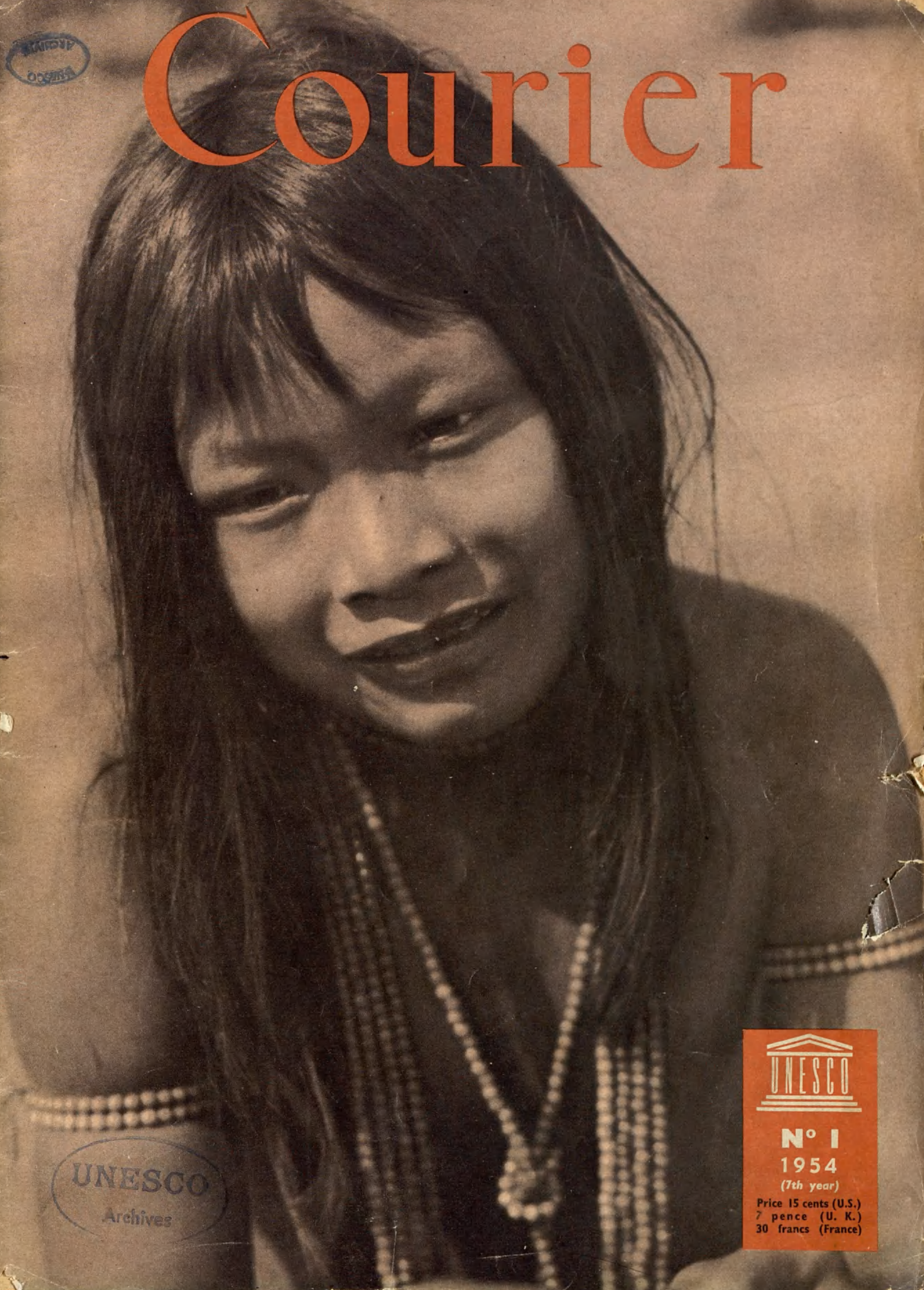
# Courier





UNESCO

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(7th year)

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FOR most people, the beginning of the new year is a special occasion and the signal for happy celebrations. If we could travel around the world on a magic carpet and peep at these celebrations in the various countries, what a wonderful variety of customs we should find. The Feast of the Lanterns concludes two weeks of a noisy, gay spectacle ushering in the new year for the Chinese who almost seem to be celebrating all their holidays of the year at once. In Japan, New Year's Day is even gayer. No matter how poor a Japanese may be he provides himself with spotless new clothes and takes several days off to visit old friends or entertain them at home. Every gatepost is adorned with dark green pines and light green feathery bamboos while over the doorways hang vivid red lobsters and crabs, and scarlet tangerine-like fruits, symbolic of long life and happiness. The streets are thronged with children laughing and playing the whole day long, and everyone beams with joy, bowing and offering best wishes even to perfect strangers. Scotland celebrates New Year's Eve with a heartiness rarely surpassed. The tradition that to be "first-foot" in a house brings luck for the whole year sends midnight revelers into the streets, each one carrying cakes and food and drink to ensure his host a bounteous year. So, throughout the world, in the Orient, in Africa, Europe and the New World, the new year is celebrated with elaborate festivities. It is an occasion for making fine new resolutions—alas, not always kept—for forgetting the disappointments of the past twelve months and for making a new start.

At the beginning of this new year, the Unesco Courier has wanted to do more than just offer its readers the traditional season's greetings. It has sought to "make a new start" too, and like the Japanese, to provide itself with "new clothes." In response to the desire expressed by readers it is abandoning its tabloid newspaper size for a new magazine format easier to read, handle and keep. It has increased the number of pages, designed a new cover in colour and prepared a brighter—yet sober—presentation. But these are not the only New Year's gifts the Courier presents to its readers. As a non-profit publication, the Courier, now offering better value, nevertheless asks less from its readers. Starting with this issue it is reducing its annual subscription price by almost half: from 10/6d to 6/-, from $2.00 to $1.50, and from 500 French francs to 300 Fr. frs. Special arrangements are being made to extend the expiry dates of subscriptions recently renewed at the old rates. (Please see page 32 for further details.)

In its contents the Courier will continue to remain faithful to its set goal: to serve as a window opening on the world of education, science and culture through which the schoolteacher in particular—for whom this publication is primarily conceived and prepared—and other readers in general can look out on to wide global horizons. Each month it will present by text and image, features which are both informative and thought-provoking, and will devote a section to an authoritative treatment of an important world problem and show how it is being dealt with nationally and internationally. The Courier particularly invites comments, criticisms and suggestions from its readers. To the teacher who demands something more than run-of-the-mill fare, to those who are interested in people and problems of other nations, in the dramatic but little known story of ordinary men and women working together to raise standards of living, combat ignorance and disease, reduce racial prejudice and foster international understanding, to all those who are alert to today's events and problems in education, in the arts and the sciences, the Courier says: This is a periodical specially prepared for you. Join us by subscribing today at the new reduced rates.

The Editors

# Courier

UNESCO

NUMBER 1 - 1954
7th YEAR


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**Editorial Offices**
Unesco, 19, Avenue Kleber, Paris 16, France.

**Editor-in-Chief**
Sandy Koffler.

**Associate Editors**
English Edition: Ronald Fenton
French Edition: Alexandre Leventis
Spanish Edition: Jose De Benito





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**This month's theme**

## LANGUAGES: BRIDGE OR BARRIER?

**This young Indian girl of the Amazon lives in the most polyglot of the five continents. Out of the 3,000 languages estimated to be used in the world today, more than 1,200 are spoken by Indians of the Americas some tribes of which number only a few thousand or even a few hundred people. By studying many of these obscure languages linguists have made discoveries about the nature of language itself and have in turn helped the language teacher with his problems.**

IN his description of Gulliver's travels among the Laputans, Jonathan Swift relates how his traveller was privileged to be conducted through the Grand Academy of Lagado where, among many other ingenious projects, he found the academicians engaged on a scheme for abolishing words altogether. Since, it was argued words were only names of things, their properties or behaviours, "it would be more convenient for all men to carry about with them, such *things* as were necessary to express the particular business they are to discourse on... I have often beheld two of those sages almost sinking under the weight of their packs... who, when they met in the streets would lay down their loads, open their sacks, and hold conversation for an hour together.

"Another great advantage proposed by this invention, was that it would serve as a universal language to be understood in all civilized nations... And thus, ambassadors would be qualified to treat with foreign princes or ministers of state, to whose tongues they were utter strangers."

Today, of course, more than ambassadors are concerned to converse with people to whose tongues they are utter strangers and to say that a world-wide language problem exists is not only to state a truism but to make an enormous understatement.

Unesco, as the educational, scientific and cultural agency of the United Nations, has had to meet, probably more than any other international organization, the problems arising from the diversity and frequent inadequacy of many of the world's languages.

Not only is there the obvious problem of understanding and communication between people, but also how to make the best use of languages, especially those that have no literature—because no written form of the language exists—or those whose literature is based on classical and outmoded forms. It is widely agreed that the best medium for teaching is the mother tongue of the pupil. But how can one attack illiteracy which is both a symptom and a cause of social and economic distress among millions of underprivileged people when their languages have no written form?

In addition to studying languages as media for teaching in its fundamental education activities, Unesco has fostered translation projects in many fields: it has worked to make the world's literary masterpieces available in other languages; in science it has sought to make it easier for the scientist and the engineer to cope with technical articles appearing in languages with which they are unfamiliar.

Last August, at Nuwara Eliya, in Ceylon, Unesco brought modern language teachers together to discuss the current problems of their profession particularly with regard to the wider issue of international understanding. In so doing, it may have begun to approach the heart of the problem. After all, none of the radical world solutions to the language problem, sincere as many of them are, and promising as many of them may appear, are likely to be adopted tomorrow, or even the day after tomorrow. In fact, no drastic and all-embracing solution may ever be achieved. In either eventuality, efficient language-teaching with a minimum of time-wasting and a maximum of results remains a necessity.

It would be a solid achievement—and the goal is by no means utopian—if every child on leaving school found himself equipped to use even just one language other than his own. But this immediate, down-to-earth practical aim is not the only one. Language is a key. It unlocks the door to a real knowledge of other peoples. This is why, today, the role of the modern language teacher is such a vital one. His job makes him or her the unofficial ambassador of some one segment of the larger, all-embracing human community which has its existence beyond the frontiers of each individual state.

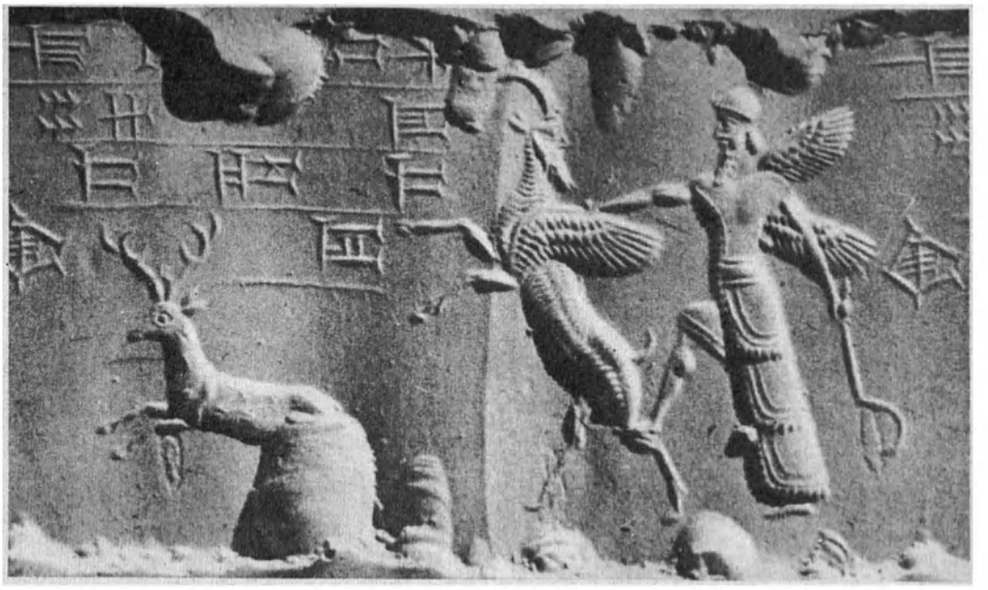
"Ignorance of each other's ways and lives", reads the Preamble to the Constitution of Unesco, "has been a common cause throughout the history of mankind, of that suspicion and mistrust between the peoples of the world through which their differences have all too often broken into war". Every day, in tens of thousands of schools, modern language teachers can play their part in dispelling just a little of this ignorance and can, by so doing, make the universal problem of language just that much less of a burden to the human race: just that much less of a threat to its future happiness.

# FROM THE ARCTIC TO THE EQUATOR

and from the Equator to the Antarctic there rises a babble of different tongues. Some in the heart of Africa and in the Northern wastes are spoken by no more than a few hundred or a few thousand people; others by 450 million. But a study of the world's languages brings home to us a major consideration: whatever the number of their speakers, all languages, be they "primitive" or "civilized", adequately express the concepts of the culture from which they spring and of the people or peoples who use them. (Photos C.O.I. and N.F.B.)

# THE JIGSAW PATTERN OF THE WORLD'S LANGUAGES

*By Felix Walter*



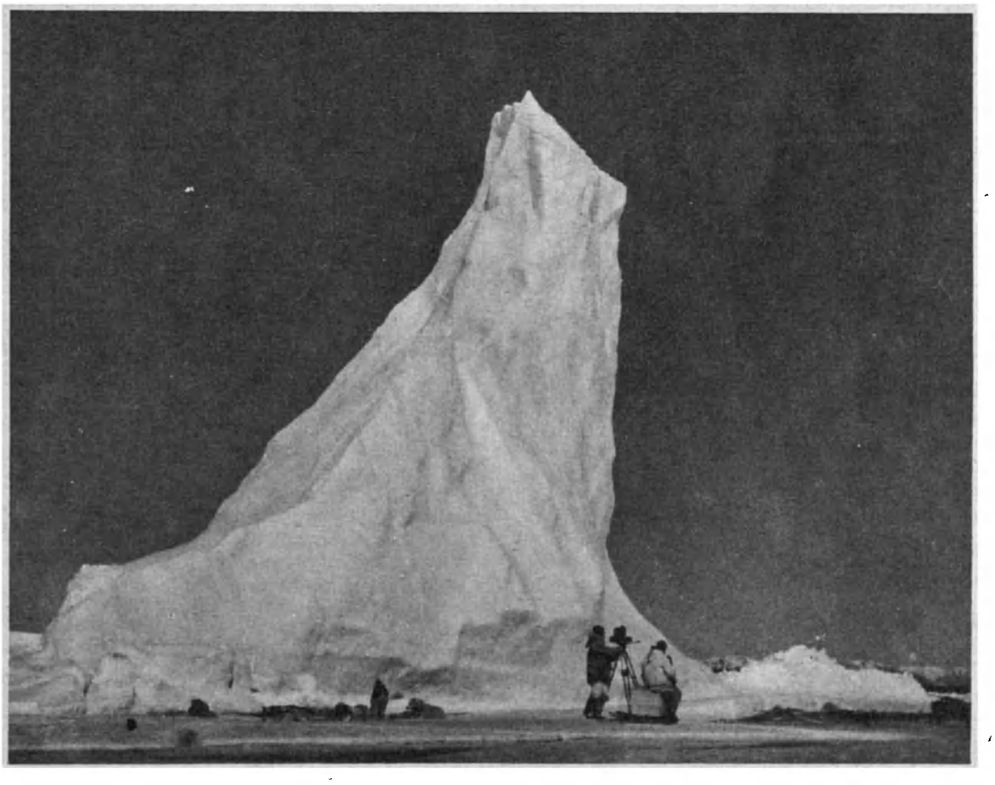
TODAY as far as the tangle of languages is concerned we are still in the era of the Tower of Babel thousands of years ago when this metal cylinder of Babylonia was made. In fact we are slipping still further back for linguists say there are now nearly 3,000 languages in the world. (Photo Palais de la Découverte, Paris.)

WE live in a world that seems to be becoming increasingly aware of the problems of language. That is probably because our generation bumps its nose against the barrier of language more often and more violently than our ancestors did. How could it be otherwise in an age that has made travel so swift and devised ways of communication that are almost instantaneous?

But it is all very provoking to the human ego. We can devise atom bombs to wipe out half the world or jet planes to girdle it, but, so far as the tangle of language is concerned, we are still in the era of the Tower of Babel. Actually the situation is much worse than that: we have slipped back and are continuing to slip back. Linguists say that there are approximately 3,000 languages spoken in the world to-day, and they don't pretend they have finished counting yet.

What really aggravates the situation is not that many completely different tongues are spoken by groups of a few thousand, or even a few hundred, in the interior of New Guinea, or in the jungles of Amazonia or in the heart of Africa. What counts is that the thrust and drive of new nationalisms are constantly setting up new national languages with full official status. There is nothing iniquitous about this; a distinctive language is a very natural though not an essential attribute of sovereignty, and it is clearly silly and a waste of time to scold the Irish, for instance, for reviving their ancient tongue or the Indonesians for adopting Bahasa in preference to a European language of wide diffusion.

It is no wonder, though, that there is an increasing desire to solve what is a world problem, once and for all, by radical means. One drawback is that the reformers offer so many different panaceas. Some advocate that we should all learn one of the languages already widely spoken in many parts of the world. Unfortunately the identity of language X nearly always depends on the nationality of the advocate. The British and the Americans see great inherent advantages in English. French-speaking people are persuaded that French has certain intrinsic merits which give their language a prior claim. Speakers of Arabic or Chinese or Russian or Spanish can think up equally good arguments without any difficulty at all.



If the choice is to be one of the so-called artificial languages, then which one? Is it to be Esperanto, which has the advantage of an undoubted head start over the rivals, or one of the rivals themselves with claims to being even more scientific and even more simplified?

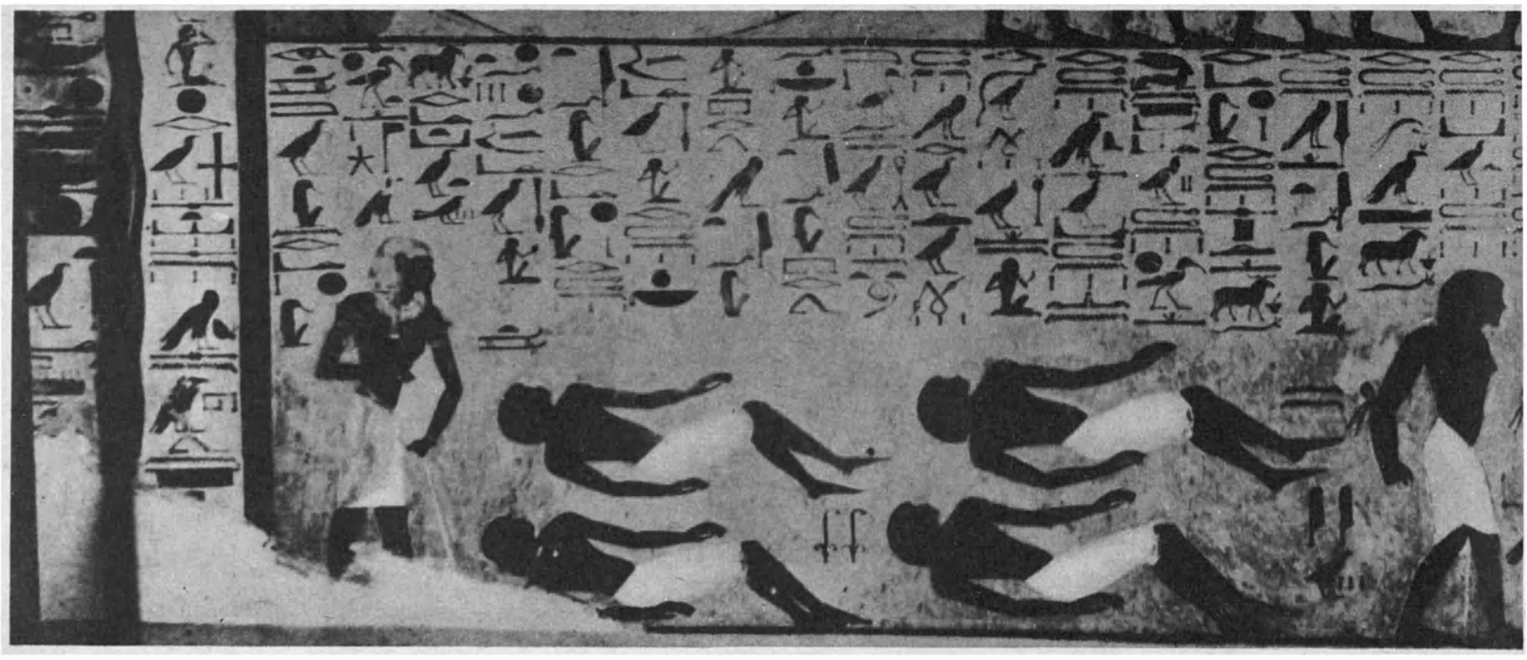
The ultimate solution may well lie in one of these suggestions, or it may be of a different nature altogether, but if the solution is to be effective, it must be adopted on a world-wide basis and arrived at by general consent. That will be extraordinarily difficult and will depend in the long run on the decisions arrived at by governments and by the peoples on whom governments depend.

That suggests that a first and very necessary step in the solution of the world problem of the diversity of languages is for people everywhere to try and understand the extent and nature of that problem. Only then can they properly come to grips with it.

Covering the centre pages of this issue of the Courier is a language map of the world. It is constructed on traditional lines: that is, it shows languages by "families". This is a convenience to linguists but it should not lead ordinary people astray. Thus the English-speaking person who imagines it should be easy to learn Dutch or Danish, because they also are "Germanic" languages, may be disappointed. Languages, like members of human families, have a habit of drifting away from one another.

It is this instable or dynamic characteristic of languages, coupled with the fact that languages are often the playthings of political and economic forces, which now favour and now retard their expansion, that makes a languages map and the general language situation so changeable. The picture today is not at all what it was even a generation ago. A generation hence it will probably be quite different again. To grasp this fact one has only to survey the continents briefly one by one.

Europe makes a good starting-point for such a survey, because in Europe the number of official national languages has just about doubled in the space of a generation. This is due to a number of causes. When the Russian and Austro-Hungarian empires collapsed as a result of the First World War they were succeeded by a number of smaller sovereign units or by new regimes that took a more



## FROM EGYPTIAN PICTURE-WRITING TO A MODERN FORM OF HIEROGLYPHICS

When we talk of language we usually mean its spoken form, but the term can also be applied to any conventional signalling system. We have flag language or code, the language of road signals, deaf and dumb language and written language. One form that has come down to us from the past is the ancient Egyptian picture-writing (above). A modern version of this is the road signalling system, but this, as Steinberg, the American cartoonist, has shown in drawings (right) can be

liberal view of the aspirations of linguistic minorities. Languages like Slovene, Slovak, Czech, Lithuanian, Lettish, Esthonian, White Russian and Ukranian ceased being just picturesque survivals, achieved full national or regional status, became official languages of instruction in the schools.

In Western Europe, not all at once, but certainly since the Second World War, there has also developed an increasingly liberal attitude towards the languages of minority groups. People who now want to talk Frisian or Breton or Basque, and to have their children learn these languages, are not in most countries any longer looked on as anti-national agitators. Governments now go out of their way to give such language groups an equitable status in the community and make reasonable linguistic concessions to them. Even Switzerland, already saddled with the problem of three national languages, judged it advisable a few years ago to admit a fourth language Romansh, on a sort of junior partnership basis.

Totting up the balance sheet for Europe, the debit side shows a great increase in the actual number of official languages, the credit side a decided improvement in the attitude towards minority languages. This may be more important than it seems, for nations, like individuals, cannot hope to assess the language problem sensibly unless they divest themselves of prejudice.

A somewhat similar process has been going on in the Americas. Ostensibly the language pattern is simple with the original European colonizing nations providing either English, French, Portuguese or Spanish (with Danish in Greenland and Dutch in Surinam and the West Indies) as the official language or languages for every one of the 22 countries between Baffin Land and the Antarctic. But a closer look reveals a rather more complex weave. Mass immigration has helped to complicate matters, especially nowadays when the doctrine of the Melting Pot with its insistence on linguistic and cultural uniformity is nowhere applied as strictly and as illiberally as previously.

Canada is a good example of the language patterns produced by immigration. When Louis XV lost New France, 60,000 French-speaking Canadians changed their allegiance. Their descendents now constitute a durable linguistic block of three and a half millions. But there are many other second languages in Canada besides English or French. A school-boy in Winnipeg may study Icelandic as his first foreign language, while a farmer in Cape Breton may tune in to broadcasts in his ancestral Gaelic. Newspapers and books are published in

Bas-relief of the Giotto Tower, Florence, symbolizing language and logic. (Photo Brogi-Viollet).

Ukranian and Finnish, in Polish and Italian and thousands speak these languages in their homes and pass them on to their children.

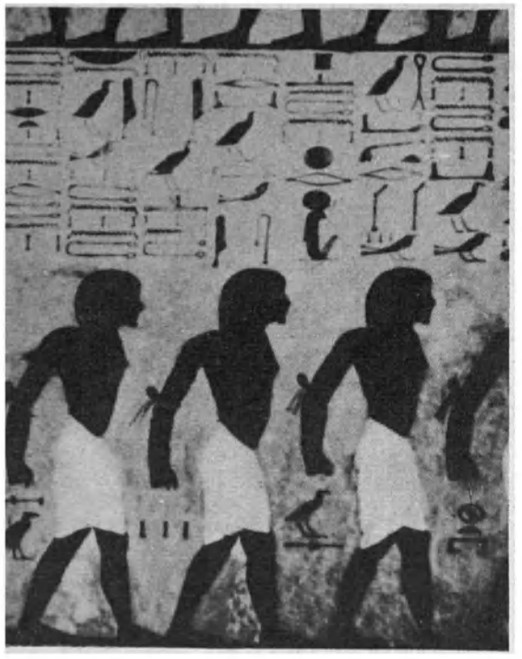
In the United States the extension of the teaching of Spanish in the elementary schools of the South Western States, of French in those of Louisiana, and the opportunity now given in many big city schools of learning Hebrew or Polish shows, among many other examples, that a similar line is being followed. No race has been more affected by this liberalizing trend than the American Indian. It is now at last realized that language is a vital and inseparable part of the cultural fabric and that the Indian who has not been detribalized should not be deprived of his language.

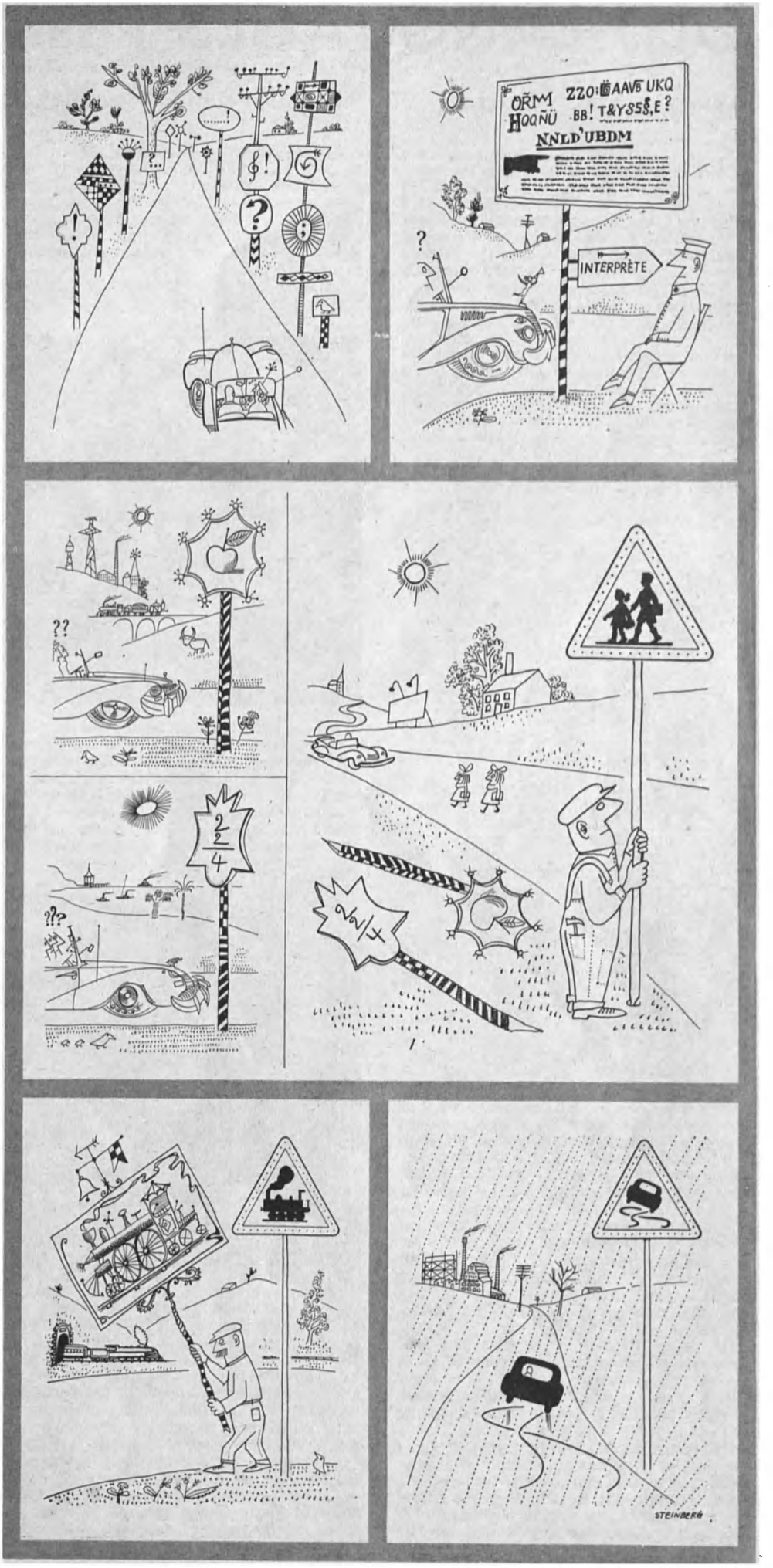
This knowledge has had even more important consequences in Mexico and in Central and South America where the populations speaking pre-Columbian mother tongues can be counted in millions rather than in hundreds of thousands. The former country, after centuries of unsuccessful efforts to turn Nahuas, Tarascans and Mayans into monolingual Spanish speakers, has set up most enlightened programmes for tackling the problem of illiteracy in the native language first, leaving instruction in the national language to a subsequent stage. Further south still, an increasingly progressive language policy bids fair to bring back into useful circulation languages such as Quechua and Aymarâ.

A few significant dates, grouped closely together, serve to set the pattern for Asia. The independence of the Philippines was proclaimed in 1946, of Burma, Ceylon, India and Pakistan in 1947, of Israel in 1948, of Indonesia in 1949, Cambodia, Laos and Viet-Nam have joined the procession subsequently. These political events have inevitably meant greatly enhanced status for Burmese and for Hebrew, for Singhalese and Tamil, for Bahasa and Tagolog, for Cambodian, Laotian and Vietnamese, for Urdu and its close cousin Hindi, to say nothing of the fourteen officially recognized regional languages of the new Republic of India and all the regional languages of the other nations which have recently attained or recovered their independence.

In the meantime, north of the Himalayas, great progress seems to have been made in endowing the complex of languages in Central and Northern Asia with alphabets and also with new dignity and status. What is bewildering in the new Asia linguistically is that it seems to consist more and more of a series of Switzerlands on a gigantic scale.

Let us take the case of a boy or girl just starting school somewhere in Bom-






just about as baffling as the ancient Egyptian variety. However, motoring abroad is becoming less harassing for " Mr Smith" since many member states of the United Nations have adopted a simplified and standardized system of road signs.

bay State. The case is typical enough of many other states both in and outside India. The pupil will at home probably speak either Gujerati or Marathi. His or her first task will be to learn the other state language, whichever it may be, going on then to Hindi, the new federal language, and only after that tackling one of the world link-languages.

It may seem a desperate situation but no continent is attacking its language problems with greater vigour. Teachers are recruited in Syria to teach Arabic as a living link-language to the Bengali-speakers of East Pakistan; chairs of Chinese are endowed in the great universities of India; Indonesia sends future teachers of English to study this world language in Australia — its nearest English-speaking neighbour.

Though geographically far removed from one another, Africa and Oceania present similar patterns of linguistic diversity and these patterns seem to be shifting and changing in much the same way. The dominant tongues, for official, and generally for educational purposes as well, are still the languages of the European countries that hold political authority. More and more, however, the tendency to use the local vernacular, at least in primary education, is spreading. But in areas where languages change completely almost from village to village, this otherwise sensible course cannot be followed and in such cases the teaching of the European language must be regarded as the only alternative.

Another way round the obstacle is to use a lingua franca, and these have a considerable vogue in both Africa and Oceania. Nationalism, particularly local nationalism, is a factor that must be reckoned with here too; it has a characteristically stubborn way of preventing all-wise authorities from imposing one dialect in preference to others and thus "simplifying the language problem in the interest of the native".

What the immediate future holds for these areas must depend in a large measure on political developments during the next quarter century, and a

*(Continued on page 32)*

# OLD LANGUAGES FIND NEW JOBS

## Asian and Middle East States remould their ancient tongues

OUR planet, as we have seen from the previous article, is a veritable jigsaw puzzle when it comes to languages, with the pieces shifting and moving about, growing smaller or larger or splitting off into new bits with the passing of time. In Asia and the Middle East the puzzle is particularly "jigged".

This is not at all surprising when we remember that Asia is the most densely populated area of the globe, and that a huge portion of it—South and Southeast Asia—is still more thickly populated than Asia as a whole.

Within the past ten years, the jigsaw language pattern of Asia has been made even more complicated by a new factor: a great upsurge of nationalism—similar to the one which swept through Europe in the 19th century upsetting the language pattern—that has been rolling across Asia and producing major changes in the world language map.

The Philippines, Burma, Pakistan, India, Ceylon, Indonesia and Israel are new-born States, and all of them have adopted new official national languages. Their educational problems are now very closely linked with linguistic problems.

In most of these countries, the setting up of the national language has meant ousting European languages as the official idiom or relegating them to a secondary position. But the truth is that for some time to come these new languages will be just as foreign—if not more so—to many inhabitants as the European ones were.

As one Filipino linguist has pointed out, Tagalog is much less widely spoken and read in the Philippines than English, and is a foreign language to over 70 per cent of the Filipino people. For the Bengali speaker of East Pakistan, Urdu is also a new language which he will now have to learn.

India, where some 100 different languages are spoken, has chosen Hindi as its official federal language. But at the same time others are recognized as official regional languages. For all official business and for education, English—the official language during British rule—is being kept for 15 years so that the change to Hindi may take place gradually. For the other 86 tongues, the policy is to start school teaching using the mother tongue of the child who at the same time must learn his regional language as well as Hindi and English.

If you were born on one of the thousands of islands which make up the Indonesian Archipelago at the extreme southeast tip of Asia, your mother tongue would be one of 200 languages and dialects spoken by 80 million fellow Indonesians. Most people though speak one of the four main languages : Javanese (40 million), Sundanese (12 million), Madurese (6 million), or Malay (4 millions).

Of these "big four" it was Malay—spoken by the smallest number of people—which, curiously enough, was chosen as the official national language when the new Republic was born in 1949.

In reality, Malay is much more important than the figures would indicate, since they apply only to native-born speakers. Many people all over the Indonesian archipelago and elsewhere in Southeast Asia can speak a form of pidgin Malay. In fact as early as the 16th century, when European sailors first landed on Indonesian shores, Malay was already being used as a trade lingua franca between the islanders. It was not until the turn of the 19th century that Dutch—the official language of the Netherlands Indies Government—began to replace it.

In 1930, agitation to make Malay the common unifying language of all Indonesia was strongly felt when a meeting of all-Indonesia youth organizations pledged support for "one nation, one people and one language" and changed the name "Malay language" to "Indonesian language" (Bahasa Indonesia).

Three quarters of the 80 million people living in the Indonesian Archipelago speak one of four main languages: Javanese, Sundanese, Madurese, and Malay. Malay, spoken by the smallest of these four groups, and renamed "Bahasa Indonesia" is now the official language of the Indonesian Republic. Today, most Indonesians, young and old alike, are therefore having to set to work and study their new national tongue.

The Japanese spurred interest in Bahasa during their invasion of the islands in the second World War by banning Dutch and at first using Bahasa to communicate with the people. Schoolteachers and all government officials had to study and use it as well. As more and more people learned to speak it freely the language flourished and its vocabulary grew. By the end of the war it had attained national stature and with independence national adoption.

Yet to most Indonesians even today, Bahasa remains to some extent a foreign language or at least so different from their mother tongue that they must study the language to master it.

As one Indonesian linguist recently asked, "What should be the position and function of the Javanese, Sundanese and Madurese languages in Indonesian cultural life in the future? Can a language like Javanese—bearing a rich literary tradition—simply disappear, or shall we have in the future a rivalry for supremacy between the different Indonesian languages ?"

It doesn't seem so. The Parliament has a Javanese majority, the President and the Prime Minister are both of Javanese origin, yet there is no movement in the Javanese-speaking countries to abandon Bahasa as the national tongue. That a people of over 40 million should voluntarily accept the language of a minority as the vehicle of its political economic and cultural life is indeed a remarkable phenomenon of our present century.

Several thousand miles away, at the far western tip of Asia, the new State of Israel presents a completely different linguistic problem : that of a dead language suddenly brought back to life and rejuvenated to serve the needs of a modern world. For a thousand years ancient Hebrew had ceased to be a living language. It existed only in holy books and in prayers. Its resurrection and modernization presented an enormous problem.

Much of this work was done between the two World Wars by pioneer settlers who came to Palestine and determined to use Hebrew as their everyday tongue. Within a generation it had changed from an archaic bookish idiom, rhetorical and involved in style, into a precise, realistic modern language.

With the birth of Israel in 1948, the government proclaimed Hebrew as the state language. The year marked the start of an amazing series of mass immigrations. Jewish people came from every corner of the world bringing with them scores of different languages and dialects. The great problem was—and still is—teaching them the new national language. This is no academic goal ; it is a practical necessity.

The chief burden falls on the Hebrew University of Jerusalem which sends teachers out to schools in villages and rural settlements, in debarkation camps and hostels. At each of these there are classes for children during the day, and night classes for adults. Manual workers receive courses aimed at providing a rudimentary knowledge of Hebrew to permit immigrants to converse as quickly as possible with their Hebrew-speaking neighbours.

It would be idle to pretend that immigrants are easily acquiring even a rudimentary knowledge of the new language. On the contrary, it is very difficult for many of them. Uprooted from their environment, often being trained in new jobs and trades, confused and bewildered by new surroundings, by the housing shortage and unstable economic conditions, many immigrants find it hard to concentrate on learning the simplest

Hebrew. The illiterate finds reading especially difficult.

The effect on the school system of teaching children speaking many different tongues is shown in an official Israeli report. "It is practically impossible", it says, "to keep to the curriculum in its entirety in the new (primary) schools. Most of the first years are dedicated to the teaching of the national language. The children differ greatly : those from Iraq are not the same as those coming from Yugoslavia and Rumania. The teacher must therefore adapt himself individually to every one of these small groups of children coming from all parts of the world. Only after several years of adaptation have elapsed can there be any real possibility of following the curriculum, by which time the child has reached the age-limit of compulsory education and leaves school to go to work."

Politically, Israel and the Arab-speaking countries may not be on the friendliest terms, but linguistically they are brothers under the skin, and both offer remarkable examples of how a classical language can be revitalized to meet the needs of the modern world. Among the peoples of ancient civilization who, from the Pacific to the Mediterranean now face new linguistic problems, it is those of the Arab world who have probably had the longest experience in adapting their language to the impact of the West.

Theirs is the story of a community which, after enjoying a high standard of culture, went through a period of political, economic and cultural decline. Arab civilization almost died when Baghdad fell to the Tartar invaders in 1258 but it was saved by a handful of scholars who fled to the Nile Valley. It flourished again until the 16th century when the Turks invaded Egypt and made Turkish the official language. Arabic then deteriorated and lost its vigour. Only a part remained in use : the rest stayed in the "cold storage" of old books and records.

The linguistic renaissance of Arabic really began, interestingly enough, when Napoleon landed in Egypt in 1798. He brought with him many scientists and scholars interested in the people, their language and their past. He founded the Institut d'Egypte and opened the door to cultural contacts between Egypt and Europe. The French stayed in Egypt only three years but their influence was enormous and they opened the minds of the people to the possibility of a new and fascinating world.

As a result, Egypt took the lead in modernizing Arabic. Western culture came to Syria at a later date and to the other Arab countries of the East much later still.

Following Napoleon's departure, a new governor, Mohammad Ali, instituted new courses in medicine, pharmacy and the sciences. He brought in foreign instructors from France and Italy and sent Egyptian missions to Europe. The difficulties of rendering the new modern knowledge into Arabic were plentiful. Here is an amusing example cited by Dr. Ahmed Zaki of the Fuad I National Research Council in Cairo :

"The foreign instructors could not speak Arabic, and the Egyptians could not speak either French or Italian, so Mohammad Ali resorted to the help of a middleman who stood between professor and students to translate. These were mostly men who understood languages but no science, so the system had to be supplemented by the production of Arabic books on the subjects taught. This necessitated the co-operation of four different people.

"First was the author who was usually a European scientist. Then came a translator whose knowledge of the foreign language was more adequate than his Arabic. Then came a scholar whose strong point was Arabic. Finally there was a man who went over the proofs and who also had something to do with the text."

To put an end to such a tortuous system. Mohammad Ali set up a School of Languages for Egyptian students, and in 1821 created a government printing press.

The creation of the first modern Egyptian university in 1908 (now Fuad I University) marked another important step in the renovation of Arabic, but the language received its strongest impetus following the first World War. In schools and universities, in government offices, in the press—in fact in every branch of activity in contact with modern ideas and the West with its deluge of new words, efforts were made to produce Arabic equivalents. But most of these were individual solutions and some kind of co-ordinating body was felt necessary.

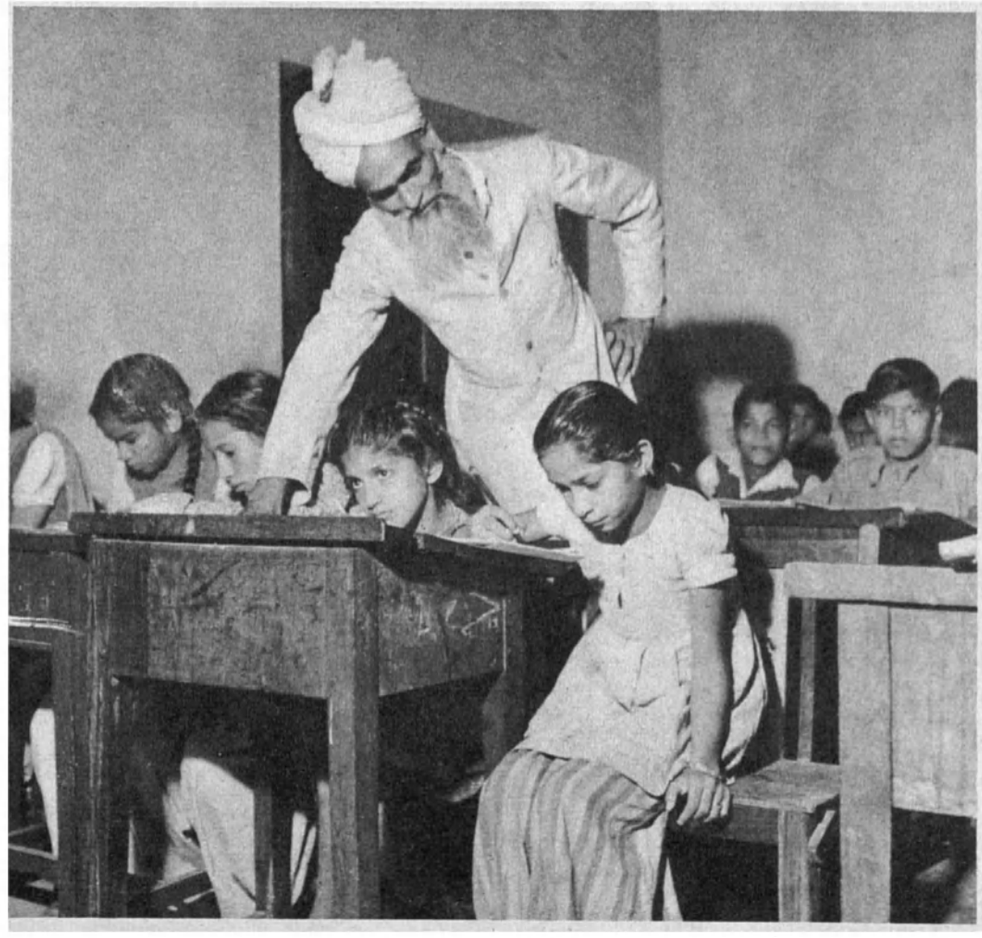
In 1932 the Arabic Language Royal Academy was founded with Egyptian and other Arab state members. Its purpose was to create or standardize technical and scientific terminology and generally to modernize Arabic. Since then it has begun work on a scientific dictionary and already added over 10,000 scientific and technical words to the language. It has laid the basis for an etymological dictionary, discussed simplification of grammar and spelling but rejected a proposal to substitute Latin characters for the Arabic alphabet after much heated discussion.

However, because of the Academy's heavy concentration on scientific terminology, terms of a general nature have tended to be neglected. Newspapers, periodicals and the public must shift for themselves and this has often led to the creation of a score of words for one modern expression. A jet plane, for example is sometimes called "*naffatha*", from a verb meaning "to spit out with blowing", and sometimes "*nafouria*" meaning "fountain-like".

Certain Arabic linguists fear the splintering effect that this may have on the language in view of the wide gap that already exists between the multitude of colloquial forms of Arabic spoken by the masses (with its dialects varying considerably from one country to the next) and the written language. The written form, classical Arabic, is closer to the language of the Koran. There is a general movement today to bridge the gap between the two by improving the classic form so as to make it the general medium of instruction at all school levels.

This point is made by Dr. Zaki, writing in the Unesco study "Vernacular Languages in Education". "Many words exist in colloquial Arabic", he says, "which sound perfect to the Arabic ear but which are not mentioned in the classical dictionaries. Writers are therefore reluctant to use them. But words like these might well be adopted and used freely in writing, especially where there is no Arabic equivalent for them."

Language problems are bound closely to educational ones in many recently independent Asian countries which have introduced new national languages. A child starting school in Bombay Province, India, will probably speak Gujerati or Marathi at home. At school he must begin by learning the other of these two regional languages and then go on to learn Hindi, the official federal language. Only then will he begin to tackle one of the world link languages.



# 'I SPEAK ENGLISH SNAKE SNAKE FISH FISH'

## The trials and tribulations of a language student in Thailand

*by Manich Jumsai*

According to a Thai language teacher, books for children learning a foreign language should not contain stories and illustrations of the foreign country only, since these may not always be comprehensible to youngsters in far-off lands. They should instead compare the life and customs of the foreign land with the children's own environment. Here is a typical river scene of the interior of Thailand taken from a Unesco film "World without End".

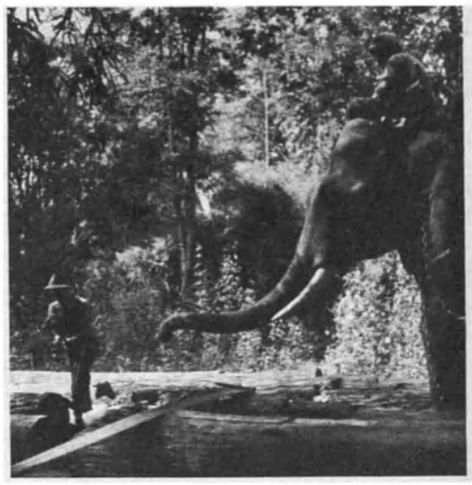
I WAS born in a typical provincial village in Thailand far from modern civilization. From my early childhood I was eager to learn English and dreamt of strange lands where lived those funny white-faced people (of whom we sometimes heard) with blond hair, who spoke in a strange tongue and had strange customs... I had never met any one of these people. Why should I, when even my provincial teacher had never seen one of them, and our grim-looking, strict headmaster, most learned of the village people, did not know them?

One day, my curiosity getting the better of me, I asked my master, and he in turn asked the headmaster, the name of the capital city of these strange white people who spoke the foreign language we now had to learn in all secondary schools, even in the remotest village. But neither of them could give me an answer. Such were the conditions in Thailand when I started to learn English forty years ago.

Of what use to us then were the direct method theories? My teacher did not speak English, he only read and translated words from the blackboard, together with their meanings, so that we could learn them by heart. At the next English lesson we had to tell him the meanings of the various words. As to writing, the teacher would avoid it very carefully so that, during my childhood, I did not have much chance of writing anything other than translations of sentences from English into Thai or Thai into English, usually from books. There was no question of free translations being made. Even when translating from books, an English-Thai dictionary had to be used. When we encountered a peculiar word or grammatical construction, we had to use it as instructed by our teacher. If we asked why it should be used in that way, we were told that that was the strange English way of saying it.

As for the meaning of words, there was no distinction in our minds between apples, pears, peaches, cherries, grapes, strawberries or raspberries, however large or small, whatever their colour, whether grown on vines or on trees. All we knew was that they were "a kind of fruit"; the teacher said so. We had never seen them, and neither had the teacher. They were English fruits which could not be grown in a hot country like Thailand. They were strange fruits which puzzled our minds and our imaginations.

As to trees, flowers, animals, insects, etc., while learning English at school I had stored away in my mind many strange names for each of them, but they were all the same to me—a kind of tree, a kind of flower, a kind of animal, which the English people had but we did not have. At last I grew impatient, and one day I asked my teacher the English names for some of our local fruits, flowers, trees and foodstuffs. Of course, he could not tell me, and he looked somewhat surprised that I should ask such a silly question. Was I becoming insubordinate? Such things did not exist in English books, nor in English! Then I argued: "Supposing one of these days I meet an Englishman, for I would like to meet one, then I shall ask him many things about his country. I will take



English is the most popular foreign language taught in Thailand today. Then come French, Chinese and German. Certain private schools teach English in the first four primary classes at the same time as Thai. But teachers are often bewildered when some beginners' textbooks prefer unusual words to the more common equivalents, such as "jumbo" for "elephant", "nanny" for "goat", "cot" for "bed", "pup" for "dog", and "Brer Rabbit" for "rabbit" (U.N. Photos).

him round to see things. I will show him the fruits we have (Noi-na, Lam-yai, Chompoo, Mafuang) and ask him to taste some of them. But what shall I call them?" "Oh, curious child, what else would they be for these Europeans but a kind of fruit?"

I would therefore repudiate a list of basic words, if it contained words like "bread", "apple", etc., instead of words appropriate to the food grown in the country where English was being taught. I consider that such a list should contain words which have a real meaning for the child because he sees and uses the articles described in his everyday life.

When it comes to English spelling and pronunciation, we people of Thailand find that the words are never pronounced the way they are spelt. It is of no use to learn any rules, but only exceptions. 'Ou', for instance, is usually pronounced as in 'cloud', but in 'through' it is 'oo' in 'though', it is 'oh'; and in 'tough', it is 'uf'. Then comes a new invention: the international phonetic script. This is a device whereby we can see how the various peculiar English words are pronounced; but then we are introduced to new signs and symbols. This, again, is like learning a new language. Is not English difficult enough that we must now read a new language?

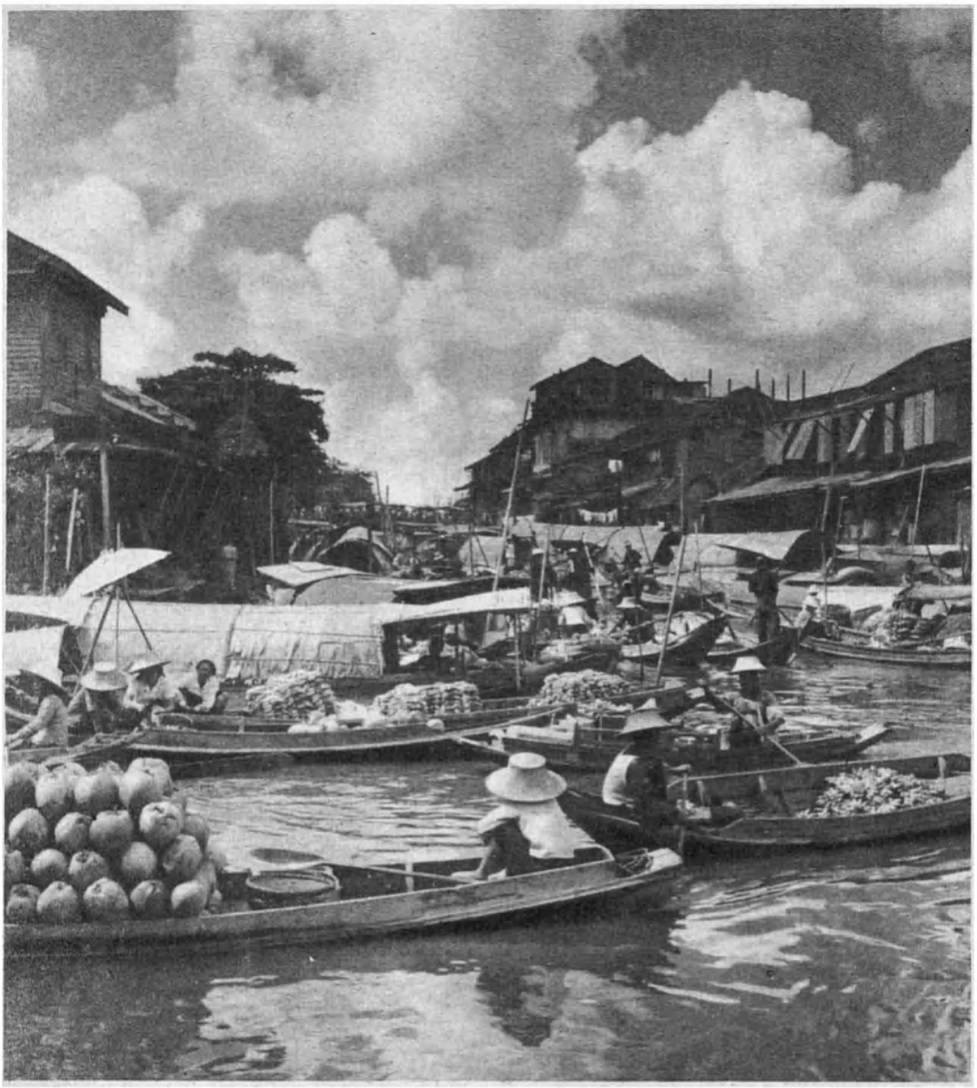
Even this phonetic system is not a satisfactory solution to our problem. Whatever signs and symbols are invented for us, we do not pronounce them in that way since our own language is so different. We don't sound the endings of our words as do the English, we don't twist and roll our tongue to sound an 'l', or an 'r', we do not make sounds through our teeth like 'th', we do not have hissing sounds like 's' and 'ss'. These are only English idiosyncracies to make things harder than they look.

After a certain time, we go back to the ordinary English spelling, but what is the point when words are not all spelt in the same way? Our eyes see different words on paper, but our minds cannot identify them as being the same. We have to learn over again the quaint spelling and irregular pronunciation. Words are not written the way they are pronounced, as is done in the international phonetic script. What is the use of struggling to learn all these quaint symbols if they are not going to be used? Also, there are exceptions and unusual things in the international phonetic script itself.

Then there are the various ways of expressing oneself. The Thai and English languages are fundamentally different, having absolutely nothing in common. Why should they? When all is said and done, the English and Thai peoples had never met until recently. They are not descended from a common stock with ancestors common to both races. While the original Thai people were still living in the valley of the Yellow River, in brick buildings, and with a fairly advanced civilization, the British were living in prehistoric times; Britons still wore leaves and animal skins and dwelt in the forests. The two peoples lived in worlds far apart, each developing their own language to suit their different needs without ever having the opportunity to discuss what they should say for certain things, or how they should express certain feelings or ideas.

Therefore, a Thai student starting to learn English would say: "I speak English snake snake fish fish." This does not mean anything to an Englishman, but it means everything to the Thai student. When a person knows only a few odd words of a language, such as snake or fish, and has to use those same words all the time because he knows no other, it is obvious to a Thai mind that he really knows very little of that language. On the other hand, when he knows so much of the language that the words flow from his mouth without hesitation, like water flowing from a spout, he will say: "I speak English like water." He understands this clearly, although it will not be understood by an Englishman.

Thai ways, sentiments, feelings and understanding are not the same as those of English people, and an Englishman must not be led astray by thinking that



General view of Bangkok klongs (canals) showing floating fruit market (mahanark) and vegetable and pottery markets. Fruits in the tropical land of Thailand are totally different from European or American fruits. To Thai children learning English, the words apples, peaches, strawberries or pears convey no real image. They are merely "a kind of fruit". (U.N. Photo.)

whatever he says is simple, straightforward and therefore easily understood by a Thai. For instance, look at these phrases which are perfectly obvious and clear to a Thai:

I have ox two body.

He woman have son ox two body.

Why should one say: "I have two oxen"; "she has two young oxen", etc.? Why should the language be made more difficult by using *has* on one occasion and *have* on another? Why should the words be changed to plural when singular can mean the same object. Why should one use a new word "she", when one can say "a female he" or "he woman"? Why should one say "young oxen" when they are really "sons or daughters of oxen", and so on?

There are two instances when a Thai would say "yes" and an Englishman "no", and yet both expressions have the same meaning. Here are some typical comparisons:

*Englishman*

Q. Have you never been to England?
A. No. (I have never been.)
Q. Good morning, John, how are you? Or Fine weather, isn't it?

*Thai*

Q. Have you never been to England?
A. Yes. (The fact that I have never been there is "yes" in this case.)
Q. May you be well, where have you been.

In the opinion of a Thai, it is ridiculous or even hypocritical to say "Good morning" when it is actually cloudy and cold, and therefore a "bad morning".

The English are great inventors; they make grammatical rules and then start to evade them by making exceptions and creating more and more language difficulties. The Thai language, on the other hand, has no tenses, no feminine nouns, no comparative and superlative adjectives and adverbs, no plurals. It is quite straightforward. English grammar is perhaps one of the most difficult in the world to learn, owing to the number of tenses and irregular verbs. Compare these expressions:

*English*

He goes to school.
He is going to school.
He went to school yesterday.
He has already been to school this morning.
He went to school.
He did not go to school.

*Thai*

He go school.
He active go school.
He go school yesterday.
He go school already morning this.
He go school finished.
He no go school finished.

As far as Thailand is concerned, I do not know of a single book which has been written by any of the eminent exponents of a number of accepted methods of teaching English which would be perfectly satisfactory and thoroughly understood by the pupils. English is made infinitely more difficult by the fact that the books are written about things which the indigenous child has never seen or heard of during the whole of his short life.

During the seventeen years I worked for the Ministry of Education in Bangkok, I was fed profusely with samples of various English reading series from various English publishers, who pressed me to prescribe their series for use in Thai schools. Despite the fact that some of them were beautifully printed and illustrated they were not ideally suited for the teaching of English in Thailand. Attractive illustrations are not the main need of an English reader for a foreign country; the contents of the book are much more important.

A Thai child starts to learn English at the age of 11 plus, by which time his mind is fully developed. He is a big boy or a young man—no longer a child. He has a thirst for true stories, for adventure, for culture, for his own social inheritance —something which is no longer childish, but which will fill his mind with future ambitions, aspirations, adventures and heroism. He is not a fool who can be easily led to believe things which are untrue, such as fairy tales, spirits, goblins that inhabit the forests, and animals that talk. English primers written for children of lower age level are therefore not suitable for him.

The books are full of childish things, simple (not to say foolish or stupid) beliefs, and always contain the famous Grimm and Hans Andersen fairy tales, or stories taken from the Arabian Nights.

What is more important, they contain

strange words which are never used by adults and which cannot be found in ordinary dictionaries, thus making it more difficult for the average Thai teacher to understand and translate, his method being to translate everything. Instead of "Bear", the books use "Teddy Bear", "Brer Rabbit" for "rabbit", "Jumbo" for "elephant", "Nanny " for "goat", "cot" for "bed", "pup" for "dog". Then there are all the terms of endearment which an English mother uses when speaking to her baby.

Such things are outside the ordinary English vocabulary. Also, children in England start to learn by using words which are orthographically and phonetically simple and not too long. So, instead of the usual word "sleep", they use "nap", and in order to keep to simple monosyllabic words they use the most extraordinary words and stories. And a Thai boy of 11 plus has to learn this nonsense.

When writing primers for children of 11 plus, the mentality, curiosity, previous knowledge and experience, as well as the understanding of the child should be taken into account. Special books should be written for children of this age in order to make them feel that English is not so difficult, confusing or nonsensical, books which will help them to master the simple normal language form.

Various primers have been written to cope with different factors, from the phonetic and from the orthographic angle, from the monosyllabic word list, from the nursery word list, from the first basic word list and so on, but none has dealt with the difficulties of grammar. English grammar and construction are beyond the grasp of children whose mother tongue is Thai. So many differences and distinctions have to be accounted for. Grammar should be carefully analysed and graded, and explanations introduced step by step as these points occur in new phrases and sentences. If there is a list of basic words in English, there should be also a list of basic grammatical points.

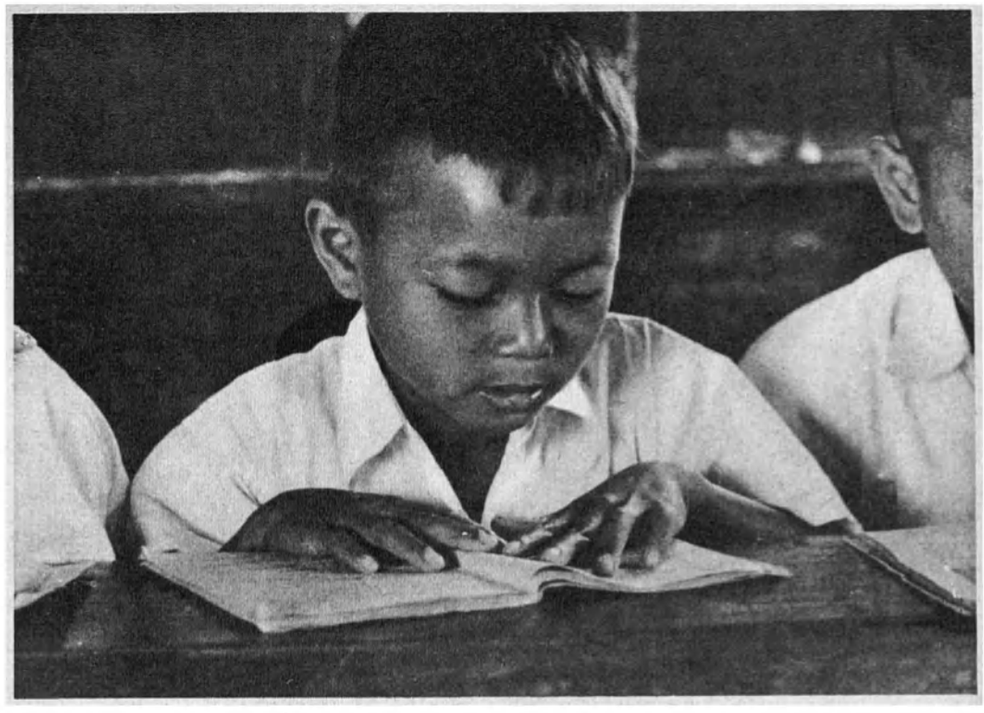
Those who attempt to improve the teaching of English in Thailand should make a complete analysis of the Thai and English languages to see where lie the parities, similarities and discrepancies in both languages. When this has been done they will then be able to understand the mind of the child who is struggling to understand a foreign language like English. So far, no such analysis has been made.

In many other countries, children learning English as a foreign language often use textbooks written by English people or by people whose mother tongue is English, who take for granted, as being understood, so many of the small, trivial details which are confusing to a child brought up in surroundings entirely different from those of an English-speaking person.

In Thailand, for example, there are different contentions about this. One person wants the books to be written with an English background, while another prefers a Thai background with names, objects and stories all derived from Thailand. I think that it would be an ideal way to write the first book or two using the boys' own environment as a background, and discussing the things he knows and understands. Then as his vocabulary grows, English subjects could be introduced — English boys and girls, their homes and customs, and the things the student would see and do if he were to visit England. Textbooks must show comparisons between the things that happen in Great Britain and Thailand; that is to say, the first textbook should cover the experiences that the student encounters all the time in his own country and then pass on to comparative ones in England.

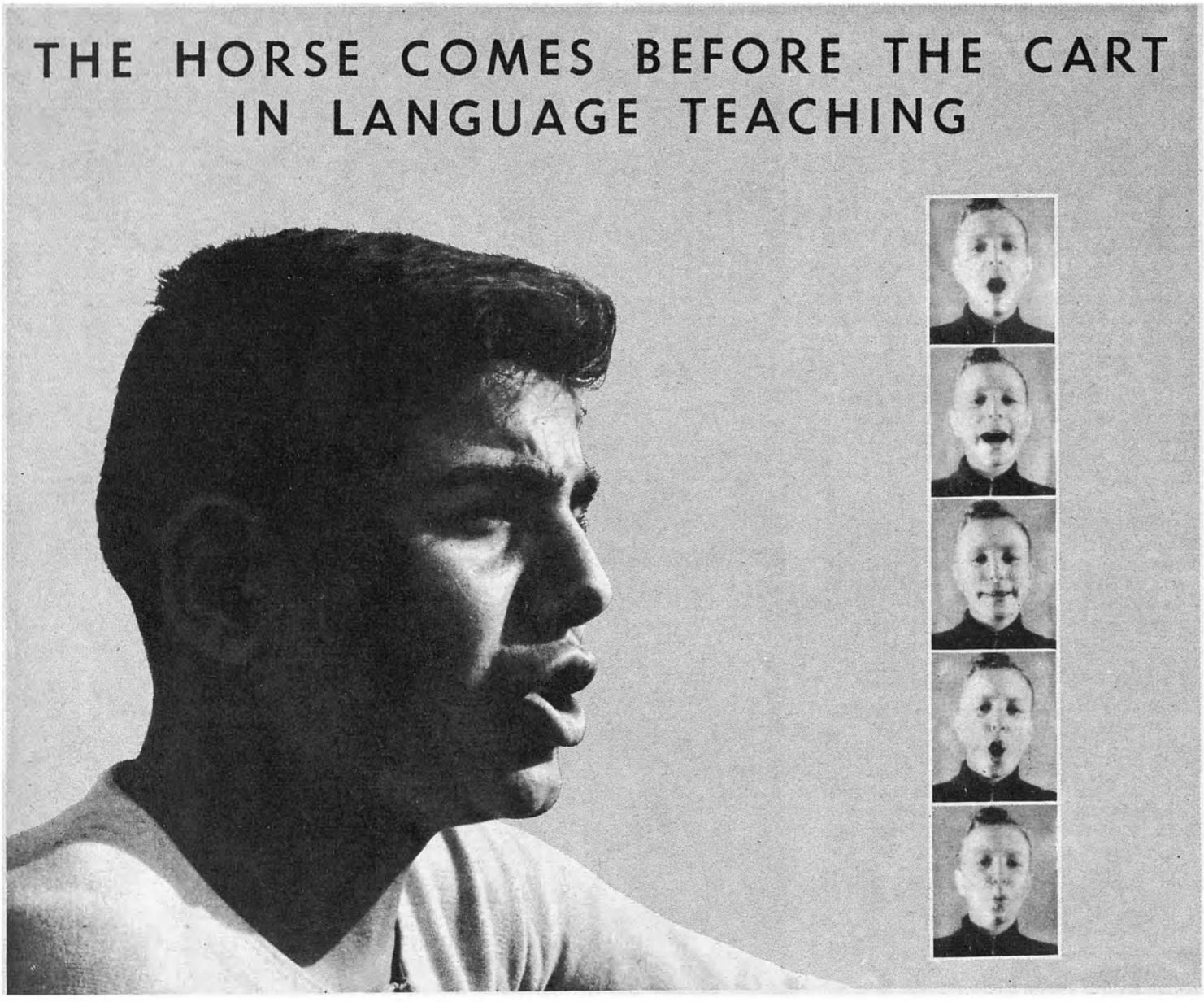
I feel that in order to understand the many local difficulties encountered both in teaching and learning English as a foreign language, one must be a native of the country, a person who knew no English for the first few years of his life, who, when he did start to learn it, had to struggle through the various difficulties of the language until he had mastered it. Only a person who has passed through this experience himself can comprehend the difficulties encountered by a child of his own nationality who is learning to speak a foreign language and grasp what the child is thinking of when he interprets certain things in a certain way.

Notwithstanding the theories put forward by various eminent specialists of modern languages, it is my firm opinion that the series of books on this subject will not be complete until consideration has been given to the complete cycle of effective development of the indigenous child's mind.



'I SPEAK ENGLISH
SNAKE SNAKE FISH FISH'

# THE HORSE COMES BEFORE THE CART IN LANGUAGE TEACHING



Correct pronunciation must be learned from the start, foreign language experts today declare. Pupils must be told how to set about making the correct sounds. Later on is too late and makes it almost impossible to correct faulty speech habits. Inset shows typical positions of mouth in pronouncing French vowels, A, E, I, O, OU. Photo shows position for the sound EU.

LIKE every other branch of human activity, modern language teaching has its sages and its charlatans, its clamour of rival factions, its current fashions and its awful heresies. Anybody who sets out to explore this jungle would be well advised to tread cautiously.

But at least there are consolations in such a voyage of discovery... Nobody can complete it without coming away with the conviction that here, as in so many other fields of human endeavour, man is gaining the upper hand over the general cussedness of nature.

We really do have a clearer idea in 1954 of how to go about teaching a living language for the common purposes of general enlightenment or general understanding than we did in 1940. The thirties were a decade of great progress too, and if you look back to the turn of the century, and the great controversies that surrounded the birth of the Direct Method, you can see how far we have really come.

There are chastening factors too, of course. It is a little disconcerting to be reminded that Renaissance scholars earnestly recommended some of our most up-to-date language-teaching methods three and four centuries ago. Writing in 1532, a Sicilian, Lucace Di Marinis, spoke out strongly against over-emphasis on grammar and urged that what little grammar instruction was necessary be taught inductively. Comenius, the Czech, writing a century later, showed that he knew more than a little about vocabulary selection and structure grading. Montaigne and Luther and Locke had other enlightened notions on this general subject.

Language teaching in that age meant, of course, teaching Latin, which was still the living common tongue of scientists and educated persons generally. It was a fearful and almost a fatal handicap for modern language teaching that, when it did begin to come into its own, during the second half of the nineteenth century, it was as a rather despised poor relation to Latin teaching and to a Latin now quite thoroughly dead and become a vested interest.

This had many odd consequences. Where Latin was well taught, as it still was in many places, students would acquire proficiency in reading and writing the language. Modern language teachers were therefore expected to impart the same skills and no others, which was putting the cart before the horse with a vengeance. As late as 1893, an eminent educator who occupied the chair at a meeting of the National Education Association of the United States exploded with the statement: "I do not believe, first and last, that we have anything to do with the speaking or conversational use of the modern languages in the secondary school. And the sooner the heresy is banished from the secondary school the clearer the air will be." At the time, he undoubtedly voiced the opinion of the majority.

So for decades the modern language teacher had to do what the Latin teacher thought he was doing: sharpen the intellect, broaden the mind, instill a sounder knowledge of the mother tongue, etc. This was an educational process that was all hypothetical by-products with no end-product, practical or otherwise.

Then at last came the age of the heroes who arose in many countries to deliver the damsel in distress: Gouin in France, Viëtor in Germany, Alge in Switzerland, Melon in Belgium, Nystrom in Finland, Jespersen in Denmark and Sweet, the Englishman, who was the model for Henry Higgins the phoenetician in Shaw's *Pygmalion*. There was now the

beginning of a real theoretical basis to modern language teaching. The Natural or Direct Method flourished, to be tolerated in some school-systems, to be imposed in others. Like all good things it suffered at the hands of its more dogmatic advocates, but on balance it was undoubtedly "a good thing" and, at the hand of qualified teachers, brought life and reality into many language classrooms.

Since those days, many different developments, taking place in many different parts of the world, have broadened and refined the techniques available to the profession. They are not listed here in any order of importance or even chronologically ; they all lead up to the present-day picture.

It was in the twenties and thirties that the educational psychologists started to play a useful part. They have taught us a good deal already about what sort of a learning process language-learning is. They have still, among other things, to tell us more definitely about the real as opposed to the theoretical effects of bilingualism and about the right age for a child to start learning his first foreign language, as well as devising tests which will really measure more than the merely mechanical aspects of language learning.

Then, in the thirties, much progress was made by a group of well-trained and highly intelligent teachers of English, working in South Asia and in the Far East. It was an accident that this was the language they taught. They might have come from other countries and have gone out to teach any one of the world's great link-languages — Arabic or Chinese, or French, or Russian, or Spanish, just as well as English. The work of French, Faucett, Gatenby, Palmer, West and others of that generation is, of course, in a sense, primarily of interest to teachers of English, but in a wider and more significant sense it concerns teachers of any living language.

These teachers learned primarily to appreciate the difficulties which Asians encounter when they are trying to master a western world language, be it English or any other language. They learned what the essentials of a language are and how to present those essentials economically and attractively. The Basic English movement and the interest in simplified texts both owed something if not everything to the experience these teachers gained.

Over on the other side of the world, in North America, linguists who had been working on Eskimo and Amerindian languages were developing new theories of the nature of language, which were soon to be expressed by Bloomfield, Trager, Nida, and others. It was their opinion that the cardinal error of the past had been to approach language philosophically instead of scientifically and to make statements about the form in terms of the meaning, instead of doing it the other way round. Exponents of this new view passed on from rare languages to the better known ones and ultimately devised theories of their own about how languages should be taught. It was at about this time too that there occurred what might be described as the Discovery of the Phoneme (the sound unit of distinctive difference), which to some linguists is as important as Newton's apple was to modern physicists.

The Second World War gave these theorists a wonderful opportunity. They were able to test many of their ideas when the United States set up a scheme for the language training of military personnel under the Army Specialized Training Programme (A.S.T.P.). The results were flattering, though it must be said in all fairness that other countries, which sponsored similar emergency training-schemes, achieved equally spectacular though less well advertized results even though they made use of more traditional methods. It is probably too early to say whether the theories of the descriptive linguists can ultimately be utilized in the ordinary language class in a school ; certainly no wide-awake language teacher can afford to be ignorant of this whole body of doctrine.

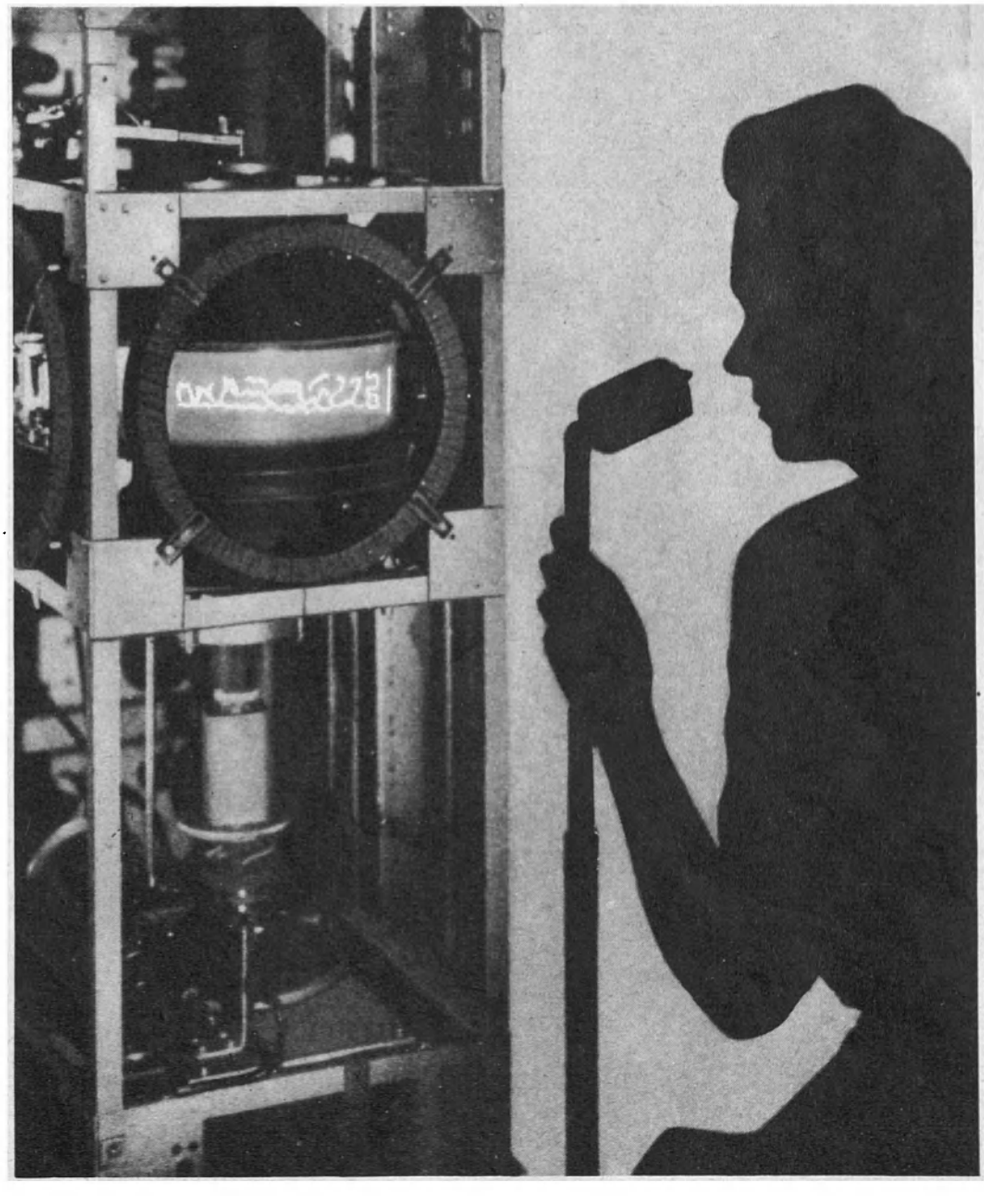
After the last War, the need felt by countries such as Australia and Israel to set up machinery for dealing with great polyglot waves of immigrants led to new research in a neighbouring field: how to teach a national language to mixed groups with widely assorted social and linguistic backgrounds. In both the countries mentioned it meant devising experimental methods, preparing special text-books and training teachers. What is really interesting is that both these countries, working independently of one another, came to roughly the same conclusions regarding methods, which call for marked emphasis on the spoken language with all material carefully graded and a marked stress on over-learning.

Real progress has also been made during the post-war years in some of the smaller Western European States, like the Netherlands and the Scandinavian countries, speaking languages of limited diffusion. New and attractive text-books have been issued and a special attempt has been made to make language teaching lead to sound and up-to-date knowledge of foreign countries.

Finally, in any review of the factors which have contributed to contemporary trends in language teaching, some mention must be made of the experience acquired in countries such as India, Indonesia and the Philippines, where the advent of independence had as one result the setting up of new national languages in place of the western languages which had hitherto been paramount. The details of this great experiment in progress will, of course, take some time to assess, but it is not unreasonable to suppose that the East, which has hitherto learned about language-teaching from the West, will soon be in a position to give lessons as well as to receive them.

So much for some relatively recent developments. What of the current trends that have arisen from them ? It might be worthwhile to try and list some of them, bearing in mind, of course, that these are just general tendencies among up-to-date modern language teachers and that they primarily concern school needs and not the needs of, say, scientists who want to learn to read technical articles or tourists who want to buy post-

This picture shows a girl "photographing" her voice electronically. The machine is used by experts in phonetics to study differences in sound variations in the teaching of foreign languages. (Photo by Fritz Goro. Reproduced by courtesy of Life magazine.)



cards or visit night-clubs when travelling in a foreign country. And, in spite of all the advice given by the experts, there will still be tough-minded individuals who will prefer to teach themselves languages with a grammar, a dictionary and a text. If they succeed, who is to say that they used wrong methods?

**The First Approach.** Current trends favour what is called, somewhat pedantically, the oral-aural approach. This puts speaking and understanding, before reading and writing. The descriptive linguists would say that this method is sound because language is in its very essence a spoken means of communication and all written language merely an arbitrary representation of the real thing. Veterans of the Natural Method will say that this is the best way because that is how a child learns a language for the first time.

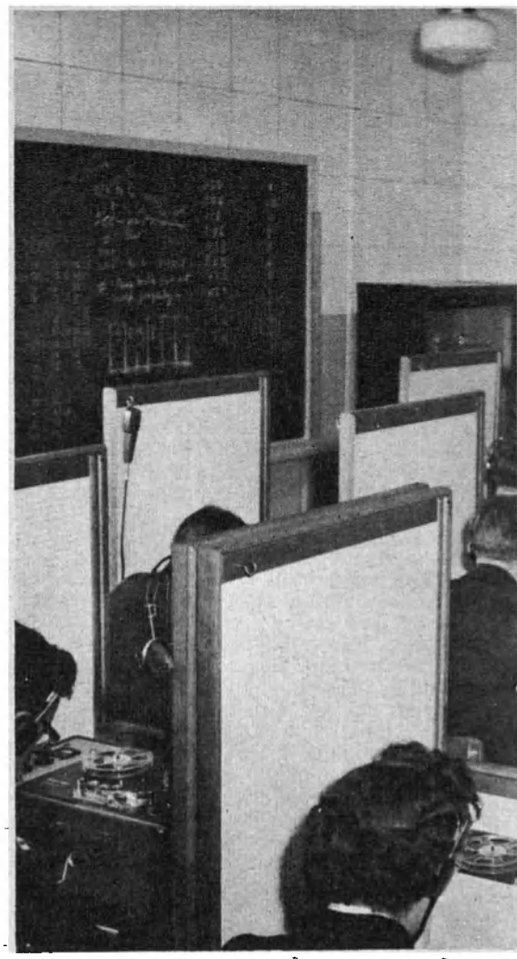
What really seems to matter is that numbers of experienced, non-dogmatic teachers have in fact found that this approach gives the best results and that pupils can be led a surprisingly long way into the heart of a language without even opening a book, or taking a single note. As a forceful participant at the Unesco Modern Language Seminar at Nuwara Eliya, Ceylon last August put it: "'You don't learn to play the piano by watching someone else play or by studying counterpoint and harmony. You learn by sitting in front of the thing and pushing on the keys."

**Pronunciation.** If the oral-aural approach is in favour, it follows that the pupil's (and the teacher's) first problems will have to do with pronunciation. How much latitude is to be allowed? According to present trends, little or none. The best authorities seem at present to be convinced that correct pronunciation must be thoroughly inculcated right from the start. Later on is too late, and merely encourages bad speech habits that become almost ineradicable. This does not necessarily call for elaborate methods. Obviously it will not suffice to keep urging the pupil to imitate the correct sounds made by the teacher. The pupil must be told how to set about making the correct sounds.

The modern emphasis on grading and selection, as well as on the significance of phonemes, will normally lead the teacher to concentrate primarily on the sounds that matter and on those which are most difficult for pupils to pronounce. It is doubtful whether all this requires the use of phonetic symbols, though probably they do no harm. It is also doubtful whether, as one linguist advocates, pupils should have to master the whole jargon of modern phonetics. A child can probably learn to pronounce the "th" in then without bothering about voiced interdental spirants.

**Grammar.** The modernists are against it, or rather they are against the wrong kind of grammar and against the introduction of almost any kind of grammar too early or in massive doses. Certainly the study of formal grammar for its own sake is now considered to be the proper pursuit of professional grammarians, not of school children trying to learn a language. There are, of course, a good many who say that the traditional grammar elaborated for most modern languages, and based on classical concepts of case, tense, mood and so on, are quite meaningless and bear no relation to any modern language except those directly derived from Greek or Latin. For these people, the real grammars of modern languages are only now being written. In the meantime, they and many others think that the problems of grammar should be dealt with as they arise, quite incidentally, and that pupils should be encouraged to draw their own grammatical conclusions from the linguistic facts already in their possession.

**Graded Structures.** "Structural Analysis," "Structural Grading," "The Structural Approach" — these phrases occur constantly in the contemporary literature of modern language teaching. They refer, of course, not to a new method but to present-day emphasis on the need for analysing language difficulties and then for presenting the basic patterns or variants one at a time and in order of difficulty. Naturally the whole grading process should be and is applied not only to structures but to other features such as vocabulary and intonation.

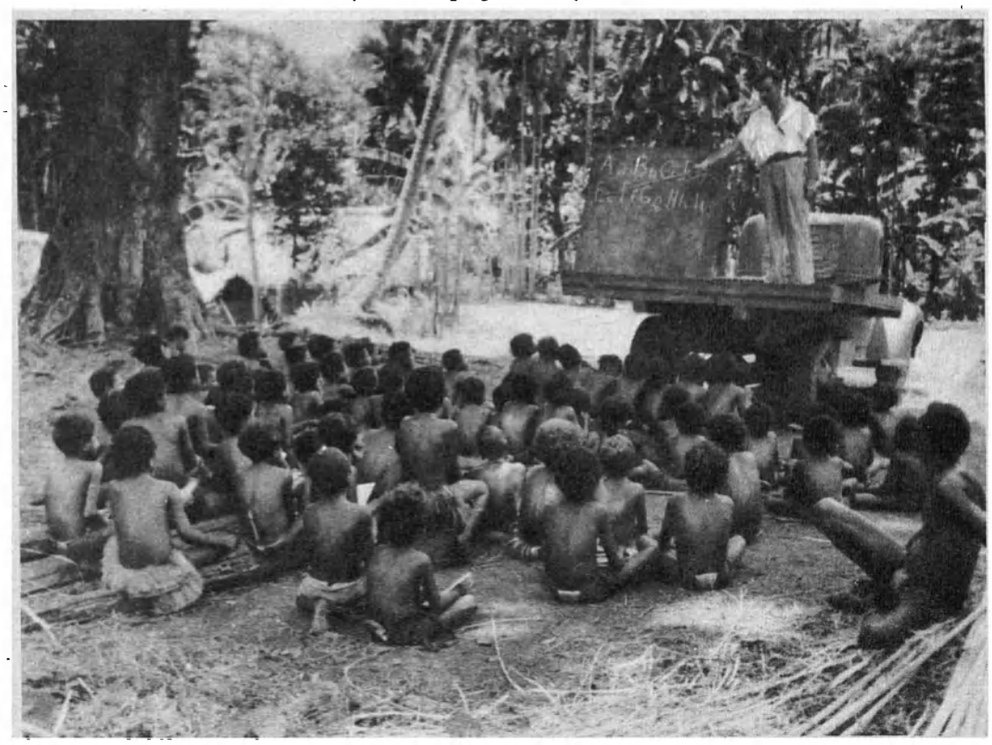


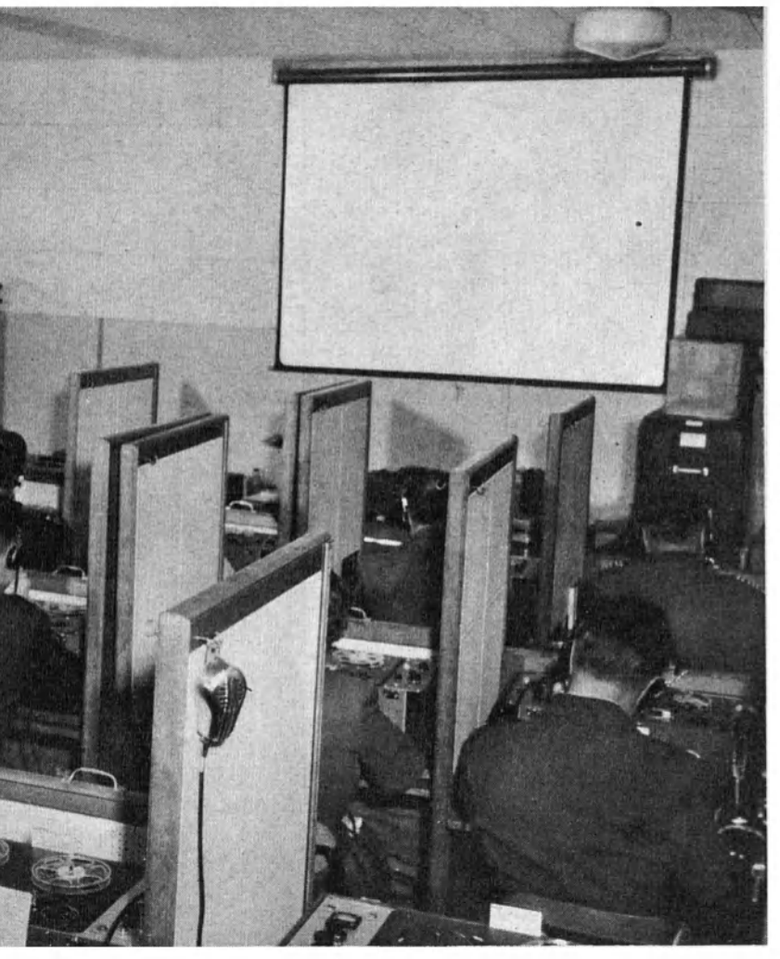
A number of new devices now exist to aid foreign language drill. But near Paris receiving instruction in special

**Drill, alias overlearning.** There was a time when textbooks started each lesson with a list of new words, generally quite unrelated to one another, which the unfortunate pupil was supposed to learn by heart. Even after vocabulary frequency counts became fashionable the practice of imposed memorizing did not cease. It only really started to peter out when, first of all, it began to be realized that a language does not consist of words stuck together with grammar, like a wall made of bricks and mortar, but that it consists of phrases and, secondly, that there are less laborious ways of remembering phrases, or the words they contain, than just memorizing them parrot-fashion. Hence the modern technique of repeating words and phrases aloud in many different real contexts until they are learnt automatically and directly associated in the mind with the objects or actions they represent.

**Gadgets.** A gadget does not have to cost hundreds of dollars or be so complicated that it breaks down every time anyone looks at it. A blackboard and a piece of chalk are gadgets, and very useful ones. Textbooks are gadgets. Such simple things as a pocket mirror and a flashlight are almost indispensable gadgets for anyone beginning to learn the pronunciation of a new language. The more elaborate gadgets exist too, and undoubtedly they have come to play a pretty important part in language teaching, particularly in financially privileged parts of the world, such as North America and Western Europe.

Despite the impressiveness of certain new gadgets, the best aid to language learning is still—and probably always will be—the well-qualified teacher. Here in the Trobriand Archipelago of Papua, New Guinea, a teacher holds an open-air language class. (Australian Official Photo).





language teaching, particularly in financially privileged countries. Photos show multi-national personnel at SHAPE (Supreme Headquarters Allied Powers in Europe) laboratory equipped with individual sound-proofed compartments. Each student has his own tape-recorder for recording his pronunciation, taking dictation and such equipment is complicated and highly expensive, and most countries use simpler, though not less effective techniques.

In the United States, to take a rather extreme example, a good number of schools and colleges now have well-equipped language laboratories with sound-proofed compartments and tape-recorders for individual use. The tape-recorder, double or single channel, used with or without film-strips, and intelligently used, is an invaluable aid to language teaching, but it is expensive. So are language films, but so far language teaching films have somehow failed to measure up to the expectations and the requirements of language teachers. Disk recordings have, of course been in use for years and have been found useful.

Film strips are cheaper and more abundant than films. In the Netherlands the showing of film-strips to language classes is combined ingeniously with school radio programmes. Radio, indeed, is perhaps the most effective of all the audio-visual aids, and it is used in a number of different ways in different countries. In Australia, to take an example, it can follow the migrant to a remote up-country sheep-station and enable him to continue his lessons in the national language. In Sweden it is one of several factors used in a unique type of scheme for teaching foreign languages to adults. In the United Kingdom it is perhaps the chief agent for marketing English as a foreign language abroad. It is too early to speak of television. All that one can really say is that experiments in its use for language-teaching have begun and that the possibilities are immense.

**The Time Factor.** Do present-day curricula give school-children enough time to learn a foreign language? Elsewhere in this issue there is a discussion of the beginning age for language learning, which suggests that because modern language teaching has, in so many countries, been confined to secondary education, we are perhaps sacrificing some of the best years for language work. Important though it is, there is no need to discuss that subject further here. The question is whether enough time is given to language-classes in most schools even under the present restricted dispensation.

Experts are now inclined to think that no pupil can hope to do justice to the subject if he is only allotted three or four hours a week. He probably needs five or six. Educational authorities who throw up their hands and answer that there is no more time to spare in an already overcrowded schedule might reflect. The physics teacher or the chemistry teacher who asks for laboratory periods invariably gets them. Why should not the language teacher? The extra hour or so, spent more informally, with large classes split up into smaller groups, can, under the guidance of an imaginative teacher, be of very great benefit.

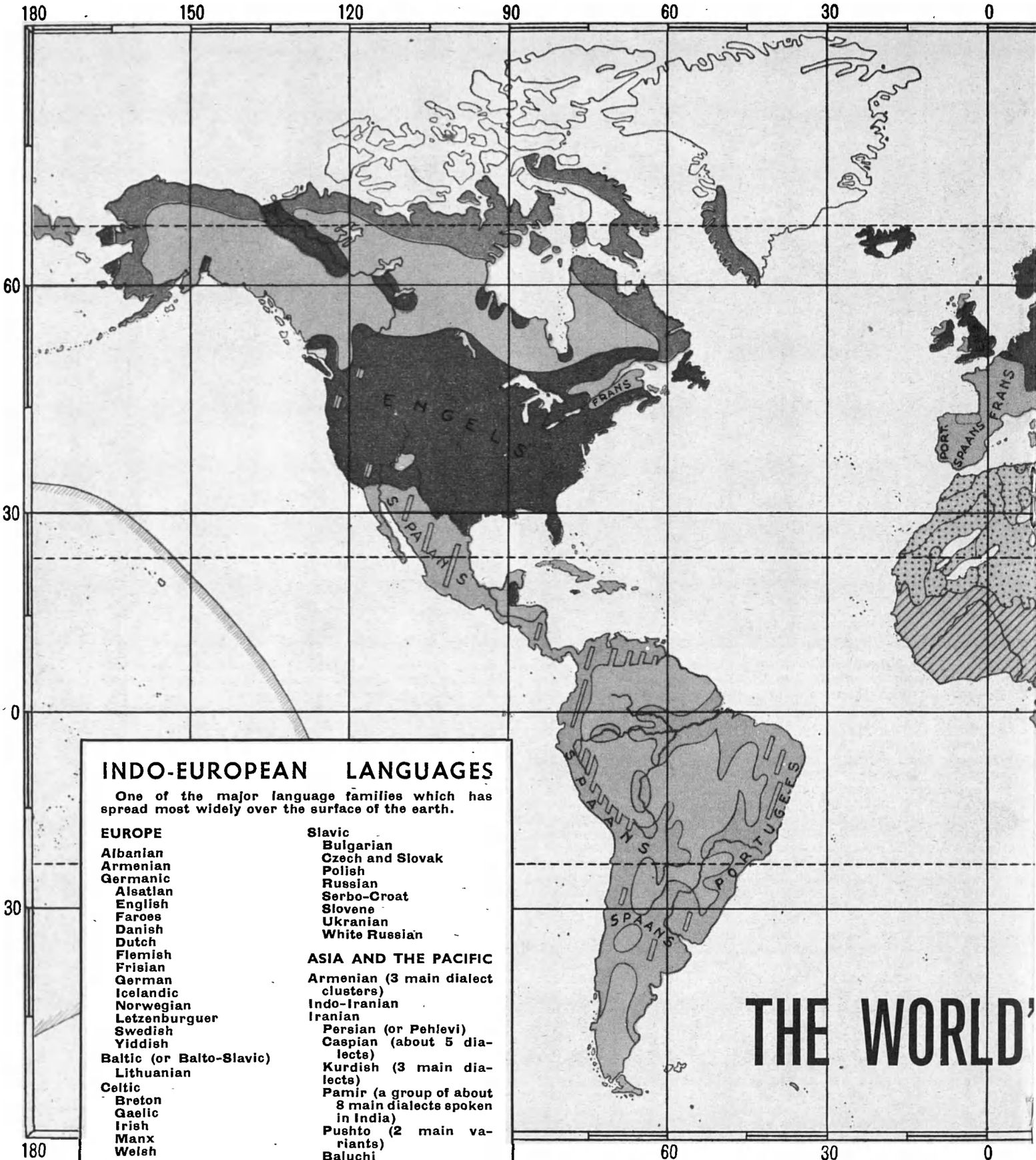
These then are some of the trends which have become apparent in contemporary language teaching. It is these trends that were most in evidence at Nuwara Eliya last August when language teachers from eighteen countries met under the auspices of Unesco.

In countries not given to over experimentation, and where language teaching is closely integrated into a traditional educational pattern that evolves slowly, there is as yet only moderate interest in these trends. Other lands, with greater needs for immediate practical results turn to new methods.

If space permitted, a discussion of current problems should follow any account of developments and trends such as this one. And the greatest of these problems is perhaps motivation. No one can accurately say how essential a factor this is in language learning, but certainly its importance is very great. One of the ironies of an educationally unbalanced world is that in vast areas the desire, or rather the imperative need to learn languages, is everywhere apparent, though qualified teachers, proper textbooks and adequate funds are lacking. Where teachers and money and books and mechanical aids of every kind are available, too often language classrooms are filled with solid rows of pupils, merely passive and not greatly caring whether they learn or not. And yet knowledge of a language cannot be poured through a hole in the top of a school-child's head; the will to learn is absolutely essential.

It should not be beyond the capacity of teachers to arouse that will. All the old bread-and-butter arguments are still valid and still perfectly respectable in a practical world. Today's argument, the modern, compelling argument, is the need for knowing and understanding other peoples in a shrinking world. It is for this reason that the conscientious language teacher has come to play at least as important a role as the teacher of history, of geography, or of civics in helping children to understand the world in which they live. And children, innately idealistic as they are, can quickly grasp the importance of language as a key to international understanding if it is put to them without mawkishness and with sincerity.

**F.H.W.**




# INDO-EUROPEAN LANGUAGES

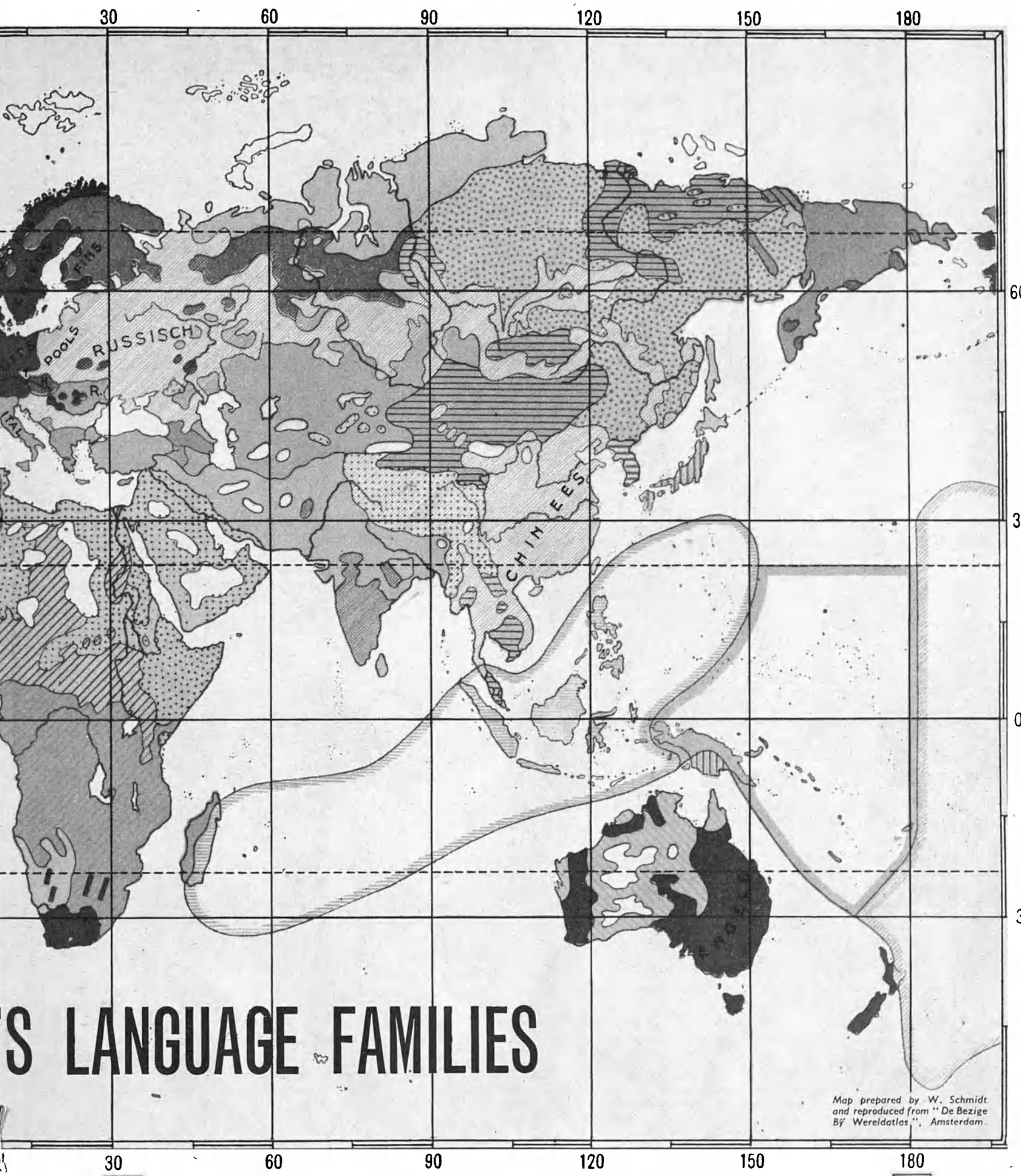
**One of the major language families which has spread most widely over the surface of the earth.**

**EUROPE**

- Albanian
- Armenian
- Germanic
  - Alsatian
  - English
  - Faroes
  - Danish
  - Dutch
  - Flemish
  - Frisian
  - German
  - Icelandic
  - Norwegian
  - Letzenburguer
  - Swedish
  - Yiddish
- Baltic (or Balto-Slavic)
  - Lithuanian
- Celtic
  - Breton
  - Gaelic
  - Irish
  - Manx
  - Welsh
- Greek
- Gypsy
- Romance
  - Catalan
  - French
  - Galician
  - Italian
  - Judaeo-Spanish
  - Portuguese
  - Provençal
  - Romansh (or Rhaeto-Romanian)
  - Rumanian
  - Spanish
- Slavic
  - Bulgarian
  - Czech and Slovak
  - Polish
  - Russian
  - Serbo-Croat
  - Slovene
  - Ukranian
  - White Russian

**ASIA AND THE PACIFIC**

- Armenian (3 main dialect clusters)
- Indo-Iranian
- Iranian
  - Persian (or Pehlevi)
  - Caspian (about 5 dialects)
  - Kurdish (3 main dialects)
  - Pamir (a group of about 8 main dialects spoken in India)
  - Pushto (2 main variants)
  - Baluchi
  - Ossete (2 main dialects spoken in U.R.S.S. Other languages spoken in the Turkestan)
- Indic
  - Marathi
  - Gujerati
  - Punjabi
  - Rajasthani
  - Western Hindi
  - Eastern Hindi
  - Oriya
  - Bihari
  - Bengali




# S LANGUAGE FAMILIES

*Map prepared by W. Schmidt and reproduced from "De Bezige By" Wereldatlas", Amsterdam.*

SEMITIC-HAMITIC LANGUAGES
- Semitic
- Hamitic

CAUCASIAN LANGUAGES

AFRICAN LANGUAGES
- Bantu
- Sudan regions
- Hottentot and Bushmen

PALEO-ASIATIC LANGUAGES
- Chuckchee-Kamychadal
- Ainu
- Yukaguir

DRAVIDIAN LANGUAGES

SINO-TIBETAN LANGUAGES
- Yenisei-Ostyak
- Tibet-Burman
- Tai-Siamese

EAST ASIAN LANGUAGES

AUSTRONESIAN LANGUAGES
- Indonesian
- Melanesian
- Polynesian

PAPUAN LANGUAGES

AUSTRALIAN LANGUAGES

AMERICAN INDIAN LANGUAGES

# TOO YOUNG TO LEARN A FOREIGN LANGUAGE ?

*by Theodore Andersson*

It is traditional in many countries to introduce the first foreign language at the beginning of the secondary school. Traditions are often valuable or picturesque and should be treasured. In education, however, it seems appropriate to re-examine our traditions periodically and I propose to re-examine this one.

Why bave foreign languages been introduced at the beginning of our secondary schools or later ? I can only surmise. Here are my conjectures, for what they are worth. It is grown-ups who prepare the education fare for our children. As those who have kept in touch with children know, grown-ups are notoriously lacking in imagination. They began their second language in the secondary school and therefore their children should obviously begin there. They also remember the study of a foreign language as a difficult and complicated business, clearly too difficult and complicated for young children.

This line of thought rests on the assumption that a foreign language is just another school subject, to be mastered by dint of hard work and mental discipline. This view does not in my opinion take into account adequately the fact that a language, particularly in the early stages is a skill, a skill involving the training of the auditory and vocal organs and indeed the entire behaviour of speech.

This "skill" aspect of the language, which is basic to any real learning of a language, that is, to the speaking of a language, is precisely what adolescents and grown-ups come by with such difficulty. A person who begins a foreign language in adolescence rarely learns to speak it without accent. Adolescents find the mimicking and facial contortions necessary to reproduce foreign sounds a little silly and they tend to be self-conscious about it. They put me in mind of Baudelaire's albatross. Ready to soar in intellectual flight, they are held captive on the narrow deck of a ship and waddle about clumsily and ludicrously.

The child, on the other hand, takes to a foreign language like a fish to water. Placed in a foreign environment, children can learn not only one bnt several languages with incredible ease and without accent. A British psychologist, J. W. Tomb, living in Bengal, bas cited the case of English children born in Bengal speaking Bengali with their nurses, Santali with the garden attendant, Hindustani with the house servants, and of course English with their parents.

Mr. E. V. Gatenby, who writes perceptively on this subject, observes that children don't use languages but language to communicate. He cites the case of the Turkish novelist Halide Edip who noted in her memoirs that she was twelve years old before she realized that she spoke two languages, English and Turkish. And the Canadian Prime Minister, Mr. St. Laurent, thought in his youth that English was the form of speech one used to communicate with mothers and French the form used to communicate with fathers.

The moral that Mr. Gatenby very properly draws from all this is : "Let the pupils bave a chance. Give them a teacher who knows tbe language thoroughly and will use it all the time. Let them start learning at the earliest possible age through pleasurable activities, with the minimum of formal teaching and the maximum use of the language in natural situations."

Let us glance a little more closely at the way infants and young children learn language. In their babbling stage infants have been observed to produce an amazing variety of sounds, not only sounds in their own language but also sounds of other languages and indeed sounds which may belong to no language. In fact, there is no reason to believe the very young child incapable of producing any sound in any one of the nearly 3,000 languages of the world.

If the child is able potentially to utter any sound in any language, why does he not retain this wonderful gift ? The reason seems to be that in addition to the joy of imitating and inventing sounds the child craves the joy of response. As he finds that the — oh, so limited — grown-ups about him respond only to certain sounds, he gradually discards the sounds which fail to elicit a response and which thus prove to be useless for communication. Gradually his phonetic range contracts until he finds himself hemmed in between the narrow walls of his own mother tongue.

What conclusions may be drawn from all this ? I believe that tentatively we are justified in establishing the following hypothesis : Children possess in infancy great potentialities for learning the language skills and these potentialities decline steadily throughout childhood, adolescence, and maturity. On the other hand, the rational or conceptual faculties, which are present in embryonic state in infants develop steadily through childhood, adolescence, and into maturity.

If this hypothesis is sound, the very first year of school is none too early to begin a second language. Every year's delay thereafter represents a loss of the most precious language-learning period. Differences in language aptitude, which in adolescents are so marked and so discouraging to teachers, appear to be negligible in early childhood. Indeed, a number of the teachers engaged in experimental teaching at this level in the United States report that there is by no means a dependable correlation between general intelligence and language aptitude. Some teachers report a better correlation between musical aptitude and language aptitude, but data in this field are as yet inadequate and careful research is needed.

What are the obstacles in the way of introducing a second language at the age of 5 ? One of the first objections raised is that the early exposure to a foreign language may interfere with the learning of the mother tongue. This fear is, in my opinion, groundless. At the age of 5 a child has had a four-year start in learning to speak his own language. In the first grade of school he has according to recent estimates an active vocabulary of about 2,000 words and an understanding vocabulary of about 24,000 words and is talking about as easily as the grown-up in his environment.

At school he is beginning to read and write, whereas for the first two or three years his exposure to the foreign language is aural and oral exclusively. Normally therefore there is no possibility of interference between one's mother tongue and one's second language. On the contrary, the stimulation of learning a second language and the resulting increase in linguistic competence is likely to benefit the mother tongue greatly.

A second objection which is frequently raised is that the addition of a second language crowds the primary-school curriculum, making it more difficult to do tbe teaching of the basic subjects, the so-called three R's properly. But the testimony of the primary-school teachers who have tried adding a language contradicts this objection. The evidence is that, if anything, the children do better in the three R's after they start to learn a second language.

A third objection is the only one which in my opinion has much validity: the lack of qualified teachers. There is of course a great scarcity of teachers qualified to teach foreign languages properly, especially in the early stages, where a maximum of artistry and enthusiasm are required and where a legitimate accent is essential. But the solution of even this difficulty has been suggested in some of the American programmes.

In the first place, when we really start looking for native speakers of French or Spanish — the two languages in greatest demand in the United States — we find a surprisingly large number of them able to teach young children or willing to learn. Secondly, there is the possibility of greatly increasing the exchanges of teachers which already exist on a small scale. And thirdly, so-called worksbops for the training of interested primary school teachers in a foreign language have in some places been successfully organized.

In Los Angeles, for example, an enthusiastic superintendent of schools announced in tbe spring of 1943 that Spanish would be taught on a city-wide basis starting in the Kindergarten. A workshop was organized in the summer, which has since then been continuous, summer and winter, for the training of teachers in Spanish. The programme has been very successful.

Most of the existing programmes are grounded in sound theory though there is also room for much improvement in the quality of teaching. Almost invariably the ear is trained before the tongue and the tongue is trained before the eye and hand. In Cleveland and Los Angeles, for example, the aural and oral training continues throughout the six years of the elementary school before reading and writing are begun. In my opinion reading and writing are in these places postponed too long. Secondly, tho important matter of motivation is usually well taken care of by the judicious use of games, songs, and plenty of action and dramatization. The classes in the early grades usually do not exceed 20 minutes in length but they frequently occur every day, Monday through Friday. Thirdly, the aims are usually defined clearly. The two principal ones are: (1) learning to speak the language

and; (2) getting to understand better the people whose mother tongue is being studied.

In some areas, notably in the Southwest and in the state of Louisiana, improvements in the social relations between different cultural elements have been nothing short of revolutionary. In many towns in Louisiana where children were formerly prohibited from speaking French in school or in the school yard the French children are now looked up to and respected for their knowledge of a language that all the children are trying to learn. Thus at one free stroke some 400,000 French-speaking citizens of Louisiana are being more fully incorporated into the life of the state and their social status is being greatly improved.

In conclusion let me describe briefly the twelve-year course I envisage as the ultimate goal of this trend. I divide it into four parts of three years each. The first three years are given over entirely to aural and oral drill in a large variety of ways, the emphasis on aural and oral work continues throughout the twelve years, but in grades four, five, and six training in reading and writing is begun, which is then continued throughout.

In grades seven, eight, and nine — when children are of an age to take an active interest in theoretical questions — the grammar of the language is analyzed. Structural patterns have become automatic by virtue of constant repetition with variations, but children have now reached the age of conscious analysis.

Grades ten, eleven, and twelve seem like the proper time to study, in more systematic fashion than before, the history, geography, civilization, and literature of the people whose language is being studied. The students now possess the instrument necessary for doing this — they can understand, speak, read and write the foreign language with reasonable ease and accuracy.

# THE TRANSLATING MACHINE

## helping to solve some of the language problems of science

*by Edwin Holmstrom*

ONE major obstacle to the internationality of science is the diversity of languages, as a result of which half or more of what is published is useless to half or more of the world's scientists, technologists and medical men.

The actual proportions so lost are very difficult to estimate statistically, but a rough idea, for science as a whole, can be gained from the unshaded areas in the diagram published with this article.

The proportion varies, however, from one branch of science to another and changes in the course of time. In chemistry, for instance, German was the leading language until shortly after the First World War, when English took its place. French at one time came second, but after 1914 it ranked only fourth and now Japanese competes with it for fifth place. Nearly seventy years ago Russian reached fifth place among forty languages, but it is now competing with German for second place.

All that part of scientific literature which is represented by the areas left unblackened in the diagram is unexploitable, unless either it is translated, or the ability of scientists to read the appropriate foreign languages is increased above the level here assumed, or scientific authors and publishers can be persuaded to make use of languages more widely understood than their own. Let us briefly consider each of these alternatives in turn.

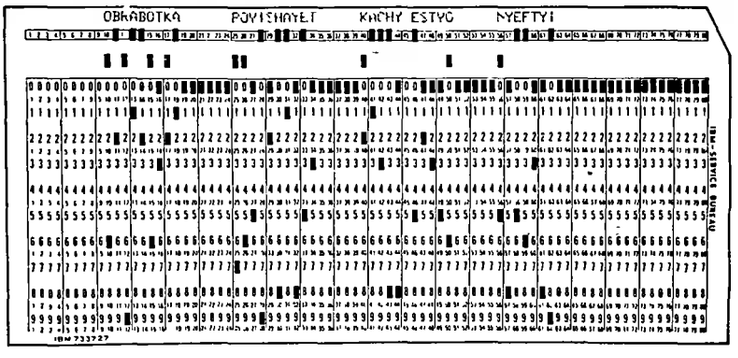
Technical translating is slow, difficult and uncertain. Since nobody can translate what he does not understand, it follows that the translator must be himself a scientist as well as acquainted with the language he is translating from, and competent as an author in the language he is translating into. Especially where the less common languages and the more recondite specialities of science are concerned these qualities are rarely found in perfect combination.

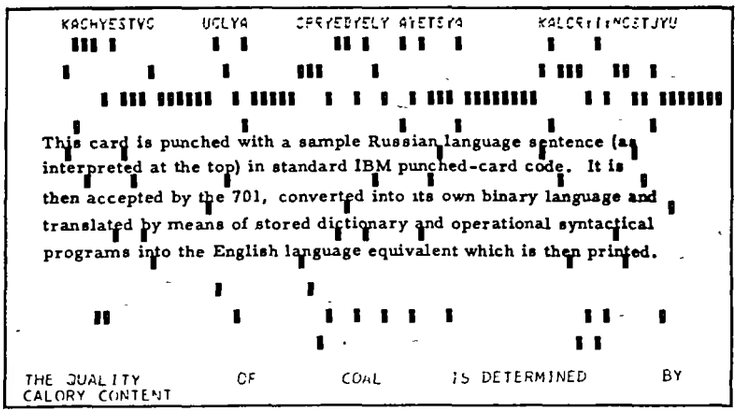
But, from the consumer's point of view, translating is necessarily expensive. Where an original journal can be bought for the equivalent of perhaps 50 U.S. cents, a translation of a scientific article in it, made by a specialist, will cost perhaps $50. In other words it is not worth paying to have done unless there are grounds for supposing it will be worth a hundred times as much to the scientist who wants it as something on the same topic in his own language. In some countries, to spread the cost of translating, bureaux exist in which manuscripts of unpublished translations are filed and from which copies are supplied on payment.

The more technical a translation, the less the part that the linguist as such and the greater the part that the subject specialist can play in making it a good one. This being so, quite promising experiments have been made in replacing the linguist by electronic machines, built on the lines of mathematical computers.

Such machines are able permanently to register sequences of code patterns of electrical impulses corresponding to the different letters of the alphabet, fed into them by operating a typewriter keyboard. If two equivalent words in different languages have been so registered at the same time, the "typing" of one of these at any future time will cause the machine automatically and instantaneously to type out the other.

If that were all, we should have a mechanical dictionary. It is possible, however, to go considerably further. The machine can be made to type out code letters which indicate how the words fed



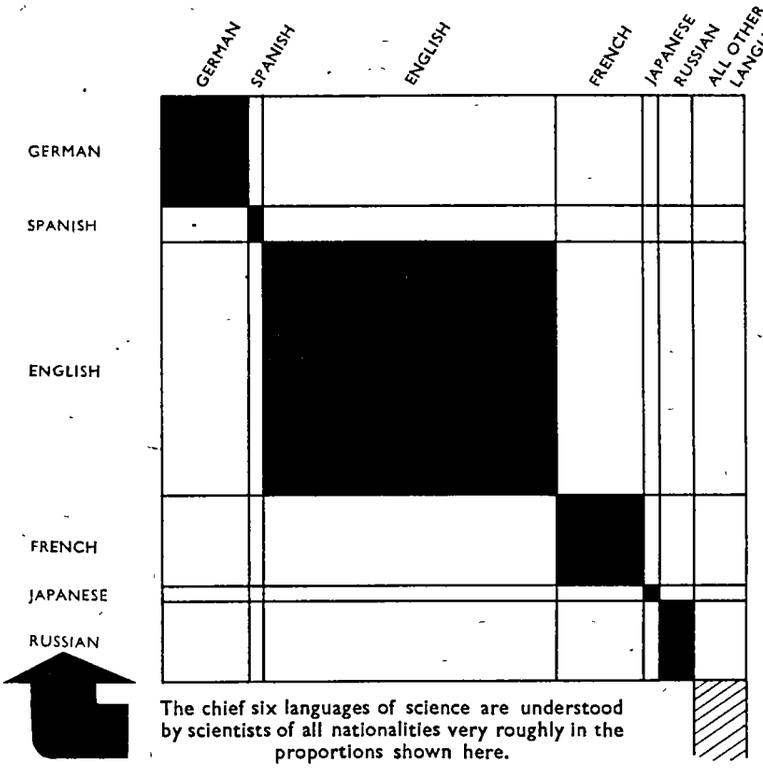

## FROM RUSSIAN INTO ENGLISH IN TEN SECONDS

On January 7 the International Business Machine Corporation, producers of the world's largest electronic calculators, gave the first public demonstration of a new type of translating machine at work (Photo left). At the demonstration, held in New York, the machine was given various sentences in Russian for translation into English One of the sentences was: "Myezhdunarodnoye ponyimanyiye yavlyayetsya vazhnim faktorom v ryeshyenyiyi polyityichyeskyix voprosov." Ten seconds later the machine translated in English "International understanding constitutes an important factor in the decision of political questions. Above, the punch card which translated "The quality of coal is determined by calory content" from the Russian. Below left, card showing Russian sentence "Obrabotka poyishayet kachyestvo Nyeftyi." Machine translated this as "Processing improves the quality of crude oil."

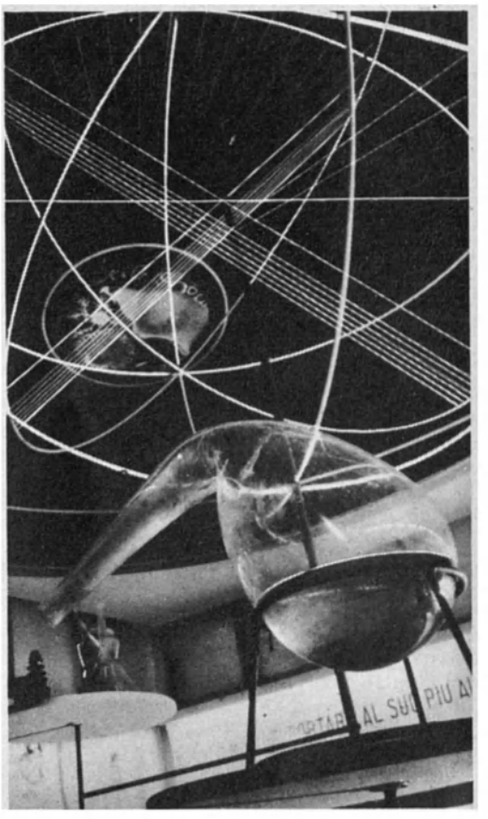
The translating arrangement is mostly the work of Dr. Leon Dostert, chairman of Georgetown University's Institute of Languages and Linguistics, and Dr. Cuthbert Hurd, Director of IBM's Applied Science Division. Dr. Dostert, an American of French origin first achieved prominence in the field of language translation at the time of the Nuremberg trials. He was one of the experts particularly responsible for setting up the simultaneous translation system now currently used by international organizations. The language-teaching methods used under his direction at the School of Foreign Service of Georgetown University are among the most modern to be found anywhere in the world. (Photos A. P.)

The shaded areas represent the relative amounts of literature that can be understood without translation. Unshaded areas — over two-thirds of the whole — represent literature which cannot be read unless translated. The widths of the rectangles are proportional to the volume of scientific literature published in each language, and their heights are proportional to the numbers of scientists able to read each language. English, for instance, is the medium of publication for more than half the literature, but as the diagram shows can be read directly by less than half the world's scientists.

Current scientific literature is published mainly in six languages and is distributed between them very roughly in proportion to the widths of these columns.




The chief six languages of science are understood by scientists of all nationalities very roughly in the proportions shown here.



into it in the language of origin are grammatically modified or inflected. It need not be limited to single words but may be "taught to recognize" a whole unit phrase in one language and type out the corresponding, syntactically quite different, phrase in the other language.

Though the machine cannot produce by itself an intelligible translation—let alone one in good literary style—when a text in one language is "fed" into it, it types out a string of words, alternative meanings of homonyms, symbolic letters and odd looking phrases which a specialist in the subject of the text will have no difficulty in editing and turning into an acceptable rendering, even though he may know nothing at all of the original language.

Though it is more likely to be in handling very out-of-the-way languages that such machines might find a possible use, the following example so rendered from French into English may be of interest. Here A is the original text, B is what the machine typed out, and C is what the subject specialist, not knowing French, turned it into. (v means "vacuous" or meaningless; m means multiple, plural or dual; z means "unspecific"; the sign / denotes the point of separation of semantic elements.)

A. Il n'est pas étonn/ant de constat/er que les hormone/ s de croissance ag/issent sur certain/es espèce/s, alors qu'elles sont in/opér/antes sur d'autre/s, si l'on song/e à la grand/e spécificité de ces substance/s.

B. v not is not/step astonish v of establish v that/which? v hormone m of growth act m on certain m species m, then that/which ? v not operate m on of other m if v one dream/consider z to v great v specificity of those substance m.

C. It is not surprising to learn that growth hormones may act on certain species while having no effect on others, when one remembers the narrow specificity of these substances.

Clearly it is better, if possible, for a scientist to be able to read foreign articles himself than to have to depend on translations. In the Scandinavian countries, the Netherlands, Switzerland and some others, almost everyone has had to learn to do this, but even in these countries few know Russian or Japanese, and elsewhere ability to read English, German or French is far from universal.

In theory at least, proposals to encourage the use of one particular language, whether natural or artificial, as the medium of scientific communication in all countries have much to commend them. Science, however, is a branch of culture and it is natural for each country to feel that an efflorescence of its own culture may best be encouraged through the use of its own language. The problem is a difficult one and too large to be discussed here.

All these questions, and many others, are being studied in the *Report on Scientific and Technical Translating and Related Problems* which Unesco is preparing for publication in 1955, utilizing the valuable comments, suggestions and information which are now being received from some 250 experts in 29 countries to whom a draft of the Report was sent. Its final chapter, "Terminology and dictionaries", deals with a problem to which the Department of Natural Sciences has for some years past been devoting much attention, a problem whose importance deserves to be stressed here.

It is ideas, not individual concepts, that have to be translated, and it is the phrase, not the individual word, that is the unit of language. In point of fact it very seldom happens that an expression in one language has its *exact* equivalent in another. Their central meanings may or may not be the same, but nearly always the penumbra of meaning is different. In English usage "welding" is differentiated from "soldering", whereas the French word "soudage" covers both. "Concrete" in English and "béton" in French, both mean a mixture of large and small stones and sand stuck together with cement or "ciment". But in French the word "ciment", is also commonly used as a synonym for "béton".

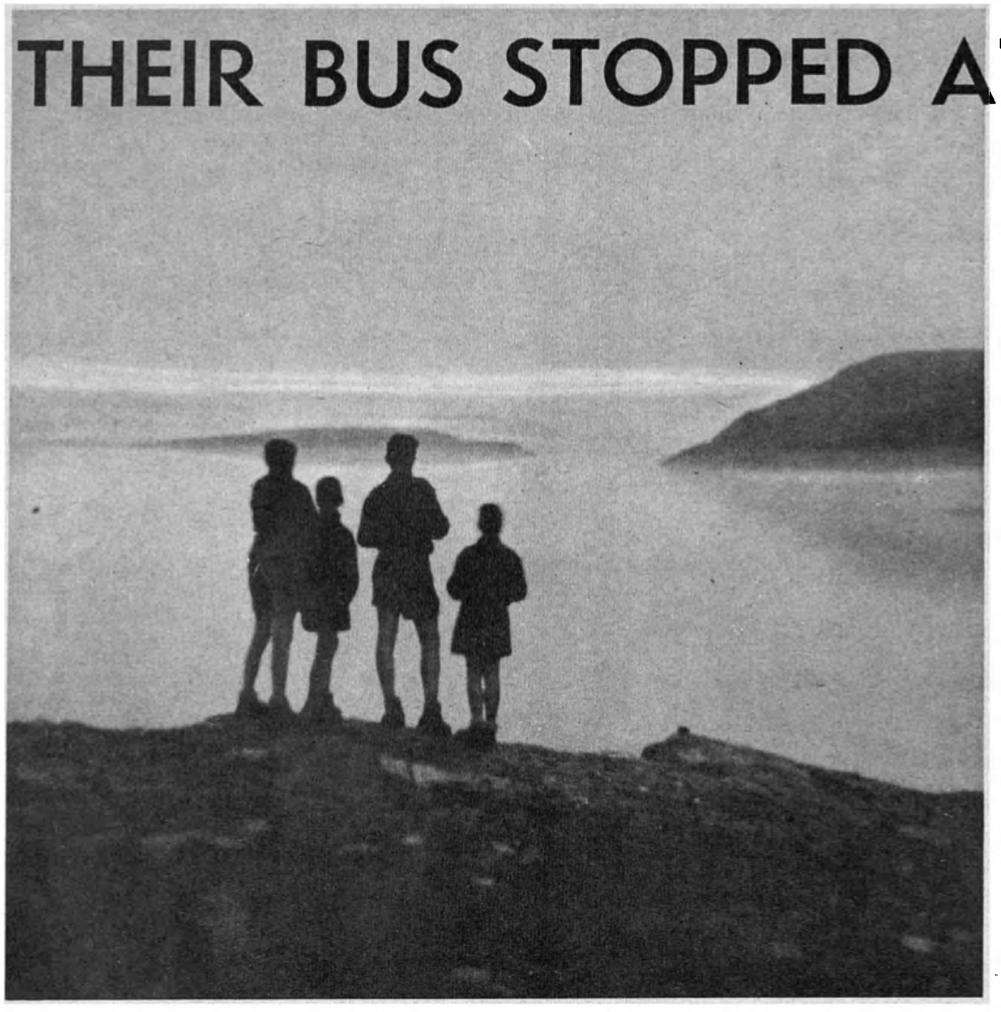
These are rather superficial examples, but others like them — which may have serious consequences, even financially — occur in every branch of technicality. Ideally, to eliminate such misunderstandings, the translator should be so accustomed not only to reading but to himself reasoning about the technical subject-matter in both languages, that the nuances of the special terms are second nature to him. In very specialized fields, and for the less common languages, that, however, is a counsel of perfection.

This means that dictionaries, although dangerous, are a necessity. To make them safe it is essential that they should indicate not only the nearest equivalents of the technical terms, but just how inexact the equivalences are, enabling the translator to introduce some qualifying word or turn of phrase to correct the inexactitude of meaning that would otherwise be conveyed.

The ultimate remedy is standardization of the meanings of technical terms on the basis of definitions agreed upon by the specialists concerned in each language. Unesco is about to publish a classified bibliography of existing authoritative glossaries of this kind in single languages complementary to its *Bibliography of Interlingual Scientific and Technical Dictionaries*, a third edition of which is now being printed. The latter contains references to about 1,630 such works under nearly 400 subject heads, interconnecting 72 languages.

Standardization in the full sense mentioned above must inevitably be a slow process. Meanwhile the production of more and better special dictionaries is a matter of urgent international importance. This being so, the policy which Unesco is pursuing is that of helping and encouraging the international organizations concerned with each field of science and technology to produce dictionaries which shall contain a mixture, typographically distinguished, of terms and definitions which are fully standardized, terms which are recommended by those organizations, and terms — including regional variations — which fall into neither of these categories but are liable to occur in the technical literature.

# THEIR BUS STOPPED AT LAPLAND



**By *Paul Normand***

THERE were twenty-seven of them, twenty-seven Parisian boys who three years ago came to an important decision: "In 1953", they said, "we're going to go to the North Cape in Lapland." As a rule such resolutions don't get Parisian boys any further than the city limits or the *grande banlieue*. But this time it was different. Not only did the boys go off but they managed to cover 7,000 miles during their summer vacation and got to know a lot about eight countries in a way that no geography book or documentary film could have shown them, and yet the oldest of the group was hardly 15 and the youngest only nine!

How did they do it? It wasn't too easy, but then it wasn't too difficult either. They bought the chassis and engine of an old truck, had a new body built on it by a friendly country mechanic and helped him to fit it out and then painted it themselves. But, first of all, they were members of a French youth movement called "L'Association du Compagnonnage Français".

The "Companionship" movement is a non-profit organization which seeks to foster the idea of international understanding and friendship by encouraging groups of boys to visit foreign countries where they can meet young people of their own age. The organization leaves much to the initiative of the boys and works to develop a team spirit by encouraging members to take part in projects as a group. All trips are conceived as mobile classrooms.

Although the journey to the North Cape beyond the Arctic Circle was led by one of the Association's organizers, a Paris schoolteacher, M. Pierre Tuc, it was the boys themselves who took charge of all the preparations for the "caravan" including transport, financing and outfitting. M. Tuc went along as driver, guide, teacher and friend.

Raising the money for the truck and for the other travel expenses wasn't easy and called for lots of ingenuity and effort—as it was meant to do. Some of the boys sold mushrooms they had picked in the country; others sold their association's newspaper. On May 1 they all became flower vendors, selling lilies of the valley which everyone in France buys on May Day. In addition they charged entrance fees for sports events they organized. One of the highlights of their fund-raising campaign was a special programme of films produced and acted by themselves.

The boys received some financial help from their parents and were also eligible for the holiday camp group allowance provided by the French Government. But the main effort was their own. They even managed to raise enough money to help defray the expenses of ten of their comrades whose parents could afford to pay nothing at all.

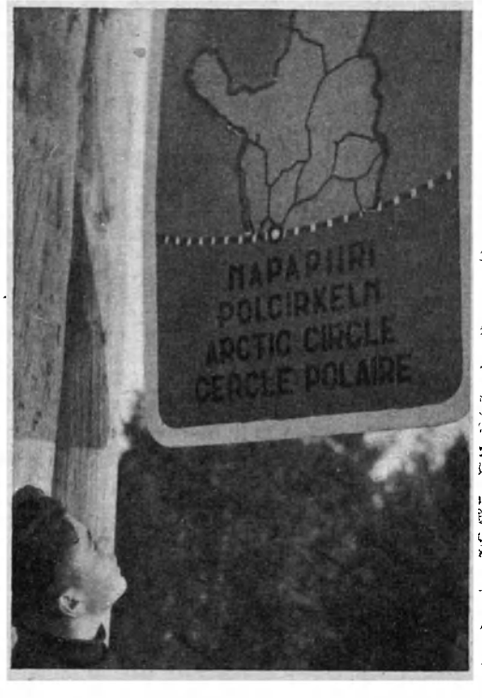
It took two years to prepare for the great Arctic trip. But in the meantime the boys managed to visit a few countries closer at hand. One summer they boarded an old motor bus and toured Switzerland and Austria. During the winter they went off on long hikes. Last Easter they spent twelve (waterlogged) days camping in Normandy.

Finally all was ready for the Arctic adventure. The great day came when the bus they had helped repair and equip pulled out of Paris and headed north with Professor Tuc at the wheel. Twenty-seven young travellers sang lustily behind him. Each day brought them 150 to 200 miles nearer their destination. Each day classroom geography lessons came alive as they saw the cities they had studied in school and spoke with their inhabitants. At the evening halt they pitched their tents and cooked their meal. The next morning they were off again on the next stage of their trip to Lapland.

The "classroom on wheels" was equipped with everything needed for lessons and for living. Benches were fitted along each side of the coach and between them was a folding table. It had lockers to hold camping equipment and personal belongings, a first-aid kit, and bookshelves for the group's library. Lessons, of course, were informal. Notes were taken during the day, and at the evening halt the boys exchanged their impressions of the day's travel and looked up facts about the places they would see the following day. Then they set down this information in their notebooks, together with their day-to-day accounts of the journey. The artists among them illustrated the notes with sketches and drawings.

Most informal of all were the language classes. Meetings with other young people (also on holiday) in Germany and Denmark gave the boys many chances to practise their German and English, and in Denmark they once had to use Spanish to make themselves understood. But with the young Finns

IT WAS A THRILL FOR THESE PARIS SCHOOL-




# The French 'Companions' Youth Movement

The "Association du Compagnonnage Français" is an organization which seeks to strengthen the ties between different peoples by creating permanent contacts between children. The Association's 2,000 members come from Paris, Lyons, Bordeaux, Reims and other large French cities, children being grouped in "caravans" of 24 "companions" led by an adult. Everyone in the caravan has a job to do, taking care of such things as finance, equipment, information or education. Several times monthly the caravans make excursions into the countryside. In winter they visit the mountains and at Easter hold camp; to prepare and practise for a visit to another country in summer. In addition to the physical training—hikes, camping, mountain excursions, ski-ing—the children are required to make a good showing in class and are judged on their school reports. Cultural development is aided by such activities as acting and choral singing. At least one quarter of the cost of each outing or holiday must be raised by the companions themselves, the parents or the Association helping with the remainder. Non-political and non-denominational, the Association strives to bring about a thorough intermixing of children from every section of the community and then to bring them in contact with children from other lands.

and Lapps they met towards the end of their journey north, they had to resort to sign language. But they managed all right and even had some fun doing so—as boys would. For young boys can achieve "international understanding" in a host of ways—swapping badges or other souvenirs, or just playing a game of ball in which everybody can join. The trip though did make them see one thing clearer than ever: how important it is to know at least one other foreign language.

The whole journey, to all the boys, was an event, filled with daily surprises and wonderment. Each had his own story to tell his parents and friends when he got back to Paris. Jean-Pierre Beytout, a 13-year-old lad who wants to be a chemist, told anyone who would stop to listen how the reindeer and the Laplanders live, about the great pine forests and the stretches of lonely steppe he had seen.

The caravan's journalist and 14-year-old man of letters, Jean-Jacques Jaussely, described Lapland as "a combination of the Far West with its log-cabin villages, the Far North with its lakes, its mountains, its forests exploding with colour, its Laplanders with their cone-pointed bonnets, their heavy boots and many-coloured costumes, their great herds of semi-wild reindeer..."

"We met trappers, salmon fishers, lumbermen and pioneer farmers living in houses built of rough-hewn logs set in forest clearings," he wrote. "We often wondered if we were in Canada or in the land of the Mohicans near one of the American Great Lakes. And we wouldn't have been a bit surprised if one of Fenimore Cooper's Indians had suddenly leaped out at us from the undergrowth."

The oldest boy in the group was Michel Clavelloux, a future engineer. He has bagfuls of amusing stories to tell about their adventures. With a loud guffaw, he explains, for example, how his friend Jean-Pierre was the victim of his own gluttonous appetite. Gulping down a huge mouthful of grated cheese in a Stockholm restaurant he turned a quick lobster-red and choked—the cheese was horse-radish!

He also tells the story about the Finnish boy they met on a beach. He liked the French so much and was so overjoyed to meet a group of Parisian boys that he rushed off to a shop with his swimming trunks dripping wet, crying "Francos! ooh, Francos!" and returned loaded with sweets.

The trip is over now but the memories remain. And, in addition to the memories each of them will cherish for years to come, they have all brought back some souvenir: a Lapp hat, a reindeer skin, reindeer antlers, or the alarm clock that rang at 10 o'clock every night (in broad daylight) to remind them it was time for bed. The most exciting trophy of all though, is the huge wolf-skin a Laplander sold them.

Back in Paris now, there are new plans a-brewing ... Canada ... the United States ... the South American Andes ... But Professor Tuc is suggesting a slightly less ambitious trip—just a tour around the entire Mediterranean coastline by road. This would be a combined study-tour and holiday for three months.

So while Jean-Pierre, Michel, and Jean-Jacques are already pouring over the map of North Africa, Professor Tuc is counting figures and adding up his worries.

Because you see they haven't quite finished paying for the motorcoach yet.

BOYS TO REACH THE ARCTIC CIRCLE AFTER THEY AND THEIR " MOBILE CLASSROOM " HAD CROSSED BY FERRY FROM DENMARK TO SWEDEN.

# YOUTHFUL ADVENTURERS IN SCIENCE

*by*
**Gerald Wendt**

HOLLAND. — A Hobby Club in Amsterdam watches a demonstration of a voice and sound recorder with which they can record and hear their own voices. Some of the members will then build their own recorders from spare parts and supplies which they buy with their savings. Hobby clubs are popular in Holland. Most are devoted to radio techniques, photography, chemistry, biology and physics but also include carpentering, metal-working, drawing and the building of models. They obtain some financial support from Dutch industries. The demonstrator in the picture is Mr. Leonard de Vries who has written a handbook for Unesco on the organization and activities of science clubs, (not yet published.)

ALL children are born explorers. Before they can talk they explore the world around them, looking, feeling, listening, tasting. They explore their own bodies, then their clothes and toys, then the room around them. They learn by experiment, not by words. Later they ask endless questions. The world is mysterious and wonderful to them, and their curiosity is a natural human impulse. It is the same impulse that gave mankind all its discoveries and all science.

It is a precious source of pleasure and of understanding for a lifetime if it is kept alive. But there is much to learn and schools must compress it all into a few years. And so children soon must learn from books and from teachers who tell them the answers. There is not time to explore, to discover, to prove what the teacher or the book says. So, too often, the instinct to explore is lost and the child becomes a docile learner who can memorize his lessons without thinking and without questions. Such children lose both the joy of exploration and the ability to face gladly the many problems that life brings and that cannot be answered from books.

Many modern schools, especially in the advanced countries, provide workshops, laboratories and field trips under the supervision of a teacher who does not teach so much as he stimulates the children to learn for themselves. They study the plants and animals of their locality under the conditions of nature and soon grow their own plants and raise their own pet animals. They make their own equipment in the workshop and do their own experiments in electricity, with light and sound, or in chemistry. They learn accurate observation, learn the laws of nature by discovering them for themselves and, above all, learn to think with precision. Indeed, they acquire the habit of research which is the very essence of science.

But in many countries the official curriculum does not yet provide such opportunities, partly because laboratories are expensive and partly because busy teachers have no time for such methods. There the science club has its place. The boys and girls organize it informally under the guidance of an older person, who may be a friendly teacher or a graduate of the school, a physician, sometimes even a priest or a minister, or perhaps some parent who enjoys scientific experiments. They can often improvise their own equipment and materials and always work together in a spirit of adventure and constructive play. Some clubs are made up of young children in the primary school, some do more advanced work based on their studies in secondary school, and others are composed entirely of adult amateurs who find relaxation and pleasure in scientific experimenting.

There are such clubs in many countries, perhaps in all. And there are clubs in almost every kind of science. A large number are nature-study clubs, whose activities include trips to the woods and fields, to the ponds and streams, for the collection of plants and the observation of animals living in the wild. Some specialize in birds or butterflies, some in snakes or even in worms. Most of them start their own gardens for wild flowers, for mosses or for edible vegetables. Others conduct aquaria for the culture of fishes or terraria for worms, small reptiles or insects.

Closely related are the agricultural clubs that study the best methods of farming and raise their own food crops or domestic animals. These children have more time to learn than their parents do and often teach their fathers new tricks in farming and even their mothers new ideas in housekeeping.

But older youngsters, and especially boys, are more likely to organize clubs in technical subjects such as model airplanes, or railroads or automobiles, or clubs that build radio receivers or even transmitters and conduct programmes for their village or their neighbourhood. Often the boys become inventors and are led to make a thorough study of the sciences that are the foundation of their hobbies. They become the best students of physics and chemistry in their schools.

Another type of club, in industrial cities, makes trips through factories, mines, railroad shops and often builds small models of their processes and structures. For this, chemical plants such as petroleum refineries, dye works and drug plants are especially interesting. Other clubs often specialize in building demonstration apparatus for classroom use and thus help the teacher.

In the United States there are more than ten thousand science clubs with annual competitions among them and many successful public science fairs at which the members exhibit their work. They are aided by Science Clubs of America, which provides helpful materials, such as project lists. (1). There are several hundred clubs in India. In Holland, Belgium, Sweden, Germany, Finland, there are active nature clubs some of which undertake international summer camps.

If older persons are not attracted to science it is because in their school days science was a "discipline". But the youth of today realizes that the instinct to explore is natural and that the creative activities of amateur science and hobby clubs are not only fun but just as satisfying as amateur expression in art.

(1) *Clubs may obtain such material by writing to Science Clubs of America, c/o Science Service, 1719 N Street N. W., Washington 6, D. C., U.S.A.*

INDIA. — A girl in the science club of the Lady Irwin Secondary School for Girls at New Delhi has set up her own testing apparatus and is using limewater to show that her exhaled breath contains carbon dioxide. Other members of the club watch the test and take their turn. Miss K. Sen Gupta, Principal of the Lady Irwin School, has written and published an illustrated "Handbook for Science Clubs in India" for Unesco, which can be obtained by writing to the Unesco Science Co-operation Office, C.S.I.R. Building, Old Mill Road, New Delhi.


UNITED STATES. — The sound from a musical broomstick is playfully analyzed with an oscilloscope. There are more than fifteen thousand science clubs, with more than 300,000 members, enrolled with Science Clubs of America, and there are affiliated clubs in 48 other countries. Once a year most clubs give an exhibition of their work and in 26 states there are state science-club fairs. For the entire nation there is an annual "talent search". In 1952, 2,264 boys and girls competed in examinations for ten university scholarships, worth $11,000, donated by an industrial corporation.

BRAZIL. — Prof. Alberto Mello explains the operation of an electric distribution panel to members of a science club sponsored by the Sao Paulo Section of the Brazilian Institute for Education, Science and Culture, the National Commission for Unesco. The objectives of the club are to "train its members in scientific techniques and methods, to serve the State and the nation, and to stress the importance of science in everyday life". The Institute is organizing a series of clubs in various sciences and in several cities of Brazil. Prof. Jayme Cavalcanti, Director of the Faculty of Medicine at the University of Sao Paulo, has said : " The teaching of science in many of our schools is still too bookish. There is too much theory and almost no laboratory work. At the clubs the opposite is true, and the student's enthusiasm for science develops tremendously when he can take the initiative and carry out his own experiments."

GERMAN FEDERAL REPUBLIC. — Members of the German Youth Society for the Study of Nature, at Lüneberg-Kalkberg, are fascinated as an expert prepares a bird that is to be stuffed and mounted. They learn to do this work themselves and prepare their own exhibits. The Nature Study Clubs in Germany enjoy exploring the fields, woods and beaches, especially in their summer camps. They also exchange visits at camps and on hikes with the members of Dutch, Belgian and Swedish nature study clubs. The International Union for the Protection of Nature is co-operating with them.

# THE DAYS OF OUR YEARS

## Has the time come to change our present calendar?

**1st Quarter**

| JANUARY | | | | | | |
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| 8 | 9 | 10 | 11 | 12 | 13 | 14 |
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| 22 | 23 | 24 | 25 | 26 | 27 | 28 |
| 29 | 30 | 31 | | | | |

| FEBRUARY | | | | | | |
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| MARCH | | | | | | |
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| 24 | 25 | 26 | 27 | 28 | 29 | 30 |

**2nd Quarter**

| APRIL | | | | | | |
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| MAY | | | | | | |
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| JUNE | | | | | | |
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**3rd Quarter**

| JULY | | | | | | |
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| AUGUST | | | | | | |
|---|---|---|---|---|---|---|
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| SEPTEMBER | | | | | | |
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**4th Quarter**

| OCTOBER | | | | | | |
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| NOVEMBER | | | | | | |
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| DECEMBER | | | | | | |
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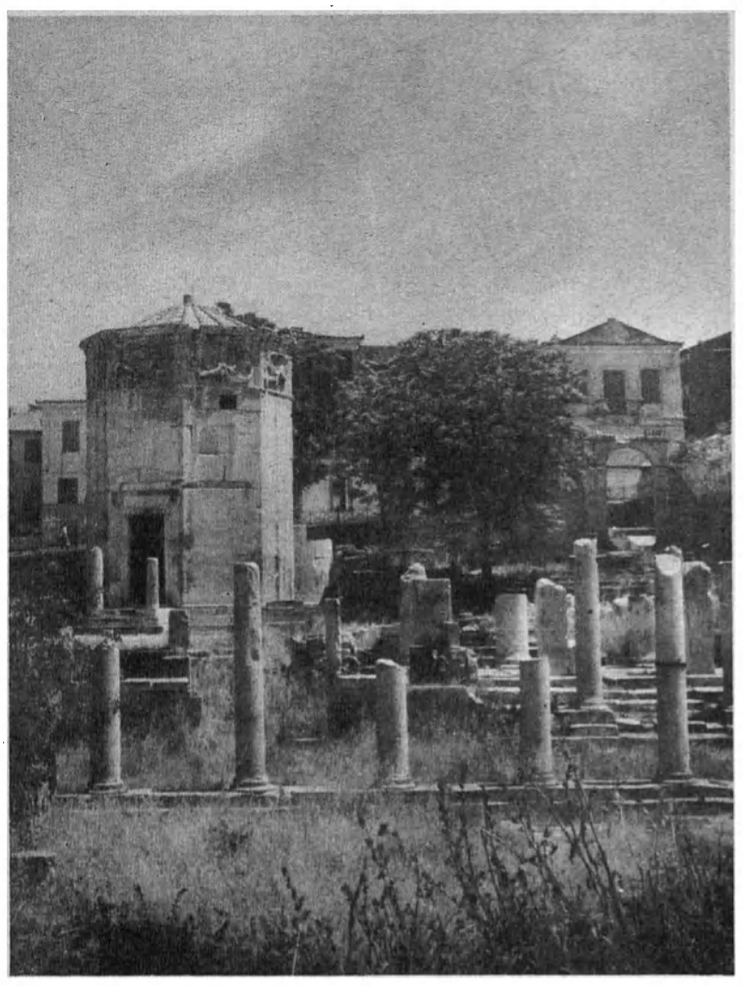
| 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| 24 | 25 | 26 | 27 | 28 | 29 | 30 W |

Worldsday, (a World Holiday), W or 31 December (365th day), follows 30 December every year. The Leapyear Day, (another World Holiday), W or 31 June follows 30 June in leap years.

## THE WORLD CALENDAR

In this stabilized and perpetual Calendar:

- ★ Every year is the same.
- ★ The quarters are equal: each quarter has exactly 91 days, 13 weeks or 3 months; the four quarters are identical in form.
- ★ Each month has 26 weekdays, plus Sundays.
- ★ Each year begins on Sunday, 1 January; each working year begins on Monday, 2 January.
- ★ Each quarter begins on Sunday, ends on Saturday.



AN ANCIENT TIME-KEEPER was the Tower of the Winds in Athens (left). Before the door once stood a sun-dial. A water-clock within told time in cloudy weather. In one form of such clocks, water dripped through a tiny hole at the bottom of a jar exposing marks telling the hours. At right, two Borneo tribesmen measure the shadow cast by a stick of fixed length at noon on successive days. When the shadow begins to shorten from its maximal length the time for preparing the land is near at hand. (Photo left: Copyright R. Viollet; right: British Museum).

THE earth on which we live is a globe, spinning around on its axis once a day, revolving in its great orbit around the sun once a year, and with the moon revolving around the earth once a month. It is not an accident, nor is it good planning, that these three motions fit so neatly into our time-scale of days, months and years. The truth is that the motions are what they are, and have been for countless millions of centuries, determined by celestial forces since long before man appeared on the earth. It takes just a day for the earth to turn once on its axis because the word was made to fit the motion. A day is defined as the length of time it takes for that rotation. So, too, the words "month" and "year" were made to express astronomical motions that man cannot alter.

Since those three independent astronomical motions are beyond human control, we must take them as they are. It is awkward that they are not related to each other in any simple numerical way. It would be much simpler if they were arranged by the decimal system, for instance, so that there were ten days in a month and a hundred days in a year. Or perhaps by the dozen, with twelve days in a month and twelve months in a year. But nothing can be done about that. The fact is that the moon makes its circuit around the earth in 29 1/2 days, while the earth makes a complete circuit of its orbit in close to 365 1/4 days. Even without the fractions, these are odd numbers and there is no simple relation between them. That is the fundamental problem of the calendar, with which men have struggled for thousands of years.

Days must be counted and for human affairs must be arranged in some sort of order. There must be established periods for business, for the seasons and for holidays and holy days. But the day does not fit either the period of the moon or of the sun, the month or the year. Most ancient peoples in all parts of the earth originally chose the motions of the moon as the basis of a calendar, probably because the moon's motion is easier to observe. So the Babylonian and Egyptian calendars of six thousand years ago were based on periods of the moon, and the Chinese calendar four thousand years ago also. In ancient Greece, every month began with the full moon but the year was counted independently as 365 days.

The Romans combined the two. For them the year, of 365 days, was basic and they gave it twelve months, irregular in length, and not exactly related to the moon's motion, as we do now. Then Julius Caesar, in 45 B.C., allowed for that extra quarter-day in the true year by giving every fourth year 366 days, and thus established "leap-year". That made the "Julian calendar" which was used into modern times.

But it was not accurate enough. The year is not exactly 365 1/4 days long. It is 365 days, plus 5 hours, 48 minutes and 45.51 seconds. That is 11 minutes and 14.49 seconds less than 365 and one-quarter days. That is not much, but is enough to amount to 19 hours in a century and in 1,000 years to make the calendar about a week behind schedule.

This is precisely what happened under Julius Caesar's calendar. By the year 1582 A.D., the vernal equinox, when the sun begins moving northward again and so marks the first day of spring (autumn in the Southern Hemisphere), was 10 days late. It came on March eleventh, although the Council of Nicea of the Roman Catholic Church had decreed in 325 A.D. that it was to fall on March twenty-first. There was nothing to do but to correct the calendar by taking out ten days. This was logically and conscientiously done by Pope Gregory XIII. He directed that the day after October 4, 1582, should be called October 15. Thus the present, or Gregorian, calendar was established.

It was immediately adopted by all Roman Catholic countries but was resisted by both the Protestant and the Eastern nations. Thus for several centuries there was a difference of ten days (and later even more) in the two systems of numbering and naming the days. Great Britain and her colonies did not adopt the Gregorian calendar until 1752 and Sweden followed the next year. It was adopted by Japan in 1873, by China

★

The ancient Egyptians devised many types of calendar keeping. Their stone obelisks (left) helped to keep a record of time as the shadows varied during the different seasons. The east-west layout of the Pyramids of Gizeh also enabled the Egyptians to observe the equinoxes, and when the rays of the setting sun shone directly down the long avenue of columns at Karnak it announced the evening of the summer solstice. Shift to proposed World Calendar (inset) is to be considered by U.N. this year. (Photo R. Viollet).

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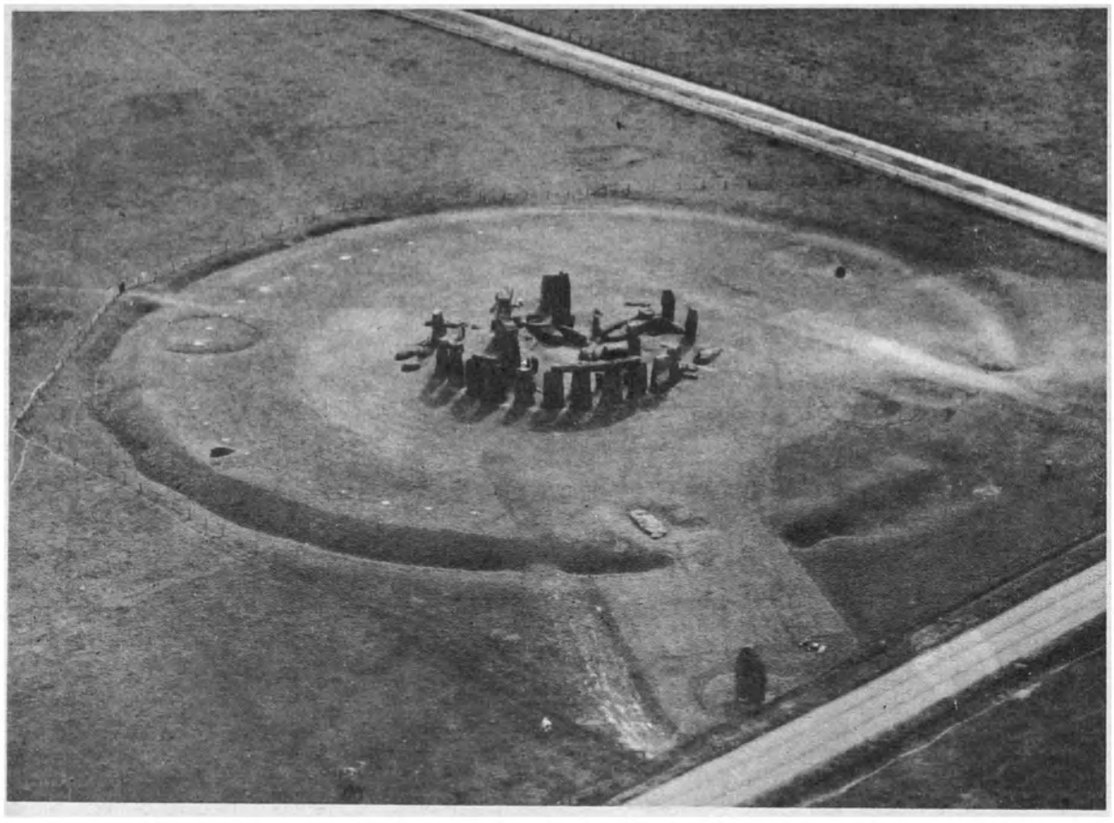
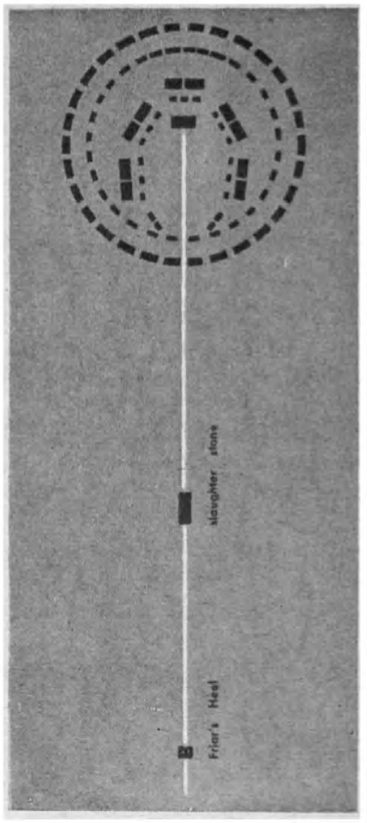





ASTRONOMICAL OBSERVATORY. From China to Britain stone circles, avenues and menhirs were built over a period of several millenia to serve as astronomica observatories. One of Britain's earliest sun-calendars is shown here. At Stonehenge (2,000 B.C.), on the morning of the summer solstice, the sun rising behind the Slaughter Stone was aligned by the Friar's Heel Stone to a point within the Sanctuary. It was the signal that the new year had begun. The principle is similar to that used at Karnak, Egypt, the difference being that the temple at Stonehenge pointed to the sun *rising* at the summer solstice, while the temple of Karnak pointed to the sun *setting* at the summer solstice. (Photo by Dr. J.K. St. Joseph, University of Cambridge. Crown Copyright reserved.)

in 1912, by the Union of Soviet Socialist Republics, in 1918, by Rumania and Greece in 1924 and by Turkey in 1927.

Simple as the change was in reality, it was very difficult to put into effect. In England there was an enormous outcry: "Give us back our eleven days!" People thought they were losing eleven days of their lives instead of merely changing the names and numbers. So too, today there are people who think they are losing an hour of life when daylight-saving time is introduced and five o'clock is called six. It is human to resist change even when it is only a change of a name or a number.

Pope Gregory made another change to give the calendar its modern form: he began the year on January first. Some nations had begun it on December 25, some on March 25, as England did, for instance, until 1752. But the numbering system had been adopted a thousand years earlier. In what we now call the sixth century A.D., a Roman abbot named Dionysius Exiguus proposed that the years should be counted from the birth of Christ. This was gradually adopted all over the world, with A.D. standing for the Latin words "Anno Domini", meaning "Year of our Lord". (Actually, modern scholars have found that Christ was probably born four years earlier than was thought in the days of Dionysius, hence in the year 4 B.C.) Thus, after repeated changes and corrections, our calendar has come to us unchanged for almost 400 years.

How much longer will it serve? There are many reasons for improving it and few reasons for opposing any change—except the enormous inertia of habit. Astronomically it is now correct enough; the seasons come when they should and, with the several amendments of the leap-year rule, they always will. But for human affairs, and especially for the conduct of modern business, the calendar has many awkward features.

The two halves of the year are not equal, for one thing. The first half has 181 days, the second has 184. Most people work three extra days during the second half, without extra pay. So, too, the quarters vary from 90 to 92 days, and the months from 28 to 31. The number of working days in a month (at six days a week) varies from 24 to 27. All these irregularities are unfair to someone and cause endless irregularities in statistics, such as banking figures, because months and seasons cannot properly be compared with each other.

Another serious defect of the calendar is that the first day of the month is a wanderer among the days of the week; it may be on any day from Sunday through Saturday and it will not be the same next year as this year. Thus any calendar holiday, like December 25, may come on any day of the week while any religious holiday, such as Easter may fall on any date in the month. Only once in 28 years is the calendar exactly reproduced.

All this leads to many difficulties in setting the dates for special holidays, fairs, elections, the opening of the legislature, and other public events. At least in industrial countries it would be very desirable to have such events as Christmas and the national holiday fall always on a Monday in order to give a "long weekend".

And not to be forgotten are those unfortunates who were born on February 29—and can have a birthday celebration only once in four years. Worst of all, perhaps, is that no one can really know the calendar as he knows the alphabet. There are many who cannot remember how many days there are in any particular month, August for instance. Everyone must look to a printed calendar to keep his dates in mind. Much money and paper is wasted annually in all countries just to keep printed calendars available to everyone. In short, the calendar is complicated and irregular so that there have been many suggestions for its improvement, which have recently grown in number.

The French Revolution adopted a reform that did not last, which had twelve months of thirty days each, with three "decades", or ten-day weeks, per month. This accounts for only 360 days, so that there was a five-day holiday period before the start of the new year, which began on September 22. Since then there have been many proposals. In 1849, Auguste Comte advocated a year of thirteen 28-day months. This takes

"The Place Where the Sun is Tied" was the name the Incas gave this huge suntower, hewn from a single rock, near Cuzco. (Official Peruvian Photo.)

364 days, so that he added a single day as a year-end holiday. This calendar had the advantage that the days of the week always fell on the same dates of the month.

More recently the League of Nations examined no less than 152 different suggestions for improving the calendar. One of them had a year of 73 weeks, each week having five days with every fifth day a holiday. Another had 20 months, each of three six-day weeks, with leap-weeks that had seven days five times a year. Another had a year of twelve 30-day months which were divided into five six-day weeks. After long study, the League decided that the week of seven days should not be changed and eliminated from consideration all proposals except two.

One was a calendar of thirteen months, each with 28 days. The other was a calendar of twelve months with 30 or 31 days in each, but 91 days in each quarter. Both added up to 364 days and left one day over as a special holiday. Both of them retained the seven-day week.

The second of these calendars was the "World Calendar" which was submitted to the League by the delegate for Chile. When submitted to the member nations, 14 were in favour of it, 6 were opposed, 7 considered it premature, and 18 made no comments. As a result, the fourteen years of study which the League gave to calendar reform ended in 1937 with a committee recommendation to the effect that "it is not expedient, for the time being, to contemplate convening a Conference to carry out a reform which in present circumstances would have no chance of being accepted".

But the agitation for a better calendar has not ended. Now it is the Economic and Social Council of the United Nations which has received calendar drafts from many countries and from many international organizations. In 1950, Peru submitted the same "World Calendar" that had been considered by the League of Nations. Most recently, in October 1953, the delegation of India asked that the World Calendar be taken up at the next session of the Economic and Social Council. In submitting it, the Government of India stated:

"Such a revision has been the subject of study and research on the part of experts, institutions and international organizations for many years. The concensus of opinion is that a new time system is necessary, adhering to the customary twelve months; but that it should be uniform—an invariable calendar, perpetually the same, more regular, scientific and advantageous from every point of view than the present Gregorian calendar... The proposed scheme of The World Calendar has overcome the drawbacks of the present calendar. It is scientific, uniform, stable and perpetual, with but one unvarying calendar every year."

This World Calendar is reproduced on page 28.

Its chief characteristics are that each of the four quarters is the same length, 91 days, and that the first day of each quarter, and therefore of each half-year and year, begins on the same day, Sunday. The first month of each quarter has 31 days and the next two have 30. It is therefore more like our present calendar than the other proposals that have been made. Its one defect is an inevitable one, that the year cannot be divided into seven-day weeks without one day being left over, because 52 times 7 is 364.

This one day; as in many other calendar ideas, would remain as a year-end holiday. It is proposed to call it "World's Day" and to celebrate it throughout the world as an international holiday. The Indian proposal to the United Nations describes this day as dedicated "to the universal harmony and unity of mankind". In leap-years, every four years, a similar holiday would be inserted and observed between the 30th of June and the first of July.

Among the advantages that have been listed for this calendar are: the first day of the first month is always a Sunday; that of the second month is a Wednesday, and that of the third month is a Friday. It is a tidy arrangement. There will be five Sundays in the first month of every quarter and five Saturdays in the third month. There will be exactly 52 weekly pay-days every year.

Best of all, the calendar will be permanent and in future years it will always be possible to know exactly on what day of the week any date occurred—or when it will occur in the future. It would be exactly the same in any year. Railways would not have to make up new time-schedules each year. Everyone would know that Christmas day is always on Monday. Banks and business houses would appreciate the fact that the end of every quarter falls on a Saturday so that accounts can be closed for the beginning of the new quarter. Radio and television stations would be able to count on exactly thirteen weeks in every quarter. School terms, too, would profit by being placed permanently in an unchanging calendar.

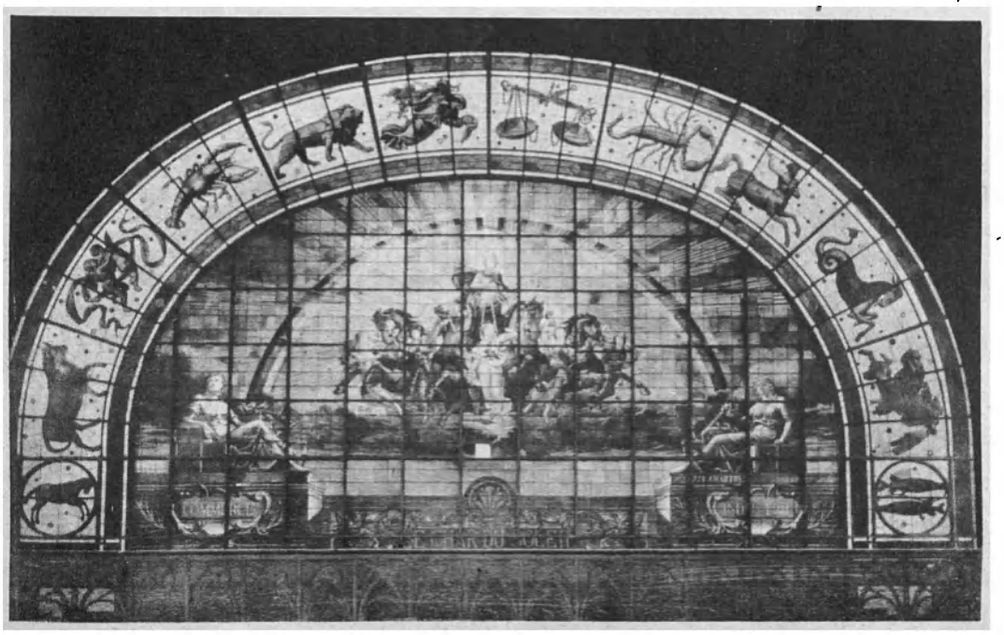
But there are objections, too. Many people will oppose the change merely because it is a change. But one serious objection is religious, chiefly because once in every year and twice in leap-years more than six days would intervene between two successive Sabbath days. Another objection is that the calendar would be uniform and would destroy variety which is the spice of life.

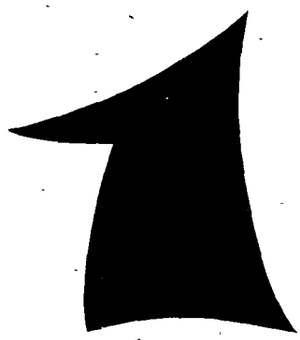
Still another objection is that some persons who were born on the 31st of March, for instance, would lose their birthdays altogether, for if this calendar is adopted there will be no more thirty-first days of March, May, August and December. On the other hand, there would be four days on which no one has yet had a birthday because those days, February 30, April 31, "World's Day" and the leap year day, are not on the present calendar. On the other hand, persons born on February 29 would have a birthday every year. But these considerations apply only to persons born before the adoption of the new calendar. They would be forgotten after that.

The Indian proposal to the Economic and Social Council makes it clear why the U.N. should take up the question of Calendar reform now. The present Gregorian and the proposed World Calendar coincide on Sunday, January 1 1956, so that the change could be made at that time with a minimum of fuss, and everybody would have two years to prepare for the new calendar.

The Aztec Calendar Stone, discovered in 1790, is thirteen feet in diameter and weighs over 20 tons. This monolithic block in Mexican National Museum suggests how the stone was probably set on a platform.

The twelve signs of the Zodiac in stained glass at the 1900 Paris Exhibition. The zodiac is an imaginary belt in the skies through which the sun passes each month. Each sign is named after a constellation in that part of the zodiac 2,000 years ago; but since then the sun and stars have moved and none of the constellations are in their former zodiacal place. (Photo Viollet).





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## LANGUAGE JIGSAW PATTERN

*(Continued from page 7)*

great burgeoning of new official languages on the Asian model is well within the bounds of probability.

This very hasty scamper across the continents has been undertaken mainly to help the reader catch a glimpse of the outline at least of the shadowy forest of language, a forest which like the one in Shakespeare's Macbeth is threateningly on the move and never stationary. Anyone who wants to take a closer look at the individual trees of this forest would be well advised to consult a recent Unesco publication, *The Use of Vernacular Languages in Education* (1), which, in addition to much detailed information, gives, in an appendix, a useful tentative classification of the world's languages.

There remains the question of the so-called link-languages, those languages which are widely distributed over the earth's surface or at least spoken by many millions of men and women. Estimates of the actual diffusion of such languages vary greatly, but the list of the 13 languages spoken by 50 million people or over which Professor Mario Pei of Columbia University gives in his stimulating book, *The Story of Language* (2), is probably accurate enough for the layman. His list runs as follows:

1. Chinese (all dialects): 450 million. — 2. English: 250 million. — 3. Hindi-Urdu: 160 million. — 4. Russian: 140 million. — 5. Spanish: 110 million. — 6. German: 100 million. — 7. Japanese: 80 million. — 8. French: 75 million. — 9. Malay: 60 million. — 10. Bengali : 60 million. — 11 Portuguese: 55 million. — 12. Italian: 55 million. — 13. Arabic: 50 million.

There is, of course, no guarantee that the same 13 languages will appear in the same order fifty years from now, or even that such lists, drawn up in the not too remote future, will necessarily show Western languages in such an advantageous position. In any case, people who speak a world-language as their mother tongue should recognize their good luck but refrain from being arrogant about it. Above all they should refrain from attributing this wide diffusion to the intrinsic merits of the language in question. All languages, be they those of "primitive" or "civilized" communities, adequately express the concepts of the culture from which they spring and of the people or peoples who use them. All lead the learner by the straightest and surest road, perhaps by the only road, to a knowledge and true understanding of other cultures and other peoples.

Nor can one distinguish between "beautiful" languages and "ugly" languages without falling into the same absurdity. To people speaking a language with few gutturals or none at all, German may appear "harsh" and Arabic even "harsher", but are they "harsh" to those who speak German or Arabic? Assuredly not.

That wise old man Voltaire went straight to the heart of the problem in his philosophical tale *L'Ingénu*, for when the Abbé de Saint Yves asked the ingenuous Huron which language he preferred, Huron, English or French, that simple American Indian replied, "Huron, of course". Our own language is always the best—for us. All the more reason for not imposing it on others.

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(1) Available through Unesco National Distributors. Price $ 1.00 ; 6/- ; 300 fr.

(2) George Allen & Unwin, London, 1952.

# AJANTA

## MASTERPIECE OF ROCK-CUT TEMPLES AND OF FRESCO ART

ONE day in 1817, some British soldiers on manœuvres in the rugged, wooded region of western India inland from Bombay made a startling discovery that was soon to arouse the enthusiasm of the entire world of art.

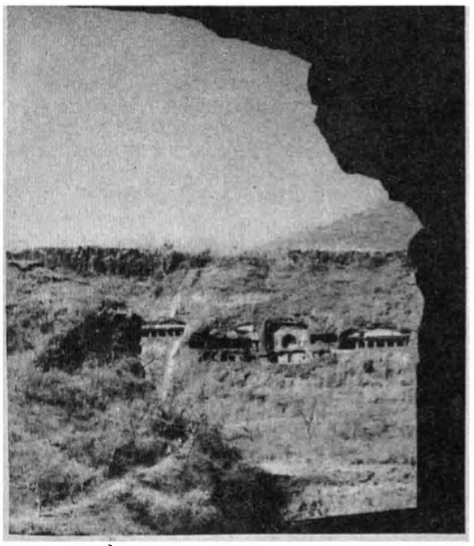
Some four miles from the tiny village of Ajanta, in the State of Hyderabad, they chanced upon a steep ravine formed by the source of the river Waghora which drops over a bluff 70 to 80 feet high in a series of seven waterfalls. Scrambling to the bottom of the ravine, they stopped short in utter amazement. Before their eyes they beheld a long row of cave temples, hewn out of the solid rock of the precipitous wall.

Thus it was, by pure accident, that the rock-cut temples of Ajanta — today regarded as one of the most remarkable sights in India and among the noblest memorials of Buddhism in the country— emerged from their millenial oblivion.

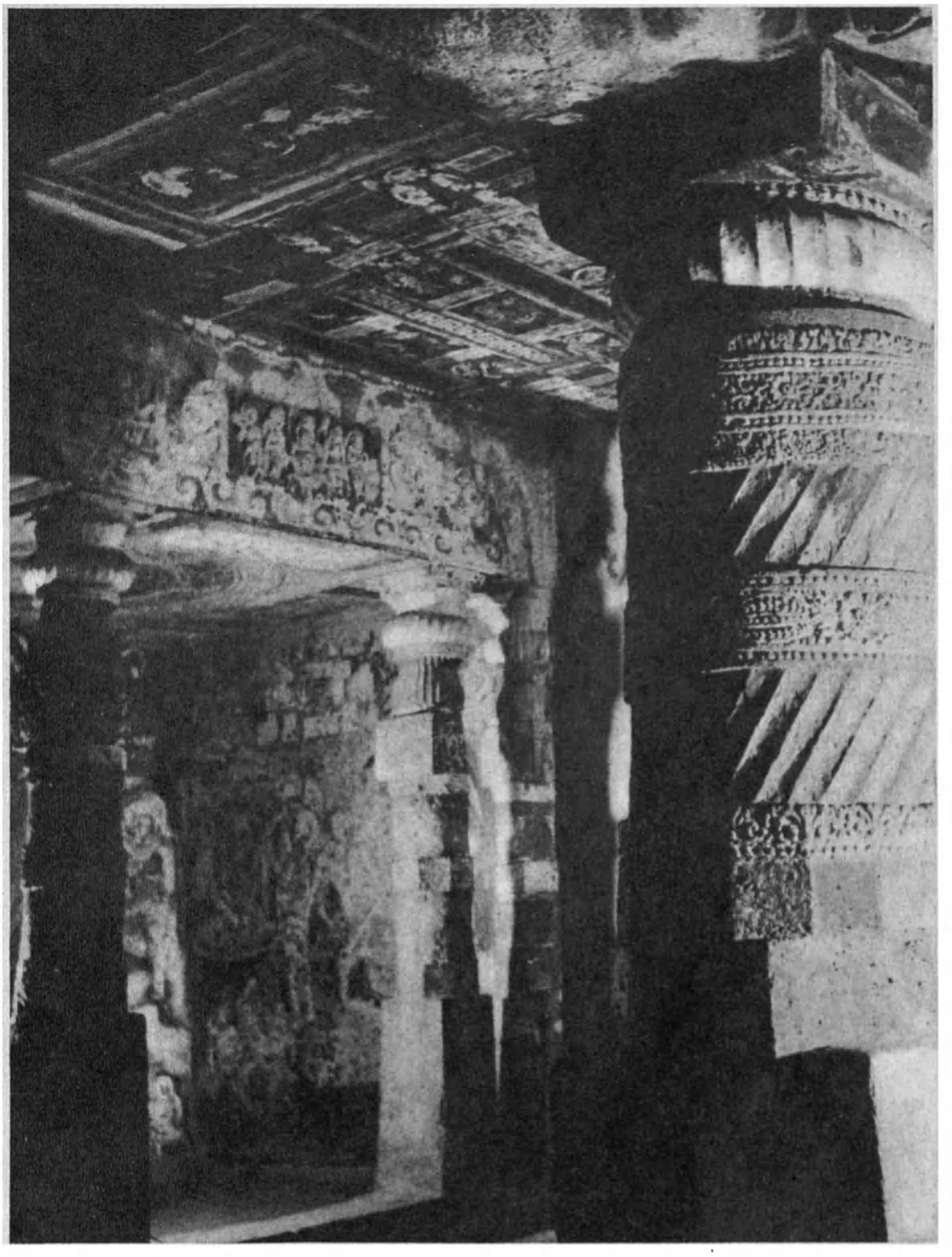
Here, in the pre-Christian era, Indian artists slowly, laboriously and patiently had chiselled the steep, precipitous crust of the rocks and through the centuries laid the foundation of the great art tradition of Ajanta.

The caves, 29 in number, excavated by Buddhist monks date from the second century B.C. to about the end of the sixth century A.D., and comprise a series of halls of worship (Chaityas) and monastic living quarters (Viharas).

In one of the great Chaityas (Cave No. X) there is a huge assembly hall with a barrel-shaped roof supported by 39 decorated pillars. The hall measures over 95 feet in length, 41 feet in width and 36 feet in height — an amazing space to hollow out of solid rock. In Cave No. I, the veranda is 64 feet long, 9 feet wide and 13 feet high. A door in the centre leads into the central hall which is 64 feet square. The ceiling is supported by a colonnade of 20 pillars surrounded by aisles over 9 feet wide. Most of these are decorated by carvings and sculptures.



PARTIAL VIEW of Ajanta temples carved out of solid rock of steep ravine. Site was accidentally discovered by soldiers in 1817.



INTERIOR of one of the 29 cave-temples of Ajanta in India showing richly carved and decorated pillars, walls and ceiling. These temples are among the noblest memorials of Buddhism in India.

Beautiful as the architecture and sculpture are, however, it is the fresco paintings that have caused the greatest admiration. When the caves were first discovered the frescoes were fairly well preserved, but today only a few caves still retain, in varying degrees of preservation, the wall paintings that once adorned all the caves.

Centuries of neglect have deposited a veil of patina on the walls. But through it can be seen even today the whole scale of colours: glowing browns — reddish, greenish, chocolate, and almost black— set off by lapis blue, pearly white, crimson and green.

The walls are covered with such a variety of forms and figures, so vibrant with life, that the earliest Europeans who saw them could not believe that they were religious. But the main theme of the Ajanta paintings centres round the Jataka stories, the legends of Buddha's reincarnation. Human life, with its drama of love, compassion, happiness, death, suffering and sacrifice, is illuminated by a glow of religious feeling and profound piety.

In the intermingling of human beings, plants, flowers and animals there is a feeling of the deep and intimate spiritual kinship among all forms of life. A broad humanitarianism is sensed in all the paintings and the tenets of Buddhist thought are conveyed through simple stories such as the one of Sibi Jataka (in Cave No. I).

According to Sibi Jataka, a hawk was once chasing a pigeon who, unable to escape from his enemy, flew and took shelter with the king of the Sibis. This king was none other than the Compassionate Bodhisattva. The hawk came to the king and demanded the surrender of the pigeon as his lawful prey. The Great Being, to redeem the life of the pigeon, cut out an equal weight of flesh from his own body and gave it to the hawk, thus saving the pigeon from death.

Similar sentiments are expressed by Slokas (or verses) in some of the caves, such as the one in Cave II which says: "Blossoms are the ornaments of trees, it

# MONUMENTS OF A GOLDEN AGE IN HINDU CULTURE

is flashes of lightning that adorn the big rain clouds, the lakes are adorned by lotuses and waterlilies; but virtues brought to perfection are the proper ornaments of living beings."

Historically, the caves of Ajanta are associated with the Vakataka and Gupta dynasties under whose patronage Indian painting and sculpture reached new heights in the fifth century. This period is often called the Golden Age or the Hindu Renaissance. During this era religious ideas developed and changed without persecution. This was the Golden Age of Sanscrit literature and music and of the development of scientific thought and mathematics.

Although the supremacy of the Guptas lasted only from 320 A. D. to little beyond 495 A. D., the renaissance in art which they ushered in continued into the sixth century A. D. Painting in the Ajanta caves, however, was already a developed art much before the Gupta age. But like most other arts flourishing under the Guptas, the Ajanta paintings reached their maximum height of glory and splendour in the fifth century. With the sudden decline of the Gupta supremacy, a decline set in so that by the eighth century the art of fresco painting had lost all its vigour, grace and vitality.

THE COMPASSIONATE BODHISATTVA with lotus in hand. This painting is considered one of the great pieces of Ajanta Art. Cave I. It has been compared to the great figures of Michelangelo.

The paintings of Ajanta hold a supreme position in Asian art history. They have for Asia and the history of Asian art, the same outstanding significance that Italian frescoes have for Europe and the history of European art. For the tradition of Ajanta, bound up with the history of Buddhism in its successive stages, gradually spread out towards countries such as Indochina, Indonesia and Malaya, Korea and Japan. In China, it directly influenced and stimulated the art of the T'ang dynasty, and the recent discovery of frescoes in Central Asia, in Khotan, at Turfan and at Tunhuang, have helped to increase the interest inspired by the Ajanta paintings.

The frescoes of Ajanta are generally considered to be "the greatest monument of this art" in India. One Italian authority on fresco painting has said that they "will bear comparison with the best that Europe could produce down to the time of Michelangelo."

And speaking of one of the finest of the Ajanta paintings — the Compassionate Bodhisattva (see photo, left) — the French Orientalist, René Grousset has said: "This is a figure that must be placed in world art alongside the highest incarnations of the Sistine Chapel, alongside those drawings most inspired with a soul such as the drawing of Christ in the Last Supper by Leonardo da Vinci."

As the first of a new Unesco World Art Series devoted to the rare art masterpieces of the world, the New York Graphic Society is publishing by arrangement with Unesco, an album of colour reproductions of the Ajanta cave paintings. (1).

In a preface to the portfolio, Prime Minister Jawaharlal Nehru has summed up the importance of Ajanta. "Ever since the Ajanta frescoes were rediscovered and became generally known," he writes, "they have exercised an increasing influence on our thought and on Indian art generally. They bring out not only the artistic traditions of 1,500 years ago but make vivid the life of those distant periods... History becomes human and living and not merely a record of some distant age which we can hardly understand.

"Thus the appeal of Ajanta is not merely to the artist or the expert, but to every sensitive human being. Anyone who would understand the past of India must look at these frescoes which have exercised such a powerful influence not only in India but in distant countries also.

"If I were asked to name three or four places of paramount interest in India, which give some glimpse into India's mind in successive ages, I would mention Ajanta as one of them."

(1) Unesco World Art Series. Volume I. "India—Paintings From Ajanta Caves". Introduction by Madanjeet Singh. Preface by J. Nehru. Price : $15, or equivalent. Available February 1954.

A RECIPIENT of the generosity of Prince Visvantara. Cave XVII.

AN APSARAS (celestial nymph). Cave XVII.

A PALACE SCENE. (Cave XVII.)

THE CEILINGS of several of the Ajanta caves are covered with an amazingly rich variety of forms and figures, human beings, plants, flowers and animals. Here are shown three decorative motifs on ceiling of Cave I.

**AJANTA** The frescoes in the Ajanta caves of India, dating from the second century B.C. to the seventh century A.D. and discovered by accident in 1817, constitute a rock picture gallery unique in the history of art. The appeal of Ajanta is not merely to the artist or expert but to every sensitive human being. The fragment shown here is taken from a new album of colour reproductions which Unesco is publishing to make these treasures better known to people everywhere. (See page 33.)

IMPRIMÉ EN FRANCE GEORGES LANG. Imp. Paris.