

Medicine—Primitive And Modern[★]

J. STUART SOELDNER

INTRODUCTION

Our purpose this evening is, as the evenings before, to take another close look at medicine. Tonight we will look closely at medicine from basically two different viewpoints. Firstly, we will look at primitive medicine as it is practised in this present age by isolated or illiterate groups. By this we may gain some insight not only into the early concepts of death and disease as practised possibly by the forebears of western civilization, but we shall also be able to place a gauge by which we can measure two extremes of present day civilization; our own western culture's level of healing, and the level of healing practised by people in the more remote, less advanced, possibly less fortunate corners of the world.

Also, we plan to discuss the medical achievements reached by certain ancient civilizations which history tells us had reached a relatively high level of thinking, and working, and have left to us many monuments, both physical and cultural, which now form part of our own Western culture and civilization.

It is indeed fascinating to scan through anthropological texts which describe the basic way of life of present day isolated groups. First of all, it is doubtful whether or not to call present day primitive societies "isolated groups", as there is ample evidence to show the permeation of ideas and practises from one remote area to another, although the time taken for this permeation may be slow by our standards. Various authors have discussed the problem of how to name this type of social group and in general they agree upon the term 'primitive society' to connote those aboriginal societies, usually illiterate, which occupy the back areas of geography, and have not been touched either by those ancient civilizations which reached a high degree of culture and society, or have not been touched, (but usually closely examined), by our present so-called Western civilization.

In examining these primitive groups we find that their way of life, although simple, is governed by many complicated rules of living. Their thoughts and beliefs concern-

ing the world and people around them are governed by many natural and artificial rules. The events governing birth, disease and death are, as to us, dramatic ones and intimately inter-woven with their way of life. In general one could say that their world is a more complicated one than ours. We, at our level of culture, science and technology have solved many of the "unknowns" of the physical world around us and can explain, control and describe them according to generally known basic formulae of physics, chemistry and biology.

Primitive man on the other hand, does not lack any power of observation, and although he lacks the power of what we may call accumulated experience (a decipherable record of past events greater than verbal tradition), he has been forced (or led) to ascribe these events of life according to a set of logical rules which presumes that there are a very real group of supernatural beings and powers which control these events. So, we see that his world is one of many dimensions and moieties which are called on to explain the drama of birth, disease and death.

One may find it difficult to examine these groups of people from the standpoint of their medicine without becoming involved in many dealings with the supernatural.

On examining primitive medicine, one is actually looking at a special body of traditional knowledge which seems to us crude and underdeveloped. But it is best to think that the lack of development is a function of the cultural status of the group, and this cultural status is a function of the history of the experience of the group as a unit. We thereby see that primitive medicine developed in the void that resulted when these peoples became isolated from those interchanging influences to which the Western world has been exposed.

Since magic and the supernatural play such an important part in primitive medicine, and for our purposes it is desirable to evaluate the true science of that medicine, we will say a few words on both and the part they play.

Basically there is an idea among some groups that both medicine and science grew out of what we may call magic. Magic

★ This speech was delivered to the Alpha Omega Alpha Society, at the V.G.H., in April, 1959.

may be defined as the process of manipulating the supernatural, of coercing or procuring it to do one's bidding by the performance of certain ritual acts. Again, science may be understood as verifiable and communicable knowledge based on observations, experiment and reflection. Both science and magic deal with causation, and as is self-evident, the reliance put on each of these means of manipulating the world depends on the people concerned, their society, science and degree of technology.

Basically, both science and magic are mechanical procedures, one based on cause and effect sequences in the natural world; the other on a fabrication of the human mind operating in an imaginary world.

Primitive peoples recognise ordinary natural sequences of cause and effect as far as their ability allows, but from there on they recognise a more wonderful set of techniques based on the supernatural which has its own set of rules.

Primitive man develops a material technology to manipulate the natural world and eventually a science grows out of this, but to manipulate the supernatural world, which for him is so large and important, he develops a set of magical manipulations.

As far as medicine is concerned we see again the two facets of primitive man's

manipulation, science and magic. If a limb is broken it is set with the best empirical knowledge available. If a person suffers severe prolonged headache his skull is trephined, and if no result is obtained trephined again and again until the headache leaves, or he dies.

No magic or sense of magic is involved in either manipulation. Here is rational manipulation based on experience; part of the science of the group.

Again, experience has taught them that certain plants, leaves, and roots possess specific medicinal value, and accordingly, they are rationally used. But on the other hand, the primitive group has its magical manipulation in medicine, some of which I shall mention later, but essentially these two ideas of magic and science are frequently related and it is very difficult to disentangle them.

Causation of disease as a concept held by primitive peoples gives us some medical insight. In general, three causes are recognized as universal explanations of disease. The first is natural cause, second is human agency, third is supernatural agency. If the disease in question can be attributed to a material agency, then natural causes are implicated. If it is attributed to the action of some human who may have re-



THE PHYSIOLOGY OF THE NEWBORN INFANT

By Clement A. Smith, Harvard University. "A wealth of useful and stimulating information for every physician who takes care of newborn infants, including obstetricians". *Pediatrics*. 512 pages, 93 illustrations, third edition, 1959. \$13.75

MEDIASTINUM

By Ted F. Leigh, and H. Stephen Weens, both Professor of Radiology, Emory University, Atlanta, Georgia. Detailed description of gross and radiologic anatomy; explanations for many mediastinal shadows seen on roentgenograms of the chest; lymph node systems described in detail. 256 pages, 290 figures, 1959. \$12.75.

TOTAL SURGICAL MANAGEMENT

By James D. Hardy, Professor and Chairman, Department Of Surgery, University of Mississippi. For the surgeon, also senior medical students, interns and surgical residents. Contains much information that is usually passed on by word of mouth. 304 pages, illustrated, 1959. \$10.50.

AN INTRODUCTION TO CHILD PSYCHIATRY

By Stella Chess, Associate Clinical Professor of Psychiatry, New York Medical College. A book for physicians (pediatricians and general practitioners), social workers, clinical psychologists, nurses, speech therapists and educators. The author's approach has been found particularly valuable in training medical students. 264 pages, 1959. \$5.75.

THE RYERSON PRESS

299 Queen Street West, Toronto 2-B, Canada

sorted to sorcery, then the agent is human. Then if it is ascribed to some spiritual or supernatural being or principle, it is due to the direct action of the supernatural.

These causes in general are accepted by all cultures alike, sophisticated and isolated, but those more advanced tend to place more confidence in natural cause of disease, while those with less advanced society tend to place more confidence in supernatural causes. Even in our own culture, we ourselves see those who possibly have isolated themselves and tend to retain some belief in the supernatural cause of disease.

It is interesting that such drugs as quinine, curare, opium, and digitalis, to name only a few, were all discovered by isolated people or specified for certain conditions, and in the field of surgery many serious operations have been performed on human beings with complete success. Fractures of every sort have been repaired, dislocations were corrected, and obstructions removed.

It is essential to remember in discussing primitive medicine that in most isolated societies there is a firm tenet of belief that the world is animated by some spiritual principle or power. This idea of the supernatural is generally personified in the form of a being, or several beings, each with particular power that greatly transcends anything of which man alone is capable. This anthropologists call "animism". This supernatural power may also manifest itself in a disembodied form, as a supernatural quality or an attribute of objects.

It is just as well at this point to note that primitive religion may be regarded as the technique and result of supernaturalism. Religion differs from magic in that it makes no attempt to coerce, but is directed toward entering into closer personal relations with the supernatural; one prays, beseeches or worships, but one never controls.

In these primitive societies, it is a simple matter to explain almost everything of unknown causation as due to the activity of a set of good or evil spirits or powers. The principle of magic consists of compelling these spirits to do one's bidding. If they are manipulated for evil purposes it is called "Black Magic", whereas their manipulations for good purposes is called "White Magic". In general, the practice of magic in any form is called "sorcery".

It is interesting to see how these primitive societies classify disease concepts. In general there are seven main types:

1. Sorcery or magic.
2. Breach of taboo.
3. Disease—object intrusion.
4. Spirit intrusion.

5. Soul or body loss.
6. Dreaming.
7. Independent occurrence.

Under these sets of concepts we will try to see how primitive societies diagnose, treat, and prognosticate disease always trying to apply our modern concepts of medicine and generally attempting to see how successful primitive man was in controlling disease; to see what aspects were beyond his science as indicated by ritualistic supernatural-type measures; and what aspects were treated by cause directed, empirical application of principles which even we would call rational therapy.

1. **Sorcery or magic** is the belief that disease is produced by the activities of persons skilled in magic or that the manipulation of some older people who exercise some control over the supernatural. In our primitive societies there are generally available a number of magic formulae. These can be used to compel the supernatural to produce disease or death in some other person. Medicine men are a special class of practitioner who are particularly skillful in manipulating the supernatural for good or evil and may be hired.

The kind of magic used is of two types, homeopathic (or imitative), and contagious magic. The first assumes that things which resemble each other are the same. The second makes the assumption that things which have once been in contact are always in contact. Thus we can see in the first case that manipulation of an image can be used to produce effects in the original, and in the second that any part of a body, such as hair, spittle, nail parings, or a close contact of a body can be manipulated to work on the original.

The medicine man becomes an important figure in this type of manipulation, and we will have more to say about him later.

2. **Breach of taboo** is an infringement which automatically brings about its own punishment. Certain things are regarded as in themselves so dangerous without mediation of any human or supernatural forces. An occult power is present and is transmissible and capable of affecting whatever comes in contact with it.

Expiation in a breach of taboo may sometimes be made with the assistance of a medicine man who may succeed in releasing the victim from the effects of the breach.

3. **Disease—object intrusion.** In many isolated societies there is a belief that many types of illnesses are caused by the entrance into the body of some foreign object. These objects gain entry either by direct human agency or by some inhuman agent. The disease object is supposed to hold a spiritual essence which is the real cause of the illness. Our medicine man in this

case assumes the function of one who is to extract this object from the victim's body. The disease object may take any form, but it is always small such as a pebble, splinter of wood, bone or, hair lizard or worm. Removal is usually accomplished by sucking some part of the body and producing the object in the medicine man's mouth. Once produced (sleight of hand notwithstanding), the patient firmly believes himself well on the way to a cure.

4. **Spirit intrusion** occurs when it is believed that disease is due to the presence of some immaterial agent, a ghost, spirit or demon. Here the primitive practitioner can use three methods to eject the intrusive spirit from the victim's body—exorcism, mechanical extraction, and transference. In exorcism the evil spirit is ejected by conjurations; in mechanical extraction the spirit is removed by manipulation, surgical or other means, and in transference the spirit is passed on to some other object.

5. **Soul or body loss** is best illustrated by the Australian Aborigines who believe that the abstraction of kidney fat or fat from the greater omentum by sorcery may be a common cause of death. Also, the soul may be abstracted by ghosts or sorcerers or may leave the body in sleep. Here the task of the medicine man is to discover the

whereabouts of the missing by divinations or other means and to return it to the body of the patient.

6. **Dreaming** may also cause disease. In the Pacific and in the southwestern areas of North America one may dream that one has eaten poisoned food or that an animal has entered one's body, and on awakening he may shortly fall ill.

7. **Independent occurrence** can be illustrated by a group of minor conditions such as leg sores, cuts, scratches and so forth, which are regarded as arising independently of any action on the part of human beings or higher powers.

So, under such a grouping so entangled with mysticism and the supernatural, it is quite surprising that primitive societies have developed any sort of rational therapy and procedures. But in some respects they have.

To illustrate, there is a group in West Africa who have successfully inoculated themselves against smallpox and snakebite. In smallpox, the contents of a pustule are rubbed into an incision made in the skin, and the same practise is used with snake venom. Veins are punctured (rather simply by splinters of bone or with more formality by the use of a miniature bow and arrow). Cupping and blood-letting are widely prac-

Dalhousie University — HALIFAX, NOVA SCOTIA

Founded 1818



FOR FULL PARTICULARS

Write

THE REGISTRAR
Dalhousie University
Halifax, N. S.

Offers exceptional opportunities for students in Arts, Science and the professions. Entrance scholarships available on the basis of educational attainment.

Special emphasis on student health and a well-regulated programme of athletics and recreation.

Courses Leading to Degrees in:

Arts, Science, Commerce, Law, Medicine, Dentistry, Music, Education, Nursing, Science.

Courses Leading to Diplomas in:

Engineering, Education, Music, Nursing, (Public Health, Teaching and Administration).

Honour Courses in Many Fields

The Faculty of Graduate Studies offers courses leading to the degrees of M.A., M.Sc., LL.M., and Ph.D., in Biological Sciences.

Teaching Fellowships

A number of Teaching Fellowships of value up to \$1,100.00 per annum are available in the Faculty of Graduate studies.

EXCELLENT RESIDENCE ACCOMMODATION FOR WOMEN STUDENTS.

tised. Wounds are drained by sections of bamboo. Foreign bodies are extracted and abscesses are opened with a thorn or sharp pointed instrument.

Suturing or tight bandaging to promote union is also used. Thorns may be used to suture small wounds, and certain Indian tribes of Brazil use the head nippers of certain ants to bring the edges of a wound together, the ant bodies being rapidly cut off; a whole series of ants is used along the length of the wound.

Ulcers are frequently treated by cautery using hot ashes, heated blades or iron. In fractures, splints and casts made of clay are used.

Skulls are trephined rather skillfully for the most part by native surgeons equipped with a blade of stone or glass. There are skulls in museum collections that show that persons have been subject to this type of operation as many as four or even five times. Evidence of healing around the bone edges shows that there has been good recovery in these cases.

Various medicines are made up in the form of decoctions, poultices, embrocations, salves and infusions. Hydrotherapy, dietetics and massage are all widely practiced. Enemas are administered by means of primitive appliances; and fumigation, inhalations, snuffs, nasal douching and instillation are also practised.

As we discuss the various remedies that are used by primitive societies, it is well to try to get a bit more personal and look at the vendors of healing. In many articles, books and reviews, the term—medicine man—is used. But, to be more specific a more definite term should be used to delineate the medical practitioner from priests, sorcerers and dealers in various sorts of magic who have no dealing with the morbid. In many societies the medical practitioner has many tangential fields such as rain making and crop growing, but to designate those who cure disease (disease only or part time), the term "leech" has been used by many anthropologists.

As has been said, he may have other functions, but when dealing with the morbid, the designation has been leech and the practice known as leechcraft.

Training in leechcraft may have many differences in various groups, but the most common types of training may be from a man to his eldest son, or by initiation to leechhood with various degrees of ceremony; a course of training including private instruction; acquiring the art by a dream or by a dream-like trance. Even at the best a new leech acquires his power by word of mouth, having another leech pass on his cures and recipes to him. It has even been

seen that a leech may specialize in one category of disease such as skin disease, headaches or snake bite. It is to be noted that leeches as seen in their environment are sincere practitioners, and are not quacks in any sense of the word.

Epileptics usually are excellent qualifiers for the office of leech. No particular reason has been noted, but the association of the supernatural and trance or convulsive states are certainly to be appreciated.

In the societies, there are grades of leeches; the highest grade includes those who are made by spirits, those made by a special group of mischievous spirits, and those made by medicine men.

In almost all cases leeches believe themselves especially capable of becoming practitioners. Women are also included in the art; and generally women are the midwives and child doctors.

In some groups a person becomes qualified to treat a disease by virtue of the fact that he himself has recovered from that particular disease.

One of the criteria that can be used to assess the level of medicine in any primitive group is to determine the differentiation of the leech from the sorcerer and the priest. This separation is not complete or even nearly complete in most contemporary primitive societies, and is best seen in those highly civilized ancient civilizations which developed a relatively high degree of medicine, religion and sorcery.

The leech as described in most contemporary societies cures most morbid conditions by a mixture of ceremony or rite; applications of some form of manipulation or object; and by implication of cause and prognosis. Even though most anthropologists point to the leech as the medical practitioner as contrasted to the sorcerer or priest, we as medical practitioners would most certainly fail to see the differentiation in many cases. To illustrate. When the leech opens an abscess and applies a hot fomentation he has no pathophysiology in mind, but he thinks as does his patient, that an evil power is being released, and a good power applied, and for the most part the fancier the ceremony, the more potent the power applied.

In defence of leechcraft one must admit that there is more than a faint thread of rationality to it. Leeches do not for the most part have a medley of disconnected and meaningless rituals. Their practises are inspired by definite ideas concerning the causation of disease. Their modes of treatment follow directly from their idea concerning etiology and pathology. From our standpoint it is easy to see that these ideas are all wrong, but however wrong

may be the beliefs of these primitive peoples concerning the causation of disease, their practises are the logical consequences of those beliefs.

We may even say that these peoples practise an art of medicine which in some respects, is more rational than our own, and that their modes of diagnosis and treatment follow more directly from their ideas concerning the causation of disease. According to the opinion of the civilized world, these ideas of causation are wrong, or contain but a grain of truth here and there; but once we grant them these ideas then the body of medical practice which follows in an extremely logical one; one which may take us long to emulate in our pursuit of medicine founded upon sciences of biology, physiology, pathology and psychology.

Let us examine a few points which illustrate not only regional differences and stresses placed on morbid conditions, but also illustrate various forms of therapy.

Australia is characterized by the large part taken by human agency in disease production. Magic as a cause of disease is foremost in the Australian aborigine's mind. It is odd that the most common type of magic which is practiced the world over is seldom used. Sympathetic forms of magic are thus seldom seen, other forms being used generally. In a nut shell when

disease occurs, friends of the patient orient themselves to discover and propitiate the man to whose action the disease is ascribed. Here diagnosis is almost exclusively directed to discover the human implicated, and treatment is to convince the patient that the spell has been removed. Therapeutic practises are based on belief that the agent has implanted in the body of his victim a material object, bone, crystal, pebble, as the disease vehicle. The extraction of such object effects a cure.

In Polynesia a different concept is seen. Whereas in Australia magic is stressed, here in Polynesia, religion is stressed. Cure of disease is sought by direct appeal to higher powers.

In some areas it can be said that medicine hardly exists, so exclusively do the people rely on divine help in combatting disease. It is supposed that some outside influence brought certain surgical procedures to Polynesia and these are the only measures which can be regarded as strictly therapeutic. A favourable remedy is the abstraction of blood by means of incisions and scarifications. Vapour, cold baths and massage are also used, but little is to be seen of internal remedies.

Indonesia shows much variety in its medicine. Geographically it is closely related to China and India and assuredly

PRODUCTS YOU TRUST

Today you get extra value in every gallon of Esso gasoline. Most advanced in Imperial's 75 years of leadership.

SERVICE YOU'LL LIKE

When your car needs service, you want the best available. That's why more and more motorists are looking to Imperial—Imperial Esso dealers know your car.

ALWAYS
LOOK
TO
IMPERIAL
FOR
THE
BEST



has had many contacts with the Eurasian world. Here disease is ascribed to human agency as well as evil spirits; ghosts of ancestors, and god-like beings.

In Africa disease is ascribed to both human and spiritual agency, but several African groups show a strong belief in disease production by natural causes; more so than seen in most other primitive groups.

Some African groups seem to possess in a definite form the idea that disease is caused by climate conditions or other natural causes and here their remedies are purely medical and cause-directed. It could be said here that their level brings them to a par with the Middle Ages of Western civilization.

A genuine art of medicine has been recorded among several Bantu peoples and the Masai group never ascribe disease to actions of spirits and only rarely to human agency.

Various remedies used are blood-letting, massage, various forms of surgery and very many internal remedies. Among the Masai the internal remedies are known by all, and only surgical procedures are carried out by specialized practitioners.

Many anthropology texts describe some of the remedial measures taken by primitive peoples. Some are amusing, some ingenious, others ridiculous.

To illustrate, here are some of the practises used by the tribes in Australia.

The general procedures are rubbing, pressing and sucking the affected part. Pain in general is treated by a cord tied to the sick person. Various inflammations of the lungs and bowels are treated with shampoos, breathing, sucking with apparent extraction of a stone, bone or piece of glass. Headache remedies include one where a circular hole is made in the turf; the patient lays his head in the hole and a sod is placed back in the hole. Colds are treated by earth baths. A hole is made in the earth and the patient is buried to the waist in erect position for four to five hours, being given much fluid. Usually there is profuse perspiration and generally the cold is cured. A toothache is directly attacked. The affected tooth is pulled out with a string, or it is knocked

out with primitive tools; the resulting hole dressed with mud and down. Snakebite is treated by placing a cord about the limb bitten; circular cuts are made about the puncture and blood allowed to ooze out.

South African tribes in general have the following remedies. Sores are treated with liberal applications of a black powder or a resinous sap. Both apparently act as excellent drying agents. Wounds are covered with drops of boiling sap, giving a durable coating to the wound. Here again cavious teeth are broken down by use of hammers and iron chissels. Snake bites are treated by placing in the wound a powder prepared of burnt snake and salt. Incisions are made over all joints and in front of the neck and this powder mixture is placed in them. Children are inoculated with snake venoms.

Headaches are treated with a root which has definite anaesthetic powers. Unfortunately, no information was available as to the nature of the drug. Aloes are used as purgatives. Anti-parasitic remedies usually consist of incoctions of the powder of burned parasites. It is here that small-pox vaccination is practised.

Mental diseases are recognized and feared for the most part. There is no remedy applied to idiocy, although various herbs are used to cure delirium.

Disease is well named usually organ directed and technical terms are used. Literal translations would give us such entities as cough, mucous catarrh of throat and nose, tonsillitis, hydrocoele, hematuria, rheumatism, syphilis, gonorrhoea, measles, scarlet fever and smallpox.

Contagious diseases are recognized, and there are strict burying rules as regards consumption and leprosy.

But either despite or because of these medical practises, primitive medicine exists and propogates itself, just as an essential part of primitive society as our medicine is to us. I suppose that many years from now some Alpha Omega Alpha, gingerly nursing a sore arm where he has just had his annual anti-disease booster, may address a similar group of faces on some of the ancient medical practises (carried out by people called "Doctors") in the Twentieth Century.

BIBLIOGRAPHY:

1. Malinowski—Textbook in Anthropology.
2. Hroeber—Anthropology.
3. Coon—Story of Man.
4. McKenzie, Dan—Infancy of Medicine.
5. Sigerst, H.E.—Man and Medicine.
6. Guthrie, Douglas—History of Medicine.
7. Sigerst, H. E.—Civilization and Disease. Cornell University Press, Ithaca, N. Y., 1955.
8. Rivers, W. H. R.—Medicine, Magic, and Religion. Harcourt, Bruce and Co., London, 1924.
9. Montagu, M. F. A.—Anthropology and Human Nature. Porter Sargent, I. Boston, 1957.