

THE MEDICAL DOCTOR AND "OCCAM'S RAZOR"

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The concept of the unifying hypothesis is discussed, then is illustrated by taking a simple case history of acute pneumonia which could be diagnosed quite easily by reasonable attention to the patient's "overall picture" rather than to irrelevant detail.

A somewhat rough analogy is presented in the approach to medical education. A specific instance of a poor educational approach is the inordinate amount of time which students must spend drilling upon classical Darwinian evolutionary concepts, which are not only beyond proof but actually cause fragmentation within the expanding mass of medical scientific knowledge.

Introduction

The title of this article intends neither pun nor play on words, and certainly no offense is intended to friends in the professions of surgery and barbering!

In scientific jargon "Occam's Razor" is the term sometimes applied to the concept of the unifying hypothesis. This simply means that, when the scientist is presented with a series of observations, he attempts to draw from them one single hypothesis that will best fit all of the data rather than try to manufacture several different hypotheses or explanations of his observations.

A medical doctor finds early in his schooling, and even more so as he continues in his profession, that the practice of medicine involves a large proportion of art with a lesser proportion of science. Perhaps during recent decades in a scientifically-oriented world, it is no longer correct to say that medicine is "90% art and 10% science"; however, it is still true that medicine remains inexact when compared to the physical sciences.

Still, one of the things the medical doctor has in common with the chemist, biologist, physicist, is his constant use of this principle of the unifying hypothesis. Almost unconsciously the doctor applies this in his day-to-day practice of treating illness no matter what the doctor's sub-specialization of medicine happens to be.

In his sophomore year of medical school, the new doctor is taught this basic tenet: whenever a multitude of symptoms and signs of illness are seen, first seek to explain all or most of them as some fault in only *one* of the body's systems. The medical student learns, that *usually* an acute illness is correctly diagnosed, only if he can resolve what initially may seem conflicting and confusing information about the patient into one logical sequence which will most likely point to the responsible disease.

Illustrative Case History

This may be easily illustrated by giving this following case history:

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A 46 year old man well-known by past history to be careless about his eating and drinking habits has tendency toward occasional "weekend binges." He comes to the doctor's office on Monday morning with main complaint of intense pain around one eye. The patient is observed to have some fever and appears quite ill. Other complaints are considerably underplayed while the patient bitterly complains of eye pain. He does mention slight pain in the right shoulder, (very vaguely attributed to muscle strain by the patient) and "upset stomach" with nausea and vomiting. The patient also passes over certain questions about coughing and breathing difficulty, passing these off as "smoking a little too much."

Now, the unaware student physician could easily be trapped into a very poor diagnosis in this kind of situation. For instance, if he seized upon the patient's main complaint of eye pain, he might eagerly grab up his ophthalmoscope and spend the next 20 minutes in intense scrutiny of the patient's eye-grounds in search of the "tell-tale" signs that will confirm his snap diagnosis of "optic neuritis" or even "brain tumor." In such a situation, the student may be so misled that he forgets all about watching how the patient breathes.

But if he had been careful to watch the patient's right chest, he might have found that there was a slight difference in the way the right side of his chest moved on inspiration. If the young, inexperienced doctor had been more detailed in checking the patient's history, he might have found that the pain in the shoulder was not quite like that of "straining a muscle," especially since that pain tended to get worse with a quick, deep breath. Then there could be undue attention to the stomach pain and other abdominal complaints.

A well-read and bright student could quickly jot down a multitude of diagnoses, all of them appearing in multiple body systems. For instance, he might write down brain tumor, rule out retro-bulbar neuritis, bursitis of right shoulder, and even early acute appendicitis. The student has thus diagnosed something wrong in (1) the central nervous system, (2) the musculo-

skeletal scalpul system, and (3) the gastrointestinal system! He could have thrown in a fourth by mentioning the respiratory tract irritation from "smoking too much."

Fortunately, in this imaginary case, an experienced doctor comes along and puts together all of the information in a much more meaningful way. One of the first questions the experienced man will ask is: "How can I group all of these symptoms together into one body system and explain how they could arise in one disorder of that system?" Thus, rather than losing himself in a minutely-detailed half-hour of the patient's painful eye, he puts the stethoscope to the right chest and hears strange "noises."

Very soon, the doctor has arrived at a working diagnosis, for this hypothetical patient has a case of acute right lower lung lobar pneumonia which accounts for (1) fever, (2) reduced motion of the right chest, (3) pain in the right shoulder, (4) a very ill general appearance, and (5) the sounds heard with the stethoscope. The older physician has used several points of information which have led him quickly toward thorough chest examination.

First of all, he knew some of the patient's habits and what kind of illnesses are likely to come from a long "binge." Most of all, he is not misled by "red herrings" which, although they could have some importance, do not tend at all to resolve the patient's problem into some single diseased body system.

By thinking of the respiratory tract first, however, the doctor has arrived at a reasonably good explanation for the eye pain: the patient has an upper respiratory tract infection, an acute sinusitis, accounting for the pain around the eye, which is the patient's main complaint at the moment. The doctor also realizes that acute sinusitis and pneumonia—particularly in a patient of this type—often occur together. Further examination of the abdomen, and questioning of the patient, throw out serious entertainment of an additional diagnosis of acute appendicitis.

The patient does well when he is treated with appropriate antibiotics and rest! In fact, very much better than he would have done if put through an exhaustive work-up for "brain tumor," eye disease, and appendicitis which were non-existent.

Specific "Unifying Hypothesis" Examined

This case simply shows how the medical scientist can effectively use information at his disposal. While neither denying or decrying the tremendous advances that scientists have gained in this

century, sometimes we are forced to wonder if what is now being called "science" will be of continuing benefit to humanity. Objective science is being progressively eroded by certain philosophies which now permeate the thinking of the great majority of the scientific specialties, especially biology.

Unfortunately, these philosophies stand largely upon an abject denial of some very important facts about human history and about human nature. The "uniformitarianism" of the Darwinist is one such faulty concept; and, of course, Darwinism serves as the "unifying hypothesis" for nearly everyone in the biological sciences today.

But the more Darwinism is examined, the more clearly is revealed its failure as a unifying hypothesis. Witness the unbelievable multiplicity of hypotheses spun out under evolutionary doctrine to explain away everything from life origins to the "biological similarities" found among some bacteria and mammalian cells. Instead of having something with which he can work, the biologist is left with a staggering mass of disconnected, totally unrelated facts. Small wonder that today's new medical students are in effect saying to their instructors: "Don't teach me all that irrelevant junk! Just show me how to treat disease!"

In a way, the students are right, though their over-reactions often foster poor attitudes toward that learning absolutely necessary in medicine. For, after all, just what does a six-month course in learning the intricate supposed "evolutionary relationships" among the dog-fish shark, the scale fish, the salamander, the house cat, the chimpanzee, and finally man have to do with learning how to diagnose a simple case of human pneumonia?

Now, I am not trying to undermine sincere medical educators by these statements. I merely submit that for lack of any satisfactory unifying hypothesis in the biological sciences—because of our sad failure to effectively wield "Occam's Razor" as we approach our data—we are beginning to find ourselves in very grave danger of "losing our patient," so to speak. Much like the fledgling doctor taking comfort in complexity and losing himself in unimportant minutia, we may well just sit by to watch our science and civilization slip right on out of this world!

I furthermore submit that there *is* a real unifying hypothesis available to all scientists. This hypothesis, if taken at its literal truth, provides the only basis of true science (See Colossians 1:16-17). Without such a concept, what do we really have to expect in the way of "benefits" from medical science?