The importance and significance of the subject which Dr. Graves has presented is suggested by the fact that it is a topic which persistently recurs for discussion; that while there are times when very little attention is given to the subject, there are other times when it arouses a good deal of interest. That indicates two things:—first, that an important relationship exists between these two systems, the genital and the nervous; and second, that up to the present time at least, there has not been a satisfactory explanation of the correlation of the two systems. We have two important elements, the nervous system and the genital system, and several questions arise.

In the first place, if the genital system is diseased, what effect does that have on the normal nervous system; if the nervous system is diseased, what effect does that have on a normal genital system; and if both are diseased, what are their mutual and reciprocal relations?

The impulses which arise in the pelvis from the genital organs, pass to the spinal cord; thence, by the spinal nerves and sympathetic nervous system, to pelvic and abdominal organs. By this route we have a subcortical reflex. In addition to this we have impulses which travel to the brain, and through that we have what we may call a cortical reflex. Now the importance of the subcortical reflexes we do not at present understand. Most of us think that practically they are of very little importance in giving rise to symptoms. From time to time they have received a great deal of attention, but so far as the evidence goes they constitute a very unimportant part in the symptoms which arise from gynecological disease. More and more attention is being given to those reflexes which have added to them the psychic factor, and we have the numerous psychoneuroses which are associated with gynecological disease. Of course the important question is, what is the causal relation between the gynecological disease and the disturbed mental state.

To understand that properly we have to go into the cause of these nervous states in general, and we actually find that, while a certain proportion of them are apparently caused by gynecological disease, they may arise from other conditions also. Some mental disturbances are due to intoxications; and, by the way, Professor Bossi's view is that many disturbed mental states are due to non-septic intoxications arising in the genitalia. Some of them are due to congenital or developmental conditions. The interrelations of the glands of internal secretion are coming to play a more important part in our explanations of disease of both nervous and genital systems.

Now there is one point which I particularly wanted to emphasize in regard to their relations, and that is:—suppose we find a case in which quite clearly these symptoms are due to gynecological disease, and I am inclined to think that more of these cases of psychasthenia and

neurasthenia should receive operative treatment than has been suggested by Dr. Graves; if we find such a case, the first treatment is operation, but by the operation we do not cure the patient, though we may relieve the anatomical condition. The patient is still neurasthenic and must undergo the appropriate treatment, which we should in no case forget or neglect.

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NOTES ON PELLAGRA IN MASSACHUSETTS. WITH REPORT OF TWO CASES IN DANVERS STATE HOSPITAL.*

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UNTIL within quite recent years the existence of pellagra in Massachusetts has been practically unknown. Medical men rarely met with cases where the question of this disease could be raised. In the few instances where lesions and symptoms might suggest pellagra, the conditions presented features admitting different etiological solutions. Generally in such cases a complex of physical, neurological and mental symptoms existed, more or less characteristic of various organic nervous disorders, and the pellagroid manifestations were, with more or less sufficient reason, interpreted as occurrences in these diseases, trophic disorders, etc. Our medical teaching led the majority of us to disregard the disease in our practice and studies as one peculiar to foreign countries. Few knew much more than that about it. Under the circumstances a mistake or failure to recognize a case can be regarded as only natural. At this day it is hard to say to what extent New England's long asserted freedom from the disease depended upon failure of diagnosis.

The same is true of other states where today the prevalence of pellagra assumes the proportions of a most serious problem. Babcock states he should have made the diagnosis of pellagra in South Carolina nearly twenty-one years ago. The disease was first recognized in that state in 1889, and the enormous increase in the number of cases reported since that time—in 1911 a conservative enumeration of pellagrins in the state institutions bringing the total up to 500—lends a peculiar significance to his statement. In Illinois, where the disease was first recognized in 1909, over 500 cases in state institutions were reported in that and the succeeding two years. In New England, Rhode Island, announcing the

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death of the first case of pellagra in the state in 1911, reports a total of 38 cases in its state institutions, some of whom were admitted with well marked lesions of the disease. Evidence is not lacking that the disease existed in this country in the early sixties, that it was at least in part responsible for the mortality in the Andersonville prison during the Civil War, and that "cases of pellagra, native and imported, have probably occurred in general practice and especially in asylums and hospitals in this country for the last half century, although the diagnosis may not always have been correctly made" (Babcock).

In Massachusetts, at all events, though the first of the states to report a case of the disease, it would seem the clinical picture in any succeeding ones was not sufficiently clear to cause serious consideration of the possibility of a pellagrous origin. If cases did occur it must have been at rare and scattered intervals. It is reasonable to assume that if pellagra existed in this state it never attained to anything like epidemic or even endemic proportions. In the forty-eight years subsequent to 1862, medical literature does not contain reference to a single case of pellagra in Massachusetts; and the striking characteristics of this disease, had it prevailed to any great extent, could scarcely fail of recognition, notwithstanding a sense of security and immunity founded upon medical tradition and a belief in the non-existence of predisposing and exciting agencies under such geographic, climatic, and social conditions as ours. At the same time it must be borne in mind that in these states where the disease is now known to prevail extensively, older physicians are able to recall many cases which failed of diagnosis in the past, and which in the light of their present knowledge and experience they would not hesitate to call pellagra.

The first case of pellagra in Massachusetts of which we have record was reported by Tyler in 1862. Nothing further was heard of the disease in this state, either in institutions or general practice for almost fifty years.

The studies and investigations of Searcey of Alabama, and of Merrill and Babcock of South Carolina in 1907, showing conclusively that it had existed sporadically in certain South Atlantic and Gulf Coast states for years and that more recently it had made its first appearance in epidemic form in widely distant sections of the country, awakened an interest which has developed to a point of anxious concern with the enormous increase in the number of pellagrins reported since 1907 (estimates in 1911 running from 10,000 to 100, or more thousands for the United States). Following closely upon the discovery of pellagra in the South, reports from sections where the disease was hitherto not recognized, began to multiply, and in this connection it is interesting to note that since 1907 every one of our New England states has reported one or more cases.

In 1910 Fitzgerald (Worcester) reported the second case on record in Massachusetts. In 1911, Dean reported a case in the Northampton State Hospital following this in 1912 with a report of a case in the Northampton Almshouse, and of two in the State Hospital. Lee reported a case from the Massachusetts General Hospital in 1912, and Adler in 1913 mentions three (unpublished) cases seen during the previous two years at Danvers and Boston state hospitals, a total of ten recognized cases, all of which, with one exception, occurred since 1910. The diagnosis in most of these was accepted by expert authority, the subsequent course of each case was confirmatory of the diagnosis. There can no longer remain a question regarding the existence of the disease in our state; a sporadic existence if you will, but yet such as it maintained for some years in other states where now its victims are numbered by hundreds.

It is quite possible that the number of cases reported represents but a part, perhaps a small part, of the total number in the state. Students of the disease in other states remark upon the frequency with which cases failed of recognition in the earlier years, and even at the present time when it seems hardly possible that the majority of physicians have not become acquainted with its prevalence and very striking and obvious characteristics. Institution men in states where pellagra prevails, and the widest publicity has been given the disease in the lay and medical press, not infrequently receive pellagrous patients in whom the condition had gone unrecognized or under mistaken diagnosis. A superintendent in a Southern hospital for the insane is cited as stating that cases in his institution have been erroneously diagnosed as trophic disorders in general paralysis, etc., in years gone by. From Rhode Island, perhaps the most important focus of the disease in New England, Cohoon reports well marked cases received at the state institution in whom the condition had not previously been suspected, and he is of the opinion that pellagra is far more common in the community at large than the reports would indicate. Recently the writer has read a very clear description of a case in the records of the New Hampshire State Hospital,* the condition, however, failing of recognition, it occur-

* To the writer's recollection three cases occurred at the New Hampshire State Hospital during his period of service between 1907 and 1911. Raynaud's disease was considered in one case. Another appeared like an atypical case of general paralysis. In at least one case pellagra was considered a possibility. Within a month of the present time, a patient died in that hospital, in whom the disease has been recognized, and the cause of death given as pellagra. A note descriptive of one case appearing on the records of that institution is sufficiently interesting to justify its quotation here:

"Patient shows what appears like an eczema of the hands, supposedly due to her habit of frequently immersing them in water. But the course of the trouble is not like that in eczema. The skin first became somewhat chafed and inflamed, then black as if gangrenous, finally sloughing off leaving a raw surface. Both hands are in this condition, the affection extending upward to about two inches above the wrist joint. The elbows present similar lesions, and there is a beginning hardening and blackening of the skin over the knees. The mucous membranes are also similarly affected, the mouth being in very bad condition so that the patient is unable to swallow. The rectum is also involved rendering rectal feeding impossible. The vulva and vaginal mucosa show similar involvement." (Note: New Hampshire State Hospital records, August 30, 1911.)

ring at a time when the disease meant little more than the shadow of a name to physicians in that state.

During the present year two cases occurred at the Danvers State Hospital. Neither case was recognized prior to admission. One presented on admission a typical picture of typhus pellagrosus, a condition described by Lavinder as "an acute explosion peculiar to pellagra and occurring as an incident in the chronic course of the disease," and by Edward Jenner Woods as "a terminal phase, an acute exacerbation of the usual chronic condition." The other case developed the characteristic skin lesions after a residence of two months, but the history is strongly suggestive of previous attacks of the disease. In the one case the cutaneous lesions had been variously described as eczema, psoriasis, "vagrant's disease," dermatitis, etc., while the existing stomatitis, gastro-intestinal nervous and mental disorders obtained different interpretations. In the other, the history received contained nothing suggestive of pellagra. With the appearance of the skin lesions a fuller investigation revealed a long-standing condition of gastro-intestinal disturbances coincident with mental depression and confusion. The obscure nervous disturbances said to have existed in this case, the depressive mental state with the added digestive disorders, form not uncommonly the earliest manifestations of the disease. Indeed, instances are not rare where the mental and gastro-intestinal symptoms have existed for years before the skin lesions claimed attention,—the so-called pellagra-sine-pellagra, in which the cutaneous eruptions are so insignificant and of so short a duration as to escape notice or excite no serious consideration from the sufferer or the medical attendant.

A brief account of these cases, while containing nothing relating to pellagra that is not already known, may be of interest, and perchance of value in directing attention to a disease, the existence of which in our state is still by many questioned.

CASE 1. Admitted April 9, 1913. I. L. G. White, female, housewife, 36 years of age at time of death. One brother neuropathic. One sister had attack of chorea at age of eight; recovered. Father died aged 61; cause of death said to be locomotor ataxia. Patient's early history uneventful; development normal; married at 22; three children living, one dead, three miscarriages. For ten years took drugs to bring about abortions. During early life very neat and tidy; during last ten or twelve years very slack and careless of her person and appearance. Home conditions very poor; surroundings unsanitary. Used mainly baker's bread since marriage; seldom cooked; used canned goods extensively. Three years ago showed marked change of disposition; had periods of despondency; appeared dull and disinterested; suffered from indigestion and diarrhea; occasional faint spells. Following birth of a child during that period had delusions about her husband; thought he was planning to kill her, and would

not take medicine prescribed by physician, fearing poison. From this time on suffered greatly from "faint feelings" and other peculiar gastric and intestinal sensations, and intermittent attacks of diarrhea. Seemed worse in winter, improving somewhat with advent of summer. Seven or eight months before admission began to complain of a heavy feeling in her head; said it seemed at times as if a veil was over her eyes; often would brush and pick at face on this account. An eruption thought to be eczema began on the back of the hands around the knuckles. It spread slowly, involving the dorsal surfaces between the first phalanges and midway between the metacarpophalangeal and wrist joints. Eruption was symmetrical and of a dark reddish color. No discharge, no itching, but at times a burning sensation in parts involved. With appearance of eruption gastro-intestinal disorders became more marked, and at Christmas diarrhea became very troublesome. At same time glossitis developed, accompanied by increased salivation, and expectoration of much frothy material. She lost weight. She complained a great deal of weakness of the legs, and of pain in the occipital region, extending downward into the cervical spine. Gait became unsteady and she frequently stumbled over objects in her way. Later, the act of walking became almost impossible, as the motions seemed to give rise to retraction of the head and increased pain. The eruption had by this time extended upward to the wrist, which it encircled, and downward on the dorsa of the fingers to the distal joints. Cramps of the extremities and paroxysmal tonic contractions occurred, resembling tetany and causing the head to be drawn backward on the slightest stimulus. Mental attitude one of depression and confusion, with hallucinations of sight, ideas of persecution and tendency to suicide. Became extremely restless and noisy, complained of burning sensations; screamed fire and called for help. Showed marked speech defect; attempted to cut her throat and that of youngest child.

On admission very restless and confused. General muscular twitchings and frequent spasmodic retraction of head noted. Tactile hyperesthesia extreme. Jactatoid movements of both upper and lower extremities. Knee jerks increased to point of clonic contractions. Right ankle clonus. No Babinski or Kernig. Extensor spasms, finally so severe as to cause opisthotonos, lasting 15 or 20 seconds and induced by touch or loud noise.

Nutrition poor, musculature atrophied, complexion sallow. Tongue deep red, raw and beefy looking. On both hands and arms a perfectly symmetrical erythema extending from distal phalanges almost to elbows, and encircling the wrists, forming a well defined cuff; eruption dry, exfoliating, dark reddish in color, the line of demarcation between it and unaffected skin well defined by a deeper colored border. Palmar surfaces free from eruption, also ends of fingers. Pigmentation and scaling most marked on extensor surfaces. Deep fissures existed over the joints of the fingers, skin of legs and thighs roughened and dry, but without pigmentation.

Urine was negative, except for the presence of considerable indican. Blood negative. Wasserman negative.

Consciousness was profoundly clouded at time of admission. On the third day the patient was in a semi-comatose state and on the eighth day after admission death occurred. Autopsy not permitted.

CASE 2. Admitted Jan. 27, 1913. C. M. O., white, female, housewife, age 46. Married. Paternal grandmother died at sixty-six of cerebral hemorrhage. Father addicted to opium habit for years; died at sixty of "spinal meningitis." Mother died of cancer of the liver. One sister subject to fainting spells or "fits." At the age of fifteen patient had period of great religious excitement, with hysterical manifestations. Has five children. Nervous disturbances developing with pregnancies, morbid notions, ideas of persecution, etc. For several years took acetanilid for headaches, and in later years developed an opium habit from long continued taking of Squibb's diarrhea mixture, and

fining them from the normal skin of a darker shade. The erythema involved the dorsal surface of each hand, extended downward over the dorsa of the fingers to the last joints and encircled the wrists. The lesions were perfectly symmetrical in size, shape and location. Symmetrical patches of a like character were present on the dorsal surfaces of the elbow joints, and a small area of a dry exfoliating erythema existed at each corner of the mouth. Symmetrical patches of a milder dermatitis and lighter pigmentation were present over the acromial processes. The tongue was swollen, showing indentations from the teeth, the mucous membrane of mouth and tongue reddened and inflamed, and ex-

CASE II.

Showing the lesions on elbows and backs of hands. Note symmetry, the fissures and excoriations, the well-defined line of demarkation from healthy skin. At the present time in this case desquamation is complete, the appearance of the affected areas is pinkish, and the mental condition shows a slight improvement.

paregoric. About first of January became depressed, worried a great deal, had crying spells, felt weak and incapable of attending to household work. Delusions of poisoning. Finally passed into a manic state, showing extreme restlessness and disordered conduct.

In the hospital she continued restless, over-active, confused, disoriented, and hallucinated. From the first there was some evidence of salivary hypersecretion. She expectorated a great deal, and at times said she had worms in her mouth. Habits very untidy. From time of admission she had spells of diarrhea. About the first of April attention was drawn to an erythematous condition of the backs of her hands. This presented the appearance of a dermatitis somewhat like that seen in a bad sunburn, with scattered blebs containing a serous fluid. The color of these areas was dark red, the border de-

CASE II.

Showing the dull and apathetic facies, emaciations, symmetrical lesions on anterior surface of wrists, "the cuff" and lesions on elbows.

amination showed a similar condition of the vaginal mucous membrane.

The skin lesions when first observed resembled dermatitis. A few blebs and considerable swelling existed. Later, fissures formed over the knuckles and finger joints, and on the anterior surface of the wrist in the "cuff." The color deepened to a copper hue. The tongue lost its epithelium, becoming beefy looking, and the skin of the affected areas exfoliated from centre to periphery. This process is practically completed at the present time, the new skin appearing of a delicate pinkish hue, the line of demarkation from the unaffected skin remaining of a distinctly darker shade. Before exfoliation was completed, the palms of the hands showed a slight involvement, and here also the epidermis is exfoliating. A suggestion of the "pellagrous collar" was given at one time by the appearance of some exfoliation of the skin on the anterior surface of the neck. Throughout the course of the eruption

the resemblance of the erythema to a glove covering the back of the hands, was striking.

The patient, while now appearing stronger and brighter mentally, is quite emaciated. The skin of the face and rest of the body has a dull leaden hue. Diarrhea, most severe at the height of the skin, and intestinal trouble, occurs occasionally. Stools have been throughout of very offensive odor. Examination for amebae gave negative results. Von Pirquet tuberculin test was negative. Blood examination showed no important changes, except a mild degree of secondary anemia. Blood serum gave a negative reaction to the Wassermann test for syphilis. The reflexes are diminished; knee jerks almost abolished. No Kernig or Babinski. Pupillary response normal to light and accommodation.

The mental state at first showed marked confusion, disorientation and clouded consciousness. The clinical picture was that of a mixed manic excitement. Coincident with the improvement of the skin and gastro-intestinal disorders, the excitement abated, consciousness became clearer, orientation partly returned, and the patient seemed to gain some insight, expressing curiosity regarding the condition of her hands, and asking the physicians at times if there was any chance for her recovery,—a change remarkable enough to lead to a question regarding the relation of the eruption to her excitement and confusion. In all probability one or more recurrent attacks will occur.

One of these patients was a native of Massachusetts, where she and her people had always lived. The other was born in West Virginia, but had lived for ten to twelve years in Massachusetts prior to the onset of her psychosis. Pellagra had never occurred in either family so far as their histories could be traced. Each of the families from which these cases came lived under conditions of poverty. In one, the sanitary conditions of the home were found to be very bad. In each case, malnutrition from want and insufficient and improper nourishment seemed to be a factor. Maize did not enter to any great extent into the dietary in either case; baker's bread and canned foods seemed to figure largely in it. Each patient was addicted to a drug habit, but the nature of the drugs used in one case points to gastric and intestinal disturbances as the source of the habit. In each case a neuropathic heredity existed. In one, there can be no doubt that the disease existed for some time before her admission to the hospital; in the other repeated attacks are suggested by the history. In either case the mental, physical, and neurological changes may be ascribed, in large part or entirely, to an intoxication of the nervous system by the disease, a result not at all uncommon according to competent authorities on pellagra. Most important considerations of all are, the evident failure to recognize the disease at its beginning, or even in its terminal stage (as in Case 1), implying that cases in the community may not infrequently escape detection; and the tendency to spread widely and rapidly, as shown by the reports from states where but a few years ago pellagra was unknown.

SURGERY OF THE BILIARY PASSAGES DURING A PERIOD OF TEN YEARS FROM JANUARY 1, 1901, TO JANUARY 1, 1911, AT THE MASSACHUSETTS GENERAL HOSPITAL.

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From Jan. 1, 1901, to Jan 1, 1911, 595 patients were operated on for diseases of the bile passages, other than cancer. Of this number 154 were men and 441 were women, showing about three times as many women as men.

I have made a series of tables that cover the cases in as condensed a form as possible.

Table I does not include the cancer cases nor does it include the secondary operations. I have used the word "cholecystitis" to mean inflammation of the bile passages. Cases classified as pancreatitis are those in which the record of the operation shows a thickening of the head of the pancreas and no other lesion.

During this period of ten years cholecystostomy for cholelithiasis was done 325 times, the number of cases showing a gradual increase. In the first four years they averaged twenty odd annually, then came a period of four years where the number of cases jumped up into the thirties and during the last two years it reached nearly fifty.

Cholecystostomy for cholecystitis was done 88 times and for pancreatitis only 6 times.

Cholecystectomy was done 92 times for cholelithiasis and 39 times for cholecystitis, a total of 131 times. This operation seems to have been popular in 1902, 1903, and 1904. In the following two years only a few were done, in 1907 more again, in 1908 and 1909 fewer, and in the last year the number has increased again slightly.

Cholecystotomy and choledochotomy was done 17 times. During the first six years only 4 times and 13 times during the last four years.

Cholecystectomy and choledochotomy occurs only five times in the ten years' record, only one of these cases having been done during the last five years.

Choledochotomy, 16 times; 3 times in the first five years and 13 times in the last five years. It may seem astonishing that in this table, not including secondary operations, 16 choledochotomies are recorded. This can be accounted for by the fact that some patients had had a first operation in private practice, some others, a first operation previous to 1901 in the hospital, and in a very few cases the gall bladder was found to be obliterated.

Cholecystostomy and duodenotomy was performed 4 times; only once during the last five years.