Cardiology

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Cardiovascular disease became an important issue for modern medicine at the beginning of the Twentieth century. By the late 80's coronary disease became the number one source of deaths in the United States. Every two people died from heart attacks, while three others suffered from them. Many people and their studies throughout history, dating all the way back to the 16th century up until today, have gathered the information needed to become more aware of this disease. Refined diagnostic techniques led physicians to a greater understanding of how to monitor the heart. New literatures on difficult, troublesome abnormalities help researchers detect early signs of heart failure. With not only concerns of heart attacks worrying doctors and patients alike, the new trend of high blood pressure or hypertension became even more than a treat. The hardening and thickening of heart's arteries meant that more work was expected out of the heart. This over exhilaration caused skipping, lack of breath, pains that were preamps for fatal heart attacks. Arteriosclerosis was caused and by a build up of fatty deposits in arterial wall', and made worse by stress, smoking, and excessive drinking. Due to multiple complications of the heart, cardiology stepped up its efforts in the mid-twentieth century. Computerized axial tomography(CAT-scan) and nuclear magnetic resonance (NMR-scanning) provided new methods of understanding pathology and physiology of individual heart problems. Surgical procedures that performed effective bypasses and open-heart surgeries before; are now being replaced by even more up to date advances, making recovery minimal. New drugs that dissolve blood clots and reduce cholesterol have reduced drastically the death rate in heart attacks victims. Besides the pharmacological and surgical approaches to curing

heart problems, developments with the management of abnormal heart rhythms have improved. Pace makers along with other electrodes are used to help regulate heart rates.

In the United State between 1970-1990 coronary heart disease drop by half, leading to 300, 000 less deaths a year. This amazingly data can be credited to the health kick that has caught on so rapidly. Instead of worrying about new and improved treatments, there has been a general concern with prevention. Understanding the risk factors has help greatly. Knowing the dangers of cholesterol and the importance of a good diet and a lot of exercise has not only prevented heart problems for the United States, but has set a higher standard of health for the rest of the world.

Teaching/practice of Med.

In the beginning of the 19th century basic primary health care began to be available to everyone in need. It was nothing fancy. Sick patients were treated to the best of the doctors' ability. They not only saw physically ill patients, but people with a variety of psychological, social, conventional, and ritualistic problems.' Doctors found themselves trying to solve theses issues only to please their patients. Looking pass the social aspect of seeing a doctor, physicians were challenged to cure deadly diseases that were not going away through the tradition conservative (bed-rest, tonics, care and hope) and not so conservative (calomel, blood letting, chloral mixtures and morphia) methods of the time.

With the 20th century on the brink, doctors decided to use more science in their treatments. Diagnostic equipment, chemical tests, physical

examinations and break through medication were used as reference instead of the good ol' fashion style of doing things. New diagnostic jargon and fancy prescriptions' set the evolving standard that physicians were quite professional. This new form of general practice that was slowly changing into professionalism' was founded on new diagnostic principles. This new way of doing things was created in medical schools across the United States. The medical universities taught the link between scientific understanding and the symptoms' of the ill through the use of more advanced diagnosis, thermometers, sphygmomanometers, laboratories, microscopes, and detailed physical examinations. Patients very well received the new procedures' of the early 20th century physicians. They felt secure that their general welfare was being better taken of through the way doctors diagnosed them.

As time went on, physician became concerned into their diagnostic procedures that they soon began to forget about their patients. They saw them as nothing more than diseases needing to be cured. Doctors were required to be retrained in how to react with patients. Medical education began to teach the importance of empathizing with the sick. It was ironic that what science had forced them away from was now once again a main priority in the medical field. Doctors were instructed in sociological, psychological, and clinical medicine.

Now days the practice of medicine has become more specialized than anything. In 1989, merely one out of eight physicians were in general and family medicine. The public has been attracted to progress of health care due to the specialization of medicine. No longer do physicians make house

calls, but many types of doctors group themselves in the same office building for convenience. A higher standard of living, along with technology, not only with equipment but also with newer drugs, has changed the diseases fought today. In these ways the teaching and practice of medicine in the 20th and 21st centuries have provided services that help the human race live longer and fuller lives.

Doubt/skepticism/open mind

One of the basic concepts of the experimental method is doubt. Bernard says it is expressed when an open mind is used towards a conclusion that started uncertain. It is important the experimenters always doubt their beginning points. This gives them a level mind frame towards any form of contradiction that might come about during their experiment. Men of science are able to doubt because of their flexibility gives them a great source of confidence. Through doubt they gain knowledge by accepting that there is always more understanding to achieve. Finding absolute truth is not important, just as long as there is an understanding of the connection that leads you between the different ideas. A true doubter only disbelieves himself, but promotes experimentation and trusts in science. He can never fall into skepticism. The true skeptic distrusts in the nature of science and only finds truth in his own abilities to reason. He has no groundwork on which to create his principles. After time he will never have the chance to discover what he is truly looking for.

A main condition of the experimental method is having a free and opened mind that is founded on doubt. Having a free mind towards ideas is fighting against skepticism. Men of science need to confide in their concepts after only after verification. They also need to accept the link between all things,

but never to the point of not being open to their opposite. As a man of science keeps an open mind, he is able to discover the freedom needed to make the right choices in the experimental method.

Inductive/deductive

Bernard first describes that induction and deduction are two different forms of reasoning. The induction side is an interrogative form' performed by people who do not know, but wish to find something out. They search from the particular to the general. The deduction side is a demonstrating form' occupied by people who know, but yet wish to teach others. They look from the general to the particular. Along with the reasoning side there is a scientific method part also, which explains inductive method as experimental physical sciences and deductive method as the mathematical sciences.

Then Bernard proceeds to debunk his first assumptions by stating that it is not correct to say that induction forms the physical sciences and deduction relates only to mathematics, but they contribute to all the sciences. This is due to the fact that we think we do not understand the sciences, but in reality, we do. He further more discusses that induction and deduction are not really methods of reasoning, but all humans think logically only one way, which is the general to the particular. This basically states that all people naturally reason from the deductive side and that the inductive form only depends on an ability to view the general in the particular.

I personally think that Bernard is contradicting rat bastard. He should make up his mind on what he wants to write at the first of the chapter, rather than waiting until the last page to explain what he really wants to say.

Higher organisms that are objects of the experimental method have an advantage over their outer environment because of their spontaneity'. Their characteristics are full of life, activity, and freedom. This independent force within them brings out the true meaning of creation. These more developed, higher animals with their endless movement never seem to become manipulated by their outer surroundings. These bodies find themselves free from restraining physico-chemical influences, which can include changes in conditions of temperature, moisture, light etc. in the outer atmosphere. Although these living beings need the outer circumstances as their environment the live, they will continue to exist without being effected by them. These traits demonstrate that experimentation may be awkward and nearly impossible.

The less dominant living beings, whether vegetable or animal, are not so independent or isolated to their surroundings. They are directly affected by the conditions of their outer environment. These lower organisms are at mercy to the physico-chemical manifestations' of life. Their conditions are seasonally altered due to the changes of the harsh environment. Under these circumstances, these characteristics suggest that lower organisms are perfect specimens for experimentation.

Bernard explains that the nature of living beings, as subjects of experimentation, is a product of determinism, which connects both the internal and external conditions together. In all living organisms (higher and lower) the internal environment maintains the necessary ties that form equilibrium with the external environment. This will fluctuate as long as there is development and independence from these physico-chemical

elements. In higher forms of life their ability to isolate themselves from external influences can be contributed to their well-organized internal makeup. This is completely opposite in how the lower organisms' independence is effected. These different specifications do not state the variance of nature in these living beings, but are only improvements' or advantages in protecting themselves from the external conditions of the environment. The true nature of all living organisms in the experimental method is identical, varying only to the physico-chemical conditions that influence the living beings' internal environment.