

HAMMOND (W-A.)

NEUROLOGICAL CONTRIBUTIONS

I.

THE

ODOR OF THE HUMAN BODY

AS DEVELOPED BY

CERTAIN AFFECTIONS OF THE
NERVOUS SYSTEM

II.

ON A HITHERTO UNDESCRIBED FORM OF

MUSCULAR INCOÖRDINATION

BY

WILLIAM A. HAMMOND, M.D.

PROFESSOR OF DISEASES OF THE MIND AND NERVOUS SYSTEM, IN THE UNIVERSITY OF
THE CITY OF NEW YORK, ETC.

*Reprinted from the Transactions of the American Neurological
Association for 1877*



NEW YORK

G. P. PUTNAM'S SONS

182 FIFTH AVENUE

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THE ODOR OF THE HUMAN BODY,

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BY WILLIAM A. HAMMOND, M.D., OF NEW YORK.

THAT the human body has a distinct and special odor is well known to all who have been thrown into contact with dirty people. Indeed this odor is readily perceived even from cleanly persons, when they are crowded together or are confined within small or ill-ventilated apartments. It only needs concentration to be distinguished by our nasal organs under all circumstances. The lower animals have no difficulty in recognizing us by the smell of our bodies, even when it is diffused in the open air, or when we have touched some object to which they can apply their noses. In fact, we differ among ourselves in the character of our bodily odors, for a dog can readily distinguish at once the peculiar scent evolved by his master, from that of any other person.

Among the dark races the odoriferous emanations from the body are much more distinctly marked than they are in the Aryan family of mankind, and are different in character. The odor of an American Indian is altogether different from that of a Negro, and either is entirely unlike that of a Caucasian.

But besides this inherent bodily odor there is reason for believing that under certain circumstances an entirely different redolence may be given off from the human body, not only as a consequence of disease, a fact well known, but as the result of various kinds of emotional disturbance. During the middle ages manifestations of the kind in question were not uncommon in the persons of saints of both sexes, and were attributed to miraculous power. In speaking of religious men and women of the present

day as being gifted with the "odor of sanctity," few who use the expression are aware of the fact that the quality under consideration was claimed to be a veritable physical endowment, and in all probability actually existed; not however as a special gift of God, but as a neurosis similar to other instances which have come under my observation.

That many of the saints in the earlier days of the Church were highly odoriferous is not to be doubted, when we recall to mind the fact that bodily ablution was a sanitary measure of rare performance; but the peculiar quality referred to was altogether different from this ill-smelling savor, and indeed, appears to have been capable by its penetrating fragrance of altogether masking or overpowering what we may consider to have been the ordinary fetid saintly emanations. The instances of this virtue which it has been thought proper to record in the lives of the saints are numerous, but a few of the more striking will serve the purpose of illustration. Thus Görres states, on the authority of Thomas à Kempis, that the body of the blessed Liduine exhaled such a delicious perfume that her chamber was full of fragrance, so that persons entering it thought she had some sweet aromatic substance concealed about her person. Many pious individuals, attracted by the aroma, and wishing to enjoy it to more advantage, approached their faces to the breast of the saintly woman, and perceived that here was the center from which the delicious odor came, "as if," says the pious Görres, "it were a casket in which the Lord had placed his most precious perfume."* This redolence was much more noticeable after Liduine had received the visits of Our Lord or of her angel, or had experienced a vision during which she had been transported to heaven. It was sensible, not only to the smell, but also to the taste, as it left on the tongue and palate an impression like that experienced after chewing cannella. It was especially perceptible on that one of her hands which had been taken by the angel in leading her to paradise. In the cases of other saints this sweet odor was noticed only when they celebrated mass. Thus when the blessed Venturini of Bergamos officiated, the people struggled to get as near as possible to the altar, in order to enjoy the perfume he exhaled. In the person of St. Dominique it was the hand in which the phenomenon was manifested, as was clearly perceived by those who kissed it.

* *La Mystique divine, naturelle, et diabolique.* Tome I., p. 340. Paris, 1861.

With St. Francis de Paul, a delicious odor was given off most sensibly, after he had fasted three, eight, or forty days, and had subjected himself to frequent disciplinary inflictions. With the blessed Helen and Maria Villana, the perfume was exhaled when they received the communion.

Although there is great room for considering some of these instances as fraudulent, and of course no ground whatever for looking on any of them as miraculous manifestations, there is, as I shall show, reason for regarding them as within the range of probability from the action of natural causes.

So far as I am aware, the subject has not heretofore attracted attention in the relations now under notice. It is true, that fetid perspiration from the feet and other parts of the body has been studied to some extent in its pathological and therapeutical aspects; but the production of specific odors as the result of certain affections of the nervous system is as yet unstudied.

CASE I.—The first instance of the kind which came under my observation was that of a young married lady of strong hysterical tendencies, in whom, during a paroxysm, an odor similar to that of violets was exhaled from the body. This was so powerful as to be distinctly perceptible at the distance of several feet, and was at once noticed by any one entering the room in which the patient was. Usually the odor began to be evident as soon as the paroxysm of alternate weeping and laughing was fully developed, but at times it was not apparent till toward the close. In the intervals it was entirely absent.

Upon examination I ascertained that the odor was only exhaled from the left lateral half of the anterior wall of the chest, and that the perspiration was remarkably increased in this region as compared with the corresponding part opposite.

There was nothing at all disagreeable about this exhalation. On the contrary it was decidedly pleasant; nevertheless the patient was exceedingly anxious to get rid of it, even if she had to part with her hysterical manifestations—phenomena which she nursed with assiduous care.

Preliminary to the adoption of any therapeutical measures, I determined in the first place to ascertain, if possible, the nature of the odoriferous principle. With this object in view, I covered the affected side of the chest with a perfectly clean cambric handkerchief while the perfume was being evolved, and when it was well saturated with perspiration and thoroughly redolent with the pe-

cular odor, I placed it in a glass retort into which I introduced four fluid ounces of proof spirit. This was allowed to stand for several hours, and then distillation was effected at a temperature of 120° , and was continued till about one-fourth of the fluid contents had passed over into the receiver. This distillate was very strongly impregnated with the perfume of violets, as will be distinctly perceived in the portion contained in the vial which is now exhibited.

I presume the odor is due to the presence of butyric ether, a substitution compound of butyric acid. This latter substance is, as is well known, a constituent of normal perspiration, and is also derived from the juice expressed from human flesh. The ordinary odor of butyric ether is that of the pine-apple, but it is possible that the difference observed in this case is due to the presence of some other organic principle in small quantity, and that the change is similar to that which takes place with butyric ether in fruits of various kinds, leading to the production of modifications in the perfume. The odor of the muskmelon is just as much due to the presence of butyric ether as is that of the pine-apple and other fruits of very different perfumes. Butyric ether is of very extensive use in perfumery, and various scents are produced by the chemical processes to which it is subjected.

This hypothesis is rendered more probable by the fact that if to a portion of this violaceous compound I add, as I now do, a little bicarbonate of soda, the characteristic odor is changed into one exactly like that of the pine-apple. It probably becomes pure butyric ether.

An interesting circumstance in the present connection is the fact that by the ingestion of asparagus into the stomach, and still more notably of turpentine, the urine acquires very rapidly the odor of violets, while, as is well known, neither the one nor the other of these substances has such a quality.

Again, butyric acid constitutes the odorous principle of the sweat as excreted by different parts of the body, and which has its own peculiar odor according to the region from which it is taken. There must be therefore some modifying principle which by its presence is capable of altering the smell of the perspiration without notably changing its chemical characteristics. The fact, therefore, that in the present case the perfume of violets is readily replaced by that of pine-apple—the peculiar odor of butyric ether, has its analogues in our every-day experience, and leaves

scarcely a doubt on the mind that the odoriferous principle is butyric ether. Having obtained these facts, I began a series of experiments with the view of dissipating the perfume, which, however pleasant to those around the patient, was the subject of considerable annoyance to herself.

Among local applications I found a weak solution of carbolic acid entirely effectual, but only for the time being. With the ensuing paroxysms the odor was just as distinctly perceptible as before.

Lotions of the dilute mineral acids also destroyed the odor.

Soap and water did not, though it was changed to the perfume of pine-apple by this and other alkaline solutions.

No external applications afforded more than temporary relief, and the object, that of enabling the patient to be hysterical without evolving a perfume, was not attained by these means.

But I am happy to say that after using various medicines, I finally succeeded in curing this lady of her violaceous redolence by the administration of the salicylate of soda in doses of five grains, three times a day, continued for about thirty days; not only was the odor destroyed, but the exuberant perspiration of the region from which it was evolved was also reduced to its normal standard. This lady is at the present time free both from redolent perspiration and from hysterical manifestations of all kinds.

CASE II.—Another case of marked odoriferous perspiration was that of a young lady, in whom the phenomenon was first exhibited contemporaneously with the occurrence of an attack of chorea. In this instance the perfume was distinctly that of pine-apple. It was exhaled with the insensible perspiration, and, as the case occurred in the winter, it was not convenient to collect the sweat so as to submit it to any chemical examination.

CASE III.—A lady now under my charge informs me that whenever her emotions of anger are excited, she and those near her are sensible of the fact that she exhales from the skin of her head, neck, and chest a marked odor of pine-apple.

CASE IV.—A gentleman upon whom I recently performed a severe and dangerous surgical operation, and who was at times very hypochondriacal, evolved from his body at such periods a strong violaceous odor, as he stated in some notes of his case which he gave me, and as I had several opportunities of remarking.

These are the only cases which have come under my immediate

notice, though several other instances of perfumed perspiration have been mentioned to me.

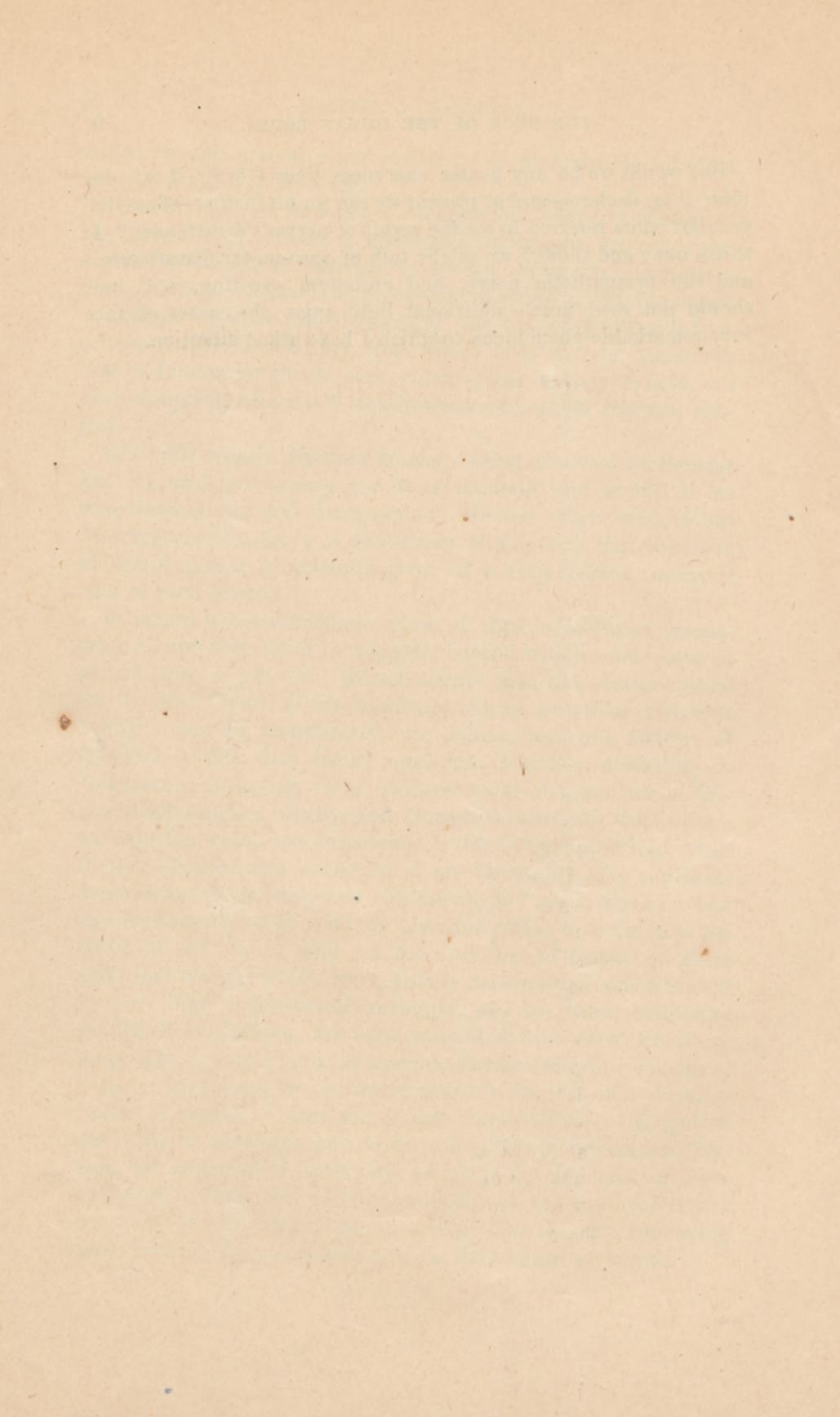
Cases of fetid, or at least of disagreeable odors, exhaled from the body during periods of emotional excitement, are also occasionally met with, and several have been under my observation, though I have not had the opportunity of studying them in detail. A notable instance under this head was that of a young lady, a school-teacher, in this city, from whose body an odor similar to that of Limburger cheese, and evidently due to butyric acid, was evolved during attacks of sick-headache, to which she was subject.

The odor exhaled by some women during venereal excitement has its analogies among the lower animals, and is said to be sometimes strong and disagreeable. On the other hand, it has been reported to me, by a gentleman of this city, that the *chère amie* with whom he cohabits gives off a very decided rosaceous odor at such periods.

In regard to the immediate cause of these odoriferous emanations I have very little to suggest, beyond what would occur to neurologists in general. Görres asserts that the pleasant odors are the direct result of transcendent holiness, by which the coarse bodily atoms are transformed into delicate and fine matters of spiritual, rather than bodily qualities. Further, according to this learned authority, these transcendental changes are accompanied by a sweet, saintly, and altogether heavenly disposition; an assertion which my experience is far from supporting. Still further, disagreeable bodily odors are the result of a continual degradation of the corporeal substances, and are a sign of a bad and entirely depraved mind, an assertion which is as far from the truth as the other. And yet the doctrines of Görres on these and other matters which he regards as supernatural are approved by very high ecclesiastical authority, and his work, originally published in German, has been translated into other European languages, and in France at least has reached several editions.

As we have seen, too, so firmly rooted is the idea of a veritable "odor of sanctity," that the phrase has obtained a recognized place in our language, and is uttered glibly by priests and laymen, as expressive of the highest religious development in those to whom it is applied, without probably, in the vast majority of cases, there being the least knowledge that they are employing an expression for which a miraculous foundation is claimed.

But would we be any nearer exactness than Görres, if we do more than declare—and at present we can go no further—that the peculiar odors referred to are the result of nervous disturbance? I think not; and though we might talk of vaso-motor disturbance, and the sympathetic nerve, and unilateral sweating, etc., we should not shed much additional light upon the causes of the very remarkable phenomena to which I have asked attention.



ON A HITHERTO UNDESCRIBED FORM OF MUSCULAR IN-COORDINATION.

BY WILLIAM A. HAMMOND, M.D., OF NEW YORK.

THE case which I have the opportunity of presenting to the Neurological Association is one which, for several months, has engaged my attention, though, I am sorry to say, without any satisfactory result, either as regards diagnosis or treatment. Indeed, I am unable to state with any degree of accuracy the part of the nervous apparatus in which the essential lesion resides.

Henry Norman, aged three years and ten months, came to my clinic at the University Medical College in January, 1876. He was apparently in good general health, was well grown for his age, and had not been subject to any exhausting disease. As he sat upon a chair he exhibited no indications of paralysis, spasm or in-coordination. He moved both legs well and with normal force, and could use either hand in the ordinary way.

But on his attempting to walk he assumed a peculiar one-sided stooping position, his left arm being flexed and held close to the side, while the right was thrown out strongly behind him. This attitude is well shown in the accompanying wood-cut from a photograph.

In walking, he was able to direct his steps with a certain amount of precision, but yet not with the normal degree of accuracy. He appeared also to have some difficulty in arresting his movements, and was accordingly apt to come up violently against obstacles which were in his way. His gait was rather a run than a walk, and he often fell.

In bringing the case before the class, I expressed the opinion that it was one of chorea paralytica and gave a favorable prognosis.

I prescribed arsenic and strychnia. After two weeks, as there was no improvement, I substituted the bromide of zinc; but after its being used for several weeks in gradually increasing doses without benefit, I stopped the further administration.

Repeated examinations led me to doubt the correctness of my first opinion, that the disease was choreic in character; but I was not able to identify it with any which had come under my notice, or of which I had read.

In May he came under Prof. Sayre's observation, who expressed the opinion that the case was one of reflex in-coordination due to



contracted prepuce, and that it would be cured by circumcision. This operation was performed by a Brooklyn surgeon, and subsequently more completely by Prof. Sayre; but the little patient has continued to get worse, and the father and mother inform me that at no time after the operation was there the slightest alleviation.

The patient is here before the members of the Association, and I think they will see, on comparing his present appearance with that shown in the photograph taken just before the circumcision was performed, that there has been a gradual advance in the in-

tensity of the phenomena. Yet, notwithstanding the marked in-coordination, there is no paralysis, no derangement of sensibility, no bladder disturbance, no spasm, no diminution of electric excitability, and none of the peculiar symptoms indicative of sclerosis of any part of the cord.

I have been unable to find any reference to an affection such as that exhibited in the case before us. Certain analogies will readily occur to the members of the Association.

ADDENDUM; JUNE 30th, 1877.—Soon after the patient was exhibited before the American Neurological Association in June, 1876, he was brought to me by his father, and on ascertaining that he was gradually getting worse, I stopped all medicine, and advised his being sent into the country. This was about the 10th of June, and two months after circumcision had been performed. At this time he could not walk alone, and when he desired to go from one place to another he lay down on the floor and rolled to it.

I heard nothing more of the case till I received the following note :

“September 17, 1876.

“DR. W. A. HAMMOND :

“My child, Harry Norman, commenced to improve two weeks after his return from the country, July 15th, and is now *about* well. No medicine of any kind during that time.

“Respectfully,

“A. J. NORMAN,

“825 Broadway.

“He was very bad until July 15th.”

Now I did not suppose that any treatment I had given this child had at all facilitated his recovery, and I felt equally sure also that the operation of circumcision had been just as inefficacious. Over three months had elapsed since the excision of the prepuce for a disorder alleged to be due to phymosis, and therefore reflex. If the theory of the affection had been correct, the relief would doubtless have been immediate. But my distinguished friend Professor Sayre thought differently, and in a clinical lecture, delivered September 23d, 1876, and published in the *Philadelphia Medical and Surgical Reporter* of October 14, he brings forward this case as an illustration of the beneficial results of his treatment. It is true, he cites a letter from

the father in terms almost identical with the one addressed to me. But it is surely straining a point to claim the case as a cure by circumcision, even if the child had fully recovered. The title of Professor Sayre's lecture is "Paralysis from Peripheral Irritation, so-called Spinal Anæmia." By whom such cases as this are called spinal anæmia Professor Sayre does not inform us. He, however, admits that he once so regarded them, in which opinion he doubtless stood alone. They have about as much resemblance to any form of spinal anæmia as they have to small-pox.

During the past winter the subject of peripheral irritation from phymosis was discussed before the New York Neurological Society, and I then declared it to be in the highest degree improbable that the operation in this case could have been in the least degree instrumental in curing the affection. Prof. Sayre, however, thought that the delay in the result was altogether due to the slow healing of the wound made in the prepuce, and the consequent continuance of the irritation.

But now for the sequel:

I heard nothing more about the case, and regarded the child as having entirely recovered, till the receipt of the following letter:

"New York, April 2d, 1877.

"DR. WILLIAM A. HAMMOND: *Dear Sir*—My boy has had *occasional relapses*, but has *at no time* been as bad as he was at the end of two months after Dr. Sayre performed his operation; he was then at his worst. At the time he made his first rapid improvement we were giving him hypophosphate of lime and soda. His relapses have not been so bad as to cause alarm. He is now quite bent over when he walks, and is still inclined to stick his arm out; but he eats without attendance. We have very recently moved to a dryer house, and will note what change and how soon it takes place, if any.

"Dr. Sayre once or twice by note requested me to bring the boy, but I found it impossible to go or send him. Besides, I am fully *satisfied* that the *operation amounted to nothing*.

"The case is still a mystery to me. It may have been from the damp house we lived in, as he seemed better in very dry weather. If such was the case, our recent removal will demonstrate it, and I will be pleased to inform you of it.

"At any rate, he is not well yet. Strangers take him for a

cripple, but we do not feel the alarm we once did, owing to the variable nature. We trust he will come out all right.

“Very respectfully yours, etc.,

“A. J. NORMAN.”

That circumcision may be efficacious in a very limited class of cases—viz., that in which phymosis co-exists with functional nervous derangement, causing spasms or paralysis—I have never doubted. But that it is a remedy of any such wide-spread application as has recently been given to it is, to my mind, absurd. Only a few weeks ago I saw a child, son of a clergyman of Brooklyn, where circumcision had been performed for paralysis, the result of myelitis of the anterior horns of the spinal cord. In this case all the clinical signs of organic infantile paralysis were present. Such claims and such operations bring into undeserved disrepute a procedure which for many centuries has been recognized as efficacious when a cause for it really exists.

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