

THE PRE-ASTHMATIC STATE.*

BY EPHRAIM CUTTER, M.D., LL.D.

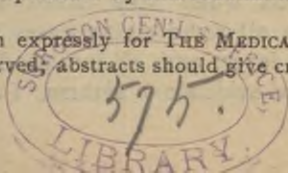
It is impossible to practice medicine forty years and not see some curiosities; and if all practitioners would report the anomalies they have seen, the stock of knowledge would be greater and more valuable than now. Hence this mite contributed.

The accompanying figure is from an outline drawing of a crystal found, amongst

many others, in the sputum of the late Colonel W. T. Holt, of Denver, Colorado, who left New York City to escape asthma. It is magnified 800 diameters, and, it will be noted, is a double-ended bifurcated crystal. The artist did not project the twin terminals into roundness, that appeared pointed like a steeple. As a whole the crystal was flat, like a uric-acid crystal, and the reëntrant angle was square at the inner part, as figured. Altogether it is one of the most striking forms found in the morphology of sputum. Its sharp points, like those of a carpenter's compass, were apparently capable of pricking; and this is what these crystals do in asthma, and the neurotic results that accrue are explicable by this mechanical action.

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presented by the author



How came this crystal to be found? The Salisbury dictum that "Asthma is a gravel of the lungs" having been proved to me by long and careful examinations of asthmatic sputa under the microscope, and the New England Hay Fever Association having publicly asserted the medical profession knew absolutely nothing of the real cause of hay fever, I for one felt as if I could not calmly submit to this imputation; and I did not. At the time I did not know of Salisbury's essay on Hay Fever, but set about studying so-called "cured cases" of hay fever. I put myself in connection with Colonel Holt, as an old patient "cured" by Colorado climate, and he put me in connection with other "cured" cases in the following way: they were asked to collect a small portion of their morning expectoration on a piece of white writing-paper, let it dry away from stove or sun heat, and then mail to me. Thus I secured many samples of sputum from people in distant parts of the world, and these, when wet with water, proved to be very satisfactory morphological specimens.

I expected to obtain normal sputum, but instead I found in all granular gravel, massive gravel, crystals, giant mucous corpuscles distended with granular gravel, and in some cases the *Spirilina asthmæ* found in asthma sputum proper. The crystal outlined in the accompanying figure is one of the forms found. There were examined, in the interval period when they called themselves cured, in all some eighty cases of asthma and hay fever; and *all* furnished the morphological evidence of asthma. I announced

the result to Colonel Holt, who replied that Colorado cured hay fever and asthma *only as long as the subjects remained in Colorado*, and that, strictly speaking, the cases were not cured, because the symptoms would come on when the local climatic influences were changed by locomotion. This was a great surprise to me. So I concluded hay fever must be merely a form of asthma, or gravel of the lungs.

On further study, it was found the abnormal sputum morphology persisted in the intervals of paroxysms; or, in other words, the asthmatic sufferer is like a loaded gun, ready to go off when the trigger (exciting cause) is pulled. The predisposing cause is the gravel; but causes that will excite common asthma will not excite hay fever, and *vice versa*.

After these investigations were concluded, Doctor Salisbury showed me his Hay Fever essay, taking beforehand these same grounds, and hence making me simply a witness to their truth, and thus more worthy of credence.

The nature of these asthmatic crystals is as follows: Triple phosphate; uric acid; oxalate of lime; cystine; and some constituents unknown. The double-ended bifurcated crystal herein figured may be conjectured as uric acid, though it was cream-colored; the majority of uric-acid crystals are double-ended, and of course the coloring matter of the urine does not obtain in the air-passages.

To one who has for years studied the morphology of the urine, fæces, skin, and blood, and found such crystals common therein, it is no surprise to find them in the sputum; indeed, the philosophy of their presence seems

to be that the *primæ viæ* of kidneys, bowels and skin are, from the abundance of these crystalline bodies, unable to carry them off by the urine, fæces, and perspiration, hence the lungs are obliged to take on compensatory activity and excrete, else the patient falls ill and perhaps dies.

The presence of these crystalline bodies is as irritating as the points of the finest cambric needles would be if impinged on a sensitive skin twenty times a minute. With varying degrees of resistance, the systems of different individuals tolerate these gravels, until finally a cold or an irritant inhalant (ipecac) upsets matters, when the bronchial muscles are seized with spasms, much the same as the muscle of the hand in writer's cramp.

The pollen of the artemisia, or Roman wormwood, found in August and September, particularly excites this neurotic storm in some cases—which storm is then termed hay fever because it occurs during the season of the hay crop. If the sufferers from this malady go to the White Mountains, Colorado, or some other elevated locality, the paroxysms cease, and then they erroneously consider themselves cured.

Again, people may have this gravelly sputum for a considerable time before they come down with asthma or hay fever. *The morphology of their sputum thus becomes the first sign of the pre-asthmatic state; and this is the best time to treat the disease.*

Naturally, the great principle of treatment is to get rid of the gravel of the lungs. To do this it is necessary to use hot water freely

—say one pint an hour before each meal and on going to bed,—with the view of furnishing plenty of fluid whereby to hold these animal salts in solution, and to aid their more ready exit from the body. The abundance of crystals shows an overplus of their salts and a slow formation. Granules show quick precipitation. The best water is the distilled; next, spring water free from salts.

These gravels have their origin in the blood. I have often found them in the circulation, in kine as well as in man, as has also Doctor Salisbury: thus I only corroborate his experience and views.

Vegetable foods in excess increase the production of these salts. A case in point is that of a physician forty years of age, president of a German vegetarian society, who resigned with horror and took meat diet because he found his temporal arteries were becoming calcified! Said he: "I know that ossified arteries at forty years mean death." Hence another great principle in the treatment of asthma is, *to reduce the amount of vegetable food*, and this includes foods derived from the Graminaceæ, such as wheat, rye, etc., all of which predispose to gravels.

The lean chopped beef, broiled, not raw or dried up, sometimes called "the Salisbury steak," is the food *par excellence* in asthma until the worst symptoms have subsided; then food from the vegetable kingdom may be gradually and cautiously partaken of. And vegetable tonics combined with the *English* iodide of potassium, as a liquefacient, are then in order. Here we strike one for foreigners! for it is a shame that the American

potassium iodide is not equal to the English, which excels all others for this purpose.

Sponge and tub baths should be freely used, because the skin is the largest eliminating gland in the body and should be kept in good condition for its work in order that it may relieve the respiratory tract.

The foregoing plans faithfully carried out in a case of twenty-six years' standing, and a most severe one at that, readily accomplished a cure.

The intent of this paper is chiefly to call attention to the morphological field found in the sputum of asthma; but I cannot leave the subject without referring to the priority of discovery of asthmatic-sputum crystals.—Americans are accustomed to turn cold shoulders to their own discoverers: the warm shoulders are reserved for the foreigners. To my knowledge these sputum crystals were discovered and drawn before 1860 by Doctor Salisbury, and unless Doctor Leyden can go back of this he must yield all claim as to priority; Doctor Cushman's spirals ditto. On May 8th, 1884, before the American Medical Association, by means of lantern-slides I showed the gravels of the lungs and the *Spirulina asthmæ*. Not long after this appeared the German claimants, to whom Americans have given the credit!

Now I wish to be fully understood. Give to every one due credit, Germans, Americans, and all. But why should we accord to foreigners the meed of patronage or praise when Americans have just as good if not better claims to our consideration? There is, however, a higher obligation, and that is:

physicians must give to their patients the benefit of the most advanced knowledge as to the causes of disease. The American contributions to calcareous diseases are vastly superior to the foreign, and there certainly is no reason why patients should be deprived of the benefit of them in, for example, the asthmas. My experience is: get rid of the gravels, and the asthmas go.

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WHAT MADE THE CURES?

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Case 1.—Some years ago a noble lady, wife of an ambassador, while her husband was giving a diplomatic reception at Washington, suddenly fell insensible. Her subsequent ill-health and inability to "receive" led him to seek a resignation and return home. Medical aid was sought without avail until a subinvolute uterus three and a half inches deep was discovered. A vector of iodoform, applied once, was followed by a reduction of the uterine cavity to two and a half inches. A restoration to health followed, so that subsequent receptions passed off smoothly and the minister plenipotentiary retained his post.

Case 2.—In 1862 the writer brought from Europe some iodoform. Soon after, a man sought aid for a syphilitic leg ulcer which had perpendicular edges, a dry base, was round, about the size of a half-dollar, and so exceedingly painful that he had been unable to sleep for several days and nights. The impression made on the attendant physician was, that the ulcer had been disturbed too much, or rather that too much had been done for it, thereby interfering with the healing process—one cannot expect beans to grow if they are pulled up by the roots daily to see how they are getting along. He was ordered to place the leg across a chair so that the ulcer would lay flat and uppermost; the ulcer was then filled full of iodoform, to the amount of at least one drachm; a strip of lead plaster

two inches wide was laid over the iodoform and ulcer, wrinkled so that there was a chance for the escape of pus and for ventilation; and strict directions were given to let the sore entirely alone until the next visit, which was purposely delayed for three days, when the patient said he had been at once relieved from pain, had slept well, and felt much improved. On removing the plaster the ulcer was found healed over two-thirds of its surface with sound skin!

Case 3.—In 1882 a young man was advised not to make an application for life insurance, because he presented evidence of fatty degeneration of the kidneys. He was then treated on systemic plans—meantime continuing his business—and was pronounced cured in 1884. In 1895 he made application to the same medical examiner, was found free from disease, and was accepted in the very same company by which he had been practically rejected thirteen years before. He is now in active business, in splendid health.

Case 4.—Some years ago a clergyman applied for a life insurance, but was rejected because of diabetes mellitus. Two years since, he came under my care. A year's treatment was enough to remove the evidence of diabetes. He then got his life insured, and is now in Europe on a vacation.

Case 5.—In 1890 a man 66 years of age was told by an oculist that he would be blind from glaucoma. My father had been his family physician, and later myself. Of course such a serious case was remarked on when we by chance met—we did not then live in the same town. Taking into consideration the fact that most organic eye diseases come

from carbohydrate food in excess, from the proteid disease called dyspepsia, or from some form of fatty degeneration (judging from Sir Benjamin W. Richardson's and S. Weir Mitchell's synthesis of production of cataract in both eyes of a frog or guinea-pig, in less than ten minutes, by hypodermatic injections of a drachm of a saturated watery solution of common sucrose or cane sugar), the writer, anxious to do good with his knowledge, said: "Colonel, do you wish to save your eyes?" "Yes, I do," was the reply. He was then advised to live on a diet that eschewed carbohydrates. Curiously, this street-volunteered advice was followed. In 1892 he said his eyesight was improved. "Stick to diet," was the advice. In June, 1896, he declared his "eyes were as good as they ever were," and that he was about giving up the use of glasses!

Case 6.—Some twenty-five years ago a middle-aged man was turned over to the writer by Doctor Wm. F. Stevens, of Stoneham, Mass. It was a case of chronic erysipelas involving the right leg, traveling up the limb and invading the knee. Free incisions in the foot down to the plantar fascia, and in the leg down to the bone, failed to arrest the disease. The alternatives of amputation of the thigh, with possible death on the table, and inevitable death without the amputation, were presented to the patient, who chose the operation. With a very feeble pulse of 130 he underwent amputation and came out successfully. Although care was taken to leave sufficient material for flaps, owing to his low vitality the flaps sloughed, and a conical stump formed with about one inch of the projecting femur necrosed. It now became necessary to perform a secondary amputation. In order to save tissue, the projecting femur was enucleated and severed by a chain

saw. The vessels were ligated, and all the assistants but one went away. Not long after, secondary hæmorrhage occurred. It was now dark, but the wound was reopened and the vessel tied successfully. The man recovered, and lived fifteen years, to die of some other disease!

One very interesting diet question was settled, as far as this case was concerned, viz.: "Is alcohol food?" This man's sole diet for ninety days, at one period of this serious illness, was a pint and a half of whiskey daily. This is a strict fact! Physicians have been blamed for making inebriates by prescribing alcohol: but this man was not made a drunkard, for when he was able to give up the whiskey he could not take a tablespoonful without its "going to his head," and it was moreover very distasteful. When he was using it as above, it never disturbed his head; it fed him, and he was satisfied. Now if alcohol was not a food in this case, what was? Healthy dogs and men without food rarely live forty days, but this man, all but dead with chronic erysipelas, lived on alcohol for ninety days! It seems to me alcohol should be used as a medicine. I am very sure that he would have died but for the whiskey. It should be added that he rejected every other solid or liquid food but the aforesaid whiskey.

Now what made the foregoing cures? Our foremost American gynæcologist, referring to Case 1, stated that it was the most remarkable he ever knew. There was justification for this statement. Certainly there is not another article of the *materia medica* that has such

a history; if there is, let it be known, for it is facts, not opinions, the profession need. The sedative and healing virtue of iodoform never was better shown. It certainly does relieve hyperæsthesia, pain, and disturbed neurotic action. Was not the cure wrought by removing these, so that Nature then had a chance to restore equilibrium, or rather to furnish force whereby the subinvolution was removed, as it ought to have been after the birth of the child which was at that time about eighteen months old? Certainly the metamorphosis by metabolism, induced by the iodoform in this way, made the cure. And yet, after all, Nature cured, because after the said conditions were removed by the iodoform, no cure would have been effected without her efforts. In other words, Nature was trying to cure, but hindered by the subinvolution; she did not have dynamos enough to run the system.

As to Case 2: The end aimed at was the relief of pain, but more than this was had. The sound skin was replaced where for months and years it had been absent, and this with wonderful rapidity. It is impossible to conceive that iodoform should of itself produce sound skin directly. We can say it did so indirectly by removing pain, soothing the irritated nerves, and giving Nature an opportunity to do what she had for so long endeavored to do—heal the solution of continuity. Had iodoform been put on a dead man's sore, such a healing would not have happened,—though recent experiments show that arsenic will travel in the dead, from the rectum to the brain *via* the

spinal cord alone, by imbibition. So here it was the *vis mediatrix naturæ* that cured.

In Case 3 there was a removal of causes of fatty degeneration, by the withdrawal of carbohydrates and fatty foods which retarded functions mainly by the action of the gases produced in the alimentary canal; next, by giving food which conferred the maximum of force with a minimum of expenditure in assimilation, and which conferred also the power to lay down all the body tissues healthily. Then Nature, given a chance, restored healthy tissue in place of the fattily degenerated. I am quite aware that this is new doctrine, and not generally received, but advisedly and in the moritural state this is asserted as a truth that has come into others' experience beside my own. It is an American contribution to medicine far exceeding in value the X rays which have dazzled the whole world. This man was cured by Nature's transforming—or, if you like the Greek better, metamorphosing or metabolizing, or, in good old Anglo-Saxon, changing back to health—parts of the body which had turned into fat in one or more of its forms.

In Case 4 the system was put in such splendid working order that Nature arrested the abnormal production of sugar by the liver. The medicine the man took was oil to the machine.—Oiling locomotives will not make them run, but a fired-up locomotive cannot run unless it is oiled. The presence of sugar in the urine is evidence there is not force enough in the body to properly run it. Indeed, most diseases, save those from parasites, make evident the same idea,—and it

may be doubtful as to parasites, since a perfectly healthy body does not, as a rule, tolerate parasites that can produce disease. It used to be taught that children have worms *because* they are sick, and this is quite near the truth.

As to Case 5: No medicines were given, nor any attendance save that of the oculist. Certainly Nature was the healer. When the causes were stopped, then she righted the local lesions. There is a truth of tremendous importance to ophthalmology indicated in this case. Nature formed the eye, with its most marvellous powers of perceiving incomprehensibly rapid vibrations of light. It has lately been asserted by the Philosophical Society of Great Britain, that the vibrations of green light are seventy thousand million per second! If Nature has created such instruments of precision, cannot she likewise cure them?

Case 6 certainly shows the good of medical and surgical interference. It was a very bad case. Good nursing was an important factor, and what is good nursing but simply making a realization of the powers of Nature left to work with? Surgery helped by removing burdens from the forces of life, or, to use another simile, obstructions from the path of life. Some would say that the man had a good constitution, but, after all, do not these expressions come back to Nature as a source of power? Does the physician do any more in his line than the farmer does to procure results in agriculture? All the planting, cultivating and husbandman's care avail nothing unless Nature does her work unmolested. The farmer can easily destroy his

crops by bad management and want of care. Is it not so with the physician? And what is Nature but an expression of Divine Providence?

The word *nature* means "born." To be born implies something antecedent to the thing born—a father and a mother. The good old book says, "In him we live and move and have our being." So we may say of these cures, that they are done by God acting through his agents. The greatest physician in the world was our Lord Jesus Christ, who cured all manner of sickness and disease by a touch and a word.

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