

ART AND ITS RELATIONSHIP TO MEDICINE

by

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Dr. P.S. Shetty delivered the following lecture as the Major General S. L. Bhatia Endowment Lecture. He is Professor & Chairman of The Dept, of Physiology, St. John's Medical College, Bangalore

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ART AND ITS RELATIONSHIP TO MEDICINE

P. S. SHETTY

Today I have been honoured to deliver the Maj. Gen. S. L. Bhatia Memorial Lecture. I, however, feel very humble when I am associated with eminent men of learning such as Sri C. Rajagopalachari, and an eminent scientist like Prof. M. S. Thacker who have delivered this Memorial lecture on "Science and Humanities" endowed by this great man's wife.

The topic I have chosen today for the lecture is one that was dear to the General. It proposes to consider and elaborate on the common ground that exists between the various aspects of the profession of the art and science of medicine and the arts of painting, drawing and sculpture. It is also one which truly fulfills the purpose for which Smt. (Dr.) Sharayu Bhatia endowed so generously this annual lecture at the Institute.

From earliest times there has existed a close relationship between medicine and its practice and the visual arts of drawing, painting and sculpture. Rodhey Maingot, a renowned surgeon, once said, "Art and Medicine are as old as man, disease, on the other hand is much older than man. Disease is as old as life itself, and is the inseparable companion of life." During the Paleolithic period when a cave-man of Pindal, Spain, painted a Mammoth on the wall of the cave which accurately depicted the position of the monster's heart, here was the first illustration in surgical anatomy. A review of the panorama of art of most ancient civilizations -- Sumerian, Babylonian, Egyptian, African, South American, Chinese and Indian reveals numerous illustrations of disease and of the practice of the medical sciences. We find the origin of authentic anatomical illustrations and the depiction of diseases in the art of Renaissance Europe - a period of glorious awakening both in art and medicine. The inspired vision of these great masters enabled them to discern and to portray diseases and deformities. The subtle changes that denote derangements of the mind and of the body did not escape the eye of these artists, and the artist's interpretation is rendered with such fidelity that present-day clinicians have been able to make retrospective diagnoses from paintings hundreds of years old. The artistic material of 17th and 18th century Europe, were invaluable documents for medical and social historians. The illustration of medical books began in earnest then and was evident even in the excellent atlases of the 20th century. The latter still retain their supremacy over other methods of illustrations as seen in the work of Frank Netter, despite stiff competition from modern day photography. Medical caricature as well as sculptures and portraits of eminent medical men reveal the social and historical canvas of the glorious heritage of the medical profession and its evolution up to present times.

Before an attempt is made to scan this vast canvas it is important to categorize the various aspects of medicine that are amenable to artistic expression. These include:

1. Any form of disease that manifests with visible external deformities and this would include congenital malformation, neuromuscular and endocrinological disorders and injuries or mutilations to the external physical form of the body.
2. Techniques and procedures in the practice of medicine such as pulse taking, abdominal examination, surgical or obstetrical procedures may be depicted.
3. Historical personages who have contributed to the colourful heritage of medicine may be represented in art.
4. Illustrations, anatomical and other drawings, in medical books written by eminent men

of medicine and illustrated by renowned artists.

5. Art could be the medium to portray the social history of the practice of medicine over the ages. Under this category will also be included the artistic expressions in the form of masks, fetishes and dolls used in the practice of healing in primitive societies.

Pre-historic and Primitive Medicine :

Disease existed before the first man walked on earth and studies of fossils have revealed that prehistoric animals were subject to many diseases and injuries. These included observations of osteomyelitis, periostitis, arthritis and fractures in the bones of dinosaurs and other animals. Egyptian mummies had evidence of tubercular disease of the spine, arteriosclerosis, pneumonia, stones and presence of parasites. Artistic illustrations of this period include the exact location of the heart, in Paleolithic red ochre drawing of a Mammoth in the El Pindal cave in Spain. In primitive cultures, religion, magic and the practice of medicine were inseparable. The implements used in the religion-magical practice of the healing arts such as the colourful carved masks, sickness masks, fetish figures and dolls, were also the highly evolved art forms of these primitive societies. When pre-historic man was making drawings of his mutilated fingers on the walls of caves he was leaving behind historical traces of a disease, probably leprosy which was common in Europe in those times. Examples of medical illustrations can also be seen in the bark paintings of the Aborigines of Western Australia, which show Kangaroos in so called X-ray style, revealing interest in the anatomy of the animals among these primitive hunter-people. A statuette from the Cameroon Islands, now in the Musee de l'Homme, in Paris, shows self-administration of an enema for the evacuation of the bowels, or possibly for the instillation of medicines or hallucinogenic agents. The seated female figure (dated circa 6500 - 5700 B.C.) found among the excavations of Catal Huyuk in Central Turkey, thought to be that of a fertility Goddess, is one of the earliest representations of delivering a child in the sitting position, a recurrent theme seen often in art.

Art and Medicine in Pre-Colombian America:

Pre-Colombian American cultures also blended religion, magic and science in combating human sickness. These ancient civilizations of the Aztecs, Mayans and the Incas are full of art forms which reflect the medical practices of those cultures. These include simplified representations of the heart and lungs in terra-cotta and wooden articles, stone and terra-cotta sculptures of the Goddess of medicine-men (Tlazolteotl), God of fertility and life (Quetzalcoatl) and the Goddess of drugs (Tlazpotlatenan). There is a sculpted face showing facial paralysis possibly due to a stroke, and another clay figurine probably showing the effects of elephantiasis. There are ceramic figures of naked men covered with bumps all over the body representing verruca, or showing pustules on the body possibly due to syphilis. There is a burnished clay figure of an achondroplastic with a hunchback from Colima; and a stone carving excavated in Mexico shows a young pregnant woman estimated at no more than 10 or 12 years of age - a social comment on those times! Pre-Colombian Americas are a good reflection of the practices of the healing arts of those cultures.

Ancient Civilizations of the Middle East

The cultures of ancient Mesopotamia and Babylon proffer a rich heritage to medicine which includes the "Code of Hamurabi." The medical practice of this period, although confined to priests was not always religious or magical. Inscribed clay models of a sheep's liver dating back to the 18th century B. C., were used for divination and prognosis of illnesses. The intertwined snakes which is symbolic of medicine appeared for the first time in

a soapstone ceremonial beaker of 2000 B.C., dedicated to Ningishzida, the God of Healing. A 7th century B.C., alabaster relief shows a lioness wounded during a hunt suffering from paralysis of the lower limbs due to spinal injury.

The art of Ancient Egypt truly captures the relationship between medicine and the arts. In addition to sculptures or reliefs of the god, Horus -- guardian of health, and the goddess Isis -- of health; there are innumerable other relief sculptures showing disease and deformities which include blindness, paralytic poliomyelitis, and a queen in labour using an obstetric chair.

Medicine Among the Greeks and Romans:

Greek Medicare has a long history and is often subdivided into: the pre-Hippocratic, (which includes Cretan and Mycenaean medicine) the Hippocratic period and the post-Hippocratic eras. This period in the history of Western civilization has richly contributed both to medical practice and to art and should be the ideal ground to reveal the strong links between art and medicine. The belief of the pre-Hippocratic Greeks which is closely intertwined with their mythology was that disease and illness are the result of punishment by the gods and is often represented in art; the best example being a painting (dated 450 B.C.) showing the deities Apollo and Artemis shooting arrows that brings diseases to mankind. Details from bowls and vessels show Achilles bandaging the wounds of Patroclus. A bowl from Crete (circa 50 B.C.) shows Circe offering Odysseus some medicinal potion. There are statues of gods such as Asclepius, and representations of votive offerings of terra-cotta organs and tablets made in gratitude.

The Hippocratic period is also a rich source of materials and examples, such as sculptures of Hippocrates and others showing a doctor performing an operation on a patient's head, a physician palpating the abdomen, a cripple with a crutch. On a medallion on a cup (480 B.C.) a man is vomiting to rid himself of excessive humours. War and the consequent injuries being common, these were frequently represented both in Greek and Roman art.

Greek medicine after Hippocrates peaked in Alexandria and influenced the Romans. The best example of artistic representation of medicine during the Roman period shows the doctor Iapyx removing an arrow from the thigh of Aeneas in a Pompeian fresco. Roman art includes several good examples of battlefield injuries. A relief of a woman pharmacist of the period shows the importance of women in the medical practice of that period.

Medicine of the East -- China and India:

There are many examples of art forms illustrating the medicine of Ancient China. These include crude anatomical drawings, a physician examining the pulse, a patient receiving manipulations of the joints, a painting of a girl with small-pox, watercolors of pregnant women, a birth scene with a mother receiving after care as well as statuettes of several renowned physicians of ancient China.

There is a famous Japanese wood block-print illustrating the Chinese tale of Hua To operating on the arm of General Kuan Kung as he ignores pain and concentrates on the game eschewing the anesthetics available at that time.

Much of the work related to Art in Indian Medicine has been written up by myself. It reveals the representation of disease and deformity from the sculptures of the Gandhara School of art (the starving Buddha), to the earliest dwarfs and achondroplasia (dwarfing of the extremities in relation to the size of the head and trunk) in the early cave temples of the

Chalukyas and Pal lavas. Ferguson and Burgess who compiled a detailed study of the cave temples of the Chalukyas writes:

“ .these little fat dwarfs, . .that are such favourites with the early Hindu sculptures for the decoration of the basements, and which they were fond of representing in every possible attitude and in every form of grimace, or even with the heads of animals. All sects -- Buddhists, Brahmans and Jains - seem to have employed such figures in similar positions; in fact they appear to have been conventionalities dependent more upon the taste and imagination of the craftsman than upon the mythology of the sect for which any particular temple was constructed.”

Indian sculptures show depictions of facial paralysis, muscular dystrophies, amelias and phocomelias, as well as congenital deformities such as monocephalus, dibranchius, tetragpes in the art of the Vijayanagar period. There are examples of several other conditions such as phoposis, veragals with a sick man in bed, or surgical and obstetrical procedures.

A miniature painting of the Mughal period shows a man on his death bed, a painting commissioned by the Emperor Jehangir himself. Even Tanjore paintings show congenital malformations, Sculptural representations are also available of Dhanwantri at Somnathpur, the celestial physicians, Aswini kumaras at Chidambaram and of sage Agastya, the founder of the Sidda School of Medicine.

Other countries in the East also have similar sculptures, for instance the one from Bangkok, Thailand, showing orthopaedic manipulation.

Medicine After Galen

Visual Arts depicting the practice of medicine flourished in the Galenic and post-Galenic Medieval periods of over several centuries. These included illustrations in books of medicine and medieval manuscripts, paintings. Sketches and woodcuts showing daily activities of physicians and also the Christian influence on the healing arts. Galenic concepts of diseases such as that of excessive humours and common notions of certain illnesses, many of them psychiatric were also represented. Galen strode as a colossus, as the most influential person in the history of medicine. His influence lasted for over 15 centuries — a period during which his works were the unimpeachable authority on medicine. An edition of Galen’s text published as late as 1550 shows the surgical procedures described by Galen — on the head, eye, leg, mouth, bladder and genitals - procedures described from 200 A.D., being still followed in the 16th century. Several paintings show Galen’s contribution to the ancient doctrine of four humours: sanguine, phlegmatic, choleric and melancholic. The rise of Christianity in medieval times shows the influence of the church on medical practice by religious orders (monks and nuns) and the social attitudes to psychiatric illness being considered as being the influence of the demon and the therapeutic practices related to mental illness. Pieter Breugel’s engraving "The Extraction of the Stone of Madness" illustrates and satirizes medieval quackery.

Arabic Medicine

The Arabs were an invaluable intermediary for the receipt of the heritage of medicine by the Western world. This was a period of preservation and compilations of Hippocratic teachings and Galenic concepts. Islamic art has examples of anatomical illustrations, medical treatments such as cauterization of wounds, antidotes for snake bites, couching of cataracts and orthopaedic manipulations. These artistic representations continued when the practice of medicine shifted to European centres with the rise of Universities in Salerno, Montpellier and Paris with illustrations of several manuscripts and books. Teaching from dissections of the

human body was shown as well as many medical conditions and their treatment in hospital settings. The then current concepts with regard to mental illness were portrayed often and with the formalization of medical care many types of treatments, manipulations and tools of the trade were shown.

Medicine during and after the Renaissance.

An burst forth in the Renaissance period in mid-15th century Europe and both medicine and art flourished. Innumerable examples are available showing the close relationship between the visual arts and medicine. The progress in the diagnosis and treatment of illness and disease and the great names in Medicine such as Ambroise Paré, Paracelsus and Vesalius were portrayed. The unparalleled art of Michelangelo was based on a sound understanding of the human anatomy - external and internal. This close interactive relationship continued during the 17th century which was called the "Age of Scientific Revolution." Scientific illustrations in art form flourished and with the advent of the microscope hitherto unseen details were revealed and portrayed. Paintings of this period reveal the daily practice of medicine such as pulse taking and urine examination and also the great names of the period, William Harvey, Leeuwenhoek and others. Social commentary on the practitioners of medicine was also available in the art of this period and colorful caricatures and cartoons appeared in the 18th and 19th centuries.

All these events lead gradually to the Beginnings of Modern Medicine when this relationship between art and medicine continued and nourished. The major advances in modern medicine, anesthesia, and other major surgical achievements were depicted and so were the important characters in this continuing drama. New art forms such as photography appeared but they were neither able to eclipse painting, drawing and illustrations, nor were they able to disrupt the relationship between the visual arts and medicine despite their superior advantage of realism. The story of this close interlink between Medicine, its progress and practice, the dramatic personae involved in this drama and the visual art forms continued.

Through this illustrated lecture, I hope I have demonstrated that art is the repository of the glorious heritage of medicine. It gives flesh and blood to the history of our profession. It also illustrates that medicine is more than just medicine, that healing and healers comprise more than one discipline. The development of medicine has not been an uninterrupted straight line of progress. Philosophy, history, art and medicine have always been closely interrelated during this process.

Society and the medical profession have exerted mutual influences on each other and continue to do so. Art also mirrors the way society views our profession and in addition to chastening our own inflated perceptions of our often considered "noble calling" it also provides a commentary on the social history of medicine. Opposing forces are pulling the medical profession in different directions. The physician is asked to act more responsively to the patients' need - give him more time, visit his home, and so on. At the same time he is increasingly cast as a 'tradesman' in the business of health care, as a commercial but professional entrepreneur. There is pressure on him to become "holistic" in caring for each patient but simultaneously he is threatened with the ever increasing burden of technical information, the need to demonstrate skill and competence and having to keep up with the current state of the art technology.

Despite frequent talk of the need to practice holistic medicine and to inculcate "humanism" in dealing with patients - no attempts have been made to provide a cultural

depth to the study of scientific medicine. Even Universities in developed countries which profess an interest in "humanism" do not offer courses in history, art, philosophy or sociology to medical trainees. While complaining bitterly that medicine has lost its "human face" increasing premium is placed on high levels of professional competence and performance. The obtaining of excellent grades in science is a prerequisite of medical admission with no emphasis whatsoever on the arts or humanities. Society is increasingly expecting the physician to concern himself with social justice and the concern for his environment. But no attempts are however made to educate him during his training period that a need exists to understand these broader social objectives. On the contrary confrontations are generated between the profession who resent this intrusion by outsiders and the activist groups that condemn practicing physicians as being narrow-minded, ineffectual mercenaries. Only a study of humanities will provide comfort and such confrontations in society are not new and have happened all the time. They are of any society and the need to address and resolve them in the proper perspective can only be achieved by broadening the scope of medical training.

Art is universal, so is humanity and so is disease, illness and the practice of healing. An interest in the arts and humanities is essential for its own sake: for the cultivation of art makes a complete man. I would like to close my lecture by recollecting Gen. Bhatia's words in his lecture on "Science and Humanities" delivered in Bangalore in February 1956, when he said,

"The Humanities bring the student into contact with the masterminds of the past, and they serve as an excellent discipline for the mind. Today Science sadly lacks the Humanities, and Humanists have not enough Science. This unhappy divorce should never have taken place. They are complementary with each other. In the remembrance of their glorious past, nations as well as individuals derive their noblest inspiration. India with its ancient spiritual heritage and tradition has a great contribution to make in this field."

"The salvation of Science lies in the recognition of a new philosophy -- of which Plato speaks: 'Now when all the studies reach the point of inter-communication and connection with one another and come to be considered in their mutual affinities, then I think, and not till then will the pursuit of them have a value.' This inter-communication, this synthetic process between Science and the Humanities, I can hardly overemphasize."

References:

1. Bhatia, S.L. Science and the Humanities. Orient Longmans, 1962.
2. Ferguson, J. & Burgess, J. The Cave Temples of India. Orient Books Reprint Corporation (1880). Reprint 1969.
3. Lyons, A.S. & Pctrucelli, R.J, Medicine - An Illustrated History. New York, 1978.
4. Maingot, R. The Relationship of Art and Medicine, London, 1974.