

His studies on "Dizziness" were followed in 1823 by a paper entitled: "*Commentatio de examine physiologico organi visus et systematis cutanei.*" In this work he gives an atomic disquisition upon the eye, which is intended to show the manner in which a physician ought to proceed in attempting to ascertain the normal or abnormal condition of an organ.

Purkinje's work on morphology is of still greater importance. He busied himself constantly with the preparation and preservation of histologic specimens. The first microtome was employed in this work, and Canada balsam was first introduced by him as a means of preserving sections of tissues. Another method constantly practiced in his laboratory consisted in the presentation of microscopic sections upon a white background with the aid of the Drummond calcium light.

The beginning of his fruitful career as an investigator was made by the discovery of the sperm-cell in the egg of the hen (1825). A short time after, a paper of his upon a botanic subject was highly praised at Paris. Aided by his famous microscope, he made a number of useful discoveries which laid the foundation of histology ten years before the time of Theodore Schwann. Among other things he described the structure of bone, cartilage, and blood-vessels, the glands of the stomach, and the ducts of the sweat-glands. The pinnacle of his fame was reached in 1837 at Prag. There, at a meeting of naturalists, he astonished his audience by the announcement of his discovery of the axis-cylinder of nerve-cells and by the demonstration of cells in different regions of the central nervous system. Purkinje expressed also at this meeting the opinion that the interior of many organs is composed of cells and nuclei, a fact borne out by Schwann's later investigations: "*Ueber die Uebereinstimmung in der Struktur und dem Wachsthum der Thiere und Pflanzen.*" Schwann became famous by this discovery, while Purkinje's name was not even mentioned.

Many a time has Purkinje pointed the way to a discovery, when time did not allow of his pursuing the subject exhaustively. There was no one better qualified to stimulate thought and to point out ways and means for the solution of scientific problems. Naturally modest, he cared little for the attention which his work attracted, and his inability to make the best capital out of his discoveries has caused his reputation to suffer somewhat in consequence. Already in 1850 his name seems to have fallen into undeserved obscurity. That these slights cast upon his work are in part intentional is shown by the fact that many of his methods and discoveries find their way into contemporary literature under "modern" names. To help in a slight way to restore the luster of a reputation undeservedly tarnished is the object of this appreciation, "*Ehre wem Ehre gebühret.*" Purkinje's name must always remain honored in the history of the scientific progress of this century.

**Treatment of Pelvic Neuralgia by Autorectal Dilation.** Prof. Poncet of Lyons has found that mere dilation of the anus and rectum will cure the pains and tenesmus of pelvic neuralgia, not only when they proceed from inflammatory lesions of the adnexa, but also from certain forms of painful prostatism and when they are due to an inoperable cancer of the uterus. He proceeds under chloroform, as for fissure of the anus, extending the dilation to include the rectum—finger or speculum. All the patients were relieved, but as only a few months have passed, the permanency of the cure remains to be established. —*Semaine Méd.*, February 22.

## SOME UNUSUAL SYMPTOMS IN A CASE OF MYXEDEMA.\*

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I wish to present a report of a case of myxedema with some unusual symptoms:

Mrs. R., aged 26 years, blonde. She never had any sickness save the ordinary diseases of childhood; has been married six years and has one child, about 5 years old. The beginning of this trouble was in June or July, 1897, when after accompanying her husband (who is a traveling salesman) through the mountains of the West, she apparently began to take on flesh rapidly. With the advent of the increase of flesh came a general indisposition, irritability, languor and exophthalmos. She seemed content to sit quiet and do nothing as compared to her former habits, although she was always up and around the house and entertained company. Her menses stopped in July, and soon after she applied to her physician for treatment for that trouble and for the unnatural flesh she had so rapidly taken on.

In April, 1898, she slipped on the sidewalk, fell and struck her back and side, which gave her more or less pain, of which she complained constantly. Early in May, 1898, she was suddenly seized with a violent pain in the back, in the region of the lower dorsal vertebrae, near where she had been injured by the fall. This pain was so severe that when she moved she would scream with agony, but she would remain perfectly easy as long as she kept quiet and did not move. This "catch in her back" was so severe that she could not be induced to get out of bed again, and kept it until she died. I do not know how much real or how much imaginary this pain was. The harshness of the skin and hair began to show as soon as the disease made itself known. The hair soon began falling out, to be replaced by much darker hair than the original, and the cheeks and the chin were well covered by a growth of hair.

She was treated, up to this time, by various physicians, for suppression of menses, dropsy, pregnancy, rheumatism, neuralgia, etc. She was at this time (about July, 1898, one year after her trouble began and which had not improved) taken in hand by the osteopaths, who at once proceeded to find several ribs, vertebrae and muscles dislocated, and instituted a course of hot sponge-baths and a massage treatment which she and her family thought did her good, and I presume it did make her feel more comfortable. After four months of this treatment she was but little better, and in November, 1898, fell into my hands, and I found her in the following condition: Enormous swelling of the face, neck and the entire body, anteriorly, extending down to the lower limbs, but no pitting whatever on pressure. The swelling was so great that the skin in numerous places was so stretched that great furrows seemed to be torn in the areolar tissue, which left in the flabby tissue that followed the treatment great bluish-red streaks or scars, such as occur in a pregnant woman whose abdomen is greatly distended. Her temperature was normal, and I never found it elevated. The pulse ranged from 140 to 160 per minute and never was lower than 120 at any time until about one or two weeks prior to her death. Her respiration was hurried and sometimes labored. The heart never showed any evidence of organic disease, although I feared its continuous, excessive action would cause, if it had not already done so, a dilation of the organ, which was indicated by an increase in dulness of the cardiac area. The thick, dense and harsh appearance of the tissue was very prominent, and the surface was covered with little pimples such as are seen in boys who have acne. The cheeks and chin were covered with an extra growth of hair. She complained of great pain in her back, hips and limbs. There was a wasting away of the flesh on the lower limbs and back. The greater and lesser sciatic nerves seemed to be the seat of all her pain, and whenever she moved she would scream out with severe pain. She seemed content to remain in bed in one position forever, and had always to be forced to move. There was a marked contracture of the knee-joint tendons and she could not be induced to even try to straighten them out. Her appetite was good and she slept quite well most of the time. There was an absence or atrophy of the thyroid gland, well-marked exophthalmos present, and while she had a slight moisture at this time, she had had profuse sweating at times, making a change of clothing necessary every day.

I recognized in the summary of the symptoms that I had an anomalous case to deal with, yet after careful consideration I could not help but feel that it was myxedema, and at once put

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her upon the thyroid extract, gradually increasing the dose to 18 grains a day. Her symptoms began to improve some, and the swelling gradually subsided. The exophthalmos gradually grew less prominent, the tachycardia improved slightly and the pulse gradually dropped to 120. Her symptoms now remained about the same for some time, when I added to this treatment tincture of digitalis and tincture cactus grandiflora, to control the heart's action. I also put her upon ten minims of belladonna combined with bromid of sodium, to control the nervousness and insomnia which occasionally occurred. I applied the ice-bags to the precordium, but nothing seemed to improve the symptoms from this point. The neuralgic aches and flitting pains which she would have by spells were treated symptomatically. She was put upon strychnin sulphate, three times a day, during the time she was taking the thyroid extract. About two weeks before her death she was taken with nausea and vomiting, and fearing that the thyroid extract might have something to do with it, I discontinued its use and instituted the ordinary remedies for nausea, which was controlled in a few days and she began to eat. The pulse all this time remained unaffected by the nausea and was as full, regular and as strong as usual. It now began to get slower and gradually fell to 80 per minute and remained there until a few hours before her death—which occurred about a week later—when it gradually grew slower and slower until it quit beating altogether. The night before her death, she began to complain of not being able to talk and grew hysterical. After  $\frac{1}{2}$  grain of morphia, hypodermically, she dropped off into a restless sleep, which soon deepened into unconsciousness, and death relieved her at 1 o'clock the next day.

To recapitulate: Her symptoms at the time I saw her were: Great thickness of skin, apparent edema, slight pigmentation of forehead, neck, extensor surfaces of arms and legs; an extreme thickening of tissue at the external corner of the eyebrow and lips, giving an expressionless appearance to the face, similar to that in dementia; in fact, the entire anterior part of the body was very much increased in thickness. There was a very slight sweating, instead of a dryness and harshness of skin. There was a sensation of coldness complained of. The action of the kidneys was sometimes excessive and sometimes diminished. Analysis showed specific gravity to be 1018 to 1022, reaction slightly acid, the solids about normal, with a very slightly diminished percentage of urea, with a few hyalin casts; a suspension of the menstrual flow. There was a very slight deviation from the normal mental condition, but a lack of quickness of perception of things about her, a slowness in ordinary train of thought, an absence of the usual demented and melancholy symptoms generally seen in myxedema. There was insomnia at times. The hair was harsh, coarse, and had all fallen out and been replaced by a much darker hair than the former. The face was covered with pimples similar to acne and had quite a growth of hair on the cheeks and chin, which was also darker than the hair formerly on her head. The pulse, however, instead of being normal, or slower, was very rapid indeed, ranging from 140 to 160. There was a perceptible atrophy or absence of the thyroid gland. Exophthalmos was well marked, great nervousness and irritability. Her breathing at times was fast and difficult and she had a dry cough, which was aggravated whenever there was any excitement which caused the heart to act more rapidly. She also had spastic contraction of the feet and calves of the legs at night. Her mother positively stated to me that she had had profuse sweating daily for a long time, which did not exist at the time I saw her.

The symptoms just enumerated naturally bring us to the consideration of the much-mooted question, "The Cause of Myxedema and Graves' Disease." One is said to be the antithesis of the other. Whatever may be the nature of the predisposing cause, in dis-

cussing the pathogenesis of myxedema our entire attention may be focused on one organ alone—the thyroid gland. There is hardly any need to recount the evidence going to show that upon the absence of this organ or upon some disturbances in its function, the whole pathologic superstructure rests secure. In cases of congenital cretinism the gland is not developed or is atrophied, and in many cases of myxedema the thyroid tissue has been found absent. Still the gland may be present, but its presence by no means indicates that its secretion is healthy. Any change, therefore, in the thyroid secretion which produces an alteration quantitatively, in the sense of diminution, or qualitatively, in the sense of departure from the normal physiologic standard—probably in the direction of lowered potency—is apt to be followed by conditions of which cretinism is one expression and myxedema another.

Our knowledge soon finds a barrier beyond which at present we can not pass, when we attempt to account for the marvelous influence of this little body upon the human economy. Of its real or absolute function, many theories have been proffered, but I doubt if anything positive is yet known. However, I firmly believe that from past experiments, the fact has been established that an alteration in the potency of the physiologic properties of the active principle of the juice, the ablation, atrophy of, or congenital absence of the gland will produce myxedema. Mendel thinks it may be the function of the gland to secrete a substance which, when present, prevents the formation of, or neutralizes, if formed, certain toxic substances in the body. If the thyroid material be wanting, these hypothetical toxins accumulate and excite the conditions already named.

It is from the set of symptoms which supervene when thyroid extract is given to a healthy individual, that the term "thyroidism" and the thyroid theory of exophthalmic goiter originated, as the group of symptoms are similar. Briefly named, they are: insomnia, restlessness, warmth of skin, tendency to perspiration, accelerated heart action, mental excitability, quickened intellection, muscular twitchings, etc.

This picture presents many features common to the physiognomy of that very enigmatic affection—Graves' disease. Graves' disease, when it merits the name, is said to be accompanied by some change in the thyroid gland. Because of this constant implication of the thyroid gland, and because of the marked resemblance between thyroidism and the symptoms of exophthalmic goiter, as well as of certain evidence of a histologic and pathologic nature, a most interesting theory has been advanced. This theory, to maintain the two distinct diseases, may be brought into direct pathogenic relationship with changes in the thyroid gland. If the gland is atrophied or absent, or the secretion has suffered diminution in any sense, we have learned to expect myxedema; but if the gland is hypertrophied and the amount of thyroid material poured into the blood be in excess, or if not in excess, if such alteration in quality has occurred as shall be equivalent to an increase in functional activity, then we are taught to expect exophthalmic goiter.

Moebius, one of the most ardent advocates of the thyroid theory, thus contrasts Graves' disease with myxedema: "In one case we have enlargement, in the other diminution, in the size of the thyroid: here the pulse is rapid, there slow; the skin soft and fine, warmer than usual, and inclined to sweat, instead of

thick, cold and dry; on the one hand excitability, increased mental irritability, irritable weakness, on the other hand, slowness and dulness of mind."

At this point I wish again to call your attention to the double set of symptoms in the case as quoted above. On the one hand she had the great thickening of the skin, falling of hair, pimpled face, extra growth of hair, all of darker color than normal, absence of atrophy of the thyroid gland, peculiar to myxedema, while on the other there was a very quick pulse, rapid and difficult breathing, exophthalmos, a slight sweating peculiar to Graves' disease. While I admit that there are symptoms of each disease wanting, which go to make up a typical case of either disease, yet there are leading symptoms of both diseases present in this case. If the thyroid theory of myxedema and Graves' disease be true, then I would like an explanation of the symptoms of both diseases occurring in this case.

The pathogenesis of myxedema, I consider from all evidence well established; yet I do not consider myself thoroughly converted to the thyroid theory of exophthalmic goiter. This seems to me to be the death-blow to that theory. I perhaps can not offer you a theory which can carry any weight with it, but it does seem to me that the nervous theory of some toxic influence produced through the diseased gland to the sympathetic nervous system is nearer correct than any other. As Huxley has said: "As science has shown that all modifications in material things are due to motion and change in particles, so the time will come when more delicate means of investigation will prove that so-called psychic conditions are due to change of state in things which are to us, now, non-material." So I believe in a lesion in continuity in all disorders, let it be what is known as functional, or what is known as organic. Time and investigation will probably reveal the means by which this may be demonstrated. The pathology of this disease is that which mostly interests us as scientific men. We can only hope for an intelligent solution of the subject, which I feel must soon come, then the application of intelligent therapy will follow when once the cause and the conditions produced by the cause are explained.

## SUGGESTIONS AS TO TREATMENT OF ALCOHOLISM.\*

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The more thorough pharmacologic studies that have been made of ethyl alcohol in the last few years have placed it in the class of anesthetics with chloroform and ether, and displaced it from its former association as a stimulant with strychnia and digitalis. This most important fact must be borne in mind in considering the therapy of its poisonous effects. We may recognize three forms of alcoholism from a therapeutic standpoint: 1, acute alcoholic intoxication; 2, acute alcoholic delirium or alcoholic mania, and, 3, chronic alcoholism. These types of poisoning each

alike demand for their successful treatment the immediate withdrawal of the alcohol. In my earlier experience with alcoholism, thirty years ago, I withdrew the alcohol gradually, under the impression that it was a stimulant, and that danger would follow any other course, but in later years a more abundant clinical experience has satisfied me that this plan was an error. It, being an anesthetic and a poison, should no longer be added to the body already overburdened with its combined effects.

*Acute alcoholic intoxication.*—In robust subjects the most rapid results are obtained by putting them to bed and administering a hypodermic of apomorphia hydrochloras, 1/10 to 1/5 grain (0.006–0.012); after emesis the patient will usually go to sleep without further medication, and will awaken sober, but feeble. I then direct a combination of tinctura capisci, 5 minims (0.30), tinctura nucis vomicæ, 5 minims (0.30), tinctura cinchonæ composita, 3i (4.00), every three or four hours, with koumiss, milk, beef-juice or raw eggs ad libitum. The bowels should be relieved as speedily as possible, and for this purpose I usually direct massa hydrargyri, 5 gr. (0.30), followed by a saline laxative. If the patient is too feeble for emesis, I order liquor ammonii acetatis, 3iv (16.0), every two hours, and a wet pack; following this treatment the acute effects of the alcohol speedily disappear. This is to be followed by the tonic course above outlined. For insomnia following acute alcoholism I usually prescribe a combination of sodii bromidum, 15 gr. (1.00), chloral hydras, 15 gr. (1.00), tinctura hyoscyami, 15 minims (1.00), to be repeated in one hour if necessary.

*Acute alcoholic delirium and acute alcoholic mania.*

—Although differing from each other clinically these are therapeutically much the same. The patient should be put to bed in a quiet dark room and carefully watched by adequate attendants. If competent attendants can not be obtained, the patient should be strapped to the bed. The indications for treatment are to procure sleep as soon as possible, and to support the strength. Sleep may be obtained by using the combination above mentioned, or by a combination of chloralamid, 15 gr. (1.00), with hyoscin hydrobromas, 1/100 gr. (0.0006). In the aged and infirm, ammonii bromidum and liquor ammonii acetatis will often produce sleep. These sleep-producing agents should be supplemented by the wet pack; the strength should be sustained by forced feeding with predigested food, malted milk, peptonized milk, somatose, koumiss, etc., and the administration of strychnia sulphas. I fail to see any advantage in using the strychnia hypodermically, except in some emergencies, as all its constitutional effects are obtained by administration per os. After the excitement has subsided, the treatment should be of the same tonic character as that used after acute intoxication.

*Chronic alcoholism.*—The treatment of chronic alcoholic poisoning can not be successful without power to seclude. Occasionally this may be voluntary, or otherwise compulsory, and one year of treatment under this condition is the least that should be thought of. If this international congress can secure such legislation as will make possible the involuntary commitment of inebriates in various countries, such as is now the case in the Canton of St. Gall, Switzerland, and in the State of New York, U. S. A., making the term one year, with the power of extending, as the physical and mental condition of the patient may

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