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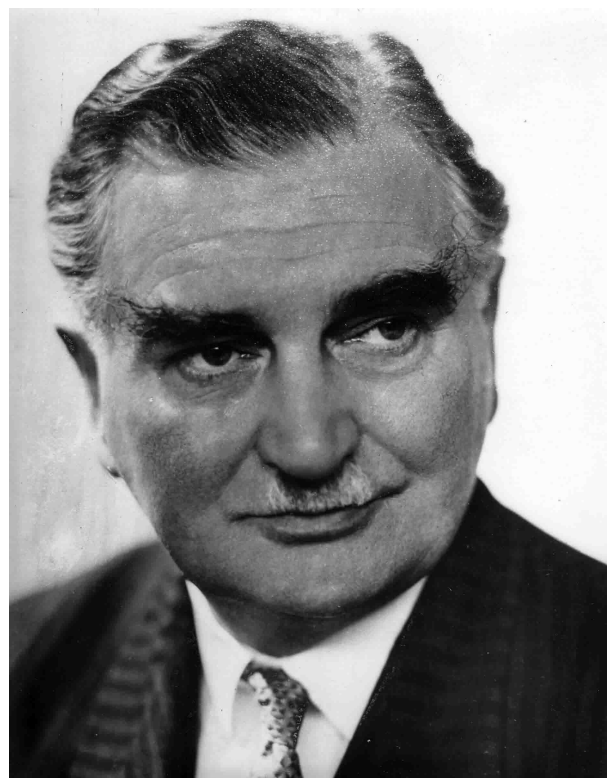
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Presidential Opening Address Ulster Medical Society

CNIDOS v. COS

SET in the azure Aegean sea is the island of Cos. Not far to the east is a promontory on which was once the city of Cnidos. Both were inhabited by Greeks, yet even as in our own country Greek did not always agree with Greek, and differing solutions to the same problem often led to considerable variation in opinion. Yet here in these two small land areas took origin some of the very basic concepts of our profession. Here in the fifth century B.C. flourished the two most important medical schools of ancient times. It may be that Cnidos was slightly senior to Cos, but there is little evidence available. Superficially there was much resemblance between the two schools. The basic medical knowledge of the times was common to both. Their anatomy was based on animal dissection and possibly also on their examination of injuries sustained in war and by accident. Their organisation was similar and whilst in Cos Hippocrates ruled and taught, in Cnidos Euryphon held much the same position. Yet in spite of the similarities in structure and organisation each developed his teaching methods and philosophy along such differing, yet entirely rational, lines that one can scarcely find a greater contrast in any period in the development of our profession.

Most of what we know about the Cnidians is contained in the criticisms of the Cnidian sentences or maxims put forward by Hippocrates in his book *Regimen in Acute Diseases*. He alleges that the Cnidians attached too little importance to Prognosis: that their treatment was faulty and that they carried classification of diseases to the extreme. It is clear that their treatment was influenced by Egyptian medicine, and that like the Egyptians they believed that many of the disease producing toxins could be eliminated by purging. They had little knowledge of pathology, and had little sympathy with the ideas of 'general pathology' promulgated on the island of Cos. So too they were opposed to the doctrine of prognosis. Rather did they believe that a detailed classification of diseases would establish a scientific



basis for medical progress. To this end they grouped diseases according to symptoms and syndromes, insisting that variant symptoms indicated different diseases – a thesis which was attacked by Hippocrates but only subsequently disproved by the advent of modern pathology. It is probably no discredit to the Cnidians that they classified wrongly for they lacked, as did the Coans, the fundamental knowledge of the basic sciences, and had not learned to distinguish between the essential and the non-essential observation. They possibly erred more grievously when they gave more credence to the system of knowledge than to the things to be known. Indeed this search for systemisation and classification developed as the core of their philosophy.

Yet they deserve the credit for being the first medical school to promulgate the concept that medicine was a science – though curiously Alcmaeon, almost a hundred years earlier, following his discovery of the optic decussation, had claimed a similar scientific base for medicine. They believed that such a system of scientific medicine, founded on a well grounded classification of disease, would

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endure for all time. Unfortunately their concept led to an over-refinement of diagnosis, and to an over-elaborate theory of disease into which the patient had to fit, with the resultant neglect of the patient as an individual.

In the meantime, in nearby Cos, Hippocrates was developing a very different concept of what the practice of medicine entailed and of what the function of the doctor should be. In contrast to the Cnidians, the school of Cos held that the true task of the physician consisted less in the drive for knowledge and its satisfying insight into the nature of disease than for the search for general principles of treatment. The idea that the art of healing could be transformed into a science and therefore made available as a profession to everyone of sufficient intellectual ability was opposed. They emphasised that those who should become physicians should have certain special qualifications – qualifications for which pure scientific knowledge could not compensate. They emphasised that medicine was an art, an art to be possessed only by the born physician, and so they left to the modern dean, and to U.C.C.A. a problem which is not yet resolved.

To them medicine was an art – an art with its own boundaries and to be developed within these limits.

The practice of medicine also meant that the physician should possess and demonstrate in his way of life certain moral and ethical attributes such as unselfishness, a respectful bearing towards patients, modesty, dignity, honour and willingness to work. Indeed Hippocrates wished the doctor to develop the capacity to subordinate his own interests to that of his patient.

Experience teaches, for experience gained from the course of the disease in previous patients was important in guiding the physician in his treatment of other patients and in enabling him to assess the course of the disease and its ultimate prognosis. Sickness was viewed as a battle between the curative powers of the body and the disease producing cause. With such belief the role of the physician was supportive. Hence the training of the physician was that of an apprentice gaining experience in his clinical work, and being guided by his teacher in the support of the natural curative forces of the body from his greater experience in the estimate of prognosis. “The true object of architecture is not bricks, mortar or timber but the house”. The true objective of the doctor is therefore not his drugs, or his biochemistry, or his knives and forceps but the well patient. “Diligent study is like the cultivation of the fields: and

it is time which imparts to all things and brings them to maturity”.

The student “must also bring to the task a love of labour and perseverance so that instruction taking root may bring forth proper and abundant fruits”.

So for Hippocrates medicine was an art, but if one takes the trouble to look at the original works instead of commentaries no modern doctor would fail to be impressed by the fact that Hippocrates was one of the first and greatest ecologists. He saw man clearly – not only as an individual but also as part of the universe in relation to the wind and the weather, to food and diet. His writings still purvey a more comprehensive view of man than even those of modern ecologists.

What pathologist would not agree with Hippocrates on his conclusions, based as they were on purely clinical observation and deduction?

“If one injures the smallest part of the body, the whole body actually would experience the disturbance for the very simple reason that the very smallest part actually is composed of the same things as the whole and the single part transmits even the smallest impulse, good or bad, to all the other parts that are associated: this because the entire body is integrated with the small parts in pain as well as in pleasure, for the smallest parts transmit to related parts and then again pass on the impulse”.

It is not surprising that Coan medicine with its emphasis on human ecology, on the individuality of the patient, and the ultimate primacy of man, grew into something more than a mere craft, but rather into a leading cultural force in the life of the Greek people. From that time it is not remarkable that medicine became an essential component of general culture. It is not unexpected that the more highly developed medical science of to-day, developing as it did from the rediscovery of the Greek and Roman literature and thought in the Renaissance period, has become so highly fragmented and specialised that it can no longer play a similar role in the general culture of our time.

So balanced against the scientific approach of the Cnidians we must place the more artistic and philosophic concept of Hippocrates, who saw man whole, and his environment as a whole. Who saw that knowledge and appreciation of natural science had to be reinforced by moral grandeur – the humanity of the physician with the humility of the philosopher, together with somewhat of the artistry of the poet.

Let me quote from Hippocrates something written 2,000 years before Omar Khayyam – “Potters spin a wheel which shifts neither forwards or

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backwards, yet moves both ways at once, therein copying the revolutions of the universe. On this, which as it revolves they make pottery of every shape, and no two pieces are alike, although they are made from the same materials and with the same tools. Man and animals, too, are in the same case.”

And finally for the benefit of those who attempt to create new curricula, and who do not always distinguish between the acquisition of facts and the educational development of their students let me quote Hippocrates – “Medicine is the most distinguished of all Arts . . .

The learning of medicine may be likened to the growth of plants. Our natural ability is the soil. The views of our teachers are as it were the seeds. Learning from childhood is analagous to the seeds falling betimes upon the prepared ground. The place of instruction is as it were the nutrient that comes from the surrounding air to the things sown. Diligence is the working of the soil. Time strengthens all these things so that their nature is perfected.”

Is there not here more than a suspicion of the parable of the sower, or of Osler’s famous analogy in his Text-book of Medicine.

Thus in the very beginning of medical philosophy were established the two schools of medical thought – of medicine as a science prescribed for the patient, and of medicine as an art devoted to the medical care of the patient. In the long history of our profession these two concepts have occasionally survived in peace with each other, but more often they have diverged in their aims and their accomplishments. In their initial struggle Hippocrates – the ecologist, artist and poet, finally had the greater influence and the adherents of Euryphon and medical science for some centuries suffered eclipse. Yet the philosophic seeds planted in these two schools at the time of the flowering of Greek philosophy and culture have been our profession ever since, and it may be that the time has come for clarification of the purposes and function of the physician relative to these two primordial concepts.

Why should it be, asks Allport, that science, that epitome of rationality, should part company with common sense over the fact of human individuality?

The outstanding feature of man as a living sentient being is just this individuality. He is a unique creation in the broad ecology of nature. Yet because of his very uniqueness the sciences regard him as somewhat of an embarrassment when with harsh insouciance he intrudes his undeniable unpredictability into their several arbitrary and carefully ordered theses.

For the god of all science is the Universal Principle of which the individual may be an instance or an example – but of which equally, he may be a most brazen contradiction. The failure of the Cnidians to distinguish between the essential and the non-essential – to continue to fit the individual into the partly scientific schemes of medicine – still persists.

Even in religion the concept is that the individual casts his burden not on a theocratic institution but upon another individual. To those of us who believe in the primacy of man – of the individual man – the relationship is not only that of the patient to the welfare state but in the final analysis of the patient to his physician.

And so as one reads the history of medicine it becomes obvious that the basic contrast between the schools of Cnidos and Cos still persists, and has always persisted. The record shows that there have been many periods when clinical medicine – the medical care of the individual patient – seems to have ceased to exist, and philosophic and what in retrospect now appear to be pseudo- scientific theories have dominated the practice of our profession. Yet periodically there has been a clinical rebirth. Hippocrates in 400 B.C. corrected the Cnidian Maxims. Then for many centuries medicine laboured under the Galenic thesis, but in the latter part of the seventeenth and the beginning of the eighteenth centuries there was a great revival of clinical observation and teaching and reorientation of medical thinking stimulated by Sydenham in England, Baglivi in Padua, and by the greatest of them all, Boerhaave in Leyden, Medicine was once again liberated from the theocratic speculations engendered by Cullen who founded the Glasgow school, or Rush in Philadelphia or Brown in England and many others. Yet in the young America it once again needed someone like Osler to bring back bedside teaching and to re-emphasise the importance of clinical empirical medicine. Marion Sims, after whom our obstetricians have named their major undergraduate award, had never examined a patient when he graduated in Philadelphia, and there were numerous others who were in a similar state. The dispensation of medical knowledge to the individual patient was not part of the prevailing thesis. Even in my own experience in examining I have met students who had examined up to two patients in their undergraduate years. Unfortunately in modern times, partly as the result of the great increase in our basic factual knowledge there has developed a neo-Cnidian school of thought.

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The fact that there were great and successful physicians before the development of laboratory medicine is forgotten – indeed I have had young men in training emphasise that before the advent of our modern battery of drugs, medicine had little to offer to the patient. Little do they know of their own weakness – little do they appreciate that it was in the treatment of the individual patient and in the appreciation of his individuality in relation to his total environment that much good was wrought, and that in the process the doctor himself attained the full flowering of his own personality. The modern alternative of the specific drug, whilst often bringing control of the disease, does not itself necessarily bring the same solace and understanding to the patient.

Furthermore with the changing pattern of disease – of genetic and degenerative processes superseding those which came to the body from without, and which modern science has shown itself so competent to control – the role of the doctor may once again revert to the Hippocratic art of seeing and treating the individual patient as part of his total ecology. Claude Bernard – that greatest physiologist – emphasised that “La fixité du milieu interieur est la condition de la vie libre”. Yet to-day with our battery of biochemical tests, our overall screening of the patient, and the urgent rush to correct what we believe is the slightest derivation from the electrolytic norm, if such a norm has yet been established, the body is given less and less opportunity of using its age-old ability to establish its own ‘fixité du milieu interieur’. Any pathologist will verify that our scientific approach is still far from perfect, and that the establishment of what appears to be a biochemical normality not infrequently results in the death of the patient – drowned as a result of his own physiological processes being overtaken by the Cnidian pseudo – because incomplete – science of our times.

Even our apparently scientific practice is dictated by medical fashion. To our ancestors of not so long ago the eventual panacea for many diseases was the therapeutic practice of bleeding. As a house physician I was ordered to do it myself. There was a veritable orgy of blood letting, practised not only by the relatively unscientific but also by some of the most eminent thinkers of their times. In retrospect we think we appreciate their errors. To-day in contrast we have developed the opposing thesis, and intravenous fluids of various compositions are used in ever increasing amounts. Just as one saw in the autopsy room the effects of indiscriminate bleeding,

to-day one also sees the effects of over-enthusiastic transfusions. But we have our reasons, and scientifically and soundly based, and can a transfusion of this or that – do aught but good.

The stage, however, has now been reached when no one doctor can hope to possess the whole of medical knowledge for the benefit of his patient. Until the recent war I had thought it possible for an individual to encompass the whole of our current medical knowledge. But to-day even with the advent of computers it is doubtful if the entire corpus of our current scientific knowledge can be deployed for the benefit of one individual.

It is a curious fact that doctors have persistently over-estimated the current scientific standards of their profession. Alcmaeon 600 years B.C. was content that medicine had reached the standard of a science. In turn Boerhaave in Leyden, Rush in Philadelphia, Bilioth in Germany, Charcot in Paris, and Osler in America all extolled the great scientific conquests of their times. Who of us has not been guilty of a similar enthusiasm for the scientific peaks of our generation?

Seventy years ago Osler was content that medicine had as it were arrived. “Never has the outlook of the profession been brighter. Everywhere the physician is better trained and better equipped than he was 25 years ago. Disease is understood more thoroughly, studied more carefully and treated more skillfully. The average sum of human suffering has been reduced in a way to make the angels rejoice. Diseases familiar to our fathers and grandfathers have disappeared, the death rate from others is falling to the vanishing point and public health measures have lessened the sorrows and brightened the lives of millions”.

We too could hymn the conquests of the last fifty years, and tell the story of the sulphonamides, the penicillins, and the tetracyclines, and acclaim the triumphs of our preventive medicine. The diseases coming from without have been controlled. In developed countries no longer is there fear of typhoid, cholera or plague but man continues to die, and as one looks through the pathological records of the last fifty years one sees that the picture has merely changed from one type of disease to another, and that even in the success of our conquests we have merely unbarred the next layer of the onion. It is true that the most important diseases of our time have now been transformed in general to an older group of the population. Tuberculosis no longer claims its victims between the ages of 15 and 25, but the new layer of diseases made apparent by the success of our current medicine introduces new problems to our

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medical concepts. Now we are confronted with the problems of cardio-vascular disease, of malignant disease, of mental disease, and of a series of diseases consequent upon the wear and tear of the body with increasing years. Perhaps even more important is the failure of the profession to obtain the co-operation of the public in saving themselves. For all these problems there is no vision of a further miracle working drug, nor can further control of the environment render hopeful solutions. Rather do these problems reinforce the idea that clinical medicine has a more than ever important part to play. Complicated laboratory tests, radio-active tracers, antibiotics, corticosteroids and what you will of the modern medical armamentarium can do little or nothing to modify disease processes that take their origin in genetic inheritance or in intrinsic immuno-pathological processes that are the result of the ageing of our tissues and our cells. And so there comes to pass an ever-increasing population who require the best clinical diagnosis, but even more the best Hippocratic clinical treatment – each and every one according to his individuality.

To-day the problems of disease in developed countries are concerned not with the impact from the environment, not with bacilli and viruses and parasites – though naturally we keep a watching brief on all such foreigners – but mainly from disease emanating from intrinsic processes within ourselves. By rationalising nutrition, by control of the environment, by our antibiotics many of the common diseases of the not too distant past, which are still present in the underdeveloped countries of the world, have been for us abolished or at least controlled. Pasteur looked forward to the day when all disease would be conquered; but he did not foresee that the conquest of environmental, nutritional and infectious diseases would unmask a whole sequence of diseases which would pose entirely new problems to our profession.

Cnidus and its disciples have been successful – medical science has overcome many problems but one is forced to ask has the Cnidian concept had its day, and is not the Coan ideology once again to dominate the thinking and practice of our profession.

Many of our modern techniques deal with some specialised and therefore limited aspect of man. Each specialised technique is set in the framework of a relatively simplistic mechanical philosophy of structure. So too often the student sees the patient less and less as a person, a whole individual, but rather as a composite of an infinite number of variables. In this way we tend to repeat the errors of

our Cnidian predecessors and forget that scientific advances from a medical point of view must go hand in hand with improvement in medical care.

We can over-play what appear to be our scientific successes. Has cortisone sustained the exuberance that marked its appearance? Has the public not encouraged the profession to over-play its technical achievements in cardiac transplantation? Have not, sometimes, our therapeutic achievements tended to hinder rather than to advance the essential basic knowledge of the disease process? Has the advent of tranquillisers stimulated or repressed our attempt to understand the basic process of mental disease? These and many other questions lead one to challenge some of the bases of our neo-Cnidian medicine.

Even in our advances we must maintain an alertness that those things which are good are preserved. We should remember that though beside teaching and a recrudescence of Coan medicine was instituted by Montanus and Baglivi in the 1500's, in less than forty years it had again disappeared and been replaced by the relatively sterile professorial discourse. So too in Leyden with the retirement of Boerhaave the students no longer walked the wards of St. Cecilia. Even in our own days one sees some of the incentive of Hippocratic medicine flame for a time, and then grow dim as its apostles grow old and disappear into the limbo of forgotten goodness – grow less intense, grow heavy and finally cease by the wayside.

From a different aspect Sir Macfarlane Burnet in his recent book raises much the same question. The great welter of experimental research has carried investigation from the patient to the organ, to the tissue, to the cell and finally to the molecule and to the gene. It has no doubt produced its rewards, and provided that this new access of knowledge has been properly dispensed to the patient medical practice has profited. Yet he does not believe that future laboratory research will necessarily result in the evolution of any new principles of medical treatment. We will learn a great deal about genes, and molecular biology will continue as a science to contribute to the basic fund of factual knowledge, but its contribution to the further conquest of disease, or of adding not years to life, but life to years will be an ever-diminishing one. It may well be that such studies will be pursued more and more by the pure scientist, and that scientists and practitioners dedicated to the medical care of the individual will play an ever decreasing part. In the past in the medical laboratory its exponents, in common with their clinical

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colleagues, had still the belief that somehow and sometime their work might have a beneficial effect for the individual patient or socially if the goddess of good fortune smiled on them for the benefit of humanity as a whole. In a medical future in which it would appear that care rather than cure will be the main function of our profession there is every need for the recrudescence of the Hippocratic ideal.

It may be of interest to note that Hippocrates observed the greater the environmental variability the greater the output of unusual persons. He himself lived in a period of stress not unlike our own. Marathon was fought 35 years before his birth. As he was born the Persians invaded Egypt. When he was 30 Athens suffered the Great Plague: as he died Athens and Sparta put their differing philosophies to the final arbitrament. So may it not be opportune to suggest that out of the maelstrom of our own bomb racked and conflagrantly society there may arise some attraction to that well travelled goddess of Health – Minerva – that once again a physician may think more clearly than his fellows, and that here for a time – for Minerva has ever been fickle – the proper balance between Cnidos and Cos, emphasising the primacy of the individual, whilst utilising all that is best in the science of medicine towards the maintenance of that individuality, will bring forth the flowering of Medicine of our times. For a time Minerva dwelt in Padua, then gave her love to Boerhaave in Leyden, paused for a while with Louis and Charcot, then passed to Virchow and his compatriots in Germany. I think she had quite an enjoyable affair with Sydenham in England, but more recently she has given her affection to the Americans. Yet in the beginning it was to the small communities in Cnidos and Cos that she surrendered her charms, and it was from these small communities that arose the basic conflicts that we have so far failed to resolve. Would that one was young again and could attract Minerva. It may well be that from this small area, enshrouded by turmoil comparable to that of Hippocratic times a true philosophic combination of the art and science of medicine might evolve, and that in the not too distant future we might, out of the ashes of our turmoil, produce someone who might in the history of our profession be found not unworthy to stand in the company of Baglivi, Boerhaave, Sydenham and Osler.

It is a lack of confidence, more than anything else that ruins a community. We can destroy ourselves by disillusion just as effectively as by bombs. As a profession we have a great tradition, and it is a tradition in which in its great periods the care of the individual, rather than the cold science of medicine

has dominated.

To-day in our community
Things fall apart: the centre cannot hold
Mere anarchy is loosed upon the world.
The blood dimmed tide is loosed, and everywhere
The ceremony of innocence is drowned.
The best lack all conviction, whilst the worst
Are full of passionate intensity.

Yet in medicine we rise above the ebb and flow of senseless passion for we are part and play our role in the great whole which we call nature.

We must never forget that in the beginning Hippocrates was the great ecologist – that he saw man whole in relation to the whole of nature. Incidents and circumstances not infrequently lead to depression and anticipation of the day of doom, but in the ultimate from man's great genetic pool leaders have arisen, and will arise again, to point the way to sanity and progress.

Ever from the dying Phoenix, says Cranmer to Henry VIII, has arisen one

“Who from the sacred ashes of her honour
Shall star-like rise, as great in fame as she was
And so stand fixed. Peace, plenty, Love, Truth,
Terror
That were the servants to this chosen infant
Shall then be his, and like a vine grow to him
Wherever the bright sun of heaven shall shine
His honour and the greatness of his name
Shall be, and make new nations: he shall flourish
And like a mountain cedar reach his branches
To all the plains about him. Our childrens' children
Shall see this and bless heaven.

And so I hope that in the world of modern medicine we may see in the not too distant future, and preferably in our own small community, a physician who will fuse for the benefit of humanity the conflicting concepts – born so long ago into the very origins of our profession in the schools of Cos and Cnidos. “The printed science of our profession can become more worshipped than the actual art of its dispensation to the sick, but the statue of Asklepios is of no avail if its spirit dies”.