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MEDICINE AND THE DOCTOR IN WORD AND EPIGRAM*

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THE honor that you have conferred upon me by electing me to this office carries with it an obligation that my predecessors have discharged with such a diversity of subjects as to allow free rein to my imagination. It seemed to me, therefore, a unique opportunity to revert to a premedical (now almost a prehistoric) interest of mine, philology, a love of words, and in its light, to scan the field of medicine. It was quite obvious from word and facial expression of the friends to whom I confided my plan that they thought very little of it, such questions as "Can you make it cohesive?" and "Is such a subject of any interest to busy doctors?" indicating their doubts. There is an ancient maxim "Many receive advice, few profit by it," and am one of the millions who make that maxim a truth.

I do not propose a profound and scientific discussion of what is to me a fascinating study but will be content if some of the entertainment and enjoyment I have had in my preparation sifts through and in some slight degree captivates my captive audience. If your oratrix succeeds in this purpose you will hear a sketch in the Webster definition of the word "a literary composition, short, intentionally slight in treatment, discursive in style and familiar in tone."

My subject is not alien to the doctor. Words are the tools of our art and of the allied sciences. We use words often long, elaborately constructed and hard to spell to name parts, structures, functions and deviations of the human body as a part of our scientific equipment. Shorter words as a method of communicating to our patient the state of his health and its needs are a part of the art of healing. In some branches of our profession they are actually *materia medica*, words used "as the physicians of a distempered mind" as Aeschylus had it. In medicine as in statecraft and propaganda, words are sometimes the most powerful drug we can use, a thought I cheerfully borrow from Kipling. Parenthetically at this point I should warn you that this sketch, like *Hamlet*, is full of quotations.

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The English language is the product of the activities of our English ancestors — Anglo-Saxon, a blend of West German and Scandinavian combined because of the Norman invasion with Norman-French and classical influences. Shorn of these later influences the Anglo-Saxon vocabulary with its simplicity would have been much larger than its present residuum actually is and would have given us a more direct and obvious lineage. For example, a book written in 1340 that we would call by words of classical origin, "The Remorse of Conscience," was named "The Againbite of Inwit" (The Ayenbite of Ynwit).

The phrase *agenbite of inwit* was adopted by James Joyce in *Ulysses* to describe the anguish of the culture hours when conscience makes cowards of men. It could not be better as a phrase, and the language made itself poorer when it substituted for *agenbite* its exact but pallid equivalent the word *remorse*, which derives from *re*, again, and *mordere*, to bite and the Latin *conscience* for the incisive *inwit* of the Saxon.

A language grows with the activities of those who use it; centuries of changes produce variations and developments in words and structure that characterize those changes. Although Anglo-Saxon words have to some extent fallen into disrepute because so many of them are spelled with four letters, regret may with propriety be felt for the loss of some of them. We made a bad trade when we exchanged the forthrightness and the rightness of certain Saxon monosyllabics for the polite and painfully constructed polysyllabics of the medical pundits. Our language thereby lost some of its essential guts. However, we still know many of the outward parts of the body and the chief internal structures by Anglo-Saxon words: arm, hand, finger, nose, eye, ear, skin, heart, brain, lung, kidney, liver and bone, but most of the adjectives describing these parts of the body succumbed to the Normans — ocular, aural, epidermal, cardiac, pulmonary, hepatic, osseous and renal. And the words stomach, artery, vein and tendon with their classical origin have supplanted the Anglo-Saxon originals, if there were

such. There were many classically derived synonyms for the Anglo-Saxon words *both* of which held their place and meaning, some of them being related to medicine: the Latin *cure* and the Anglo-Saxon *hele*, the Latin *perception* and Anglo-Saxon *knowledge*.

But let us now turn to the names of our profession and of those who practice it. The word medicine comes to us from the Latin *medicina*, the verb root of which is *mederi*, to heal, a thoroughly respectable derivation. But it has kinship with Medea, the enchantress — who was able to change an old ram into a lamb by cooking it in a cauldron and to restore an old man to youth by letting his blood and substituting a magical preparation. Was she the forerunner of the medicine man of early days, and in her practice was there a hint of the possible future range of endocrinology? And, finally, can she be designated as the first female in literature to practice the art, if not the science, of medicine? This word medicine, however, was in Old English *læce cræft* (“Leech-craft”), indicating that medicine in those Anglo-Saxon days was largely limited to the use of leeches to suck out disease with blood. The word leech is the Middle English *leche* and actually meant a physician as well as a conjurer. In *Luke IV:23*, the sentence that we know so well as “Physician, heal thyself” is translated by Wycliffe as “Leech, heal thyself.” We are left in doubt concerning why the physician was called “leech” — was the blood-sucking worm we call a leech named after the physician, or is that use of the word an epithet derived from the animal kingdom?

With the advent of the word medicine, the practitioner of the art was for a time called mediciner. In a manuscript, *Cardanus' Comfote* translated and published in 1573 by the Earl of Oxford, the man who, many believe, wrote the plays and poems attributed to Shakespeare, there is a reference to “the cunning and expert mediciner or physician.” This word, however, came to have the second connotation of sorcerer. Today the root *medic* — to designate the physician — survives only in the Italian *medico*, used in English for the student of medicine, or colloquially in the plural *medicos* or *medics* for the profession.

The words that supplanted it, doctor, physician and surgeon, have interesting histories. They came directly from the so-called dead languages. That these dead languages still live is evidenced by their immortality in our inherited medical language and their rebirth in such modern words as radiology, geriatrics and psychoanalysis and a long list of others. In fact, the place of Greek in medicine is so gigantic that to paraphrase the words of a modern philologist “The medical lexicon is a trophy of Greece.”

Doctor comes from the Latin *docceo*, to teach, and actually means the teacher and the learned man. The sorcerer and the medicine man have been replaced by the scholar, and in keeping with the

high standards of our best medical societies, the practitioner of medicine has become learned and must impart his learning. Dr. Johnson, in 1775, said “The term doctor distinguishes him to whom it is granted as a man who has attained such knowledge of his profession as qualifies him to instruct others.”

Physician also connotes a high principle of medicine, for its origin lies in the Greek word *physis*, which means “nature.” The word physiology means nature lore. Galen says, “Greatest is the Physis and Hippocrates is its prophet.” Both Galen and Hippocrates maintained the *unity* of the organism with its government by a *Physis* or *nature*. The physician or healer best fulfills his purpose by keeping or restoring the natural state of the creature. Perhaps the very derivation of the word physician conveys a subtle warning that in our treatment of the human being we avoid wherever possible interference with the *physis* or nature.

The word surgeon has a truly interesting history. The two roots of this word are Greek, “*cheir*” meaning hand and “*ergon*” work: he works with his hand. The *chirurgion* became *surgeon* after a few centuries and a misspelling or two by medievals in France and England. The earliest practitioners of surgery combined two professions and were called barber-surgeon. There is also a humorous word *chirotonsor*, the Latin *tonsor* (from the verb *tondere*, to shear), he who shears by the hand — and he *really was* a barber. We will return later to this interesting combining form *chiro*.

The word medicine, unless used with a restricting adjective like veterinary or dental, is now understood to mean the science and art of healing the human body and mind. That word human, though containing the syllable man, an Anglo-Saxon word, is of course actually a derivative of the Latin *homo*. In passing it may be noted that the word woman comes from the Anglo-Saxon *wif-mann* — the wife human being — and wife may derive from Old Norman *Vifm*, meaning veiled — the veiled human. The person so described still wears a veil at times even though sometimes only a vestige of one. This reference to her wearing apparel is less derogatory than the implication in the word hysterectomy — derived from Greek *hysteria*, hysteria, indicating that women were the excitable sex. In the last century female and woman have exchanged dignity, the word female now being used chiefly in legal and medical parlance or at times in conversation and literature with perhaps a touch of cynicism or ridicule, while the word woman, once considered somewhat vulgar, now has both dignity and gentility.

Body is a straight Anglo-Saxon derivative from *bodig*, while mind has both Anglo-Saxon and Latin derivation in the Anglo-Saxon word *Gemynd* and the Latin word *mens* from which our adjective mental comes. As already stated the external parts of the body and the fundamental organs are defined

chiefly with Anglo-Saxon words. Face is an exception, this four-letter word coming from the Latin *facies* meaning form, shape or face.

Some parts of the body have names that describe their function or their shape or structure — for example, the following:

Lungs — a Teutonic word from Middle English *lunge* — meaning light and referring to the light weight of this organ, and surviving in the use of the word lights for the lungs of animals.

Stomach — the old French *estomac* — Latin *stomachus* and Greek *stomachos*, which in turn comes from *stoma* — the mouth. The earliest meaning of this word implied a “liking” — and we still say “I can’t stomach him.” We use a different Greek root, the word *gastron*, for the adjective and other derivatives such as gastric, gastrology and gastronomy.

The part of the stomach called the pylorus is picturesquely named from the Greek *pyle* and *ouros*, the keeper of the gate — a gate keeper that, as we all know, must be awake and alert but if neurotic about his job causes the familiar pylorospasm, with its original meaning, a convulsion of the gate keeper.

There is an interesting word *wame*, a form of womb, used in Scottish popular poetry to mean stomach, as in the line “food fills the wame and keeps us livin.” In 1756 a Scottish traveler used the word a-wameling to describe the acute gastric distress and vomiting as well as staggering of seasickness.

Belly is from the Anglo-Saxon *belig* — which meant a bag or bellows and was in common usage in early times. In the Bible we find in *I Corinthians*, VI, “Meats for the belly and the belly for meats.” Shakespeare, in his seven ages of man, mentions as the fifth age “the justice in fair round belly, with good capon lined,” which for us modern medciners sounds like a warning to *all* professions as well as the legal, against one of the dangers of middle age.

The words gut, bowel and intestine are respectively Anglo-Saxon, Middle English and Latin in derivation, all three being retained in modern medicine, with the Anglo-Saxon derivative gut now used in more colloquial medical parlance. Gut originally meant gutter from an Anglo-Saxon word meaning to pour. Bowel was in Middle English *boel* and derived from the old French *boel* and Latin *botellus*, a little sausage, which in turn is a diminutive of *botulus*, sausage, from which we get botulism. The more dignified “intestines” has no other connotation except its simple meaning derived from the Latin meaning insides — coming originally from the preposition *intus*, meaning within. The word abdomen is of uncertain origin but is thought by some to be related to the Latin *abdere* to stow away, or hide — the place where things are stowed away or hidden. Others think it is akin to *adepts*, meaning fat.

Heart — Anglo-Saxon *heorte*, meaning life and the seat of life and strength as in the *Psalm CIV*: 15 — “Bread which strengtheneth man’s heart.” A hearty word this should be and is, with its many modern meanings ranging from heart, meaning “the muscular organ” that keeps us alive, to the term of affection as in “sweetheart.”

Brain — the Anglo-Saxon *bragen* — meant originally the upper part of the head, and later the mass of nerve tissue enclosed by the skull or cranium — skull being an old Middle English word and cranium the Greek *kranion*. The word brain with an “s” added to it now means a combination of intellect and intelligence, but in the vernacular of the modern young it is kept singular, “the brain” being an epithet combining admiration and perhaps a touch of envy when applied to the smartest boy in the class. Strangely enough, as far as I can determine, this epithet is not generally applied to smart girls. Perhaps they prefer praise of the grace and beauty of their body to a suggestion that they are super-intelligent. A part of the skull that we call the temple, with adjective temporal, has nothing to do with the religious structure but comes from the Latin *tempus* meaning time and interestingly enough indicates the area where the time of the body — that is the pulse rate — can be taken. This word temple is akin to temporary and with a stretch of the imagination can be conceived as providing a warning by the counting of the heart beat that time flies and in the words of Hippocrates “Life is short and art is long.”

I cannot leave the brain area without mentioning to the brain surgeons who cut out pieces of the skull that the word trepan once had a more frivolous meaning. It was used to mean snare and the user of a snare. Burns says of the gay seducer in the *Jolly Beggars*:

The ladies’ hearts he did trepan
My gallant, braw John Highland man.

Skin — an old Norse word has as its Latin equivalent the word *integument*. Here medicine has wisely kept to brevity, and while dermatology and dermatologists with their Greek derivations are used to designate the specialty and the practitioners in this specialty, we may still talk with dignity of the diseases of our skin and not of our integument or even of our derm. Interesting is the modern connotation of one’s life or well-being as in the phrase to “save one’s skin,” a phrase justly based on the importance of the integrity of the skin.

The word muscle is the Latin *musculus*, which means a little mouse — a derivation nostalgic of our days in the physiology laboratory.

The limbs and their joints have some words of interest — arm is Anglo-Saxon arm or *earm*, but akin to the Greek *harmos* — meaning art — something fashioned with the arm. Later it came to mean power as indicated in the “arm of the law”

or "the arm of a baseball pitcher." Elbow comes from two Anglo-Saxon words *el*, meaning the length of arm, and *bow*, to bend. When we talk of bending the elbow, we are really bending the bend of the length of arm, a bit of tautology. Is this the origin of the word bender? Finger is related to the Middle English *feng* or prey — akin to *fang*, meaning something one uses to seize one's prey, a touch of atavism, no doubt. Hand is Anglo-Saxon of Teutonic and Norse origin, its scope of meaning having been enlarged, according to Webster, by thirty times its original meaning, including the round of applause and the bridge hand. Thumb is the Middle English *thombe* and originally meant the big or strong finger and akin to *tumere* — to swell — from which we have our medical word tumor. Although it is part of the approving hand in the phrase, "give the little girl a hand," this word thumb also has a derisive use in the phrase "to thumb one's nose." In speaking of hand I must come back again to that Greek combining form *cheir*. As we are so often reminded, the Greeks had a word for everything and from this word *cheir*, meaning hand, we got not only surgeon but also chiropractor and chiropractic, whose derivation is apparent enough, to designate the system of adjusting joints with the hand. Chirocosmetics is defined as the art of beautifying the hand — and if we were to prefer the Greek to Latin derivations we would have to say chirocosmetician instead of manicurist. We have been spared that as well as chirognomist in favor of the familiar palmist, but a very useful word in these days *would be* chirognomist, which is defined as knowing which hand, in other words, able to distinguish right from left. To be able to call a congressman chirognostic would be high praise in these days and might spare us much investigation, but of course the unlearned might regard it as a smear word.

Leg is a Middle English word *legge* and as such means what it means today but was once combined with arm in the word *armlegg* to mean arm. Its meaning is quite literal even though figurative when we say "he doesn't have a leg to stand on." I have not been able to determine accurately why the less specific word limb came to supplant leg in the prudish Victorian days. Foot is the Anglo-Saxon *foet* but the Greek *pous* with its combining form *pod* — has crept into our medical language. Chiropody from its two origins — *cheir* for hand and *pod* for foot — originally meant the treatment of both major and minor diseases of hands and feet — but is now restricted to the minor ailments, the chiropodist or more recently the podiatrist, being now only that ministering angel of healing sometimes ungratefully dubbed the corn doctor. And in passing, though somewhat irrelevantly, it may be noted that this use of the word corn comes from the Latin *cornu*, and indicates a horny substance; corn on the foot having no etymologic affinity with corn on the ear. The vertebrae are strictly clas-

sic in derivation and accurate in meaning; they are the turners — from the Latin *vertere*, to turn. The bone and joint specialist knows that by fusion, which means literally pouring or blending together, he ignores the *physis* and *cures* by *destroying* a natural function. Wrist is also a turner coming from Anglo-Saxon *wrest*, meaning to turn, and originally was prefixed by the words hand and foot until the foot *wrest* got its own name ankle, an Anglo-Saxon word *ancleow*, meaning limb and claw. Toe is the Middle English *too* — meaning originally finger but in man and other bipeds applied to a digit of the hind or lower limb, whereas in quadrupeds it is used for the digits of all four limbs.

Before leaving the realm of orthopedics, let me mention the fact that that specialty is more properly as well as more simply called bone and joint diseases, — since orthopedic actually means straight child, — and if we are orthodox (that is, of straight opinion) we should use the designation of broader meaning to include the straight adult as well. The pedics in orthopedics is of the same derivation as *ped* in pediatrics and not that of *ped* in pedal or *pod* in chiropodist.

The word thyroid is from the Greek *thyreooides*, which means shaped like a shield, while uvula in Latin is a little grape and the Latin *tonsilla* comes from the verb meaning to clip or shear, a hint of tonsillectomies to come! The word artery has an interesting Greek origin, the Greek *arteria* meaning a windpipe that was supposed to carry the inspired air or *pneuma* all over the body. Trachea, which has its origin in a Greek word meaning rough, has survived to mean the main windpipe. Later, the artery was found to be filled with blood in the living human being and not air as in the dead, but the word was retained to mean blood vessel. Aorta derives from the Greek verb *aierein*, to lift or heave, and with the development of knowledge of the circulating apparatus came to mean the largest blood vessel that lifts the blood to the rest of the body. The capillaries are so named because they are as fine as a hair of the head, *capillus*. In antiquity the veins were confused with intestines and arteries, the word *veine* being an Old French word meaning a channel or river bed and probably derived from the Latin *vehere*, to convey.

But before we go too far with our more learned Latin derivatives that came into use with medical knowledge, let us revert once more to a good Anglo-Saxon word *lifer* from which we get liver — a well named organ without whose functions we cannot live. But it was not life alone that was associated with this organ; it was also regarded as the seat of passion and desire. A medieval Latin proverb says: It is the liver that makes one love. The word liverish has come to mean crabbed and melancholy while a *white-livered* person is a coward, an interesting play of color, for the words melancholy and melancholia refer, of course, to the *black bile* —

chole — that the liver secretes to make its owner depressed. Cholera has the same root, indicating the concept that it was a bilious disease. Color again is in the origin of the word cirrhosis (Greek *kirrhos* — meaning orange colored), a reference to the color of the diseased liver when sectioned. I suspect also that the original connotation of hypochondrium, which from its derivation means “under the cartilage of the breast bone,” was a reference to the liver, the hypochondriac with his morbid anxiety about his health being chiefly concerned with that vital organ, the liver, or perhaps in a somatopsychic version *being* the hypochondriac because his liver is out of order. The word bilious and choleric also refer both the physical symptoms of headache, nausea and constipation and the irascibility and ill temper of the human being to a disturbance in the flow of bile (Latin *bilis* and Greek *chole*).

The word spleen has Greek origin (*splen*), and in addition to its designation of the organ, has for Shakespeare a meaning of laughter “Thy silly thought enforces my spleen” and for Wordsworth a meaning of melancholy. In modern usage it is often used to mean anger and malice.

Two structures have designations involving stories of ancient times: Achilles tendon or Achilles heel, meaning the vulnerable spot and referring to the story that Achilles’ mother held him by his heel and dipped him into the Styx to make him invulnerable but missed the one spot covered by her hand. The other is the popular name for the prominent thyroid cartilage in the male, Adam’s apple, referring to the folklore that when Adam took the forbidden fruit from Eve, a piece of it stuck in his throat, indicating that his physiology was better than his psychology.

The names of diseases for the most part developed with greater knowledge of disease processes. Some bear the names of the first observers of these processes as in Bright’s, Addison’s and many other diseases. Modern medicine with its background of literature and resources for research tends to disavow the honor of having one’s name attached to a diseased condition by assiduously exploring the claim for such a distinction and usually turning up with evidence that some previous observer had described the condition at least in part. This was the case with regional enteritis, which Crohn first described to most of us and to which his name naturally and without his design was attached until someone came up with a reference to a previous description. Then it became terminal ileitis until objection was made that the word terminal suggested that it was a terminal disease and so regional ileitis was considered more appropriate. The word regional was doubly fortunate because later it became evident that the terminal ileum was not the only area of the small intestine to be involved, and for this reason the word enteritis was substituted for ileitis and the term regional enteritis now stands except

that when the cecum is also involved it becomes regional enterocolitis. If we finally find that certain forms of phlegmonous gastritis are likewise the same disease, in the interests of accuracy we may have to enlarge the term to regional gastroenterocolitis. In these days we are more inclined to attach the names of the first observers or recorders to syndromes than to diseases. The list of these grows apace.

Accuracy in description and definition has become more and more the background of nomenclature of disease, but certain diseases will undoubtedly keep the names derived from an original picturesque background. Syphilis literally means friend of swine and was named for the hero of the description of the disease by the sixteenth-century poet and physician Fracastorius, who wrote “*Syphilis sive de morbo Gallico*,” “syphilis or the French disease.” The word lues, a Latin word, literally means plague (Latin *plaga* — a blow) and was formerly described as lues venerea when it meant syphilis. The word lues is now often used in an effort to conceal the whole bitter truth from the patient just as is the use of neoplasm and acid fast to mask cancer and tuberculosis. Malaria is *mala aria* — bad air, while diabetes comes from the Greek *dia*, through, and *bainein*, pour, a pouring through, referring to the polyuria of that disease. Migraine is the *hemi crania* — shortened to micrania and migraine, referring of course to the one-sided headache of that disease. The English have called it megrim with an additional meaning of low spirits and dullness. Diphtheria is thus named because of the false membrane formed during that disease likened to the Greek *diphtheron* meaning leather. Influenza is the Italian influence, an epidemic formerly attributed by astrologers to the *influence* of heavenly bodies. Quinsy throat gets its name from a choking dog (Greek *kyon*, dog, and *anchein*, to choke). Cancer comes from the Greek word meaning crab as demonstrated in its use for a sign of the zodiac but is akin to the Sanskrit word meaning hard referring to the hard shell of the crab. In its usual hard form and crab-like extension the disease fits both origins.

Patients often dub our nomenclature of disease double talk used in an effort to enhance the dignity of our efforts and the more cynical of them associate that dignity with higher fees. Excising a sebaceous cyst with its latinized terminology is, they say, a more expensive procedure than cutting out a wen.

Names of some diseases have been completely changed in meaning — for example, rheumatism, which derived from the old French *reume*, a cold, akin to the Greek word *rheum*, flow, which originally and to Shakespeare meant a cold in the head. The French still say *enrhumé* when they mean a person has a cold in the head, and the words diarrhea and catarrh have the same Greek root, *rhuo*, meaning flow. Later the word arthritis was attached to this

root rheum — to localize the cold to the joints so that when we designate the inflammatory joint disease as rheumatoid arthritis we are actually saying an inflammation of the joints (Greek *arthron* and the suffix that means inflammation *-itis*) resembling a cold in the head. The inaccuracy of this designation arose in part also because the suffix *-itis* was attached to the name of a structure to mean not only correctly diseases with inflammatory structural changes but also incorrectly *non-inflammatory* ones. We now have to use an adjective to distinguish between the functional conditions with their illegal terms, degenerative arthritis and functional colitis, and the inflammatory diseases of these structures legitimately named arthritis and colitis.

And in this connection it might be pertinent to call attention to the necessity for correct usage and spelling of the suffixes and prefixes so often used in medicine. *-itis* meaning inflammation, as in bronchitis, should be distinguished from *-itus* meaning a state of, as in pruritus. The suffix *-osis* as in diverticulosis has come down to us to indicate the presence of diverticula as distinguished from diverticulitis, an inflammation in those diverticula. This word diverticulum, with its plural diverticula, is also an excellent example of the need for careful retention of the correct plural for Latin derivatives. We have taken them out of the Latin, and since we now have the resources of dictionary and literary editors and are no longer subject to the carelessness or ignorance of the copier of manuscripts, let us keep our borrowed words orthodox and for a neuter derivative ending in *-um* use the correct plural *-a*. The Greek prefix *a-* (a privative prefix — indicating negation) is used often in medicine as in the words anemia, aphasia, asepsis and achlorhydria, all of them taken right out of the Greek.

So far as disease is concerned, the word itself has a refreshingly uncomplicated origin, the destructive prefix Latin *dis-* denoting undoing, which takes all the ease out of ease, this word originally coming from Old French *aise*, meaning elbow room. We have to have elbow room to have ease and comfort, but disease undoes that pleasant sensation. We talk about both “pain” and the less painful “discomfort.” These two words also have interesting derivations, pain being the Latin *poena*, the penalty one pays for disorders, and discomfort meaning the undoing of comfort, a Latin compound of *con* and *fortis* (*confortare* meaning to be strong and invigorated) indicating that comfort should be positive and of itself invested with strength and vigor. The word symptom comes from the Greek *symptoma* and means anything that has befallen one, coming from the Greek verb *sympiptein*, to fall together. Syndrome is likewise right out of the Greek *syn* and *dramein* to run with — that is, in Latin equivalent, a concurrence, a set of concurrent things.

An interesting symptom of disease is nausea — interesting, that is, in its derivation, for the word comes from the Greek *naus* meaning ship and of course refers to the kind of illness that with Dramamine has become almost obsolete. Sick is the Anglo-Saxon *seoc* and means ill and in British use is restricted to describing nausea and vomiting, while ill, an old Norman word *illr* of uncertain origin, describes any kind of disease and in Elizabethan times we had a noun *illth*, the antithesis of health. Vomiting and emesis are the Latin and Greek derivatives from words with the same meaning. Delirium comes from Latin *de*, off, and *lira*, furrow or track. In the slang of the gay '90's we went citified and said off the trolley instead of off the furrow.

In almost every branch of medicine now we are concerned with the toxic effect of three drugs commonly used in this age of Coca-Cola and cocktail parties. Coffee was described in 1624 by Francis Bacon as *caffa* (the Arabic form from the name of the Ethiopian province of Kaffa). Bacon called it “a drink, black as soot and of a strong scent, that comforteth the brain and heart and helpeth digestion.” Tobacco originally meant a reed — *not* the weed — and referred to a Y-shaped pipe with which the Indians of the Antilles inhaled smoke through the nostrils. The sufferings of our patients denied the pleasures of this habit are pathetically described by Charles Lamb in his *Farewell to Tobacco*, in which he describes his loss of fellowship with the “blest Tobacco Boys” as follows:

Where, though I, by sour physician
Am debarred the full fruition [meaning enjoyment]
Of thy favours, I may catch
Some collateral sweets, and snatch
Sidelong odours, that give life
Like glances from a neighbour's wife.

The word alcohol has a most interesting derivation. Everyone has heard the drinker call his poison nothing but eyewash. Well by derivation that's what alcohol is — the Arab *al* meaning eye and the *koh'l* of Hebraic origin meaning to stain or paint. We also get kollyrium from this derivation, meaning originally a fine black powder for painting the eyelids.

The field of therapeutics is aptly named for that group of its progenitors, ancient ascetics called the *Therapeutiae* — people who *served*. Among remedies used in this field, perhaps arsenic, calomel and paregoric have the most picturesque origins. Arsenic comes from the Greek *arren*, meaning the strong man, a rather poisonous tribute to masculine strength. Calomel is a “beautiful black” in its Greek origin so named because it is white though from a black mixture, and paregoric stems from the *agora* the turmoil of the market place, likened to the turmoil of the abdomen that must be soothed.

The word autopsy is a matter of seeing for oneself, and my list of words ends here except for a brief mention of two words with which medical societies

must often be concerned — quack and nostrum. Quack is a short form of the Danish word *Kwakzalver*, which has a literal meaning “one who boasts of his salves.” It has become both a noun and a verb in English, as a verb meaning not only to quack like a duck but also “to make extravagant claims for” and as a noun “a boastful pretender to medical skill.” The word nostrum is the Latin adjective “our” — in other words something “of ours” — a medicine, the ingredients of which are our secret and we won’t tell.

Personal names are often an index to a nation’s character and history. It is not uncommon to have grateful parents name a child for the doctor who helped him into the world, but unique is the use of the name of a disease for a child. However, Marco Pei in a delightful book, *The Story of English*, tells of an Oklahoma family who named their six children Tonsillitis, Appendicitis, Meningitis, Peritonitis, Phlebitis and Jakeitis, all familiar enough except the name of the youngest, whose name Jakeitis can only derive from a diseased condition induced by drinking Jake, a Jamaica-ginger extract. As I said before, our English language is never static.

Our vocabulary has grown from an estimated less than 100,000 Anglo-Saxon words to over 1,000,000 words in modern English, a goodly portion of which belongs to specialized fields including medicine. As English-speaking and English-writing doctors, we have therefore the responsibility and the privilege of expanding the English vocabulary, the largest in the world. We should do it both accurately and well.

The second part of this paper is to deal with epigrams. This Greek word literally means an inscription, but a common use of the word is in the sense of a bright or witty thought tersely expressed. Epigrams have served throughout the ages to express often in caustic phrase and always with precision and brevity the prevailing opinion, if not the wisdom of the maker of the epigram or the era in which he lived. Let us sample, therefore, what the ages of history have thought of our profession.

The idea that men do better without doctors and medicine was not born with Christian Science, as many epigrams testify. Hippocrates is the author of such maxims as the following: “Natural forces within us are the true healers of disease” and “To do nothing is sometimes a good remedy.” In *Matthew IX: 12*, we read “They that be whole need not a physician,” and Galen’s wisdom was revealed in the sentence “The physician is only nature’s assistant.” Shakespeare in *Macbeth* says “Throw physic to the dogs; I’ll none of it.” And Oliver Wendell Holmes, in 1860, said, “I firmly believe that if the whole materia medica, as now used, could be sunk to the bottom of the sea, it would be all the better for mankind — and all the worse for the fishes.”

Time is recognized in modern medicine as a most useful handmaiden, and this was equally true in

ancient times. Ovid, in the century before Christ, said very curtly, “Time is the best medicine,” and in the sixteenth century we find the proverb “Patience is the the best medicine.” In 1855 Bohn said, “Nature, time and patience are the three great physicians.”

Modern precepts of health and hygiene are not as modern as we sometimes think. The values of rest, diversion and good diet were suggested frequently in epigrams throughout the centuries. In *Proverbs XVII: 22*, we read, “A merry heart doeth good like a medicine but a broken spirit drieth the bones.” In more serious vein we find the avoidance of pride and sin lauded as preventing disease in *Proverbs III: 7-8*, where we read, “Be not wise in thine own eyes, fear the Lord and depart from evil. It shall be health to thy navel and marrow to thy bones.” There is an old Irish proverb that in a characteristically Irish way says, “A good laugh and a long sleep are the best cures in the doctor’s book.”

We are justly proud of our knowledge of nutrition in these modern days, based as it is on chemical principles, calorie counting and food values, but the significance of correct diet and a preview of the age of vitamins and reduction diets are indicated in the following epigrams:

The kitchen is a good apothecaries’ shop — William Bullen in 1562.

Feed by measure and defy the physician — John Heywood in 1546.

Kitchen physic is the best physic — Jonathan Swift in 1738 [and I need hardly comment that here, of course, physic means the practice of medicine — not a laxative].

The English proverb — “An apple a day keeps the doctor away” — is without date, but it was said long before we knew much about vitamin deficiency.

In 1869 H. S. Leigh composed a quatrain, truly interesting to the modern doctor concerned with nutrition,

If you wish to grow thinner, diminish your dinner
And take to light claret instead of pale ale,
Look down with an utter contempt upon butter,
And never touch bread till it’s toasted or stale.

And in 1640 George Herbert proclaimed, “A little with quiet is the only diet,” thereby stipulating the two requisities for good digestion that we regard so highly today, serenity during meals and eating with moderation. Two English proverbs are of interest here. “A full belly neither fights or flies well” (1640) and “Full bellies make empty skulls.” We also have from George Pettie in 1581, “A full belly doth not engender a subtle wit.” The importance of quiet, that therapeutic state so much needed and so difficult of attainment in this modern world, has long been recognized as an effective curative agent. In association with meals it is advised by Burton in a footnote to the *Arabian Nights* (Volume V, page 222) where we find “After the noon meal, sleep, Although for moments twain, After the night meal walk, Though but two steps

be ta'en," a bit of advice propagated also in the homely couplet, "After dinner rest a while, After supper walk a mile." Excellent hygiene, as I'm sure we all agree.

Addison, in 1771, said, "Physic [that is, medicine] for the most part is nothing but the substitute of exercise or temperance." The *Regimen Sanitatis Salernitanum* of 1607 combines three essentials of good hygiene in the advice: "Use three physicians still: first, Dr. Quiet; next, Dr. Merryman, and Dr. Dyet." This advice was repeated a century later by Jonathan Swift when he said the best doctors in the world are Doctor Diet, Doctor Quiet and Doctor Merryman. Can modern hygiene or psychiatry improve upon these principles of rest, diversion and proper diet?

The penalties for violating these rules were emphasized in 1670 by John Ray, who said, "Diseases are the interests of pleasures." Josh Billings, in 1897, wrote, "Disease is the whipping post and branding iron of luxury."

The treatment of disease in 1780 was indicated by the anonymous statement of that period,

When peoples' ill, They come to I,
I physics, bleeds and sweats 'em,
Sometimes they live, sometimes they die,
What's that to I? I lets 'em.

Small wonder that the author's name is not appended.

Radical treatment of disease is justified by Hippocrates, "Extreme remedies are very appropriate for extreme diseases," a principle that was echoed in an English proverb of 1539, "Desperate diseases require desperate remedies" and by Shakespeare in *Hamlet*, "Diseases desperate grown, By desperate appliance are relieved, Or not at all."

For the physician himself, history in the form of epigrams has both good and evil to say. In *Jeremiah VIII: 22*, it is asked, "Is there no balm in Gilead; is there no physician there?"—a tribute to our curative power.

In 1638 Francis Quarles said, "Physicians, of all men, are most happy: Whatever good success soever they have, the world proclaimeth, and what faults they commit, the earth covereth." The author was, of course, unfamiliar with both staff meetings and suits for malpractice.

Voltaire blows hot and cold in his regard for our profession. He says, "Doctors are men who prescribe medicine of which they know little to cure disease of which they know less in human beings of whom they know nothing." But he makes amends for that cynicism in *A Philosophical Dictionary* by saying: "But nothing is more estimable than a physician who, having studied nature from his youth, knows the properties of the human body, the diseases which assail it, the remedies which will benefit it, exercises his will with caution and pays equal attention to the rich and poor."

For the surgeon, proverbs and epigrams have both praise and cynicism. In 1604 Marston says, "A pitiful surgeon makes a dangerous sore." In 1670 an English proverb says, "A good surgeon must have an eagle's eye, a lion's heart and a lady's hand." Martin H. Fischer, with the physiologist's love of nature intact, has unkind things to say of the surgeon: "A good surgeon is a good medical man who can cut. Most of the surgeons have forgotten their medicine but go right on cutting. . . ." And this same cynic proclaims, "The practice of medicine is a thinker's art, the practice of surgery a plumber's," and "Surgery is the cry of defeat in medicine." It would be interesting to know whether this same physiologist ever cried for help from a surgeon. One of our greatest surgeons, Will Mayo, said with truth often recognized, "It is not surgery that kills people: it is delayed surgery."

The problem of medicolegal jurisprudence has been treated in various ways throughout the history of the world. Even as far back in history as 1800 B.C. the Babylonian Hammurabi ruled in his legal code: "If a doctor operate on a man for a severe wound with a bronze lancet and cause this man's death, or open an abscess in the eye of a man with a bronze lancet and destroy the man's eye they shall cut off his fingers." Surgical risk in those days involved the operating surgeon as well as the patient.

The call to medicine was aptly defined by Billroth when he said, "The pleasure of a physician is little, the gratitude of patients is rare, and even rarer is material reward but these things will never deter the student who feels the call within him." The self-sacrifice of our profession is also subtly extolled by James Bryce, who in a speech in New York in 1914 said, "Medicine is the only profession that labors incessantly to destroy the reason for its own existence."

And speaking of material reward, the Hebrew *Thesaurus*, the *Talmud*, states that a physician who demands no fee is worth none. Daniel Defoe described a human foible familiar to all of us when he said:

Frightened patients when they want a cure
Bid any price and any pain endure;
But when the doctor's remedies appear
The cure's too easy and the price too dear.

Our own Benjamin Franklin, perhaps in a moment of spleen, said "God heals and the physician takes the fee."

Poets and philosophers of all ages have chanted paeans of health, all of which might be crystallized in the statement of Herophilus made three hundred years before Christ: "To lose one's health renders science null, art inglorious, strength unavailing, wealth useless and eloquence powerless." But the complaints of our patients against restrictions to preserve health were curtly stated by La Roche-foucauld in 1665 in the sentence: "It is a boresome

disease to try to keep health by following a too strict regimen.”

The protagonists of exercise as a contributing factor to health are found in early days as shown by James Thomson's:

Health is the vital principle of bliss
And exercise, of health.

For those of us who are practicing the new specialty of geriatrics in the subjective as well as objective sense there is comfort in the statement of Thomas Fuller, made in 1642, “Commonly, physicians, like beer, are best when they are old.”

And with this note of cheer to the elder generation of doctors I will bring to a conclusion this “literary composition, intentionally slight in treat-

ment, discursive in style and familiar in tone.” But not without quoting the seventeenth-century epitaph that any one of us would be proud to wear upon our tombstone — the one written by William Browne on Mr. Vaux, the physician:

Stay! This grave deserves a tear

.....
Tis Vaux whom Art and Nature gave
A power to pluck men from their grave;
When others' drugs made ghosts of men
His gave them back their flesh again;
Tis he lies here, and thou and I
May wonder he found time to die;
So busied was he, and so rife
Distributing both health and life.

And finally that always inspiring epigram of Hippocrates, “Wherever the art of medicine is loved, there also is love of humanity.”

THE USE OF DIAMOX, A CARBONIC ANHYDRASE INHIBITOR, AS AN ORAL DIURETIC IN PATIENTS WITH CONGESTIVE HEART FAILURE*

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IT would be highly desirable to obtain a diuretic agent that could be given orally and yet act as effectively as parenterally administered mercurial diuretics, without producing significant toxic manifestations. The xanthine diuretics,^{1,2} chemically related uracil derivatives^{3,4} and other preparations of mercurials^{5,6} have been ineffective, inconstant in effect or associated with unpleasant side actions or toxicity. Recently, additional mercurial diuretics for oral administration have been tested in patients with heart failure.⁷⁻⁹

Another approach to the development of a satisfactory oral diuretic is based on the observation that inhibition of carbonic anhydrase activity in renal-tubule cells not only impairs the tubular secretion of hydrogen ion¹⁰ but also diminishes the retention of sodium, a major objective of diuretic therapy in heart failure. Since the sulfonamide compounds were found to be specific carbonic anhydrase inhibitors,¹¹ Schwartz¹² administered sulfanilamide to 3 patients with congestive heart failure and reported a diuretic effect.

Although sulfanilamide has a relatively weak effect and is too toxic for prolonged or widespread usage, other sulfonamide compounds¹³ have been found to be more active carbonic anhydrase inhibitors without the toxicity of sulfanilamide.¹⁴ One of these, compound 6063 (2-acetylamino-1,3,4-thiadiazole-5-sulfonamide), now known as Diamox,

is fifty to four hundred times as potent a carbonic anhydrase inhibitor as sulfanilamide.¹⁴ The prolonged administration of large doses of Diamox to rodents, dogs and monkeys has not resulted in toxic manifestations.¹⁵ The intravenous administration of a single dose of Diamox to animals¹⁶ and to human subjects¹⁷ with and without heart failure caused a large increase in the excretion of sodium. Therefore a study was undertaken of the possible usefulness of Diamox¶ as an oral diuretic in patients with congestive heart failure. Moderate diuretic effects were noted in 15 edematous patients after oral administration of a carbonic anhydrase of unstated composition.¹⁸

MATERIALS AND METHODS

The clinical material is presented in Table 1. Twenty-six patients were studied, 15 men and 11 women ranging in age from thirty-six to seventy-six years. Eleven patients had coronary-artery disease, 7 had hypertensive and coronary-artery disease, 7 had rheumatic heart disease, and 1 had syphilitic heart disease. Eleven patients were hospitalized during the period of study; the remaining 15 were ambulatory and were followed in the outpatient department. These two groups are discussed separately.

Hospitalized Patients

The first group consisted of 11 patients admitted to the hospital for treatment of congestive heart failure. Hospital admission was necessitated by the uncontrolled and increasing severity of the clinical

¶Kindly supplied by the Lederle Laboratories, New York City.

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