rise, modern hospitals.

The future of traditional doctors, has improved somewhat with the independence of most African countries. The loathesomeness with which the colonial governments looked upon them has been tempered. With the recognition and licensing of some of them, there is hope that traditional medical sciences will be studied. Also some of the licensed doctors have formed unions. One envisages that the secrecy and distrust which surrounded individual practice would give way to better understanding through interaction and exchange of views. There is also hope that this will usher in standardization of treatment. Already some are able to dispense their medicine with modern exactitude. This, however, will not be fully realized until there is more organization among traditional doctors. Having said this, the onus of obtaining a full understanding and integration of traditional medical sciences with modern medicine rests on western trained African doctors and today's governments. The traditional doctors should be approached with understanding and with a desire to improve their positions rather than with fear, mistrust and destructive intentions. The latter, unfortunately, characterizes the line of action that has often been taken.

Departments of Pharmacology in African universities should be interested in analyzing the herbs used by traditional doctors. I am certain they will obtain revealing and interesting results which can be put to good use.

In conclusion there are tremendous potentials in indigenous African medical practices that have so far been ignored by the medical world. It is high time African governments examined their assets more closely before embarking on the often uncritical importation of western methods, systems and material.

*Dr. Gershon C. Ejeckam, M.B., B.S.*
*(Ibadan, Nigeria)*
*Chief Resident,*
*Dept. of Pathology, University of Ottawa and Dept. of Laboratory Medicine*
*Ottawa General Hospital*
*Ontario, Canada*

# LESSONS FROM THE DEVELOPING COUNTRIES

by

Derrick B. Jelliffe and E.F. Patrice Jelliffe

Ideas, philosophies and techniques have always travelled from one part of the world to another. During recent decades, with the development of rapid air transport and electronic communications, this process has increased dramatically in intensity and speed, with a particularly massive extension of technology in recent decades from the industrialized countries of North America and Europe to so-called less-developed parts of the world.

The overriding importance of scientific technology in health services has been a universal assumption for modern medical planners, and the same emphases have been often rather uncritically and even somewhat arrogantly exported to different cultures and circumstances in developing countries, particularly during colonial times, but also sometimes in the course of international assistance programmes.

In fact, there seems increasing evidence that technology has been overemphasized in western countries.[1] Economical application for the majority has not been given sufficient emphasis, nor have biological aspects of health care.

As part of this realization, it is apparent that developing countries have lessons to give to the world from their current systems of child care, and these may be considered in two categories: the *traditional and biological* and the *adaptive technology* lessons.

*Traditional and Biological Lessons*

An infinite variety of different customs and practices exist in the many different cultures in developing countries, including, as anywhere, many harmful practices. However, in general, many traditional methods appear to be more biologically sound in relation to childbirth, to the care of the exterogestate foetus (birth to 9 months) and 'transitional'[2] and to harmonious

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interrelationships between mother and child.

*Childbirth and the Newborn.* It is becoming appreciated by many observers that the management of childbirth in the western world is related, correctly, to the prevention of sepsis and avoidance of obstetrical complications ('navigation of the birth-canal'), while, at the same time, the methods used seem to lay undue emphasis on regimentation of mothers and babies, and on the convenience of the medical, nursing and administrative staff.

Western obstetrical practice has been called 'the cultural warping of childbirth'[3] and, without undue prejudice, very many aspects of more orthodox obstetrics in Europe and North America do seem strangely unbiological, for example, inadequate emotional preparation for labour, the routine use of anaesthesia and episiotomies, the early clamping of the umbilical cord, the unnecessary shaving of the pubic hair, the position during labour and the extraordinary practice of separating the newborn from the mother. It seems increasingly probable that not only are most of these practices undesirable or routinely unnecessary, but that they have physical and psychological ill-effects on both mother and newborn.[4]

By contrast, traditional practices during childbirth in many parts of the world, including Africa, appear to be biologically much more sound, although often with greater hazards bacteriologically and from the point of view of obstetrical mechanics.

In particular, traditional practices are often based on what Raphael has called the *doula* concept.[5] Studies in social mammals and in many traditional cultures by this investigator indicated that a constant feature during the end of pregnancy, labour and the early weeks of neonatal life was one or more individuals, usually a female, who had a *doula* function. That is to say, a female assistant who gave physical and emotional assistance and also acted as supplier of information based on local tradition and experience.[6] The result was a confident, informed mother with physical and psychological support immediately available. This tended to minimize the fears and doubts that can so easily occur at this time of stress and, in particular, supplied the necessary atmosphere of certainty so important in the initiation of lactation.

The contrast in western cultures is very great indeed. No longer is the community completely supportive of breast-feeding and, even for the mother who refuses to breast-feed her baby, the psychosocial situation of the average obstetrical hospital in the western world is almost anti-*doula* in effect. However, it must be noted that, largely as a result of the gradual pressures of increasing numbers of women's groups this is

gradually being changed.

It would be most unfortunate if the psychologically well-tried and supportive methods found in many traditional cultures in Africa should be displaced by the antiseptic, regimented approaches found in orthodox obstetrics in the western world until recently. This is, indeed, a major area from which the western world can learn from traditional societies in developing countries.

*Child-Bearing and Socialization.* The psychological and emotional adjustment of children to the local cultures and needs seems much more likely to be developed smoothly and appropriately if the methods used in traditional societies are followed rather than the learning at school 'by the book, about the book, for the book' with little relevance to preparation for living.8

In later childhood, the traditional methods of play, rearing and socialization in general in African cultures help to prepare the young boy and girl for their appropriate roles in the future in the actual circumstances of the particular community.9

*Young-Child Nutrition.* Knowledge of nutrients was not available in traditional cultures in any part of the world, although many communities recognized the social significance of various forms of malnutrition. Thus, in several African languages, a word was used for the severe form of protein-energy malnutrition now known in international medical terminology as kwashiorkor. For example, in Uganda, a word of similar meaning, *obwosi*, was used also implying a condition in the 'displaced' child. Words with this type of meaning clearly indicated that the significance of the displacement of the young child from the breast milk by the arrival of another pregnancy or sibling was a recognized precursor in this form of malnutrition.

The main lesson to be learned from developing countries is in relation to breast-feeding. At least in rural areas in non-industrialized countries, breast-feeding is still, for the most part, easy, uneventful and represents an immense benefit from the nutritional and anti-infective point of view, particularly in relation to the prophylaxis of diarrhoeal disease.10 Indeed, it is extremely difficult to conceive of anything else which could have the cost-effectiveness of breast-feeding and human milk, and overcome the distribution and logistic problems (so often commented on) of 'reaching the infant and pre-school child'.11

In past and present-day traditional societies, including those in Africa, it is well recognized that the transitional or weaning period is the one of greatest nutritional stress, with the exception of the urbanized poor, for whom the earlier onset

of protein-energy malnutrition, in the form of marasmus, is resulting increasingly from shortening periods of lactation.[12] In other words, the 'danger period' is particularly during the second year of life, when the child is actively in the process of transition from a diet solely of mother's milk to a complete adjustment to the local ecological problems, including bacterial and parasitic infections, a share of the full adult diet, etc.

In the past when there was less contact with the outside world, there may well have been various factors responsible for a better nutritional transition from extero-gestate foetus to older childhood. First, there is the child-spacing effect of successful, uncomplemented lactation.[13] This undoubtedly has considerable importance as far as nutrition is concerned. Second, in many communities there may have been the use of a wider range of food than currently available. For example, in Uganda in the early years of the present century it seems likely that much more high-protein sesame was used in general and also in the preparation of weaning foods. Likewise, with the increasing deviation towards urbanization or at least an urban life style, there has been a tendency towards the decreasing use of a variety of semi-wild foods, particularly dark-green leafy vegetables.

*Child-Spacing*. Child-spacing has been achieved principally by the endocrinological and biological effect of prolonged lactation, unsupplemented in the early months with other foods.[14] Recent hormonal investigations have clearly shown that this is the direct measurable consequence of increased secretion of prolactin produced by suckling at the breast. It has also been shown that this remarkable hormone, prolactin, not only is responsible for the secretion of milk in the breast, but also has the important additional effects of inhibiting ovulation, decreasing urine secretion (thereby deviating body water needed for the synthesis of human milk) and a psycho-cerebral effect which can be termed an increase in'motherliness'.[15]

The child-spacing effect of lactation has been difficult for some people to appreciate, perhaps understandably, because of the pregnancies that can be observed in women who are still breast-feeding. It is important to realize that the anti-ovulation effect of prolactin is related to the *amount* of this hormone which is produced, which in turn in proportional to the amount of sucking at the breast.[16] If other foods in the form of artificial feeds or solids are introduced in the early weeks of life, then the amount of prolactin will be decreased. In any case, as the young child grows and other foods are introduced so the amount of suckling will be diminished and the contraceptive effect of prolactin wear off.[17]

It is not surprising that such a process exists in man. It is, in fact, a parallel with the hormone-dictated 'mating season' in other mammals. Without such a spacing device, it is doubtful if man could have survived. In addition, in many traditional communities, including some of those in Africa, the period between births was also increased by a variety of different customs and practices [16] which were aimed at preventing the too early resumption of sexual intercourse. Thus, in some societies, the mother would stay apart from the husband until the child could walk or talk or had a culturally defined number of teeth, etc.

*Adaptive-technology lessons*

In the so-called western world, recent medical developments stem largely from the dramatic and, indeed, revolutionary scientific advances that have emerged from the middle of the nineteenth century until the present time. These include bacteriology, dating back to Pasteur; aseptic and antiseptic surgery, introduced by Lister; X-rays, discovered by Rontgen, etc. While these spectacular discoveries did indeed revolutionize modern medicine, it may well be that they may have tended to overemphasize curative and technological aspects of the subject, with hospitals as the pinnacle of this whole process.

In past centuries in Europe, hospitals were largely collecting places for the indigent, the dying and those with severe and unacceptable infectious diseases. After the scientific medical revolution, the hospital changed to the main centre for technological medicine, and everything became geared to these ends, as for example, the operating theater for surgery and the radiological departments for X-ray investigations. Within these new technology-dominated hospitals, the medical and nursing staff were firmly in control, as a quasi-military organization, even with well-marked uniforms indicating different levels of status and of authority. Patients under these circumstances tended to be handled firmly and paternalistically from a standpoint of technological superiority, while little concern was shown for their biological and emotional needs, which were little understood, particularly those of children. In turn, the whole system was perpetuated by the training of health staff geared to such hospital-based technology.

In Africa during colonial times a similar pattern was imported and, indeed, it may be argued that one of the least valuable aspects of colonial domination may well have been the inappropriate form of training of physicians and nurses, and some aspects of the health service which were introduced then and which are still dominant.

However, because of the very scale of the problems, and because of very limited resources of staff, money, education and equipment ('the shortage syndrome'), many adaptive changes were made within such systems often without it being formally recognized by the establishment that such changes were, in fact, occurring, or without necessarily having full approval for them.

Again, until the last few years in recently independent countries, such developments, based on the application of 'intermediate technology' and the use of auxiliaries, were rather resentfully regarded as 'mud-hut medicine'. The situation has now changed considerably and, perhaps rather ironically, such developments which have been widespread in developing countries for decades, are now much debated and experimented with in industrialized countries as advanced and *avant-garde*. Some of these aspects may be considered here.

*Children's Wards.* In so-called developed countries, it has become recognized in recent decades that the practice of abandoning the frightened, sick young child to the psychological and physical traumas of the hospital is to be avoided or curtailed as far as possible. In this regard, many hospitals in parts of Africa are vastly in advance of those in Europe and North America.[19] In most places, it is fortunately still the practice for mothers to come in with their young children whenever possible.

Plainly, this has disadvantages, notably in the disorganization of ward routine, problems of cleanliness, the provision of food, the need for toilet and sleeping arrangements for the mothers, possible interference with treatment, and so on. At the same time, the advantages of such systems vastly outweigh these disadvantages. The mother is present to comfort and reassure the child in this very strange environment, to act as a highly sensitive 'human electronic monitoring apparatus' to assist with feeding the child and some aspects of his care and treatment and, in particular, to be available for nutrition and health education in and around the ward. It is especially this last function that should make the practice so very worth while and, what is more, it is this function that may convert the traditional clinical bastion of the hospital into what it should be - an amalgam of clinical and preventive work.

*Maternity Wards.* The maternity wards imported into Africa and other developing countries from the western world are based on procedures that can be regarded more and more as a 'cultural warping of childbirth'.[20] We have already noted, that the traditional practices are very often less effective bacteriologicall and from the point of view of obstetrical mechanics. At the same time, they are usually infinitely superior for the psychobiological support of the mother during this difficult period

and for the successful initiation to breast-feeding.

*Auxiliaries and Staff Duties.* For very many years, in various parts of Africa, a wide variety of different auxiliaries and other less classical cadres have been used very successfully. For example, in Francophone West Africa, before the Second World War, staff with very little background education or literacy were used effectively in large-scale anti-trypanosomiasis campaigns. Likewise, in severe outbreaks of cerebrospinal fever that occurred in the southern Sudan in the 1940s, a variety of auxiliaries were used very effectively to detect cases and treat with twice-daily intramuscular injections of sulphapyridine. Very effective training has also been carried out for many decades in the Sudan with indigenous midwives in the school of Omdurman.

*Compressed Management.* In African and other developing countries, because of limited staff and difficulties in contacting people owing to distance or poor transport, various forms of what may be termed 'compressed management' have been devised. For example, attempts have been made to try to use immunization procedures for young children that entail using as many vaccines as possible at one time, with fewer attendances. Similarly, many varieties of 'monodosage' have been employed or suggested In these, various drugs or other pharmaceuticals are given by intramuscular depot injection or by mouth for slow absorption and effectiveness over a period of some time.

*Conclusions*

It cannot be contended that in the past rural Africa represented a uniformly joyful Arcadia of contented, healthy children, and it cannot be denied, moreover, that modern technological science has been a major factor in the improvement of health, including that of young children. Yet it seems increasingly clear that what is required is a balance between 'technomania' and a 'romantic regression to the past'22 In the western world, unbalanced scientific technology seems in some ways to have gone too far, and a reaction against this has developed that manifests itself, for example, in the trend towards breast-feeding and an emphasis on more traditional 'natural' foods and in an interest in less technologically dominated systems - in the methods of preparation for childbirth without anaesthesia, for example. Science and technology need to be blended with methods, characteristic of African cultures, that are psychologically and emotionally reassuring, more 'biological' and better adapted to human requirement. The flow of information and inspiration should be two-way.

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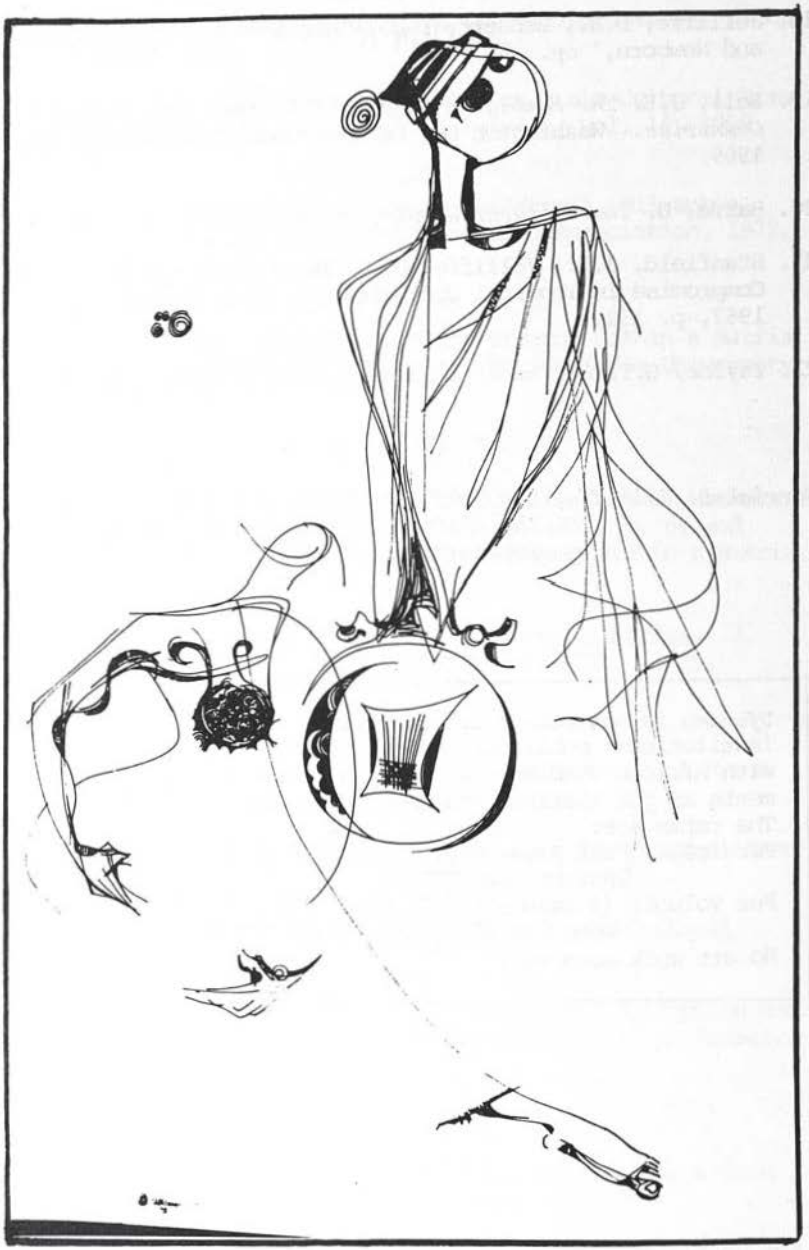
*Derrick B. Jelliffe, M.D. and E.F. Patrice Jelliffe are with the Division of Population, Family and International Health at U.C.L.A.*



*Ubo Ogazi*, pen and ink, 1975