BLANKAART'S DICTIONARY, AN INDEX TO 17TH CENTURY MEDICINE

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The general statement or platitude that any dictionary reveals the state of knowledge extant in its time is likely to encounter little objection. The same principle can be put to use by anyone who desires a rapid introduction to the doctrines that prevailed in eras preceding our own, especially those of the last three centuries. Indeed, the virtues of the method are not limited to dictionaries but can be extended to indices, such as those in Morgagni's great *De Sedibus*.

In the realm of general medicine a convenient tool for the exploration of these ideas is the *Lexicon Medicum Graeco-Latinum,* composed by Steven Blankaart (1650-1702). This work was first published in Amsterdam in 1679. At least 20 editions and translations are known, including a German version issued in 1788 and a Latin version, edited by Carolus Gottlob Kühn and published in 1832. The dictionary thus had an active career of more than a century and a half. Its author, the son of a professor, was born in the Dutch city of Middelburg, where he is said to have had a large medical practice. His many other writings deal with medicine and anatomy, and in no way rival the fame or usefulness of the dictionary.

The following selection has been translated from the Latin edition published at Jena by Müller in 1683 and made available in facsimile by Olms of Hildesheim in 1973. The index words, printed in capital letters, have been left in their original form. This is necessary because some of these terms are used widely—indeed, internationally—in Latin, even when their own originals may have been in Greek or Arabic. This plan offers in addition the minor advantage that it does not disturb the alphabetical order and hence does not disperse series.

In selecting entries for translation, preference has been given to terms that were important in scientific usage when the dictionary was first compiled and to terms which have undergone important changes in meaning. A few other items have earned admittance by reason of quaintness or irresistible interest.

ACIDUM. Acid is the kind of salt that produces an acid taste on the tongue, diametrically opposite to alkali or to the lixivious in texture, and produces effervescence on being mixed with it. According to Tacchenius,[1] this pair of salts[2] constitutes the foundation of all natural things and operations. [This crude provisional generalization was soon to give way to advances in chemistry.]

AETAS. Age is part of the course of life, in which the temper of the human body undergoes perceptible change through ceaseless action and fermentation of spirits and of the blood. It has six parts, namely, 1) childhood, up to the fifth year, divided into the time before, during, and after teething, 2) adolescence up to the 18th year, and adolescence properly so called, up to the 25th, 3) youth, from the 25th to the 35th, 4) manhood, from the 35th to the 50th, 5) old age from the 50th to the 60th. 6) This is followed by decrepit age, which ends at last in death. [On this system, more than 11% of our fellow citizens were decrepit in 1980.[3]]

ALCALI is the kind of salt that gives the tongue a urinous or lixivious taste. It is the opposite of acid and, when mixed with it, produces effervescence. There are two kinds—the volatile, such as the volatile salt of hartshorn in urine, and the fixed, such as salt of tartar and all salts prepared from ashes and lye.... [The importance of tasting as a test in early modern chemistry in noteworthy.]

ANASARCA is a white soft swelling of the entire exterior of the body or of some of its parts. It yields to the touch, leaving the imprint of pressure. Blood is the cause, for two reasons, first because it is not formed properly, second because it is not kindled properly in the lungs. Blood subverted in this manner pours out serum from the ends of the arteries in greater amount than it can be taken up and returned through the veins and lymphatic channels and through the kidneys and cutaneous pores and the other passages for serous fluid. If the fluids are too viscous, the term *leucophlegmatia* is used .... Germ[an] *Wassersucht zwischen Fell und Fleisch.* [The statement that blood is "kindled" in the lungs almost certainly reflects the discoveries of Mayow, which were new in Blankaart's time. The influence of 17th century knowledge of the circulation and of lymphatics is evident also.]

ANGLICUS SUDOR (the English sweat) is a malignant epidemic fever with colliquative sweat and other very serious symptoms that soon end in death. It was first observed in England. Germ. *der Englische*

Schweis. [The famous English sweating-sickness, often discussed and never conclusively identified. A convenient introduction is to be found in Hirsch, A.: *Handbook of Geographical and Historical Pathology,* translated by Charles Creighton. London, New Sydenham Society, 1883-1886, vol. 1, pp. 82-122. See also Gottfried, R.S.: Population, plague, and the sweating sickness: Demographic movements in late fifteenth-century England. *J. Br. Stud. 17:*12-37, 1977.]

ASPHYXIA is perceptible deficiency of the pulse. From *a* privative and *sphyzo,* I jump, I pulsate. [A remarkable shift in meaning. The *Oxford Dictionary of* Etymology, edited by C. T. Onions (Oxford, 1966, p. 55) defines *asphyxia* as "stoppage of the pulse, [hence] suffocation."]

ASTROLOGIA is the art of divination from the stars. It rests upon fundamentals that are slippery, indeed false, and hence is not necessary for physicians, as old writers used to believe. From *aster,* star, and *lego,* I say. [It is significant that the medical lexicographer found it necessary to mention and to reject astrology. In recent years the popularity of astrology, like the number and wealth of its devotees, appears to be increasing. This is part of a widespread increase in irrationalism and a decline in educational standards. The 26th edition of Dorland's *Illustrated Medical Dictionary,* published in 1981, has no entries under *astrology* or *ignorance,* but it does have listings for *quackery* and *chiropractic*.]

CAPRIZANS (goat-like) is said of an irregular and unequal pulse, when one rather strong beat is followed by two or more weaker and faster ones. [The term caprizant pulse is still used occasionally by older practitioners.]

CARCINOMA, *carcinus,* or *cancer,* is an abnormal swelling that originates from sharp saline sulphureous blood. Round, hard, livid, and painful, it is in the beginning as large as a pea. Later it is surrounded by swollen veins which resemble the legs of a crab, but not always. From *karkinos,* a crab, and *nemo,* I consume. Germ. *der Krebs*. [Both the pathogenesis and the etymology presented by Blankaart are now considered obsolete. The word *karkinoma* occurs in a Hippocratic note on cancer of the breast; *Epidemics* 5.101, Littré ed., vol. 5, p. 259.]

CATARACTA. Cataract is of two kinds—the incipient, which is a suffusion, or the confirmed, which is cataract properly so called. The incipient is a suffusion of the eye; as is generally known, little clouds, motes, or flies appear to be flying before the eyes. Cataract is confirmed when the pupil is obstructed wholly or in part by a delicate membrane, so that due entry of the sun's rays is cut off. Confirmed cataract is treated by

driving a needle through the albugineous membrane [sclera] and the cornea as far as the cataract and by depressing it with the needle and by comminuting it if it springs up again. Then the eye is bandaged with rose water and egg white shaken up with alum. From *katarasso,* I pour together. In Greek *hypochyma.* Germ. *der Starr / ein Fell über dem Auge.* [This describes the old operation of couching, rendered obsolete by the work of Jacques Daviel (1696-1762).]

CAUSUS, *febris ardens* (burning fever) is that which runs its course with greater heat than other continued fevers, an almost unbearable thirst, and other symptoms that reveal very intense inflammation (*phlogosis*) of the blood. Its formal principle, by which it is distinguished from other putrid fevers, lies in the fact that in persons suffering from this fever the temper of the blood is hotter, that is, it contains a greater proportion of sulphur that can be burned. Hence, when it boils it burns to a greater extent and by its conflagration it spreads outpourings of very intense heat through the whole body. Its movement is abrupt and it quickly reaches its height. It is accompanied by more horrible symptoms, it has a difficult crisis, and an outcome full of dangerous risk. From *kaio,* I burn, I kindle. Germ. *Ein gar hitzig Fieber.* [The index to Kühn's Galen (vol. 20, pp. 254-56) contains two and one-half columns of references to *febris ardens,* with description or mention of many cases. Definitions are given in XV. 737 and XIX. 399.]

CONARIUM or *pineal gland* hangs in the cerebral choroid plexus; it is so called because it is shaped like a cone or a spinning-top. It is placed between the optic thalami and the prominences of the nates [anterior superior corpora quadrigemina]. We hardly believe that it is the seat of the soul or that the main faculties take origin from it, since animals that seem totally devoid of imagination, memory, and other superior functions of the mind have a rather large and conspicuous pineal.... [Comparative anatomy was displacing an ingenious supposition of Descartes.]

CORYZA or *gravedo* is a flow of sharp, salty, and thick fluid from the cerebral ventricles through the nerves of smell into the mouth, lungs, and nostrils. While it is thickened it cannot be strained through the kidneys and poured from the pituitary gland through the infundibulum into the veins. It is spilled out through the aforementioned nerves into the nostrils. If the burning of sulphureous particles is added to it, fever and consequently thirst arise. Hence Coryza, which occurs with and without fever. From *koryzao,* I labor. Germ. *Der Schnuppen.* [The ancient concept of catarrh as a downward flow from the brain was smashed by Conrad Victor

Schneider, whose classic *De Catarrhis* (Wittenberg, 1660-1662) preceded the publication of Blankaart's dictionary.]

DIAGNOSIS is the recognition of the signs that are present, or the recognition by which we distinguish the present condition of the illness. It is threefold: correct investigation of the affected part (of the body), of the disease itself, and of its cause. From *dia,* through, and *ginosco,* I understand. [In this context the word *signs* is ambiguous, since signs could be obtained from the clinical history and were not limited to the signs that could be detected by physical examination. Indeed, until the innovations of Laennec the former method was more in use than the latter.]

EPHIALTES, or *Incubus,* is a depraved imagination whereby sleeping persons suppose that their trachea is being squeezed by some object that is lying on it, that their breath is being closed off, and that they are being stimulated or forced to venery. It comes from compression of the cerebellum when the body cavities are filled with an excess of fluid, or, if the sufferer is supine, the weight of the brain lies upon the cerebellum. Hence the pores and channels are compressed by the weight and the flow of animal spirits to the vagi and the intercostal (sympathetic) nerve, which subserve involuntary actions, is interrupted. When these actions are cut off in this way, the lungs are burdened and deprived of their proper function. From *ephalomai,* I jump upon. It is also called nocturnal suppression. Germ. *Der Alp.* [The history of nightmare from Strabo and Augustine to Freud, Jones, and the neurophysiologists is to be found in *Transactions and Studies of the College of Physicians of Philadelphia,* ser. 5, vol. 2, pp. 241-66, 1980.]

EUTHANASIA is easy and gentle death, without painful convulsions. From *eu,* well, and *thanatos,* death. [To Blankaart's definition, which implies spontaneous or natural death, the tortuous "progress" of civilization has added a dangerous new meaning.]

GONORRHOEA is excessive flow of semen. There is simple gonorrhoea, in which crude, thin, white semen is discharged from the prostate rather than from the seminal vesicles, and virulent gonorrhoea, in which a certain liquid virus, corrupt or yellowish, is excreted. From *gone,* birth, and *rheo,* I flow. [A striking change in medical opinion.]

HIEROGYLYPHICAE NOTAE [hieroglyphic marks] are folds and wrinkles in the hands, by which vain curiosity attempts to make extensive predictions. From *hieron,* holy, and *glypho,* I carve. [Under hieroglyphic the *Oxford English Dictionary,* compact edition, Oxford University

Press, 1971, reprinted 1975, p. 1303, quotes the sixth edition, 1706, of Edward Phillips's dictionary: "Hieroglyphic Marks (in Palmestry), those winding Lines and Wrinkles in the Hand, by which the Professours of that vain Science pretend to foretell strange things."]

MALLEUS is one of the four little bones in the ear. [The head of the stapes was considered a separate bone. The development of this area of knowledge is summarized in Mettler, C.: *History of Medicine*. Philadelphia, Blakiston, 1947, p. 1063. A more detailed account is that in O'Malley, C. D. and Clarke, E.: The discovery of the auditory ossicles. *Bull. Hist. Med. 35:*419-41, 1961; see esp. pp. 439-41.]

MEDICAMENTUM is an appropriate aid, by whose effects diseases are attacked so as to restore health wholly, or it is anything that overcomes an abnormal affection of the body. It is either *actual,* which at first contact affects our body by the quality with which it is endowed, as white-hot iron or cold water, or *potential,* whose power exerts itself not at first contact but only when by some delay within the body it is excited into medication, as pepper, radish, acrid salts, etc. Moreover, a medicament is endowed with primary or secondary or tertiary properties, and all these become known by their temperament and their different action in our body. Medicament is of three kinds—surgery, pharmacy, and diet. It is also called *medicamen* (remedy), *hiama* (remedy), *pharmakon* (drug), *lytepion* (healing), *alexion* (guard), remedium (remedy), *juvans* (helpful measure), and *indicatum* (that which is indicated). Germ. *ein Hulffs-Mittel zur Gesundheit.* [As Blankaart's note indicates, *medicamentum* was not limited to drugs but also included surgical and dietetic measures. The term should therefore be translated "treatment" rather than "medication." Blankaart's usage prevailed at least until the end of the 18th century.]

MEDICUS (the physician) is a man highly learned in the art of medicine, modest, serious, and humane. About him the prince of poets, Homer, sang in the 11th book of the *Iliad,*[4] "A leech is of the worth of many other men." In the fourth book of the Odyssey he says: "there (in Egypt) every man is a physician, wise above human kind; for they are of the race of Paeëon."[5]

MORS (death). What it is, is known. Its proximate cause is cessation of the internal movement of the blood, either from deficiency of spirit or very severe disproportion of the vital humors, or some other cause. [The 1981 edition of Dorland's *Medical Dictionary* has had the wisdom to include a medicolegal definition. Nowadays physicians, patients, and kinsmen alike must be protected from lawyers.]

NEPHRITIS is pain in the kidneys, whether caused by dyscrasia and inflammation or stone and gravel or irritation of the renal nerve plexus, with vomiting, and spasm in the thigh. From *nephros,* kidney, Germ. *Nieren-Weh/Stein-Schmertz.* [Another example of change in meaning.]

PESTIS (plague) is an epidemic contagious disease that takes origin from a miasm poisoned by the nitre of the air sharpened excessively and spread out. It is first taken up and then propagated by contagion. Attacking men secretly and surreptitiously, it causes extinction of the spirit, clotting of the blood and of the solid parts, strokes, and necroses, and, with the onset of buboes and carbuncles and a horrible assemblage of other symptoms, leads the patient to the danger of death. Greek *loimos. Germ. die Peste.* [Since plague was widespread in the 17th century, Blankaart doubtless had no difficulty in knowing the symptoms. His explanation combines the ancient doctrine of miasm with a newer chemical notion of sharp particles, derived probably from the opinions of Willis and Boyle.]

PHLEGMONE, *Inflammatio. Phlegmone, phligosis, phlegmasia,* is an abnormal swelling caused by blood poured out into the skin or underlying muscles, viscera, membranes, etc. It produces heat, redness, a rather prominent elevation, pain, pulsation, and tightness. The cause is the insertion of blood into the impaired part. From *phlego,* I burn. Germ. *eine Entzündung.* [In modern usage *phlegmon* is no longer a general synonym for inflammation, but signifies more specifically an inflammation of connective tissue.]

RES NATURALES (the naturals) are three: health, the causes of health, and the effects of health. Others count seven items, such as elements, temperaments, humors, spirits, parts, faculties, and actions. However, elements and temperaments belong to physics; humors, spirits, and parts are classed with the causes of health, which consist of good humoral temper and proper conformation; and faculties and actions are classed under the effects of health. [This classification, traceable as far back as Galen and Aristotle, was in use at least until the late 18th century. See also the two entries immediately following, which complete the traditional tripartite classification.]

RES NON NATURALES (the non-naturals) are six: air, food and drink, activity and rest, sleep and waking, sufferings of the mind, and excretions and retentions. They are so named because if they are present in excess, they often provide opportunity for disease. [The non-naturals and their elusive historical origin are discussed in *Bull. Hist. Med. 44:*372-77, 1970.]

RES PRAETER NATURAM (things beyond nature) are disease, the causes of disease, and symptoms or effects of disease. [The term *res praeter naturam* is difficult to translate accurately into English. The word preternatural refers to matters that are beyond or above nature and suggests the suspension of natural law. A closer approximation is "abnormal," but this involves the anachronistic connotation of a statistical norm.]

SANGUIS (blood) is a reddish fluid contained in veins, arteries, and other structures. It consists of a mixture of all the kinds of alimentary components that can enter the intestinal papillae. It is the material of nutrition and vivification, and the great support of the body. The microscope has revealed that blood consists of globules and that febrile blood consists of little worms. It is also called *cruor.* Virgil calls it *anima,* Aristophanes [calls it] *psyche* ... Germ. *das Blut.* [The discovery of the erythrocyte by Swammerdam in 1658 and the more accurate description by Leeuwenhoek in 1674 were recent when the 1683 edition of Blankaart's dictionary appeared. The alleged verminous character of febrile blood was a contribution of Athanasius Kircher (1658).]

SCABIES, Greek *psora,* is either moist or dry. The moist is an unevenness of the skin, with moist and purulent pustules combined with a certain amount of itching. The dry is of four kinds—pruritus, impetigo, psora, lepra... [Clear evidence of the confusion that prevailed in dermatology for so many centuries. The itch-mite was discovered by Bonomo in 1687 but its role was long in gaining credence.]

SCORBUTUS [scurvy] is a dyscrasia endemic among Dutchmen who live near the sea and also of other groups who live in the south, in which the hands and feet are often soiled by livid spots. In addition, there is a weakness of the legs, foulness of the mouth, and looseness of teeth. Blood flows from the teeth, and there are spasms, pains, wandering arthritides, and 600 other things. It is either saline-sulphureous or sulphureous-saline, and exists in the blood or nerve-fluid or in both at the same time, as is shown by the symptoms. That this disease was not unknown to the ancients is clear from Hippocrates. Germ. *der Schaarbock.* [Blankaart combines a reasonably good clinical description with a chemical explanation probably based on the concepts of Willis and Boyle. Unfortunately, his mention of Hippocrates is not accompanied by a precise reference and it is now considered at least doubtful that the ancients knew or recorded the disease. Blankaart may have had in mind a case of hemorrhagic disease described in *Epidemics* VII. 47 (Littré V. 414). In his index

Littré characterizes it as "*cas qu'il faut vraisemblablement rapporter à ce que nous appelons scorbut.*" The differential diagnosis of hemorrhagic disorders was meager until the introduction of advanced laboratory methods.]

SPHYGMUS or pulse is the movement of fermentation and ebullition of the blood, produced by spirituous and fermentable particles so that, by mediation of the heart, the blood from the arteries is distributed in all directions through the entire body. To this are added the contraction and relaxation of the fibers of the arteries together with other parts of the components. From *sphyzo,* I pulsate. [Blankaart's explanation superimposes chemical doctrine upon Harvey's discovery. See also ASPHYXIA, above.]

SPIRITUS. According to the ancients the human body contains three kinds of spirit—animal spirit in the brain, vital spirit in the heart, and natural spirit in the liver. Nowadays a dichotomy is preferred, and animal spirits are said to be in the brain but vital and natural spirits, which are the same, are placed in the mass of the blood. Animal spirits are very thin fluids which trickle in the cortical substance of the brain from blood and are then raised up into spirits and flow through the medullary substance (the white matter of the brain), the corpus callosum, and the medulla oblongata into the nerves and the spinal medulla (spinal cord) and illuminate them by accomplishing sensations and actions. The vital or natural are very delicate parts of the blood, which activate it, ferment it, and make it fit for nutrition. Greek *pneuma.* Germ. *Lebens-Geister.* [An intelligible description of ancient doctrine, which was changing in Blankaart's day.]

TYMPANITES, *tympanias, dry water internally,* is fixed and constant abdominal swelling, uniform, firm, resistant, and emitting a sound when struck. It comes from inflation of membranaceous parts and viscera arising tetanus-like on account of animal spirits driven into the fibers in excessive amount and, by disease of obstructive nerve juice, prevented from returning. To this affection there is added, as if as a complement, an accumulation of wind in empty places. From *tympanizo,* I resound like a drum. [The confusion between tympanites, tympany, ascites, and anasarca was in part a consequence of humoralistic doctrine. Inherited from antiquity, it continued to exist in Blankaart's time, as his definition indicates.]

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The foregoing definitions have been selected in order to suggest what can be learned about the medicine of a bygone era from a dictionary that was then in vogue. The successive entries make it possible to review concepts which had long been dominant. Some of these, such as the Galenic system of naturals and non-naturals, or the ancient notions of plague and miasm and ephialtes, were still in daily use. The concept of spirit was changing, and the understanding of blood combines early triumph and early error, both resulting from the new art of microscopy. The crudity of current chemical doctrine appears in the remarks about acid and alkali, while the note on scurvy combines correct clinical observation with shaky iatrochemical doctrine. The limitations in physiological knowledge appear in the discussion of the pineal [CONARIUM]; here the new researches in comparative anatomy were beginning to exert an effect. The limitations in knowledge of pathology are apparent in the entries on cataract, coryza, and gonorrhea. The article on scabies reveals the extensive confusion that prevailed in dermatology. And several other entries point to treacherous changes in the meanings of words.

Samuel Johnson was later to remark that a lexicographer is a harmless drudge. It equally is true that a lexicographer can be a valuable slave.

NOTES AND REFERENCES

1. "Sylvius independently developed a theory of disease that sought to explain illness in terms of either overacidity or alkalinity, and Otto Tachenius [d. ca. 1670] extended the medical implications of acids and alkalis." Debus, A. G.: *The Chemical Philosophy*. New York, Science History Publications, 1977, p. 500.
2. Blankaart uses the alchemical symbol, a small circle traversed by a horizontal diameter.
3. Soldo, B. J.: America's elderly in the 1980s. *Pop. Bull. 35*(4):1-48, 1980.
4. Blankaart gives the Greek of *Iliad* XI. 514, followed by a Latin equivalent. I have used instead the English translation of A. T. Murray in the Loeb Classical Library, Cambridge, Harvard University Press, 1924, vol. 1, p. 519.
5. *Odyssey* IV. 231-32. I have very slightly modified the translation of A. T. Murray in the Loeb Classical Library, Cambridge, Harvard University Press, 1919, vol. 1, p. 123.