indian State of Travancore-Cochin. The United Nations will also contribute assistance.

★ **Austria**: An international congress for the professional training of musicians will take place this month in Bad Aussee and Salzburg. Some eighty directors of conservatories, universities and music academies in many countries will participate in the congress. They will strive to co-ordinate the different methods of musical education and to elaborate what would be an ideal pedagogic programme in the realm of music.

★ **United Nations**: Sculptures to decorate the outdoor site of the United Nations building in New York are being sought by the Organization. Though many gifts have been received for the interior of the Headquarters, only two statues have so far been given to stand in the grounds. One is Greece's gift of a statue of Zeus, and the other a sculpture in wood of a young girl from Denmark. Two more outdoor sites have been prepared for stone statuary and so far only one offer has been received — Yugoslavia has promised a Bronze equestrian statue.

★ **Haiti**: As a preliminary to a major plan for agricultural development in the Valley of Artibonite, the Government of Haiti has launched a demonstration project "Bois Dehors", for the rational exploitation of more than 1,500 acres of land, which will be devoted to cultivation of rice, vegetables, pasture and kenaf. To stimulate the co-operative spirit of the farmers, adult education, sports, educational films, as well as all types of recreational and social activities are given a prominent place in the programme. The results obtained have already shown the strength of the farmers' determination to improve their way of life, according to the authorities.

★ **International**: Under a five-year international Art Exchange programme, the work of modern artists will be exhibited in many parts of the world. Thanks to this programme, financed by a grant from the Rockefeller Brothers Fund, American painters and sculptors will be able to show their work in Paris, Tokyo and Sao Paulo, Brazil; whilst exhibitions of Japanese architecture and contemporary Italian architecture and design will be shown at the Museum of Modern Art in New York.

## FRANCE TO APPLY UNESCO "FREE FLOW" AGREEMENT

France has put into effect the Unesco-sponsored international Agreement which abolishes import duties on a wide range of educational, scientific and cultural materials. A bill for ratification of the Agreement has been presented to the National Assembly, and pending formal ratification a decree has been issued authorizing provisional application of the convention.

The French Government's decision was announced on the first anniversary of the Agreement's coming into force on 21 May, 1952. Fourteen nations are already parties to it.

The convention eliminates duties on books, newspapers, magazines, music scores, works of art and articles for the blind. Also exempt are newsreels, educational films, filmstrips, sound recordings and scientific equipment if consigned to approved institutions. In addition, governments undertake to grant import licences and foreign exchange for publications required by public libraries.

The Agreement is already being applied by Cambodia, Ceylon, Cuba, Egypt, Israel, Laos, Monaco, Pakistan, Philippines, Sweden, Switzerland, Thailand, Vietnam and Yugoslavia.

Seventeen additional nations have signed but not yet ratified. A number of them are acting to obtain ratification. The United Kingdom and Iran, for example, have presented bills calling for parliamentary approval.

throughout the country for both children and adults.

★ **Venezuela**: Local authorities of the important oil town of Maracaibo have decided to organize a system of school by radio for children unable to leave their homes. The radio courses later will be extended to adults who cannot attend evening schools. A special manual is being prepared to instruct the teachers who will be responsible for the broadcasts.

★ **Denmark**: The Danish International Student Committee is again organizing international archaeological work camps this year lasting three weeks. These will be held at Fyrkat, near Hobro in Jutland, where students will help the Danish National Museum excavate a viking fortress, and on the island of Bornhold where they will work on a fortress dating from the Iron Age, and rebuilt in the Middle Ages, and on some Early Iron Age habitations. Students will be supervised by archaeologists from the National Museum, and will visit places of historical interest.

★ **Israel**: The first of many Israeli international work camps planned for 1953 has now ended. For two weeks, volunteers from Switzerland, the United States and Great Britain joined with fifteen Israelis and Arabs to construct terraces, gardens and playgrounds at a Village Home for young delinquents. The work camp idea was introduced with great success in Israel last summer.

themselves, following encouragement from Unesco.

★ **Nepal**: The Government of Nepal has signed and deposited the instrument of acceptance of the constitution of Unesco, thus becoming officially Unesco's sixty-seventh Member State. Nepal's application for membership had been approved by Unesco's general conference at its Seventh session in Paris last November.

★ **Yugoslavia**: More than two hundred Yugoslav students will engage in special studies abroad this year, while one hundred and forty foreign students visit Yugoslavia under a recent agreement with the International Association for the Exchange of Students. The Yugoslav students are to spend from two to four months in one or several of eleven countries.

★ **International**: On June 1st, an international agreement sponsored by the International Labour Organization came into force granting social security benefits to forty-five thousand barge-men on Europe's Rhine river. Under the agreement, signed by Germany, France, Belgium, Holland and Switzerland, the barge-men and their families will receive benefits no matter in which country they find themselves—and whatever the flag under which they are sailing.

★ **United Kingdom**: This month the British pharmaceutical industry will

# DANGERS IN TECHNICAL CHANGE



**F**EW of us change long-standing habits very easily. Even in a highly-industrialized country where changes from the old to the new are constantly taking place, it takes a good while before people accept these changes. In non-industrialized countries, where changes are usually much slower, it is not surprising that resistance to change is even more deeply-rooted.

Today, under the Technical Assistance Programme of the United Nations and various governmental and voluntary agencies, great transformations are taking place in the life of millions of people in Asia, Africa and Latin America. New techniques to increase food production and conserve resources, new methods of nutrition, new health practices, new education—all of these are being introduced into communities whose way of life has, more often than not, changed little and slowly for hundreds of years.

This rather sudden impact of technological change has posed critical human problems to technical assistance experts working around the world. They have come to realize that it is not enough to move into a country with tractors and bags of fertilizers and simply tell the people to use them if they want better crops. The reasons why these people have done things in their own way must first be understood and respected. If they are not respected, then the natural resistance to change and interference will only be strengthened.

So a new aspect of Technical Assistance is taking on supreme importance. This is the study of a people's culture—by which the social scientist and the anthropologist mean not only religion and philosophy and the arts, but the small intimate customs of daily life, how people cook and eat their food, how they manage their children and run their homes.

Cultural anthropology and the other branches of the social sciences have much to offer for the guidance of the technical assistance expert, for his task is not only to transfer knowledge but to have it take root. Unesco has now published such a guide—an absorbing study called "Cultural Patterns and Technical Change", edited by Dr. Margaret Mead, the noted anthropologist and psychologist, and prepared by a team of social scientists in co-operation with the World Federation of Mental Health.

Although primarily designed for the technical assistance expert, the new volume makes fascinating reading for the layman. (It will be available end of August at Unesco Sales Agents at \$2; 11/6d; 550 Fr. Frs). On the following pages we are happy to be able to present highlights from a few of the chapters of this book.

Dr. Alfred Metraux, of the Social Sciences Department of Unesco which is devoting increased attention to the human problems of technical change in under-developed countries, speaks out frankly and bluntly, below, with an anthropologist's view of some of the dangers which he personally sees if the human problems involved in technical assistance are not clearly understood and taken into account.

## by Dr. Alfred Metraux

**A**LL the great civilizations of the world are hybrids. No matter how far back we go in history we find that most of the changes that have taken place, even in the most primitive civilizations, have had their roots in contacts with other peoples. The greatest civilizations have been those which were flexible enough to absorb the largest possible number of foreign techniques and ideas.

But whereas in the past changes were, as a rule, slow and new techniques were blended harmoniously into the existing order of things without causing serious upheavals, the changes in our time are more brutal and the repercussions swifter and deeper. Instead of the former harmonious process of evolutionary change we are witnessing revolutionary changes brought about by the engulfing sweep of modern technology.

In the past 500 years, the rhythm of technical progress has been amazingly accelerated with the rapid development of the means of communication. And today, our industrial civilization is reaching out into every hidden corner of the globe.

The United Nations programme of Technical Assistance is a systematic attempt, on an international scale, to bring to the economically unfavoured countries the technical knowledge and methods that will enable them to raise their standard of living and to share in the progress of the highly industrialized countries.

The present gap between the living standards of the industrialized and the under-developed countries is a threat to peace. Not only does it encourage an inclination to rebel, but the poverty prevalent in large areas of the world is a handicap to the more fortunate countries in that their level of production is directly affected by the economic weakness of potential customers.

The changes that Technical Assistance seeks to achieve in the under-developed countries has been defined as "a cumulative process where agricultural improvements, health, education, social measures and industrialization are introduced in a gradual interplay".

The promoters of Technical Assistance are fully aware that economic development is bound to affect all aspects of a people's life to varying degrees. Food, health and education are the main fields in which they wish to introduce changes and they are persuaded that "given a wide and equitable distribution of its benefits, it is likely to result in a substantial increase in the security of the individual and in social stability".

But there is one basic principle which must guide all forms of planned economic development. It is an extremely delicate one; it amounts to guiding the transition from one form of culture to another in order to avert the disastrous consequences that many countries of the world have suffered from such changes in the past. This is the task which the U.N. Technical Assistance Programme has now begun to allot to the social scientist.

Progress, in the form in which the United Nations seeks to propagate it throughout the world, must inevitably destroy many forms of local culture still surviving on several continents.

These cultures have their defects, no doubt, but they are none the less the outcome of a long adaptation to local conditions, and their followers find in them a satisfaction for which even the most advanced technology cannot always compensate. The members of a village community often enjoy a measure of protection that they will lose when swamped in a proletarian society. The leisurely well-ordered rhythm of country life has all too often been replaced by joyless, soul-deadened toil.

We have learnt by now that no culture has succeeded in bringing into play all the potentialities of human nature, and that some of the humblest forms of culture have solved problems that baffled the more highly developed. Higher standards of living, industrialization—these will inevitably destroy such values and thus tend towards the impoverishment of the human race.

The choice lies not between guns and butter,

but between butter and certain forms of art, certain religious or philosophical traditions. The danger of standardization is largely theoretical, for it must be remembered that requests for technical assistance and fundamental education are being received from countries where development is in full swing and which have to a great extent broken with their past traditions.

No reasonable person could suppose that it would be possible to turn vast areas of the world into preserves for the protection of native cultures. Even if, for sentimental reasons, we might wish to do so, the representatives of the cultures



concerned would undoubtedly be the first to wish to escape from their traditional way of life and to denounce our efforts as unjust and discriminatory. It must be remembered that the initial impetus towards change and development comes from the governments and peoples of the under-developed countries.

And they are travelling along the path of progress faster than their advisers had expected. Many are trying to go ahead too quickly—at a dangerous rate. If any attempt is made to check them, they raise the cry of "reaction", or assert that they are being made the victims of a sinister imperialism. Heads of missions find that one of their most difficult problems is to restrain ill-timed enthusiasm and curb the impulse towards premature innovation.

Nowadays it is the most highly cultivated representatives of the coloured races who protest most vehemently when white men advise them to maintain their traditional customs. They even tend to regard anthropologists as the agents of an insidious imperialism which, under the cloak of respect and affection, is striving to perpetuate its supremacy and to debar the coloured races from all access to power and happiness.

It cannot be denied, however, that too high a price is often paid for the introduction of industrialism, and this might perhaps be avoided. The impact of mechanization is appalling in its levelling-down effect. Anyone who has ever visited a mining camp or a sugar cane plantation can bear witness to the degradation brought about by the transfer from the tribal way of life to that of the hired labourer.

Our own society has passed through a similar crisis, and, the wiser for our experience, we might perhaps be able to save other cultures from making the same mistakes and enduring the same sufferings as ourselves. When the transformation is on a vast scale, the original culture may be shaken to its foundations or even destroyed. As Dr. Bowles so aptly remarks:

"The tragedy lies, not in the disappearance of a culture, it lies in the replacement of a functioning society with a mass of disunited individuals who, as victims of circumstance, can fall easy prey to exploitation of one sort or another."

It all too frequently happens that the plans made for assisting economically backward peoples make no allowance for the tastes and feelings of those who are to benefit from the so-called improvements. Economists and technicians, because they deal in statistics and handle practical problems, become imbued with an alarming self-confidence. They seldom have any inkling of the relationship that exists between the various institutions of a group and fail to realize that its culture cannot be altered piecemeal.

It requires the experience and acquired instinct of the anthropologist to foresee what repercussions any slight change may have on a society as a whole. It is the far-reaching consequences of an apparently desirable reform which, when perceived by the members of a particular society, give rise to opposition for which the technicians and economists can find no explanation. Hygiene and literacy are not in themselves a source of happiness and prosperity. On the contrary they may even, in certain cases, have a disintegrating effect.

Any educational system which is not suited to a particular form of culture will tend to undermine its intellectual and moral foundations, replacing them by standards which are not its own. As a result we find these groups of uprooted maladjusted individuals, who are a dead weight and a danger to peoples at the transitional stage of culture.

All changes imposed from without, even when supported by a central government, inevitably meet with opposition, varying in intensity from one country, background and social class to another. The apathy for which foreign experts so often blame indigenous workers is due in many instances to a latent antagonism which remains hidden until, suddenly intensified, it breaks out in open revolt.

Indifference may also result from a lack of incentives. Customs and institutions which to us seem harmful and incompatible with our conception of human happiness may nevertheless represent, to the members of certain groups, a source of satisfaction for which they are given no substitute. This applies particularly to improvements that require a period of years in which to make themselves felt.

No change will be accepted, or produce a lasting effect, unless it is based on a system of values. The chief task of the anthropologist in technical assistance programmes will be to discover the psychological motives underlying customary behaviour. If a culture is to be transformed, the innovations introduced, while meeting the wishes of individuals, must not clash with attitudes deeply rooted in that culture.



# 0 A 'SHOT IN THE ARM' FOR HEALTH IMPROVEMENT

**I**N many cultures throughout the world man is continuous with his environment. He is not healthy unless his environment is "healthy," or, conversely, the well-being of his environment depends upon his acts. For example, a bereaved Kgatla spouse of a fruitful union needs purification before he can step on the earth because his tread scorches the ground; he injures the people, the cattle, the crops, and causes a drought.

To break connection between the body and the land that is continuous with it may be hazardous or disastrous, irrespective of whether the people are sedentary or not, whether they depend on "the fruits of the earth" through agriculture. This continuity is expressed in a wide range of ways, from the Eskimo desire to die where he was born to the belief of the cattle raising Nuer that if a man permanently settles away from tribal land he will get sick unless he takes some earth with him to drink in water mixed with gradually increasing amounts of new land. The distance a man will travel for treatment may depend on which is more hazardous, lack of treatment or continuity with his land.

Again, the body is continuous with the other bodies of the social unit, and in this lies the strength and the weakness of the unit, inasmuch as when one body suffers, it exposes the whole unit to danger.

Western medicine has a name for this: it calls it contagion and explains it scientifically. The medicine of other groups recognizes a different order of contagion or pollution, and acts according to a different conception. So the Australian Murngin will psychologically cut off any one of their members who is known to have been magically attacked; they stop treating him in terms of his place in the balanced system of structured roles; the mother does not act as his mother, the brother does not relate himself to the man who is magically stricken as his brother. The stricken one is "isolated," and the social unit thus protects itself against his contagion. Such a conception of continuity of body with land and society underlies the way in which medical

treatment and hygienic measures are accepted and worked out.

The image of the body depends to some extent on these concepts of continuity. In many societies it has no sharp boundaries. Different parts of the body may be stressed in forming the link of continuity. In Greek culture, for example, lineal continuity with the descendant is envisioned as a continuity of the internal organs, the *splanchna*, and "compassion" in Greek is derived from this word. A mother, ready to do anything for her child, will say, "He is my *splanchna*." The lateral relationship, however, is one of blood: my sister is "my blood," and blood brotherhood is reported to have been created between friends, at least until recently, in remote sections. The organs of communication, the windows of the soul, are the eyes among the Greeks, and also among the Russians, as well as in Latin America. In Mediterranean countries and the Middle East evil flows through the eyes when an individual admires and covets.

Certain parts of the body are often more highly charged with emotion than others. We find many regions, in the Middle East, the Far East, and the Pacific Islands, where the head is extremely important, often sacred. It may have to be covered, or there may be regulations against allowing anyone to step over it, or even over the shadow of another's head.

It is not here our intention to list all the differences in the emotional weighting of parts of the body, but to point out that these exist and should be taken in consideration in the application of health measures. For example, if a treatment is to be applied to feet and the head, it might be expedient to introduce it through tampering with the less valued area first. If skin is to be grafted and it is unavoidable that it be applied from the lesser to the higher area, this differential in value should at least be known to the worker. The advantages of cutting off the hair should probably be weighed against the disadvantages resulting from doing so.

In many societies the body is not considered

to be complete at birth. Man has to add to it, to increase it in maleness or femaleness or potency or effectiveness, or sheer adequacy. In Burma a girl traditionally could reach womanhood only when her ears were pierced. To be truly male, a boy was tattooed between knees and navel. The body of its own accord was not completely potent; many Burmese and people from the hill tribes inserted coins and other charms under the skin to enhance the person.

In Africa and Oceania the teeth had to be filed or knocked out or broken or blackened, before the body was complete. In many parts of the world, the body had to be scarified and some foreign substance rubbed in. This completion was not, however, for the body itself alone, but also symbolized the continuity with the social unit.

## The 'alarm clock' that buzzed

**I**N certain cultures clothing seems necessary to the completion of the body. A Greek village girl may never see her naked body, and may never try to see her naked baby. She delights in the clothed baby, and particularly in festive array with embroideries and jewels. Petal skin or rosy cheeks have no part in her lullabies or dirges; she sings of costly silks and jewels, and of the festive trappings of the young brave.

In many parts of the world, clothing is not "shelter" as it is classified by Western society, but personal enhancement, even completion. For thirty years missionaries among the Chagga tried to introduce change in their clothing habits, so as to combat the scourge of respiratory diseases, without any success. The Chagga said that these diseases came from evil spirits, and that clothing had nothing to do with them, since its function was that of adornment.

These are some of the concepts relating to the body which are relevant to the introduction of health measures, either in the field of medicine or that of hygiene. Hygiene, in one definition, tells people what they *should* do and tries to prevent the spread of disease. Medical care has as its purpose the relief of suffering and tells people what they *should not* do.

The two fields, however, often overlap. It is difficult, for example, to place the DDT campaign in either category exclusively. Undertaken under medical auspices, it has also destroyed pests and vermin in the area of Hygiene. In Iran, a farmer was heard to complain that it had an adverse effect upon farming; the flies, mosquitoes and bedbugs which had been counted upon to wake the farmers from their afternoon siesta are now gone, and the farmers do not wake up in time to put in sufficient work before sunset.

Conceptions of what constitutes cleanliness, uncleanness, and dirt vary throughout the world. In many societies death and graves are contaminating, making relatives or people who handled the dead unclean until they can be purified or until a certain period of time has elapsed. It is not safe to assume that, because a people are given to washing often, they can be trusted to wash their hands before embarking on an undertaking which may be highly vulnerable to infection.

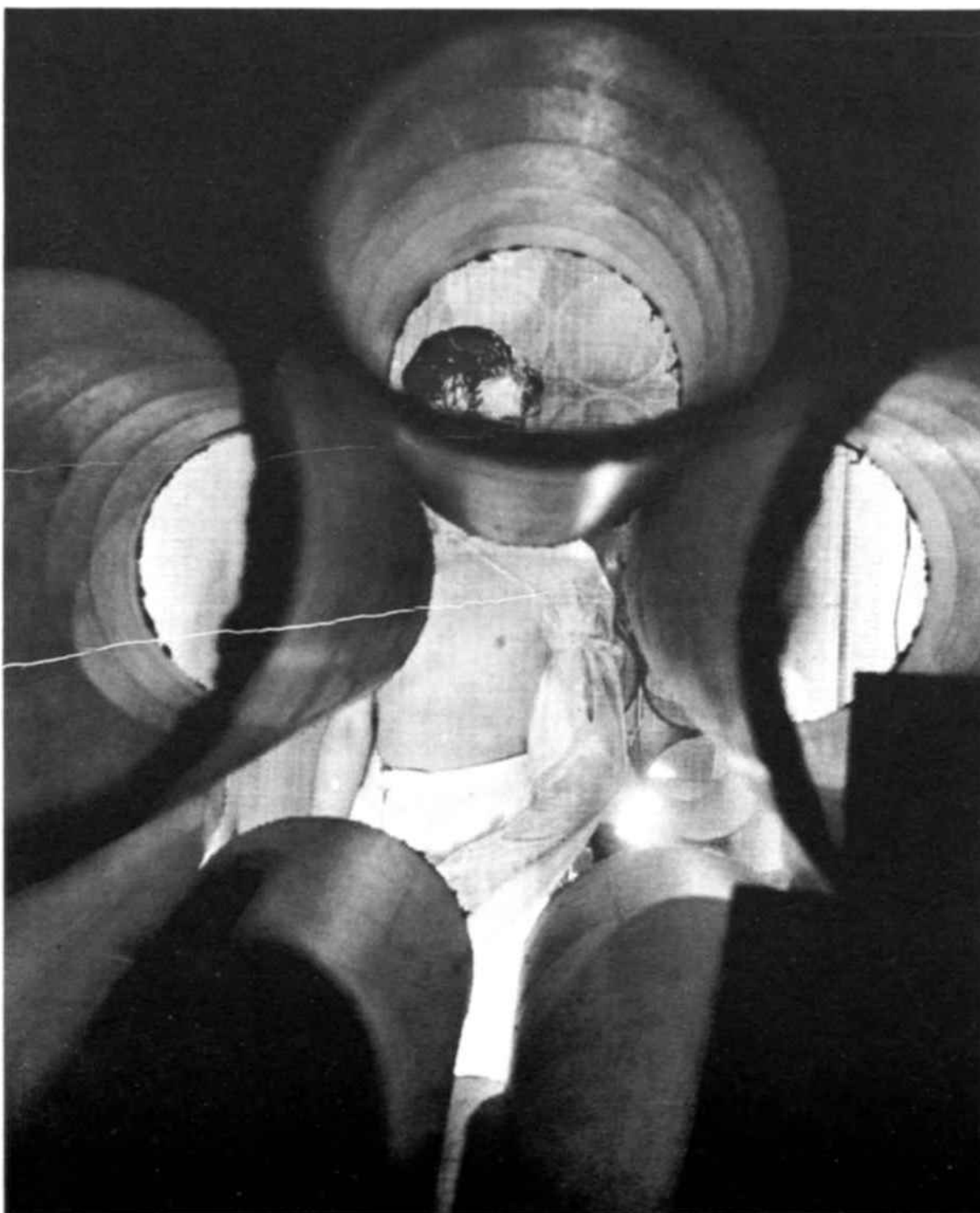
## What the eye doesn't see...

**W**HEN villagers in an Iranian village complained that their water tasted and smelled foul, a filter was built for it under the auspices of the Near East Foundation. The farmers were told all about the dangerous micro-organisms and urged to avoid them by drinking only the filtered water. But they needed no urging; they drank of the pure water because it was cool and clear, and tasted good, though not because of the absence of micro-organisms. A variation of this attitude, as Margaret Mead has pointed out, is prevalent in the United States where people avoid that which looks or smells or tastes dirty as unhygienic, whereas actually the dangerous germs have neither taste nor smell and are not visible to the naked eye.

Patterned cleanliness, not because cleanliness as such is important, but as part of a way of life, is common in many cultures. A good housewife, as among the Spanish Americans of New Mexico, may be one who always keeps her house clean; the people may always wash themselves, morning and evening. But among these people, this is the way to act, part of the aesthetic picture; it has nothing to do with hygienic ends. The idea that a person they love or familiar objects and surroundings can contaminate them, is rejected by this group.

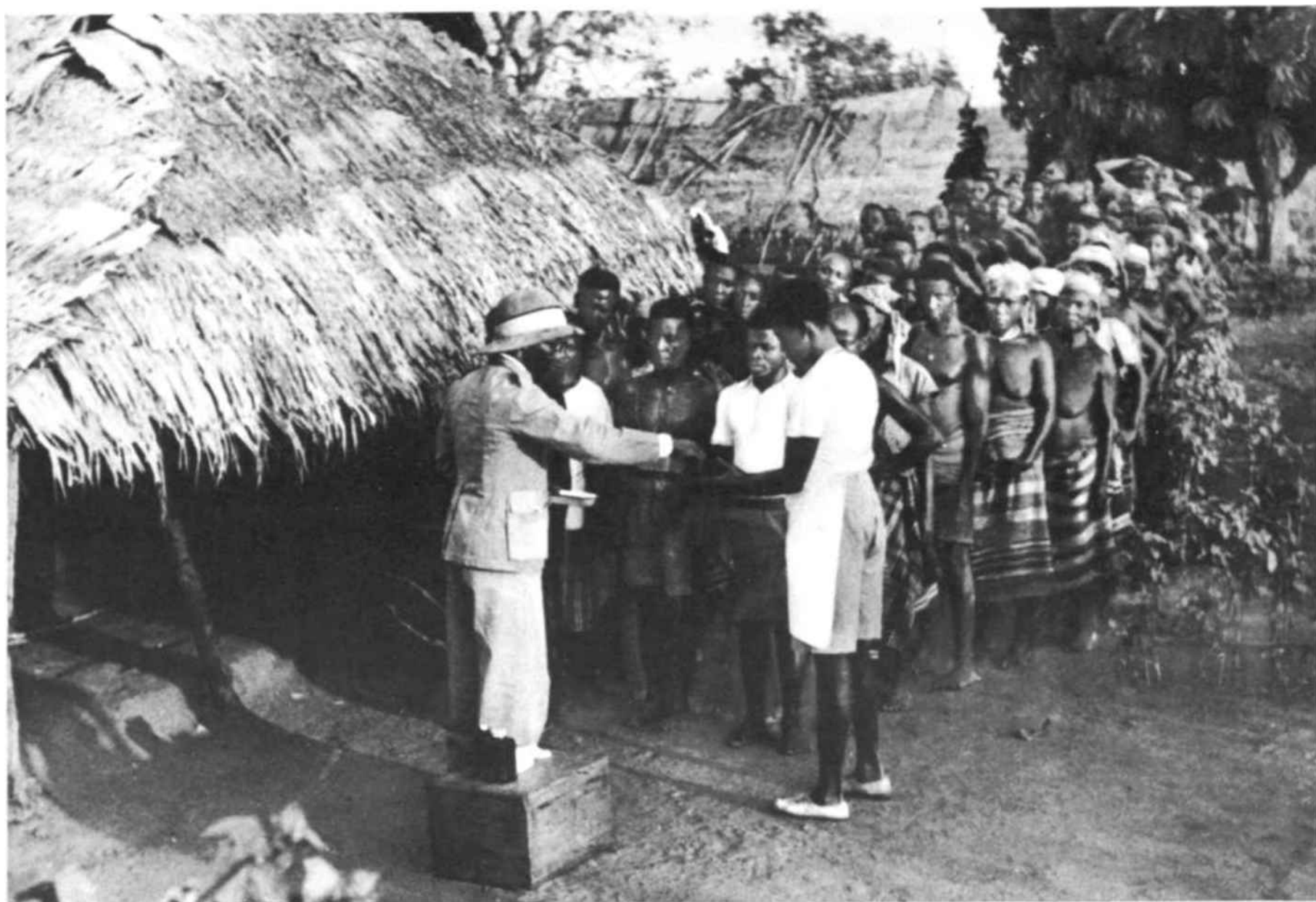
In Colombia cleanliness was introduced in the schools as an aesthetic measure. In Indonesia and the Pacific Islands there is frequent bathing by immersion throughout the day, apparently for refreshment. In Indian villages there are often tanks where the villagers can immerse themselves before a meal. The Burmese villager bathes after the last meal for refreshment and as part of the ritual of making himself festive for the amusement of the evening. Burmese wash their mouths after every meal, the Hos clean their teeth with a twig every day after their first meal.

A patient in England submits calmly to special "wind tunnel" test for loss of salt from body by temperature variations. In technologically advanced countries people are more accustomed to accept innovations in medical science. In communities less accustomed to change, introducing a new attitude to disease or a new medical practice can disrupt whole social order and produce deep psychological troubles (COI Photo).





A new aspect of Technical Assistance is taking on supreme importance. It is the realization that new techniques must be introduced with proper regard for the existing culture and with as little violence as possible to the folkways of the groups concerned. In public health it has been discovered repeatedly that innovations in child and maternal care, hospitalization and the distribution of drug remedies for a disease may have serious effects neither intended nor expected. (COI photo).



Cleanliness, again, may be a ritual, as with Mohammedans and Jews. Orthodox Jews must wash out mouth and hands upon arising and before eating and after elimination; the hands must be clean before they help to wash the mouth. The water must be flowing or must be poured.

From the viewpoint of other peoples, many Western habits are dirty. The British, who regarded the hill tribes of Burma as filthy for taking almost no baths, were in turn considered dirty by the Indonesians for bathing only once a day. Our Western handkerchief used for pocketing mucus is found revolting by a number of other societies.

There has been confusion among people of Western culture as to the meaning of dirt and cleanliness, and the extent to which they are related to hygiene. And where new habits have been pressed upon other cultures without plan, they have often reflected this confusion. Cowdung, for example, is important in medication in some groups such as the Khatia, and in some Indian villages where it is used in poulticing and for the treatment of burns. There is no disgust connected with it, and disgust expressed by a foreigner may meet strong opposition. Cleanliness in Western culture is often merely an aesthetic quality, or is associated with virtue, despite the use of hygiene as a sanction.

Hygienic measures have been directed toward teaching people cleanly habits, better housing, better ventilation, and the destruction of vermin:

but the most concentrated attack since the beginning of this century has been against soil pollution and water pollution. Where people eliminated on the surface of the ground, in no specific area, and went about barefooted, they exposed themselves daily to hookworm in many areas where this is present. Rains washed parasites from the excreta into streams and exposed people to dysentery and other intestinal disorders. Flies settling on exposed excreta carried disease from person to person. The paramount need then was for the building of deep pit latrines.

The attempt to educate people to the need for latrines and to persuade them to build and use them was undertaken by the Rockefeller Foundation for the Oceanic areas, by the Near East Foundation for areas in Greece and the Middle East, and by various governments and colonial administrations. The need was widespread and still is. In 1948, after fifteen years of an intermittent campaign for the introduction of latrines, 98 per cent of the Greek farmers were reported to be without latrines. And this was in a country where the only resistance came from the people's contentment with the habitual and from seeing no need for change.

It is no easy matter to introduce latrines in the different regions of the world. Sometimes, as in the Netherlands Indies, the very idea was so curious that people could not believe that they had understood correctly. Sometimes, as in India, it was ridiculous. With all the space

around the village, why should the people trouble themselves to bore holes for latrines?

The attempt to introduce more hygienic housing has also met with various resistances. Often people lived in crowded quarters because they liked to live that way; the hope that a better income would mean better housing for the Mexican villager, for example, or for the Spanish Americans of New Mexico, was ill-founded. In Uganda the resistance was based on the religion of the people and was found to be almost insurmountable. Here in many areas the houses have no windows and very low doorways, admitting minimal quantities of light and fresh air, and thus also allowing no opportunity for the working of the evil eye, which is responsible for all illness, poverty, and death.

The concepts of health and disease are part of man's view of the universe and his place within it. There are people who believe that the good is normal and inherent, and only man's misdeed, carelessness or sin allows evil to intrude. Among some Indian tribes of the southwestern United States evil, and specifically disease, can enter when man has allowed his relations with the universe to become disharmonious, or the loss of harmony itself is a disease. So, among the Hopi and the Papago, it is imperative to have good thoughts, to avoid quarrels and aggressive acts, for the maintenance of good relations with the universe—that is, for psychosomatic health.

Among some groups disease is a

*Continued on next page*

# HEALTH MEANS DIFFERENT THINGS TO DIFFERENT PEOPLES

(Continued from previous page).

punishment for sin, mainly against society; it was therefore an important factor in the maintenance of social order. Among the Saulteaux Indians, and the Manus of the Admiralties, where confession was necessary before cure could be effected, disease actually brought to light and clarified a number of hidden matters. The whole process of getting ill and being cured was a mainstay of society. To introduce a new concept of disease, and penicillin instead of confession, to people for whom illness has a significant place in the universal order is often impossible, or dangerous to psychosomatic health.

It is common to attribute disease to the machinations of witchcraft, evilly disposed people or spirits, the evil eye, or blackmailing deities desiring to be bribed. Weak *tsav* potency among the Tiv, a low *kan* among the Burmese, makes the individual vulnerable to such attack. Fright is a major cause of disease in Mitla, and its effects may be manifested years later. Against a background of such beliefs, workers found it hard to introduce hygienic measures.

Attitudes toward treatment rest on the conception of health and disease. The Navaho may take treatment to relieve his symptoms, but he knows he will never be truly well until he recovers his harmony with the universe. Where health is defined as an existing average, not an ideal to be achieved, much ill health will be accepted before treatment is sought. Workers among *fellahin* in the Middle East found that trachoma and even partial blindness, were part of the picture of health, since these things had always been present and anyway they were from God.

Reports from Latin Americans and from the Spanish Americans in the United States indicate that there, too, the picture of health contains a "normal" amount of disease. This is the conception among the Tiv where *tsav* was needed for super-normal health. It is the attitude of rural Greeks, who learn to put up with a certain amount of ill-health as a matter of course. It is one which has made the teaching of new health measures very difficult, since the people have first to be taught to recognize ill-health as abnormal and unnecessary.

The idea of infection itself frequently does not have to be taught since it is present in many cultures, but the agents of infection, the routes, the kinds of things which are communicable, are usually completely different from those which Western medicine accepts.

There are many kinds of measures taken for the prevention of the spread of an infection. To prevent the spread of death, the home of the dead is often burned or deserted, and his belongings buried or destroyed. In many parts of the world the near relatives of the dead are isolated, and are not allowed to mix with others until they have undergone purification. From the viewpoint of Western medical practice, these measures often are actually good precautions when the death was from an infectious disease.

In many cultures where the individual is continuous with his unit, the isolation of the ill is completely unacceptable. Dr. Carl Binger reports that when he was dealing with a typhus epidemic among the Greeks of Macedonia at the end of the first World War, the family would hide its sick under piles of clothing or in the cellar rather than show them to a physician who might take them to a hospital, though they know that to keep the sick with them might mean death for the family. This attitude is reported to be present today also, obstructing the campaign against tuberculosis. People do know the danger to which they are exposed, but they feel that to isolate the sick individual, or to take precautions protecting the rest of the family would be to reject a member of the family. In West Africa "the whole family would rather contract disease and die from it than part with the infected member."

## Spitting out the snake

WHEN a Burmese villager is ill, it is he who immediately sends for a physician, for drugs, for treatment. When a Greek is ill, he does not exhibit any need for care, does not go to bed unless he is incapable of standing up, thus exercising fortitude. When a Navaho is ill, it is his relatives who decide what is to be done and make the necessary arrangements. It is not much use to try to persuade a sick Navaho to go to the hospital, since it is his family who will actually make the decision for him. It is cruel to tell a Greek that he must stay in bed and do nothing for himself; it is much kinder to say this to his wife or other relatives, so that the sick one should not have to be put in the position of asking for this pampering.

There are definite patterns of treatment in the various cultures. Where disease is inflicted by the intrusion of foreign matter, of spirit arrows or snakes or fish, sucking is a common form of treatment. In Papua, native doctors are found sucking out the spirit of the hookworm and spitting it out in the form of a miniature snake.

Where there is contact with Western medicine, it is usual for the native medicine man to be called first and for the Western practitioner to be summoned only when all else fails.

Burmese take mainly solids as medicament, and have solids introduced into the body. The Navaho depend largely upon anointing, and use a variety of greases. They use pitch as a sort of poultice, and when a herbal concoction is used, it is first rubbed ritually over the body and then the remains are drunk.

The Western practice of going to bed when ill is not present everywhere. In some societies, such as the Zuni, one goes to bed when one is ready to die. Sending such people to bed may be very disturbing. The Navaho, used to moving about freely, find it terribly confining to stay in bed in the hospital. Where beds consist of mats on a draughty floor, moreover, they may not be an ideal place for the ill.

A difficulty encountered in treatment is that diagnostic measures are often taken as the cure. In Sikiian, in Malaita, and the Cook Islands, it was found that the use of the stethoscope and tuberculin injections were considered corrective measures; the people could not understand why they should submit to further treatment. And in general, one application, whether diagnostic or curative, was considered a cure, so that in the tuberculin test, people could not be persuaded to return for further injections or for inspection. The Spanish Americans of New Mexico felt that



These New Guinea medical aides take proper precautions against infection before performing a minor surgical operation, but in many areas many psychological hurdles must be overcome if modern concepts of disease, germs and microbes are to be understood and accepted. (Australian Official Photo.)

an X-ray examination was a cure in itself, and that there was no need to return to the physician.

Where illness and health are determined by ancestors or deities, prevention often takes the form of periodic rites. When Western practices are introduced, it is found to be necessary to first educate people in Western concepts of the agency of disease. It is very difficult to explain what we mean by germs and microbes. Dr. Heiser found that people in the Philippines were ready to attack germs with a bolo, since a germ represented the enemy.

Workers in India found it effective to present germs as poison; this made sense and circumvented the necessity of determining whether the germs had true life or not. Control through elimination of insect carriers met with resistance in Buddhist societies; some groups, however, may agree to destroy life if they are made to do so by someone who will assume the responsibility.

In the destruction of plague-infested rats we find that, though such people will be unwilling to take life, they are ready to abandon a village until all the rats have been forced to leave, or they will lift the roofs off their houses so that the light forces the rats to leave. Africans and Greeks were delighted with the dramatic elimination of mosquitoes and vermin which accompanied the DDT campaign. Iranian farmers worried because pests were Godsent, and God might now send worse ones.

Inoculation and vaccination are sometimes entirely acceptable. Some societies have the pattern of introducing potency and resistance to

evil by the introduction of substances under the skin. The practice of pricking the skin with a needle is also often present. The Burmese did not resist injections when these were first introduced, for tattooing was prevalent here, as well as the practice of introducing charms and medicines under the skin. In Oceanic regions where tattooing is prevalent, Dr. Lambert found that people came to him demanding the "needle."

On the other hand, great resistance to inoculation was encountered among tribes in northern Burma. People deserted their villages in panic when they heard that he was coming to inoculate against a raging epidemic of plague.

## 'Use my sword, doctor'

THERE are certain requisites for the acceptable physician. Moslem women — except where change has been carefully induced — will not allow themselves to be examined by a male physician. In West Africa, physicians younger than the husband cannot look at or treat a wife, but those older can do so without bringing harm.

In many cultures the physician's right to treat must be validated, perhaps by supernatural sanction, perhaps by payment. Among the Tiv, a "physician" could not treat a patient effectively unless he had paid for the knowledge and also for the right to give that particular treatment. Often the treatment itself is ineffective unless the patient makes some payment.

This conception is quite prevalent, and may be important in ensuring the patient's faith in the treatment given by a Western physician. In Africa the British administration, attempting to persuade the people to seek treatment by making it both valid and free, announced that the people had already made payment through their taxes.

People to whom it is important that the body should be complete, perfect, find surgery insupportable. The Spanish Americans of New Mexico resist having any cut made into the body, and prefer to deal themselves with such ills as appendicitis. An operation means that the body is damaged forever; they compare it to a pottery vessel which, however carefully mended after breaking, will always present a damaged appearance.

Amputation presents a somewhat different picture. It is not merely surgery; it changes the individual into a kind of cripple, and in many societies the crippled are despised, or at any rate, are a source of uneasiness. The Navaho feel that the cripple is out of harmony with the universe, and close contact with him might bring disharmony into one's own life. And infants who are born deformed, among these people who have a great love for children, are sometimes abandoned to die, or taken to a hospital and left there.

In Burma Dr. Seagrave found that the Katchin were ready and even eager for operation when they were sure that this was desirable. At one time a man offered a great sword for the incision by way of persuading the surgeon who was hesitating over the advisability of operating on the abdomen, saying that he would not hold the surgeon responsible if the operation failed. The need for surgery, however, was not usually recognized by these people until it was too late. For a year, everyone undergoing appendectomy died, since the patients came only after rupture; yet they did not hesitate to come, even though they knew that no one had survived this operation. In Africa also, Dr. Schweitzer found that

the people were ready to accept surgery, even that involving amputation, and were impressed with the dramatic cure effected. At one time a man walked three hundred miles to be operated on.

The effects of change, and of regulations intended to bring about change, have sometimes been unforeseen. Pure water campaigns, directed at the elimination of enteric disorders, have actually reduced malaria through removing the source of the swamp, and have resulted in better roads, as in a village in Egypt, or a village park, as in a Macedonian village. A hut tax in Africa, and the scarcity in timber resulting from industrialization, have brought about overcrowding and possibly an increase in ill-health. The introduction of medicine has meant a loss of faith in the known, and when new medicines proved too expensive, people found themselves without any medicine at all.

Industrialization and the migration of labour, as well as the opening of roads and the establishment of improved transportation, have meant that local diseases have been spread to areas where there was no immunity.

Industry, which has been responsible for much ill-health and disruption, has also been responsible for many health programmes in colonial areas, since people in ill-health or low health make wasteful workers. And the economic motivation for the introduction of health measures has been reported from rural areas also, where people have been persuaded to control floodwaters which formed breeding places for malarial mosquitoes, only when they discovered that these also damaged the crops.



## ② FROM VILLAGE TO FACTORY BY UNEASY STAGES



CIVILIZATION in the last century has meant increasing industrialization in Europe as well as in the United States, and in the countries with which they came in contact, and which, courted or coerced into commerce with them, also became progressively industrialized. In the West and East the process was, for long, unplanned. The people in responsible positions had, as a rule, no view of the total picture, and no suspicion of the eventual results and their ramifications.

Even now, after long experience, and with all our awareness and intensive investigation of the concomitants of industrialization, we are astounded when we see the far-reaching results of the introduction of money into a barter economy, or of a new tool as simple as the kerosene lamp or a wooden-wheeled wagon.

Industrialization is with us to stay. We may decry its effects, as did a Venezuelan editor recently, appalled at the hidden poverty of rich, industrialized Caracas. Yet, "The demographic consequences of industrialization constitute a powerful propulsive toward further industrialization... It is not a reversible process."

### Life with father

OTHER countries, still primarily agrarian, are now drawn into the process of industrialization as a result of contact with Western civilization. Sometimes, in introducing a programme of industrialization, or the building of great public works and large factories, such countries have introduced radical change in the standard of living, drastically curtailing consumers' goods. Usually the effects have been much more far-reaching and costly in human welfare than this statement implies.

The areas of agricultural change and industrialization overlap in certain respects. Large plantations, usually owned and operated by people of Western origin, use large numbers of labourers as does industry, and, seeing the process merely as one of money-making, often exploit land and people. In Africa, plantations are often near the labourers' native villages, so that there is no accompanying disruption of the family and village life, as there is in connection with industry; but in New Guinea, where labourers were brought from great distances, there was such disruption, as well as demoralization among the large groups of men living without women and without families or villages.

In addition, mechanization itself, whether in agriculture or in industry, separates man from the traditional processes and techniques of his social unit, from the skills which he learned as an aspect of his belongingness with his family, or of identification with his father and his line of ancestors. Finally, even on small farms, where cash crops have been introduced, the effects of the new money economy have often been of the same kind as with the introduction of industrial wages.

### From pitcher to pump

GOVERNMENTS throughout the world have done away with the more obvious ills of industrial labour. But the implications of industrialization for mental health are not covered by the new laws. For example, when it was proposed to a group of *fellahin* that a village pump be installed as a labour saving device for the women, they said, "You say that the pump will save our women effort and time. If that happens, what are they going to do with themselves all day long?" And it is not merely a question of occupying time. This is one of the components of womanhood; a woman carries water from the fountain. When Arab pictures are made for the tourist trade, they often portray a woman with a water pitcher.

So also, among the Tiv, as well as the Burmese, women were identified with the pounding mortar; and the wife, whom the Tiv, Akiga, pictures, was one who spun and wove for her husband. What happens to the woman, and to the man's relation with her, when she ceases to fulfill her role, to fit the picture of womanhood and wifehood? When work is neither virtue nor necessity, but merely a way of life, what happens when "labour" is saved? what happens when industriousness is one of the highest virtues, as it is with some American Indians?

Such factors must be taken into account when and if industrialization is to be introduced without undue destruction. For example, the FAO mission found that

*Continued on next page*

# HUMAN PROBLEMS OF INDUSTRIA

(Continued from previous page)

Greece must be industrialized and must change to a predominantly cash crop economy if it is to be able to support its growing population, and to raise its standard of living. This would mean that a larger market for industrial products should be found at home. It is suggested that women in the villages be persuaded to buy factory woven cloth, and to send their clothes to the laundry and to support processing industries in general. Yet the laundering on the slab by the village fountain, or on the rocks by the stream, is a time of enjoyable social intercourse; one of the beloved songs of the round dance tells of such a laundering group.

Again, visitors bring away a happy picture of the mother weaving under the grape arbor in the spring, now and then stirring the cooking pot, while her children play about. Good mothers start weaving for their daughters almost from birth. Factory woven cloth is in use to some extent, but can all home weaving disappear without impoverishing the life of the individual and of the family? And if it does, can industry provide an equally meaningful occupation to take up the released time?

The FAO report suggests that Greeks be persuaded to invest their money in industry, so as to make industrialization possible; but this runs counter to the Greek attitude of trusting only a sure thing, the known present. One speculates about the future, not in the future. A Greek traditionally likes his money in the form of a lump under the mattress, not as so many figures on a chart, or a number of shares of stock. And when people love their life on the land so much that the greatest gift of gratitude they can send to the UN is a jar of Peloponnesian earth, the displacement of the individual or the family from the village to the industrial centre could bring much distress. All these difficulties are not insurmountable, but to effect technological change with the least human destruction, these problems and others of their kind must be taken into account.

## Money was incidental

**W**E must distinguish between the presence of money in a community and a money economy. For example, Burma traditionally had essentially a subsistence and barter economy, although money was in use. Money was not used to create more money, or to found a fortune, or to make the individual independent of the family; and the earning of money was incidental to living, it was not an end.

Linton reports trying to buy the entire stock of pieces of raffia cloth from a trader in a Madagascar market town, and of being refused on the grounds that the trader would be bored through the rest of the days if he had nothing to sell. In addition, the buyer, being a poor bargainer, was actually paying too high a price; yet bargaining is often considered the spice of social intercourse, and this too may have caused the trader to refuse to give up a day's bargaining for the sake of extra profit. This is not what the Western world means by a money economy.

Technological change in agriculture, as well as in industrialization, has introduced a money economy in many regions. For example, the Navaho, who were established by the United States Government on farms in an unusually fertile strip, learned to neglect their farms so as to work for cash wages. Mothers left their children untended, gave up time-consuming preparation of their traditional foods for makeshift, processed store foods. The health of the Navaho children, it was found, had been maintained at a higher level under the conditions of a subsistence economy.

In Africa, the introduction of a money economy has usually meant atomization of the individuals within the family, complete destruction of the structuring of family relationships, and of the social and economic system of the group.

The money economy has meant secession and revolt, the undermining of parental authority and the authority of tradition, and thus has resulted in the rise of the "younger generation" as a class apart. Marriage is often no longer a contract between two families but, particularly in the cities, one between a man and a woman. The traditional *lobola*, the brideprice, which cemented two families in interdependence and maintained strongly structured continuities within the family, is now frequently handed by the boy to the girl.

## He conveniently disappeared

**W**HERE a traveller always knew he could find ready hospitality, he now often has to pay for food and shelter, even to his relatives; or he may find that his friend, seeing a traveller arriving, has conveniently disappeared, to spare himself the expense of entertaining with bought food, or food he could sell for cash. In China also, industrialization has meant that "family relations are more and more disregarded in property ownership."

Where money economy has not been accepted or understood by people living in the midst of this industrial society, there is frequently a tendency toward exploitation.

New tools are being introduced, whether in agriculture or industry, to save labour or to increase production, or to improve a product, but the change they effect often involves much more than

this. Where technology is simple, the tool is an extension of the body; the shuttle elongates and refines the finger, the mallet is a harder and more powerful fist. The tool follows the rhythm of the body; it enhances and intensifies; but it does not replace and does not introduce anything basically different. But the machine is not body-patterned. It has its own existence, its own rhythm, to which man must submit.

The woman at her handloom controls the tension of the web by the feeling in her muscles and the rhythm of her body motion; in the factory she watches the loom, and acts at externally stated intervals, as the operations of the machine dictate them. When she worked at home, she followed her own rhythm, and ended an operation when she felt—by the resistance against the pounding mallet or the feel between her fingers—that the process was complete. In the factory she is asked to adjust her rhythm to that of the rhythm prescribed by the factory; to do things according to externally set time limits.

The changes of processes and tools involved in industrialization have often brought a shattering break between the living and the all-important, sustaining dead members of the family unit. "To the Chinese the introduction of power machinery meant (that)... he had to throw over not only habits of work but a whole ideology; for, dissatisfaction with the ways of his fathers in one particular meant doubt of the father's way of life in all its aspects. If the old loom must be discarded, then a hundred other things must be discarded with it for there are somehow no adequate substitutes."

The suggested technological changes are sometimes uneconomical, as the labour they save is cheaper than the purchase and upkeep of the new tool. Sometimes they are resisted precisely because they do save labour, threatening to deprive workers of their maintenance. A Puerto Rican company which delayed importation and use of mechanical and chemical means of lowering production costs is much admired by the workers, partly because it does not displace them, partly on the ground that "the cane needs the human touch to grow well," and because of a feeling that herbicide is evil.

Sometimes machines are introduced without plan and fail because no provision is made for upkeep or replacement of parts, as when outboard motors were introduced in Brazil without parts for repair, and without, or with exorbitantly expensive, oil for fuelling. Agricultural machinery is demonstrated to farmers far too poor to afford

its purchase and upkeep and with farms too small for its effective use, when what they need is an improved hoe or plough. In sections of Africa, the sewing machine and manufactured cloth have been introduced without the use of the needle. Africans buy clothing made on sewing machines by Indians, but they have no way of mending it, or having it mended, since machine mending has not been introduced.

The introduction of a new tool which is completely accepted may have unimagined results. In certain sections of Uganda, the introduction of lamps meant an added fire hazard to thatched roofs and provided, in turn, fireproof roofing: kerosene tins, which, flattened, took the place of the thatching materials which were rapidly decreasing because of the increasing use of land for cash crops. This affected the health picture, since the old roofing had harboured rats which were a plague hazard. However, the next step in efficiency has resulted in the sale of kerosene in the bulk, and people now carry it home in coca cola or beer bottles; the new roofing material has disappeared, and the administration of Uganda now has to experiment with suitable roofing materials.

## Distaste for wage earning

**O**BSTACLES to the establishment of an industry are often encountered, arising from the values of the culture involved. The Masai, for example, will not work for wages, since tending cattle is the only valued occupation, and cattle themselves, the highest good. In many parts of Africa the relationship of obedience to someone without traditional authority is lacking. The Zulus, considering themselves a dominant warrior race, think it degrading to accept the discipline of industrial labour; they are ready, however, to accept domestic service, since this falls within a differently structured relationship. The Tiv say that only boys who are asocial and who do not fit into the group are ready to live away from home earning wages: that is, boys who are essentially maladjusted. On the other hand, when the railroad went through Tiv country, groups of people from the district concerned worked happily for wages, and revealed qualities much liked by their employers.

The assumption that all peoples have an incentive to improve the standard of living, and therefore of taking on employment, is not justified. Puerto Rican workers expressed a desire to earn enough money to pay the first installment on the installation of electric light or the purchase of a



Technological changes are sometimes uneconomical as the labour they save is cheaper than the purchase and up precisely because they do save labour. Agricultural machinery has been demonstrated to farmers far too poor to bu

In certain parts of the world women are still identified with the pounding mortar. In others they are pictured spinning her relation to her husband when techniques are introduced to save "labour"—when she ceases to fit what was the





# IALIZATION

radio; yet this desire often does not counterbalance the distaste for working for wages, so that payments may not be completed, or an individual may leave his employment when he has some money accumulated.

In the Anglo-Egyptian Sudan when peasant proprietors found their incomes increased to unaccustomed amounts, they did not know what to do with the surplus, and spent it hiring others to do their work. Their incomes had been increased through external aid, not through internal motivation such as desire for new goods and services. Or, the incentive may be present, but not as an incentive to improve subsistence. For example, in China, one large employer of a highly skilled class of labour, not long ago, was moved by the obvious physical inefficiency of many of his employees and the large incidence of sickness among them to raise wages of his own accord. The only result, as he was able to discern not long afterwards, was that each of these men was now supporting an even larger number of relatives than a person in his position was expected to look after.

In Puerto Rico, where the pattern of supporting a large number of dependent relatives is present along with changing values making for individualism, men prefer to emigrate alone to the United States for wage work, so that, if they are single, they can save or spend their money as they please with no relatives to claim a share, and if they are married, they can send money home to their wives knowing that it will be used for the immediate family, since women living without men are not supposed to support dependents.

In Annam it is difficult to get the original inhabitants to work in the mines, as they fear to disturb the mountain spirits; and their fears are supported by the high mortality in the mining occupation.

In many parts of the world we find that one works as necessity calls; this may be the need for the day's food, or for preparation for a ceremonial, or it may be the need of the land or the growing plant which must be attended to on that particular day. But the machine has no such insistent need; so if the worker has enough food or money for his needs, he does not see why he has to go to his job. In fact, if he also has a garden, or if the fish are running in the stream, he has a valid reason for not going. This is part of a general attitude which we find also in connection with school attendance. And it is an aspect of the different conception of time as a process rather than as programmatic.

People may operate in terms of mechanical "time-saving" tools — automobiles, radios, telegraph — but this does not mean that they accept



and upkeep of the new tool. Sometimes they are resisted or to buy it and with farms too small for its effective use.

spinning and weaving. What happens to the woman and was the accepted picture of womanhood and wifehood?



the need for speed which these implements represent; they may only be modern conveniences to these people. The exact minute may be unimportant, and the time "saved" using such devices may nevertheless be spent in inactivity; people "stand or sit doing very little for hours at a time." Industrialization, in the interest of good results and human welfare, must take account of such basic patterns, either working within them, or else educating people in an understanding of the Western framework of industrial work.

Cultural attitudes often determine the composition and quality of the personnel in an industrial establishment. Where familial values are of paramount importance, as in Greece, China, and Japan, a man has to give jobs to relatives, choosing them neither according to ability nor according to merit. And even when the employees are not all relatives, the structure of the organization may follow the lines of the kinship unit. In China, for example, there was reluctance to fire a delinquent employee; as one punished one's own son for wrongdoing, but did not expel him from the family, there was an additional preference for punishment, and for such reasons businesses in China and Japan were found to lose money. In Japan, when a business was losing money and there was not enough work for all the employees, the employer did not therefore dismiss them; he was responsible for them.

In Burma, the attitude against the accumulation of capital, the tendency to spend much money for religious purposes, the tenet that a Buddhist cannot make a valid will, all militate against the creation of capital needed for industrial enterprise of any major scope. However, small mills and small plants in rural areas have been increasing and fit into the Burmese pattern. Under British administration, machinery for agriculture was regarded with suspicion as another device to raise taxable capacity, but agricultural shows, where they were exhibited, were attended, since they fit into the pattern of "convivial celebration, with a few side shows such as exhibitions of fertilizers and insect pests, matters to which the government attaches superstitious importance."

## Time on their hands

THE waste in human welfare which came into being as a by-product of industrialization has caused much concern among governments, social scientists, and foundations. There appears to be general agreement that decentralization of industry, bringing work to the village or to its vicinity, within the framework of known associations and associational ties, will make for less disruption and, at the same time, will bring the increase in income needed for raising the standard of living.

Village industries can provide the funds for raising the standard of living, and can fill the gap created when handicrafts give way to manufactured goods. They can also, in part, be the answer to the mechanization of agriculture which often releases time for which there is no provision. As it is, in many villages in India, China, and the Philippines, the farmers are actually partly unemployed. In the Chinese villages it is estimated that the farmers and farm labourers are unemployed for periods of six to eight months a year.

The introduction of village industries is not, however, without difficulties. In India it is found that the villagers often do not want to be organized into new cooperative units, or any created units.

## Havoc in family life

IN China, in 1935, village industry in the district of Kiangying was working havoc in family life. Before it was introduced, the women had spent much of their time helping the men in the fields and had raised silkworms; they had done their spinning and weaving only during their free time. When home knitting with a hand machine was introduced, women knitted late into the night by kerosene lamps, and, since they had to spend so much of their time caring for old people and young children, they had no time even to eat their meals with the family, but ate at their work. In times of crop failure, when the home industry was the only means of subsistence, the loom had to be busy all the time if there was only one loom in the house. This meant that members of the family had to work at it in shifts twenty-four hours a day. This was an economic solution, but one that failed on the social level.

There have been difficulties and destruction; but through a study of the local situation, through an understanding of and respect for the existing framework, such difficulties are being solved. China's cooperatives have become increasingly successful in their social effects. The recently formulated programme proposes to carry over into industrialization the traditional cooperative relationships of guild and family; it aims at industrializing the already present village units.

In India, careful teaching by people who have an understanding of the need for a long period of instruction, achieved the introduction of the idea of village industry. In one village, even the latrine was incorporated into the home industry scheme, so that many homes now have two latrines, one in use while the contents of the other are being composted for sale as fertilizer. In Mexico and Ecuador, some home industries have fitted into existing, valued, and enjoyed patterns, with happy results.

## ③ 'WE SHALL KEEP OUR WOODEN PLOUGHS; THEY ARE MUCH KINDER TO THE EARTH'

TECHNOLOGICAL change in agriculture is directed at the resources available for cultivation, at methods of production, and at the organization of production. These three factors are interrelated, and whether we deal with water control, the improvement of land or seed or livestock, basic to all is the work of man, his division of labour, his groupings, his traditional procedures, his relationship to the land. His survival and often also the reason why he wants to survive, depend on these. He will be the instrument of change; and all change, even in techniques and tools used, will affect his way of life and his relations with others.

The immediate need for agricultural changes arises from the great increase in population in recent years. Certain general changes with specific suggestions for particular regions are proposed. These include soil conservation, including reforestation and contour ploughing; livestock improvement; seed improvement; pest control; land improvement; introduction of cash crops; mechanization.

Non-human as these categories appear to be, they actually concern the life of people at every turn. For example, prevention of overgrazing and of the burning of brush mean that shepherds, abandoning the ways of their fathers, have to take on a strange occupation out of necessity, not from choice. Water control may mean that the course of rivers must be changed, as it does in Greece, perhaps moving people away from the land of their fathers. Pest control and seed improvement involve persuading people that these measures are necessary for a better crop. Indians in Mexico, who see agricultural mishaps as acts of God, often see no reason why they should not sell their good seed, since it brings more money, and plant their poorer seed.

To introduce change effectively, it is necessary to know existing conditions. Where it involves implementation by people, it must first be accepted. Otherwise the new proposals, however simple, will be defeated. When pest control is imperative, people will nevertheless release the rats from their traps. Where immunization of cattle is necessary, farmers will hide their cattle. And where land reform is introduced without accompanying measures for a reformed credit system, the land will again be concentrated in the hands of a few within a few years.

### Seeing is believing

AND since change is proposed in the interests of human welfare, it is important to see to it that it is introduced constructively or, at any rate, with a minimum of disruption and destruction of established interrelationship and values. Basic attitudes, concepts, and values must, therefore, be considered.

Agricultural activity is often conceived of as an interrelationship with the cherishing earth. In India the Baiga refused to use an iron plough since this would repay with harshness the generosity of the land, tearing her breasts and breaking her belly; they found the wooden hoe

more gentle. We find the Hopi who do not think of themselves as wresting a living from the arid land, but rather conceive of their relationship as one of aid to the land which wants to grow the valued corn for the Hopi, but cannot do so without their help.

In many parts of the world we find cultures adhering to the belief that man has no causal effect upon his own future or the future of the land; God, not man, can improve man's lot. It is difficult to persuade such people to use fertilizers, or to save the best seed for planting, since man is responsible only for the performance, and the divine for the success, of the act.

In many groups we find the attitude of doing with what is there, rather than changing it, of coping rather than fixing. Such people see no reason why "anything should be done about it." When traditional methods produce some crops, maintain a measure of health, keep some of the soil from running off, or when a cow has some vigour, it is better to cope with these shortcomings, despite their inadequacies or inconveniences, than to effect a disturbing change; in fact, it is possible that adjustment is such an automatic reaction that the inadequacy is not even noticed. It is difficult to persuade people with this attitude that reforestation is necessary until it is too late to do anything about it; they adjust to a poor yield, or to the diminished vigour or milk supply of their cow until the situation may develop beyond the help of man.

All of these attitudes are, of course, related to the positive value which the traditional way of life holds for many of the people. Where this is paramount, change is either resisted or, if accepted, it is kept along the fringes. Most of the farmers of the world are not motivated by abstract ends or speculative results. Statistics that show what will happen if vetch is planted or fertilizer applied are meaningless to them. For them, "seeing is believing."

The distrust of new and untried ways is an obverse of the faith in the known, that which with all its ups and downs has supported the society since time immemorial. Unfortunately, it is also rooted in the mistakes made by the agents of change who sometimes managed to persuade the peasants to use new ways which proved disastrous because of local conditions. In Burma, deep ploughing introduced by European agricultural experts broke up the hard pan that held the water in the rice fields. In Turkey, experts trained abroad persuaded some of the younger peasants to remove the stones from their tilled land; when the grain sprouted, the fields of the old men had a better crop, since, in that dry climate, the stones served the function of preserving moisture. Mistakes of this sort are acceptable to people who are willing to take the risk of trying the new; but they shake the faith of those who believe in tried and proven procedure alone.

Programmes for improvement are sometimes rendered ineffective because of failure to take account of what the people specifically value. Values may range in intensity from

strong preferences to highly emotionally charged attitudes of a religious significance.

We have, for example, the religious status of the cow in India and Africa. Here we have to find a way of helping without taking away from the people their faith and the meaning of life. If the sacred cows are allowed to eat the crops unmolested while the people are on the brink of starvation, the agricultural expert can give aid in making the land more productive and introduce crops which cows do not like to eat, as was done recently in Mahwa of the United Provinces.

### Poverty amid plenty

AMONG those who are pastoral nomads, there are conditions described as extreme poverty in the midst of plenty, since money is nonexistent for food and clothing, and cattle will not be killed or sold. Among such people the application of veterinary science has resulted merely in overstocking. Such people name themselves after their cattle, compose songs for them, spend their leisure contemplating them, form personal attachments to them. To introduce an economic conception of the cattle to these people, if this were possible at all, would be to destroy value and security. In many primitive societies the large amount of time and human energy spent in ritual, magic, and other religious practices seems to be wasted in the eyes of the agricultural expert. But to the native, they give him faith in his work, saving him from the anxieties which so often attend the work of the cultivator. It is against this background that proposed measures should be viewed.

The introduction of mechanized tools is confronted by an obstacle in the small size of many holdings. Even so apparently small a change as that from a wooden to an iron plough may have widespread repercussions as in the case of villages of the United Provinces of India. Here it threatens established human relationships. A man inherits a relationship to a carpenter family whose task it is to make and repair the ploughs. This family is always invited to the farmer's feasts, and the women are given *saris*. The relationship, the "pay," and the gifts continue whether ploughs are made or not.

Perhaps the farmer can be taught to repair his own plough, but it would mean personal reorientation as well as a change in the valued relationship structure. Again, because of the extremely short ploughing season, it is necessary that there be no delays; an iron plough with brittle shears needs frequent repairs and replacements by experts who can be reached only after covering a distance over bad roads. But the carpenter is in the field with the farmer, ready to repair the wooden plough.

Then too, an iron plough would require heavier draft animals which in turn would need more fodder than is now available. The wooden plough is light and can be carried easily from strip to strip, and a farmer has probably five widely scattered strips to plough. In order to introduce a heavy plough at all it

is necessary to persuade the villagers to consolidate their holdings. The government has decreed that when seventy-five per cent of the villagers demand consolidation, the rest will have to accede. Until a few months ago, only one village had demanded consolidation of holdings, and even then when the farmers realized that this meant each would have to give up strips treasured because of location or ancestral association, the project fell through.

In some areas it is uneconomical to introduce mechanization because human labour is cheaper, and remains cheaper because the people themselves place a low valuation upon it. In Indonesia, the workers fatalistically accept the fact that the rate of pay for buffalo labour is twice that of human labour.

In general, mechanization can have an overwhelming effect on human welfare by rupturing the nourishing continuity of man with the land, with his own body rhythms, and with his traditional past. In cultures such as those of the Middle East and Greece and of Latin America, where desires and aspirations have limits, mechanization will probably mean, not that man will cultivate more land, but that he will work less, and at a less satisfying occupation at that.

Where work, particularly traditional work, is life, this may be a serious matter. It has been found that mechanization, such as the use of tractors designed for soggy riceland and the self-propelled threshers in Southeast Asia, has meant the shifting of tenant labour to hired labour and has led to the dislocation of the tenant group, often separating the members from the burial place of their fathers, from land which they had previously owned and with which they and their families had been continuous.

## ④ 'ONE MA'

THE low level of nutrition in most areas of the world is one of the main concerns of our time. Sheer hunger is prevalent, and there is the hidden hunger of people who live on inadequate food. We do not know whether the food supply of the world was ever adequate everywhere. Certainly with the increase in population which accompanied contact with Western civilization itself, with industrialization and its by-products, the supply has become inadequate, for increase of crops has not kept up with the population growth.

Again, the increase and concentration of population has sometimes destroyed the very sources of the food. Overpopulation has meant overcultivation, and the poverty of the soil has been reflected not only in diminished returns but also in crops deficient in essential minerals. It has meant soil erosion and the carrying away of the top soil as silt.

Not all difficulties in the realm of nutrition are due to contact with Western civilization, however. In the Middle East and the Far East, for example, nutrition is affected by the lack of methods for preservation. Lack of adequate transportation has also meant poor nutrition. Egyptian *fellahin* need citrus products, but cannot get them even though they





## 'A'S FOOD IS ANOTHER MAN'S POISON'

grow not far away. In China, a surplus of food in one area cannot alleviate famine in another, since the food cannot be brought to the hungry population.

Poor nutrition cannot, then, be attacked by the dietitian alone. Agricultural specialists in Greece are working for nutrition when they institute reforestation. And in many areas, public health workers, becoming aware of the pressing need for better nutrition, find themselves in the field of agriculture, advocating better seed and more efficient methods of preservation.

It is not enough, however, to increase the available food supply. What has been supplied must be considered food, and acceptable food, by the people. In Africa, the British Government supplied veterinary service to cattle-raising tribes, but this did not increase their food supply at all, and actually contributed to soil erosion and depletion. These people love their cattle and kill them only on ceremonial occasions; since the ceremonial occasions did not increase in number, the saving of cattle through veterinary aid merely resulted in too many cattle on the land.

To introduce adequate nutrition, it is important to bring about changes that are in keeping with the established food habits of the people, and are acceptable within the framework of their value system.

### It is undignified to eat an orange

**F**OR example, in the United States in the South, mothers cook food the way each child likes it, compensating for the poorness and monotony of the ingredients; and any change in the preparation of food would introduce change in personal relationships. In some societies, the breast or other food is offered to the child after punishment; if we persuade these people to offer the breast only at scheduled feedings, or teach them that it is harmful to eat between meals, we have made ourselves responsible for finding some way in which the mother can show reassurance and acceptance to the punished child.

In some societies, where meals end with a sweet dessert, mothers withhold dessert as a

way of punishing the child; this results in a devaluation of that part of the meal which contains essential elements necessary for nutritional balance, and the child has to be urged to eat them because "they are good for him". Yet mothers depend on this form of punishment, and will resist attempts to change this stress on the dessert.

Again, where milk and pulped food are associated with infancy, men will resist the drinking of milk, or eating of pulped foods in special diets which call for them. Where home and food are strongly identified, children reject the school meal, and men the meal at the plant; and business concerns in such countries often give their employees a longer lunch hour, or arrange the work day in such a way that men can eat their meals at home.

A study made by the Committee on Food Habits of the National Research Council in the United States during the last war has made workers aware of the importance of the "role which learning plays in the maintenance of a viable dietary pattern. We now ask, not how we change a people's bad habits into good habits, but what are their habits, how are they learned, by what mechanisms are the self-preservative choices of some foods and rejections of others, perpetuated?"

There are specific preferences and objections which affect nutrition and health as well as the introduction of any new food or way of preparation. West Africans, for example, have an aversion to food in its raw state, as fit only for cattle. The older people think it undignified to eat oranges and discourage children from eating them as oranges will make them "soft". Greeks like raw vegetables and fruits, but not all vegetables are considered edible when raw. Cucumbers can be eaten only raw, but zucchini squash must be cooked; green beans and peas can never be eaten raw; cabbage is good when raw, but cauliflower is inedible. The fact that many leafy vegetables go into the salad does not mean that any such vegetable belongs there.

In sections of Africa, meat is eaten raw, and food is seasoned with mineral salts; and both these practices lead to the spread of intestinal diseases. Puerto Ricans, living precariously on too little food, often will not eat even fruit which grows wild, as they consider fruit to be poisonous, or dangerous, or a cause

of indigestion. Among many, there is the feeling that fruit is "cold", a term used for something objectionable.

Mistakes have been made in the past, before we knew the importance of food habits and the cultural and social context of the food. We tried to introduce supplementary nutrients through the medium of cream soups to people who, though they liked soups, would eat nothing bland and nothing creamy unless it also contained pieces offering resistance in chewing.

### The right to a diet of fried chicken

**W**E upset dietary balance by persuading Spanish American schoolchildren in New Mexico to eat white bread instead of cold corn *tortillas*, when their main source of calcium came from the lime water in which the corn of the *tortillas* had been soaked. We persuaded their mothers to substitute canned spinach for wild greens, and when there was no money to buy spinach, the children went without greens. Hopi mothers were forced to wean their children if these had to be hospitalized after they were a year old; and when the children came back, the expense of giving them canned milk out of individual small cans—since no refrigeration was available—was sometimes too great for the family to maintain.

Agricultural experts warn of possible disruption of dietary balance with the increase of commercialization. For example, in many parts of rural India where large amounts of *ghee* butter are consumed, the farmer's family depends heavily on the accompanying butter-milk; if butter-making is to become industrialized, nutritional planning should take into account the gap this will leave in the family diet.

Child care services have often urged new foods for children, which have perhaps been good for nutritional adequacy but have made for strain in family relations. In Greece, where one nutritionist persuaded mothers to introduce raisin bread and other unacceptable items into the family meal, this often created a split between the father's and the children's

food, or brought derision from the father, or otherwise produced discontinuity in an occasion which is essentially a family communion.

It would probably be equally effective, and less destructive, to introduce change through less emotionally important eating situations. For example, if a Greek child must eat raisins, these can be introduced into the frequent snacks, "the passing of the time" in which all Greeks indulge, as dry chewy raisins, fitting into an already present food pattern. Certainly very valuable nutrients can be added by persuading Greeks to eat more of the roasted chickpeas they like so well, and which are so easily and cheaply available. In Puerto Rico, fruit, if eaten at all, is eaten between meals, and there would be less resistance if consumption of more fruit was introduced at such times.

One commonly practised method of improving nutrition is through supplementary feeding of children and of expectant and lactating mothers. This does not attempt to change or stop existing practices. Such attempts have met with resistance in the past, as in an instance when a public health nurse in a Chinese district was rejected because she tried to persuade parturient mothers to eat vegetables instead of a diet of fried chicken; these women had been eating mainly vegetables all their lives, and had looked to this period when their special status would be acknowledged by this special diet.

However, in giving supplementary feedings it is well to remember, in addition, that food is sometimes the coin of society, of social ritual, and that much of its emotional sustenance is lost when it is not part of the family meal. During the last war, the Greeks in Athens voiced a preference for eating cold food in their unheated houses, rather than hot food in warm soup-kitchens. UNRRA workers found a similar preference in Germany, also.

Food preferences and aversions have successfully been taken into consideration in introducing change. In Siam, where there is an aversion to cow's milk, canned milk did not evoke the image of the cow, and was introduced acceptably. Wheat products are increasingly being introduced in the Far East, either in terms of existing foods such as noodles and *chapattis*, or as rolls for snacks, or bread for an accompaniment to the rice.



Roger van der Weyden. Portrait of a Young Woman.



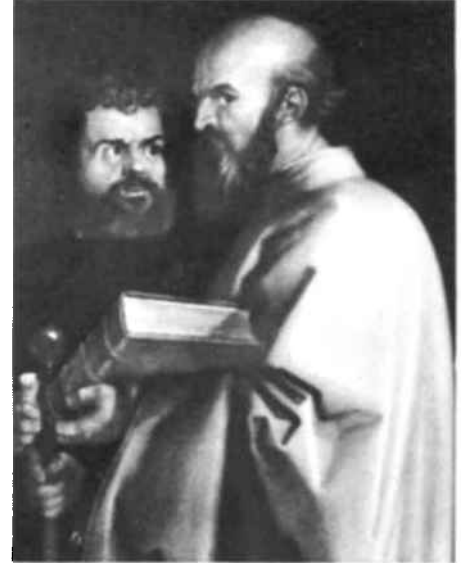
Lukas Cranach the Younger. Princess Elizabeth of Saxony.



Thomas Sully. The Torn Hat.



Tiziano Vecellio (Titian). The Artist's Daughter, Lavinia.



Albrecht Dürer. St. Paul and St. Mark (Fragment).



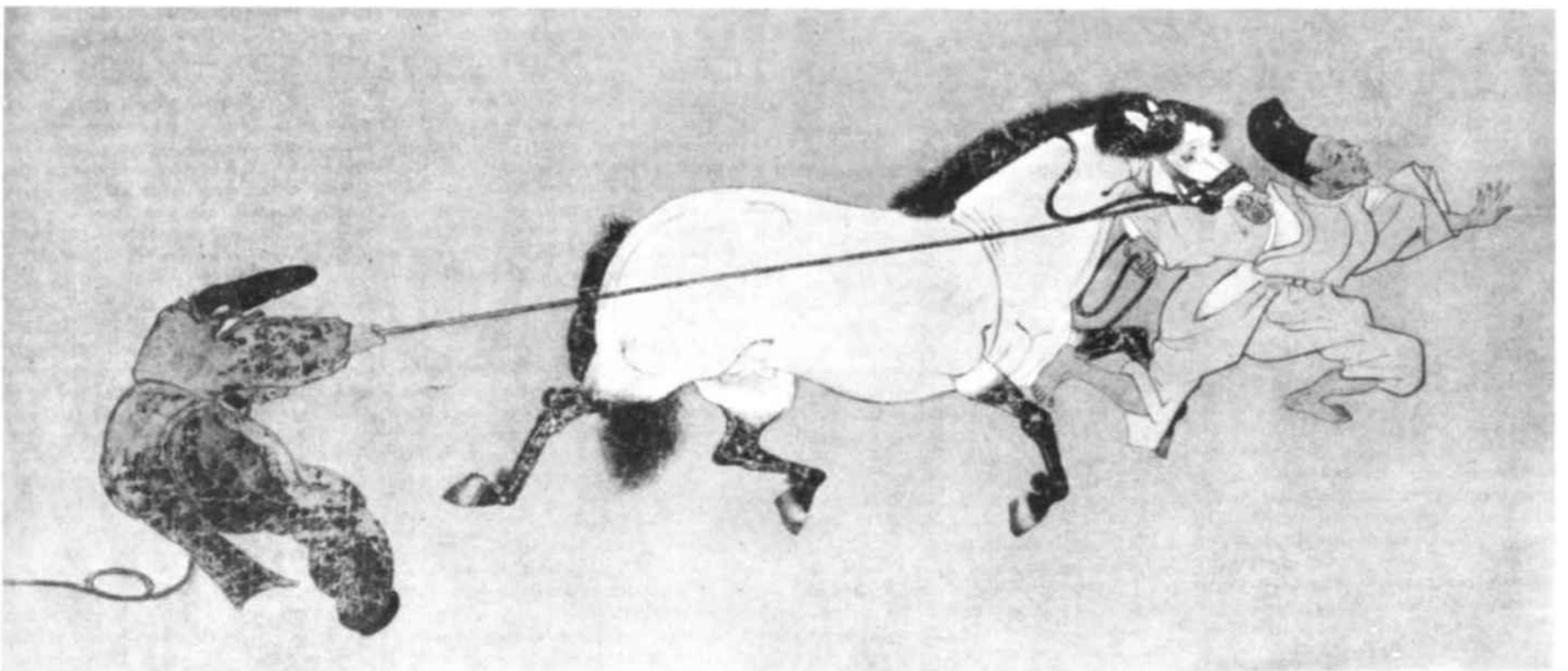
El Greco. Mater Dolorosa.



Pieter Bruegel the Elder. The Land of Cockayne.



Agnolo Bronzino. Maria dei Medici.



Tosa School (Japanese). Breaking in a Horse.

# GREAT PAINTINGS FOR EVERYONE

FOR those many persons who only occasionally have the chance to see the originals of great paintings and, even more, for the vast majority of people all over the world who can never hope to see the masterpieces in countless galleries and private collections, the colour reproduction is the best substitute. But many of the existing colour reproductions are of poor quality, and many paintings of little value are reproduced.

With the aim of making the best colour reproductions more easily available to teachers, students and the general art-interested public throughout the world, Unesco has produced, with the aid of international art authorities, two catalogues listing more than 1,000 paintings of which high-quality reproductions exist and can be obtained. These volumes are intended not only to bring art into homes and schools and to foster the understanding and enjoyment of it; but also to encourage the increased production of colour-prints and the improvement of standards and methods.

Unesco has just published a new and revised edition of the *Catalogue of colour reproductions of paintings prior to 1860* (1), which replaces a similar volume issued in 1950 and is the companion to another Unesco catalogue devoted to paintings executed after 1860. In the case of each work listed, there is an identification photograph of the original painting and a biographical sketch of the artist. The price, size and other facts about each reproduction, as well as the name and address of the publisher from whom it can be obtained, are also given.

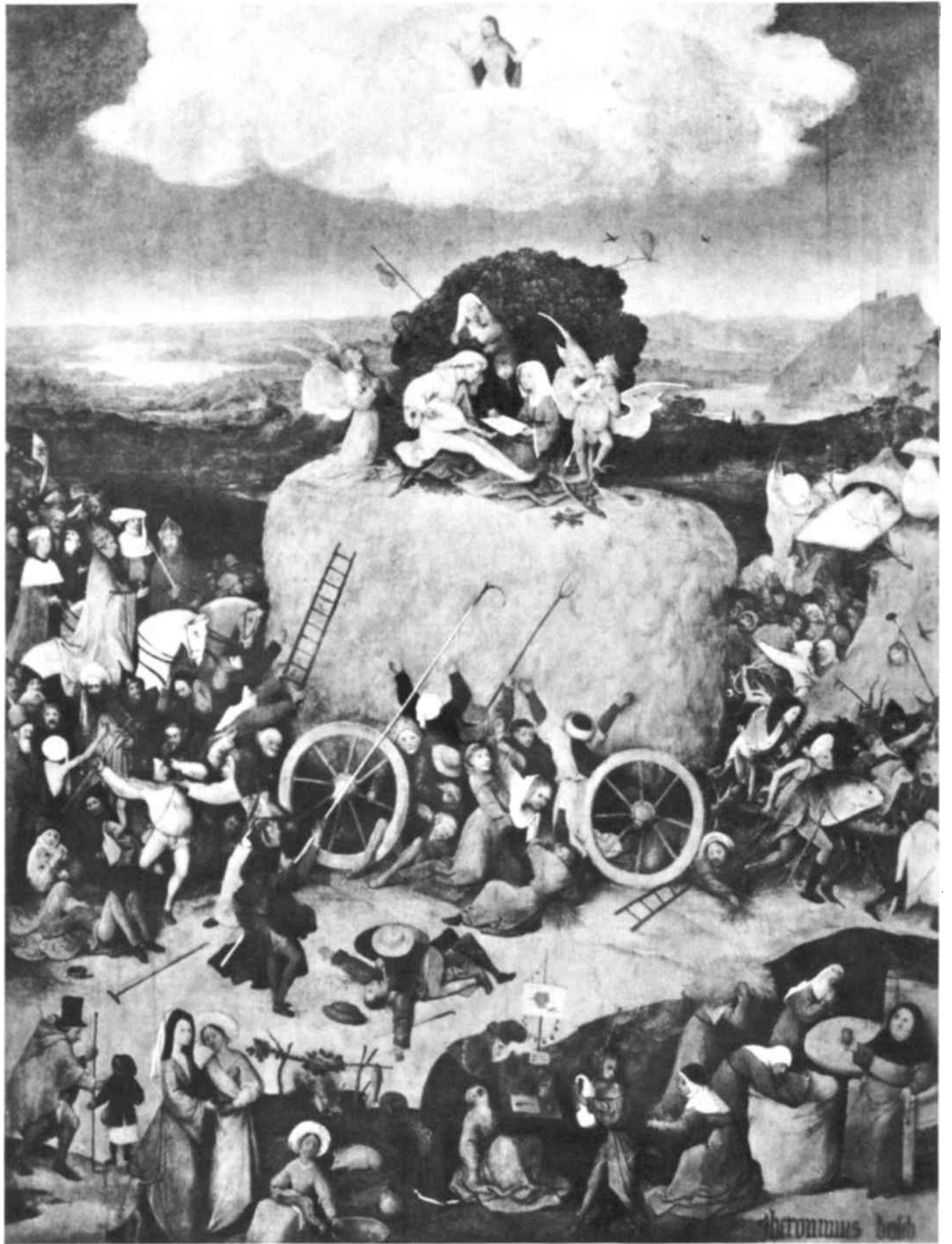
The main criteria by which the prints have been chosen are the fidelity of the reproduction, the significance of the artist, and the importance of the original painting.

Since the first edition of the catalogue of painting prior to 1860 was issued, publishers throughout the world, with whom Unesco maintained contact, submitted 277 new colour prints. Of these 130 were chosen for inclusion in the new edition. Moreover, a careful review of the first edition led to the elimination of 43 reproductions found to be below the standard it was possible to adopt for the new edition.

At Unesco House in Paris and at the Arts Council of Great Britain in London, complete sets of guide-prints are kept so that visitors may see the reproductions themselves. It is hoped that other countries will provide similar facilities, so that the collection of good reproductions made by Unesco in the catalogues may lead to bringing into hundreds of homes, class rooms and libraries throughout the world great pictures from other countries which otherwise would remain unknown.

On pages 12 and 13 we publish a few of the reproductions which have been added to the new edition of the Unesco Catalogue.

(1) (Price \$3, 15/- or 750 Fr. frs.)



Hieronymus Bosch. The Hay Wagon.



Jean-Baptiste Corot. The High Wind.



Master of the female half figures. Three Musical Ladies.

# GERMANY : LARGEST AND MOST VARIED PRODUCER OF BOOK TRANSLATIONS

by Georges FRADIER

THE translation of book titles into a foreign language often seems to obey certain mysterious laws of fantasy. From a sales point of view the title of a book is, of course, an all-important affair and a lot of hard thought goes into the choice of any title.

But when a book is translated into another language the original title, even if it lends itself easily to translation into a fresh idiom, may not necessarily have sufficient sales appeal. Foreign publishers, therefore, often feel themselves obliged to seek out a different and more striking one. The result, however, is sometimes quite startling.

One of Emmanuel Mounier's books, for example, which was originally entitled "La Petite Peur du XX<sup>e</sup> Siècle" (Minor Fears of the 20th Century) has now the English title "Be Not Afraid". Louis Bromfield's "Wild is the River" has become in German, "Traum in Louisiana" (Louisiana Dream). In the same country, a book whose original cover page asked "After Hitler, Stalin?", now bears the title "Von Talleyrand bis Molotov" (From Talleyrand to Molotov). In Finland, "La Reine Margot" (Queen Margot) by Alexandre Dumas became "Herttuattaren Rakkaus" (The Love Affairs of the Duchess). And then we have the remarkable example of a scientific work "Beyond the Atom" which in the Netherlands gained a title pregnant with promise: "Het Lied van Gods Schepping" (The Song of Divine Creation).

These are some of the intriguing facts that can be gleaned from the latest volume of "Index Translationum", an International Bibliography of Translations, which has just been issued by Unesco (1). This publication which has now become something of a "bible" for library workers, publishers and translators, was first brought out as a quarterly bulletin by the Institute of Intellectual Co-operation from 1932 to 1940, and after an interruption of ten years was revived by Unesco.

## 17,000 translations

SINCE the new series began in 1950, Index Translationum has from year to year tried to present as complete a listing as possible of all translations published. The latest volume, the fourth, lists more than 17,000 works translated in 44 countries during 1951.

The Unesco volume shows that the Germans are the world's most prolific translators, producing more than 1,300 works each year. France, Italy, Japan and the Scandinavian countries follow with about 1,000 foreign books translated. In 1951, Britain translated some 500 books and the United States 450.

Germany, the Unesco volume further reveals, publishes translations of works in practically all major languages. Most other countries draw their material from very few foreign languages, usually no more than two or three. Germany, too, seems to be the only country which regularly translates the Scandinavian output of novels, plays and poetry.

A study of the Index Translationum also shows the great differences that exist in translation exchanges between different countries. In 1951, the Germans translated hundreds of British books, yet in Great Britain only 12 German books were published. In France translations were made of 134 American and 27 Italian books. Italy, however, chose 128 French books for translation but only 54 from America.

In most countries, as a general rule, the best known or most widely translated works of literature are those of Great Britain, the United States and France. But a good third of the British and American books that are translated into all languages are detective stories, crime novels or similar works.

The Unesco volume also seems to point to the effect that political differences are having on translations. In 1951, only a few scientific works and some half-a-dozen novels from the United States were published in Russia.

Conversely, only two Soviet works seem to have been published in the United States during that year, with the notable exception of the Russian classics and certain books written by Russian emigrants.

A much greater gap still exists, however, between the Occidental countries and those of the Orient, between the West and the civilizations of Islam, India, China and Japan. The Index Translationum shows that European language versions are rare indeed of Asian literary works. Translations of Western books in the Oriental countries are equally rare, with the exception of Japan.

## Madame Bovary in Tamil

THE Unesco bibliography shows, for example, that the most recent Indian translations of French novels are "The Count of Monte Cristo", in Telugu, and "Madame Bovary" in Tamil. In Burma several European scientific works were published, but only one work of fiction—George Orwell's "Animal Farm".

In Iraq, translations have now appeared of "Robinson Crusoe" and of Turgenev's stories. In the Lebanon only two contemporary novels from the pens of Pearl Buck and Jean Paul Sartre were published in 1951, although several historical works were translated, most of them relating to the Second World War. In Egypt, translations were made of works by Shakespeare, Racine, Moliere, Oscar Wilde and Pierre Loti.

Year in and year out there seems to be little change in the names of the writers who are most translated. At the head of this list are the Great Books, new translations of which are constantly being published. The 1951 favourites were Aristotle and Plato, Homer and Euripides; Shakespeare, Moliere, Dante and Cervantes; Goethe, Rousseau and Voltaire; Dickens, Balzac, Maupassant, Stendhal, Tolstoy, Hugo and Zola. And, as always, the world's "best seller", The Bible. A century from today, this list will probably still hold good.

It will of course require expanding with the names of authors of new classics—our contemporary writers, though perhaps not all those whose works are most widely translated today would lay claim to immortality.

## Ever popular Pinocchio

ON this score, the Index provides some interesting facts. In 1951 the number of translations of works by eight famous authors were as follows: Gide (15); Pearl Buck (14); Thomas Mann (13); Steinbeck and Gorki (18); Bertrand Russell (16); Stalin (30); Winston Churchill (13). During the same period dozens of translations were made of books by Agatha Christie, Peter Cheyney and Leslie Charteris.

Preferences of a national or cultural character seem unchanging. Apart from works of literature, history and geography books are generally the most widely translated. The Germanic, Scandinavian and Anglo-Saxon countries, as well as Italy, however, show a marked taste for philosophical and religious works. Scientific books are most popular in Spain and in the republics of Eastern Europe.

Fewer works of poetry, as might be expected, are listed in the Index Translationum for 1951. Israel, Denmark and Japan translated the largest number of poets during this period. Rilke, however, was extremely popular and his works were published in many countries and to a lesser degree those of Lermontov, Heine, Maiakovski and Baudelaire whose poems are now available in Japanese and Hebrew. Among children's books, which get a fair showing, Pinocchio always takes first place, followed each year in about a dozen languages, by the Tales of Perrault, of Grimm and of Andersen, by the stories of Jules Verne, and by "Alice in Wonderland" and "Treasure Island".



During a three-day workshop course recently, 30 science and vocational teachers of the City of Manila high schools learned how to produce self-made science demonstration apparatus under the guidance of a Unesco expert in science education.



Converting a light bulb into a laboratory flask is demonstrated to Manila students by Viktor Holbro, Swiss teacher who has just completed a Unesco technical assistance mission to the Philippines to help educators modernize science classes.



An old paste pot or an ink bottle can double as a laboratory burner with the help of shreds of cotton, a metal tube and some ingenuity. This Philippine teacher was one of the students who attended a training course conducted by Mr. Holbro.



Philippine school boys cut up old tin cans which will serve as part of their home-made laboratory equipment for conducting science experiments. Blueprints for making all types of laboratory equipment are sent to schools throughout the country.

(1) Price: \$10; 55/-; 2,000 French Francs.



Why does an airplane fly? With two ping-pong balls and a knitting needle, a Philippine teacher demonstrates Bernoulli's principle. The pressure at the side of a stream of air is inwards toward the centre of the stream. Pupils can prove this to their own satisfaction; when they blow on the balls, these come together.

# THE ADVENTURES OF A BURNED-OUT BULB

by Daniel BEHRMAN

**T**HIS is the story of how a young Swiss teacher travelled half-way around the world to help bring science classes to life for school-children in the Philippines—but it might also be called the international adventures of a burned-out electric light bulb.

It was in January, 1952, that Viktor Holbro left his native Basle on a 15-month mission for Unesco in the Philippines. In Manila, he joined a Unesco technical assistance team working with the Philippine Government on a nation-wide programme of expanding education.

As for the burned-out light bulb, it first began its travels in 1951. It was part of a "five-dollar laboratory" of odds and ends that accompanied another Unesco science teacher, Dr. Ellsworth Obourn of the United States, to Thailand. Dr. Obourn had designed his laboratory as a way out for schools and teachers whose budgets could not cover the cost of science laboratory apparatus.

With tin cans, cigarboxes, rubber bands and other assorted materials available in forgotten closets, Dr. Obourn had proved he could duplicate the experiments of an elementary science course. The most important item in this kit was the light bulb for, with its base filed off, it could be transformed into almost anything from a laboratory flask to a water barometer.

On his way to the Philippines, Mr. Holbro stopped off in Bangkok to see what Dr. Obourn had been able to accomplish with the light bulbs and other cast-off items. The results were promising, so much so that science was already becoming a living subject for Thai children in classes where the equipment was being used.

Then, in the Philippines, Mr. Holbro found a strange situation.

"At first, I wondered why I had come", he recalled in an interview in Paris after his return from Manila. "The Government had de-

veloped an excellent philosophy of science teaching on American lines and they certainly did not need my advice."

But Dr. Cecilio Putong, Philippine Secretary of Education, took him behind the scenes and the picture was not so bright. Manila's schools had suffered heavily during World War II and science teaching equipment had gone up in smoke. A shortage of foreign exchange made it impossible to replace this equipment through new imports.

It was then that Mr. Holbro decided to concentrate simply on showing teachers how to make their own apparatus so that science would not remain a dry textbook subject. A workshop was first opened for teachers in Manila's Araullo High School. Then each of the capital's seven high schools sent one science teacher and three teachers of vocational education to Araullo for training.

There, with the help of materials brought in by Araullo's pupils in a junk collection campaign, they went to work, first learning how to convert bulbs into flasks, tin cans into tripods and ink bottles into laboratory burners.

The rest was merely a question of their own ingenuity. By the end of their courses, teachers were producing such complicated pieces of equipment as manometers—that is, pressure gauges—and steam engines. In all, they were taught to construct 50 different models of laboratory apparatus.

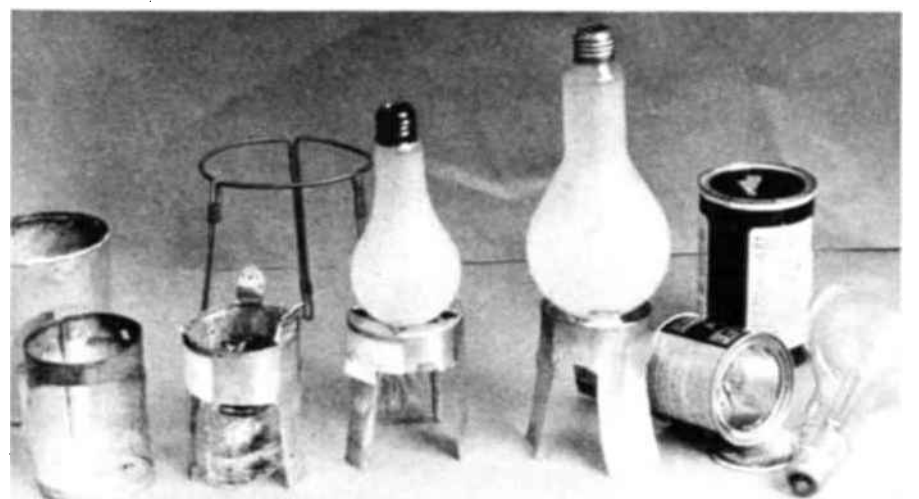
Meanwhile, Mr. Holbro also worked with the Philippine School of Arts and Trades in Manila, helping to set up a small plant where vocational training students went into production on saleable supports, clamps, test tube racks and demonstration equipment. The school is now working on its first order to supply equipment to an educational centre

established by the Philippine Government and Unesco at Bayambang, 130 miles north of Manila.

It is at Bayambang where science teachers from all over the islands are to be trained in the use of this equipment and in applying it to their teaching methods. Bayambang is serving as a general training centre in primary, secondary and adult education.

Costs of this programme, Mr. Holbro emphasized, are being borne almost wholly by the Philippine Government. His own work is being carried forward by Tomas Tadana, recently appointed by the Philippines as the country's Superintendent of Science Education, a new post growing out of Mr. Holbro's work. Blueprints of the light-bulb barometer and other apparatus are now being sent to schools throughout the country.

These odds and ends are the nucleus of a laboratory which can bring elementary science to life in a secondary school. Burned-out electric light bulbs serve as flasks while tripods are cut from tin cans. Bunsen burner is an old ink bottle.



The credit for this new approach to science teaching belongs to the Philippines, he believes. "They knew what to do and what was needed", he explained. "It was no fault of their own that they did not have the resources."

Mr. Holbro is now returning to his classroom at Basle's Madchengymnasium (Girl's College) where he had previously taught physics and chemistry for sixteen years. He summed up his stay in the Philippines as a period of "mutual giving and taking". As an educator, he was especially impressed by the Philippines' system of community schools in which the school is playing a major part in raising village living standards.

"That is one advantage of teaching in a new country", he commented. "I hate to think what would happen in Switzerland if a boy came home from school and told his father that the family's way of raising chickens was all wrong".



## NOT A GAME – BUT A SCIENCE CLASS

Seven wooden balls were strung from a frame... and physics came to life for these seven Philippine schoolboys (above). This home-made apparatus demonstrates the principle of conservation of impulse: when the left-hand ball hits the row, it sends the right-hand ball flying, but the centre ones remain motionless. With the help of Viktor Holbro, a Swiss science professor sent to Manila on a Unesco technical assistance mission, Philippine teachers learned to build this and similar apparatus from odds and ends. They are now using it to perform experiments in their classes (below). Manila's science teaching equipment was wiped out during World War II and currency shortages prevent the importing of replacements—a situation common to many countries. Now, with old light bulbs, tin cans and some ingenuity, teachers make simple equipment. (See Pages 14-15). (Unesco photos).

