Some Experiences in Neurologic Therapeutics

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PHILADELPHIA

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PERKINISM AND BURQUISM

Toward the end of the eighteenth century a Connecticut physician, named Elisha Perkins, aroused much interest among the medical profession and the public, especially the latter, by a pamphlet in which he advocated the use of what were termed "metallic tractors" in the treatment of a variety of diseases. The tractors were small rods of different metals the extremities of which were applied to parts supposed to be diseased. Wonderful cures were reported and exhibitions of the value of the tractors were given throughout the country. The fame of the treatment crossed the ocean to Denmark, England, France, and other parts of Europe. Books and pamphlets concerning it were published, but after a decade or two it passed into innocuous desuetude.

Many years after Perkins and his disciples, at first at Milan and afterward at Paris and elsewhere, one Dr. Burq appeared and advocated the use of metals both in the diagnosis and in the treatment of neurotic affections, his efforts receiving attention under the designations of metalloscopy and metallotherapy. Burq published a small book in 1882. He was taken up by Charcot after he had been extensively patronized by the public.

In the ninth decade of the last century I became much interested in the publications of Charcot and Richer on the subject of hypnotism and also in Burquism, which belonged after all in the same domain. I had a series of metallic disks of uniform size made—

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of copper, zinc, tin, iron, lead, silver and other metals. These are probably still to be found stowed away in some closet at the Philadelphia General Hospital. For my experiments with gold I generally used a twenty dollar gold piece, which, I presume it is unnecessary for me to explain, was not left at the hospital.

Experimentation was carried on not only as regards the external metalloscopy and metallotherapy of Burq, but also into what was termed internal metallotherapy. Disks first of one metal and then another and another were applied to blindfolded patients, especially hysterics, and when the metal to which the patient responded—that is, which created some peculiar sensation under the point of application—was found, this metal was used to dispel, transfer, or in some instances to produce anesthesia and other phenomena. The method was used in efforts to relieve contractures as well as anesthesias and paralyses of presumably functional type. Sometimes when I found that the patient was responsive to a particular metal, I would administer in addition to the external applications, this metal or some of its salts internally (internal metallotherapy). The results, as might be expected, were somewhat irregular, although at times they were rather striking. Soon, however, I tired of these performances, as of my various experiments in hypnosis, which were often interesting but rarely resulted in any permanent good to the patient. One thing they did was to strengthen the views that I held, even then, as to the importance of suggestion and countersuggestion.

THE SUSPENSION TREATMENT OF LOCOMOTOR ATAXIA

Motchoukowski of Odessa published a pamphlet in 1883, describing the advantages of using suspension in the treatment of locomotor ataxia, having arrived at his ideas through the accident of observing a patient suffering from this disease apparently obtain relief from the application of a plaster-of-Paris jacket. Professor Raymond, traveling in Russia, observed Motchoukowski's results and brought an account of them to Paris.

Charcot, whose endorsement brought Burquism into more or less undeserved repute, was also responsible in considerable part for the attention which the neurologic profession gave to the treatment of tabes by suspension. He and his assistant, Gilles de la Tourette, exper-
imented with Salpêtrière patients with what were believed to be gratifying results. The improvements reported by Motchoukowski and Charcot in some of the ataxic patients were said to be remarkable. Some of these were changes for the better in the Romberg symptom; improvement of gait in walking; diminution of lancinating pains; beneficial effects on sexual power; and better control of the bladder. As might be expected the absent knee jerks and pupillary phenomena were not favorably affected.

Neurasthenia, Friedreich's ataxia, and paralysis agitans were other diseases reported as improved by suspension. The rationale of the improvement was not explained with any clearness. It was supposed, however, that the spinal circulation was benefited and that some stretching of nerve fibers occurred, the latter supposition being altogether doubtful. At that time the fact was not generally recognized, as at present, that locomotor ataxia, like general paresis, is a true syphilitic disease due to the presence of spirochetes.

The apparatus used by Charcot was that contrived by Dr. Sayre of New York in the treatment of his cases of spinal caries by suspension. Charcot first published his results in a lecture given Jan. 15, 1889. It is noteworthy that many patients with tabes reported as having undergone this treatment expressed a sense of having been much benefited by the suspension. This is probably to be explained by the well known optimism of tabetics.

Dr. S. Weir Mitchell, in the Medical Times, April 13, 1889, described an improved apparatus for suspension, the chief peculiarity of which was that the suspension was in part made from the elbows, the arms being held to the side by a strap, and additional suspending apparatus being applied to the chin and occiput.

Cases were reported to Philadelphia societies as to many others. The Orthopedic Hospital and Infirmary for Nervous Diseases, of this city, and not a few other institutions, were supplied with suspension apparatus, and some enterprising neurologists saw to it that their offices were similarly equipped. The merry dance—or rather the merry hanging—went on for a time with what was supposed to be advantage to the suffering tabetic. This treatment soon passed to the therapeutic limbo.
THE SURGEON AND EPILEPSY

With epilepsy I have had many interesting experiences, both medical and surgical. I will speak here only of the latter. From times remote, considered in the light of a century or a half century, numerous suggestions and experiments have been made regarding the relief and cure of epilepsy. Very early in my professional life I knew something of the efforts that were made on the basis of the old "reflex" hypothesis to rescue the unfortunate epileptic. Children were circumcised; women were deprived of their ovaries and occasionally of the clitoris; a nerve in the hand or the foot or at the root of a tooth or somewhere else, according to the apparent indication, was resected, and much more of a similar sort was done to exorcise a constitutional disorder which refused to respond to the rites employed to banish it.

The term epilepsy is here used in a broad sense to cover several forms of convulsive seizures. Long ago the trephine or trepan was sometimes used without any particular care or skill or selection of site for the relief of spasms. Bloodletting was at one time so heroically employed in the hope of relieving epilepsy as to become almost entitled to be included under surgical procedures.

When, some fifty years ago, the modern doctrine of cerebral localization obtained a sure footing in physiology and neurology, operations soon began to be suggested and performed, the surgeons being guided as to the choice of site by the principles of localization. Cranial fracture, localized hemorrhage, abscess, and tumor became the frequent objects of surgical intervention, often with marked or even brilliant success. It is not my intention, however, to go into this subject at any length. I merely refer to it to introduce a few remarks regarding two or three of the surgical procedures which since then have been generally laid aside.

One of these was cortical excision, which was advocated by Horsley and others, and for which I was sometimes responsible. The idea in these cases was that even in the absence of any clear evidence as to a gross lesion, if the spasm could be shown to be of a local or jacksonian type, trephining should be employed. After fixing the exact center or area likely to cause such spasm by means of faradization of the exposed
cortex, this center or area was then excised. On the whole, the operations of cortical excision, of which a considerable number were performed, did not prove successful, although in some instances the spasm did not recur for a long time after the operation. One of the results in these cases was, of course, that a local paralysis in the limbs or part controlled by the centers excised necessarily occurred. This in most cases became less and less marked and would not have contraindicated operation if a positive relief of the spasmic attacks had been obtained.

I had brought under my observation a number of cases of so-called idiopathic epilepsy in which operation was suggested or in which an opinion was sought as to the propriety of such operation. In these cases jacksonian spasm; that is, a monospasm or hemispasm involving the face or arm or leg, or one or two of these parts, was usually present as part of the general motor paroxysm. I soon learned that a frequent, if not the most frequent, source of so-called jacksonian spasm was idiopathic epilepsy, a fact to which attention was called by Collier. As I spoke of the matter in one of my papers, the jacksonian attacks occur inside the general epileptic seizure and their presence simply emphasizes an opinion long since expressed by that great neurologist, Hughlings Jackson, that if epileptic fits were sufficiently well observed it would be found that in nearly all cases such seizures began with some form of local spasm. This, of course, is often overlooked and even acute, sharp-eyed observers, whom I have frequently employed in my wards, have sometimes failed to note its occurrence, so quickly does the initial spasm radiate to other parts and eventually to all portions of the body musculature. In a number of cases which came under my observation and in which I was responsible for the procedure, trephining, guided by these jacksonian manifestations, was used, no lesion being revealed. In some cases, however, considerable benefit in the way of suspension of the paroxysms occurred.

In recent years the surgeon has extended his efforts for the relief of epilepsy to the abdominal cavity. One distinguished surgeon, some dozen years ago, recommended for the relief of epilepsy the operation known as appendicostomy. Various considerations were advanced in the discussion of epilepsy at the time of
this recommendation, but into these I cannot take the time to go. They were based chiefly on the idea that epilepsy was due to some form of intestinal toxemia. A hole was made into the intestine in the appendical region, and a course of irrigation of the colon was begun, usually with warm water. This, of course, was at first under the direction of the surgeon himself and of the nurse, but later, in some of the cases in which this treatment was employed, the patient was taught to treat himself while lying in bed, by passing a tube through the opening into the intestine and then allowing slow irrigation to occur, the fluid and whatever it carried with it being received in a bed pan or other receptacle. A very few striking results were reported; that is, cases in which the epileptic or epileptiform attacks had ceased for several months or perhaps longer. So far as I know, no results of absolutely permanent value were obtained. This was a rather striking procedure, but one, it always seemed to me, not likely to become acceptable to the patient who was expected to keep on with this process of irrigation on his own hook.

A western surgeon more recently described the operation of cecostomy which he used in cases of constipation mechanically produced, and also for the treatment of epilepsy. It was practically the same operation as that to which I have just referred, except that the opening was perhaps an inch or two away from the appendical orifice.

The same skilful and distinguished surgeon, in the course of his operative procedures for the relief of constipation mechanically produced, came across some constipated epileptics in whom the frequency of the attacks was much diminished by the operations performed, which were usually on the colon and need not here be described.

Going a little further into the subject of epilepsy, he learned, what I am sure has been the common knowledge of neurologists, that most epileptics were subject to constipation and therefore, perhaps, the constipation and the epilepsy had the relation of cause and effect. He advocated procedures similar to those which were used for constipation in nonepileptic patients. Noting that, while epileptics were generally of constipated
habits, the multitude of the constipated were only in rare instances the victims of epilepsy, he found it necessary to look a little further into the subject. Doing this by methods which are well known to the profession, he came to the conclusion that epilepsy was due to some form of bacterium or bacillus which probably originated in the duodenum, and whose habitat eventually became the great intestine, or colon. The steps that followed were rather extraordinary and yet I suppose logical from the standpoint of this observer. Not being able always to establish a proper fecal current through the torpid, diseased and absorbing colon, he came, in the process of time, to the idea of getting rid of the colon, and in this way the operation of colectomy was introduced, and not a few epileptics were reported as cured or greatly benefited by this extirpating operation.

Personally I cannot help thinking that this large part of our intestinal tract called the colon has some valuable function in the average human being, and while it may be a convenience to the individual at times to have his bowels short-circuited from the ileocecal region to the anus, this procedure may have its physiologic and pathologic drawbacks.

Eventually the surgeon to whom I have referred, because of the negative results of laboratory investigations made by others, and also under his personal supervision, was obliged to withdraw his endorsement of the idea that the special convulsion-producing germ had been found in the intestine.

**DENTAL INFECTION AND THE PSYCHOSES AND NEUROSES**

Some years ago I presented a brief paper before the Stomatological Society of Philadelphia on “Obsessions Regarding the Mouth and Teeth.” After discussing the subject of obsessions in general I gave details of a few interesting dental cases. One patient had the idea that she was suffering from some discomforting affection at the root of a tooth. This was removed. The distress then began to change its dental habitat, and the patient went through a series of tooth-removing campaigns, but still no relief was obtained. When I first saw her she had only one tooth left, and this was soon extracted by a dental surgeon. At last a distinguished
oral surgeon engaged in a vain search for her elusive pain by probing the antrum. She became an alcoholic habitué, and eventually died broken down by her obsessions and her excesses.

In another case the mind of the patient was turned to her teeth until they were all removed and plates were substituted, and later, from time to time, no relief being obtained, she had one plate after another made until the number had increased to twenty-two.

It has seemed to me in recent years that the obsessions regarding the teeth have taken possession of the medical profession. Numerous papers have been written about the rôle of focal infection originating at the roots of the teeth in the causation of mental and nervous maladies. Teeth by the score, many of them of excellent quality, have been sacrificed, and in not a few instances cures or great benefit have been alleged as a result of the treatment. The matter is one of much importance, and has been emphasized by my observation of a number of victims of the dental forceps.

Dementia praecox, manic-depressive insanity, epilepsy, neurasthenia, hysteria, and psychasthenia are only a few of the diseases that have been attributed to dental infection.

The usual procedure in private practice is for the patient, who has probably been seen by one or several neurologists or alienists, to seek, because of the wide exploitation of the subject, a physician who is known to lay stress on the importance of tooth infection. The patient is then sent to the roentgenologist, who almost invariably discovers and is able to mark out a series of alleged abscesses, which are in some instances at least, absorptive lacunae, innocuous foci, or mistaken observations. I do not mean to say that real abscesses are never demonstrated, but as one of my dental friends has pointed out to me, these are frequently not to be found even by the probe in the hands of a skilful surgeon. In a majority of cases, however, the teeth are sacrificed on this altar of focal infection.

The tooth extraction sometimes has an unintended outcome. The patient's mind, already obsessional from the very nature of the malady, becomes fixed on the teeth as a source of his ailments, and what is perhaps worse, the same obsession takes hold of the minds of relatives or guardians. After three apparently good
teeth had been removed from one of my patients, she, like the first patient cited in this section, became possessed with the idea that the work of tooth extraction should go on, this obsession pursuing her at all times.

In another case of dementia praecox, as I was told by the mother and the caretaker, the boy had his teeth roentgenographed. Nothing was found, but the advice was given that it would be a good thing to remove a couple of teeth anyhow.

One of my medical friends had a rather interesting experience in connection with this subject. An old gentleman, who was not only a patient but a family connection, had suffered with pain in the neighborhood of the sacro-iliac synchondrosis, and had been treated therefor by the usual therapeutic procedures for affections of this locality, with, however, only partial relief. A consultation came about with a physician and a roentgen-ray specialist, and one of the consultants without any examination of the mouth or jaws expressed the opinion that the probable source of the trouble would be found in abscesses at the root of the patient’s teeth. My friend, after allowing him to go on with his dissertation a short time, said casually, “It may be, but I must remark that our patient hasn’t had a tooth in his head for the last five years.”

LINEAR CRANIECTOMY AND OTHER METHODS OF CRANIECTOMY FOR THE RELIEF OF IDIOCY OR IMBECILITY

Lannelongue of Paris1 reported his experience in two cases of microcephalic idiocy in which he performed the operation of linear craniectomy. One of the patients was apparently benefited, although, as the recorder notes, training of the patient was resorted to in addition to the surgical procedure. My first experience with this operation was with Dr. W. W. Keen of Philadelphia, who, shortly after the publication of Lannelongue’s article, began to make use of the operation for cases similar to those described by the French surgeon. The usual procedure was, with certain technical precautions, after lifting a flap of the

1. Lannelongue: L'Union méd. Series 3, 50: 42 (July 8) 1890.
scalp of sufficient length and breadth, to cut out a strip of bone about one-fourth inch in width and about 4 to 6 inches in length. Dr. Keen published several articles describing his experiences with this operation. As he has recently informed me, he finally gave it up, the results obtained not justifying a continuance of the surgical measure.

Dr. C. L. Dana of New York published two articles on the subject. He had the surgeon undertake the procedure described by Lannelongue and Keen with, however, some modifications as regards the character and extensions of the bony removals. Dana, like Lannelongue and Keen, believed that he obtained a few good results which strangely enough he ascribed to the "pedagogic" influence of the surgical procedure. I must confess that this explanation never strongly appealed to me. It seemed to savor of the explanation of the treatment of delusions by the repeated administration of shower baths until the insane subject finally concluded it was better (for the time being, at least) to give up his delusions rather than further endure the punitive measures. These delusions usually promptly returned when the patient was assured he was out of further danger from the cold douching. The operations were also to some extent reminders of the disciplinary measures—carried out with clubs, whips, or even incisions—in order to improve the manners and morals and presumably the intellects of obdurate criminals.

The wonderful theory, however, advanced to support this procedure was usually not pedagogic or disciplinary, but was based on the idea that by removing strips or variously shaped pieces of bone from the cranium the retarded brain of the microcephalic or demimicrocephalic idiot or imbecile would then be given an opportunity to expand and develop. It was sometimes argued that the fontanels and sutures of the infantile skull had closed prematurely, thereby holding in check a brain that would otherwise develop to fair proportions. The argument in favor of the operation, however, was, to my mind, founded entirely on false premises. It entirely overlooked the fact that the arrest of the brain, like the arrest of the skulls

in these cases, is due to biopathologic processes, hereditary and embryonal. As my colleague, Dr. James Hendrie Lloyd, once remarked during a discussion of Lannelongue's operation at the Philadelphia Neurological Society: "It is not possible to improve the quality of a bad nut by making a hole in the shell which encases it."

My chief object for recalling this operation, as in referring to much else in this paper, is to show how prone neurologists and surgeons have been to have recourse, without due consideration of principles, to procedures that could not possibly be of any practical service.

Operations in porencephalic and hydrocephalic cases have proved as futile, in my experience, as the craniotomies for the microcephalic. It proved a great temptation to myself, as well as to others, in the earlier days of my localization experiences, to operate in cases of convulsion, with or without mental deficiencies, when the sites for such operations could with accuracy be easily indicated. In the main, these cases were examples of porencephaly, the residua of previous hemorrhages, or of focal encephalitis after various infective disorders. Due consideration was not given to the significance of the cavities, which were in fact in most instances, whatever their origin, conservative or partly protective. Many of the cases ended disastrously, if it can be regarded as disastrous to have such patients perish in the hands of the neurologist and surgeon. In a limited number of cases in which the cysts were shallow some good seemed to result, but in others, if the patients escaped death, there was often an increase in the excitability of the cortex.

Tapping the ventricles for hydrocephalus was in my experience equally lacking in efficacy, even when the operation was accompanied, as it infrequently was, by an imperfect effort at slow compression of the skull.

NERVE STRETCHING

About thirty-five years ago, the operation of nerve stretching for a variety of sensory and motor disorders began to be used. John Marshall in 1883 delivered the Bradshaw lecture before the Royal College of Surgeons of England on "Neurectasy or Nerve Stretching for the Relief or Cure of Pain." This lec-
ture, which was carefully prepared and founded in considerable part on experimentation, helped to give the operation a scientific status. Dr. Christian Fenger\(^3\) of Chicago and Dr. W. W. Keen of Philadelphia, among others, made valuable contributions to the subject of nerve stretching. Unquestionably this operation was sometimes successful in relieving severe pain, especially when it seemed of a purely neuralgic type. The operation was also resorted to occasionally, but with less favorable results, for tabetic pains.

Among the motor disorders in which nerve stretching had varying success, were facial tic and spasmodic torticollis, many cases of the latter affection really belonging in the category of tics, although this was not at first generally recognized. I recall two cases of facial tic in which operation with good results was performed by Dr. Keen. The stretching force exerted in these cases usually amounted to 4 or 5 pounds of weight. The nerve was exposed near the stylomastoid foramen, and the stretching was done steadily—not with sudden force. The first result of this operation on the facial nerve was complete paralysis, the tic disappearing. The paralysis was gradually recovered from, and in one or two instances which fell under my observation, without return of the spasm. This, however, was not the usual result, and the operation was soon largely abandoned. The cause of such tics was either partial nuclear degeneration or a faulty cortical discharge, neither of which could be banished by operative procedure.

I had considerable experience with spasmodic torticollis. One of my earliest papers was concerned with this affection. It is not necessary to tell an audience of neurologists that this is one of the most intractable of diseases. Stretching of the spinal accessory nerve was employed for its relief, but without success. Equal want of success, however, attended other operations, as for instance tying the accessorialis with silver wire, sectioning it, cutting the muscles presumably involved, and excising the spinal nerve roots. The lack of success in this operation seemed to be due to the fact that the spasmodic disorder was one which probably had

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its seat in instability of the motor cortex. When the affection was closely studied it was found to be not a neural or muscular affection, but a disorder of movement involving a group of cooperating muscles.

Shortly after the period in which nerve stretching was advised and resorted to for the relief of pain and local spasms, the operation began to be recommended in the treatment of several forms of sclerosis, as symmetrical lateral sclerosis (a rare affection), disseminated sclerosis, and spasmodic paraplegia. In one of my cases of disseminated sclerosis nerve stretching in the lower extremities by the method without cutting; that is, by forcibly flexing the extended leg on the trunk, was used, and no beneficial result having been obtained, Dr. Keen stretched the sciatic nerve by a cutting operation in which after exposing the nerves he subjected them to a slowly continued pull corresponding to about 25 pounds of weight. This operation, as might have been expected, also resulted in failure.

Looking backward on these surgical procedures, their futility is easily recognized. It is evident that, at the most, they could have only temporarily affected the spasmodic disturbance. In other words, the operation was not based on a proper consideration of the nature of the disease, and therefore was not a really rational procedure.

**GLANDULAR THERAPY AND ABDERHALDENISM**

Foremost among the methods of glandular therapy to be tried out by me personally was the use of preparations of thyroid. In a well known line of cases these proved invaluable, as in myxedema and myxedemoid and cretinoid cases, in adiposis dolorosa, and in forms of adiposis not of the Dercum type. This treatment in a strict sense was not curative, but when the amount which could be administered without too much constitutional reaction was determined by trial, the various preparations of the glands of the sheep or of other animals were given with continued advantage and sometimes with remarkable success. As a rule, however, it was necessary to keep up the administration as a part of the regular diet of the patient.
In a limited number of cases of epilepsy I have had decidedly beneficial results from the use of thyroid with bromids and arsenic and special forms of diet, as for instance the so-called purin-free diet. In addition to thyroid, pituitary preparations have also proved of value in cases of epilepsy with dyspituitarism.

With preparations of other glands, like testicle, ovary, mammary gland, and suprarenals, my experience has not been promising, although I have seen some benefit accrue from the use of suprarenal or pancreatic extracts, especially in melancholia and epilepsy.

In connection with this question of glandular therapy, that of glandular removal comes naturally into the foreground. Every neurologist and alienist will remember the rage in the early days of safe, that is, of aseptic and antiseptic, surgery for removing ovaries for the relief or cure of neuroses and psychoses. The fashion was so rampant for a time that there promised to be partial race suicide by way of the surgeon’s knife. Directly or indirectly, I came in contact with much of this work. My experience might be included in the simple statement that nine tenths of such removals did not result in the relief of nervous maladies. In a considerable percentage of the cases the postoperative mental or nervous state was such as clearly to indicate that the operations had done harm rather than good. These operative procedures in some instances were the source of traumatic affections, especially troublesome adhesions, and in other cases of new or more confirmed obsessions. It is rather interesting to note the contrary manner in which the two sexes were treated as regards the sexual glands. The woman suffering from a variety of mental or nervous disorders had her ovaries removed, while, forsooth, the man afflicted in the same or a similar manner was treated by the administration of testicular preparations. So far as results were concerned, however, it mattered little; one was about as effective as the other.

When a few years ago (about 1912) the investigations and theories of Abderhalden of Halle were published, a new stimulus was given to glandular therapy. I do not feel competent to pass fully on the subject of
Abderhaldenism, as I have found it somewhat difficult in the limited time and opportunity at my disposal to determine from scientific considerations the value of the methods both of diagnosis and of therapeutics suggested by a study of the protective or defensive ferments of the body. Some of my own patients, and other patients of whom I have knowledge, have been subjected to these investigations and have had made on them therapeutic applications of the results of such investigations. The cases to which I refer particularly include examples of dementia praecox, melancholia, and hysteroneurasthenia, especially the first.

As the result of painstaking Abderhalden tests, guarded by all the precautions suggested to those who work in this field, certain glands have been determined as most likely to be beneficial because of their supposed or known antagonistic action to other glands, which the investigator has found to be dysfunctioning. Preparations of testicle, for instance, have been used when the pituitary was the offender; of the suprarenal when the suprarenal was at fault; or of the pancreas when the indications were of pancreatic infantilism or deficiency. For instance, certain glands are given to replace a supposed deficiency in the corresponding glands, and their opponents are administered to subdue hypersecretion. Results apparently beneficial but usually temporary were obtained in some of these cases. In a very few instances more permanent results were in evidence. I have never been thoroughly convinced, however, that the clinical course of a genuine case of dementia praecox was halted for more than a brief period—a period similar to that which one sometimes observes in these cases without the use of Abderhalden or any other form of therapeutics.

The observations of Ludlum on psychopathic patients cured or greatly benefited by the use of either acid or alkaline preparations—according to the result of investigations into the acidity or alkalinity of the saliva, urine, stools, perspiration and blood—in combination with preparations of ovarian gland when the blood pressure is high, and of suprarenal extracts when it is low, are of decided interest and open up a field of therapy for the neurologist and alienist.
One of the points which has always impressed me when studying reports of this sort and the theories on which the treatments suggested in such records have been based, is that due consideration is not given the teratologic origin of the affections which it is hoped to cure by changed acidity or alkalinity, or by these combined with the use of glandular preparations. The fact is too often overlooked that the glandular condition, and even the state of acidity and alkalinity in some instances, are themselves only a part of an ordained embryonal state which cannot be successfully combated, or at least cannot be attacked with full success on chemical and other theories of such limited import.

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