# The American Osteopath 

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# The American Osteopath <br> (QUARTERIY.) 

Vol. I.

## DIFFERENTIAE DIAGNOSIS OF CEREBRAL AND SPINAG CONDITIONS. By William Smith, M. D. D. O. Former Demonstrator of Anatomy and Lecturer on Obstetrics and Gynecology in ihe American School of Osteopathy. KIRKSVII_LE MO.

In the hope that some practical points on differential diagnosis may be of service to the osteopathic profession, I intend furnishing the American Osteopath with a series of papers, considering only such conditions as are liable to be mistaken one with another, and prefacing the series with the request that these brief papers be not considered by any as an exhaustive treatise upon such conditions, but only what I aim to make them, hints upon the diagnosis while for a detailed description of ae disorders the reader is feferred to standard works.

We may divide paralyses according to their area of origire into three main groups-cerebral, spinal and peripheral; this mode of classification takes no notice of the etiology. I select that method in order that we may consider cerebral paralyses and see with what they are liable to be confounded, and then. raking all of the spinal variety, a simple system of division allows us to differentiate. Peripheral paralyses, such as thoseof special nerves, whether cranial or spinal, will not be considered in this paper, as to diagnose such requires only a knowledge of the distribution of the nerves and their functions. which knowledge ought to be at the finger tips of every osteopath.

Cranial paralyses occur from three great causes-hemorrhage, embolism or thrombosis. A few words as to these three conditions may be of service in refreshing the mind and bringing out certain points to which reference must be made in their consideration. Cerebral hemorrhage is essentially a disease of late life, although it has occurred at all ages. We car hardly assume that any vessel in the body with a normal wall can be ruptured by any muscular contraction of the heart.
nor is it any easier to believe that the normal contraction conld ever rupture a ressel unless extremely diseased. Such being the case, we usually find that in such cases we have a history indicating degeneraton of the vascular wall as the predisposing canse, and some violent exercise demanding strong cardiac action as the existing cause. By violent exercise must be understood any cause tending to produce strongly increased cardiac action; such, of course, may be either physical or mental. Theoretically, any ressel in the cerebrum is equally liable to rupture, but practically we find that the artery which most often suffers is the lenticulo-striate branch of the middle cerebral, whichartery supplies the internal capsule, part of the motor and sensory path from the cortex to the periphery. Owing to the fact that the majority of the ressels in the bram are "end arteries," with their compensatory anastomosis at the base of the brain by way of the (ircle of Willis, they are peculiarly liable to rupture as the result of sudden violent cardiac action, and any change in the surrounding parts tending to weaken their support of the vascular wall will materially aid. The manifestations resulting from cerebral hemorrhage will, of course, differ as to the location of the hemorrhage produces them; if it be in the motor or sensory path, we will get a certain train of symptoms, while it is by no means uncommon to find implication of some of the cranial nerves if the hemorrhage be basal in position.

One wide rule may be of service'as a guide. When the hemorrhage is copious, unconsciousness is usually sudden and profound, the fall in temperature is marked, and recovery is not so perfect as where it is smaller in amount. The reason for these facts is simple. When the bleeding occurs from a large vessel the fibers of the brain substance are ruptured, the resulting clot is large, and so greater disturbance is produced than when the fibers are pushed apart by a slow hemorrhage, which usually ceases before much blood has escaped. In the case of embolism we remember that the most frequent emboli are those formed by fragments of cardiac vegetations, hence we may expect the age in such cases to be less than that in hemorrhage (may occur at any age), and to find the evidence of pre-existent cardiac mischief. The area involved in the brain in embolism is most commonly that affected in hemorrhage, and owing to the fact that the cerebral substance is usually not destroyed but merely deprived of nutrition, we find that the period of unconsciousness is not usually so long, nor is the coma so profound. The temperature in this case is our strong point in differentiation between embolism and hemorrhage, for while the temprature in the latter is at first depressed, rising after a few hours above normal, in the former we find elevation without prior depression. In both we may or may not have premonitory symptoms; in the case of hemorrhage these may be indicative of vascular changes or disturbance of cardiac action, while in the latter they will be indica-
tive of the condition on which embolism depends, whether it be cardiac, the result of puerperal thrombsas ser any other of the various predisposing causes. In the case of thrombosis, it is that we find the best marked premonitory symptoms, this being a condition of gradual onset. Here the condition depends upon gradual narrowing of the vascular lumen, a process of gradual starvation of the brain tissuc. We find this most commonly in association with syphilis or vascular degeneration, and such being the case, it may ocemr, as in embolism, at any age. In such case our paralysis is usually graduai in onset, unaccompanied by any sudden "apoplectic" fit," and the temperature does not undergo the depression found in hemorrhage. While I have stated that hemorrhage is essentially a condition of late middle or advanced life, I must emphasize the point that it may occur at any age. I lately conducted a post-mortem examination on a girl twenty years of age in whom I found complete destruction of the pons as a result of rupture of a markedly degenerated artery. Such conditions as chronic Bright tend to markedly increase vascular tension, while at the same time predisposing to vascular degeneration. In the case of uraemia we frequently find symptoms which might mislead us to believe that we had a condition such as one of those just mentioned, but in the form of a table we may place our main points of difference:

|  | coma. | Paralysis or Convulsion | Skin. | Temp'ture | Eyes. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Hemorrhage | protound and sudden. | Const ant if present, often unilateral. | $\begin{aligned} & \overline{\text { moist }} \\ & \text { al d } \\ & \text { u arm } \end{aligned}$ | cepressed at first, later rises. | pupils often unequal. |
| Uraemia. | not so mark ed. May be intermiltent | No paralysis, convulsion or twich. ing if present are va iable in position | Ccol an. dry. | depressed threughout. | retinitis comu. on |

In addition the presence of markedly albuminous urine (and never fail to examine the condition of the bladder and the nature of the urine in a case of coma), would lead our mind to suspect uraemia.

When called to a case of unconsciousness we must not hastily assume that any of these four must be the cause, for we must remember the chance of alcoholism or narcotic poisoning. The history of the case may guide us in both; the coma is not so profound in the case of the former and the pupils are equal, while we have no paralysis or convulsion. In the case of the latter we find the typical pin-hole contraction of the pupil and the absence of elevation of temperature. In the case of narcotic poisoning our coma may, of course, be abso-
lute, but the temperature will depend upon the nature of the drug; for instance, opium will lead to no marked alteration until shortly before death, while the "knock-out drops" of the thief (chloral hydrate most commonly is used) will lead to a surprising lowering of the temperature. I remember on one occasion seeing a policeman apply a simple test to a man whom he found lying unconscious. He pressed strongly with his thumb on the supra-orbital nerve where it passes up through the supra-orbital notch; the patient gave marked evidence of discomfort; the "attending physician" (i. e., policeman) informed me that at an ambulance class he had been warned to apply that test in every case of profound unconsciousness. If no response was elicited the subject was to be taken before the police surgeon for examination. A simple and fairly efficient rule. As regards prognosis in cases of apoplexy, no matter from what cause, it is well to be guarded. Remember that in cases of hemorrhage, no matter how slight the primary bleeding may be, that the resultant clot undergoes changes exactly similar to what it would undergo were the blood shed in a glass receptacle. It undergoes shrinkage, accompanied by the expression of the serum. The latter undergoes absorption so that the clot does not completely fill the potential cavity or the area formed by the crowding aside of the nerve fibers. This process takes longer, however, than it would in a glass vessel, but it must ever be borne in mind that a secondary hemorrhage may occur and the result be fatal. In cases of recovery, we find that those muscles which are least under the direct control of the will, i. e., which are mainly governed by automatism, recover most rapidly; so in cases where the face on the same and the limbs on the opposite side of the body (for the trunk muscles are rarely affected, the cooperation of those on the opposite sides of the body being so perfect), we will find that the face recovers earliest, the muscles of the leg next, while the hand will be slowest of all in even partial recovery, and rarely recovering perfectly. Cases where coma lasts much over twelve hours are usually grave. One is tempted while on this subject to write on aphasia and its interesting phases, but only one point may be mentioned. In a right-handed person, aphasia occurs as the result of a lesion involving the convolution of broca on the left side. He will not be aphasic if the hemorrhage be on the right, even if the convolution of broca be involved; in a left-handed person the reverse will hold good.

Passing to the spinal paralyses, we may divide those in a manner which is now classic for the purposes of differential diagnosis; we will find that clinical observation, aided by pathological research, has enabled us to learn much of their etiology, but while that is so there still remains in my mind a vast doubt as to the actual starting point of certain of the sclerotic processes. To illustrate that point, I will add to this paper a few notes taken at one of my clinical lectures on a case of

## interest.

There is only one form of spinal paralysis which is distinctly sudden in onset, namely hemorrhage. i saw a case recently with a peculiar history. A young man intending to sit down on a chair had the chair pulled suddenly from under him. He struck a window sill and hurt his back at a point which he could not exactly specify at the time of examination. He lost consciousness for a time, but later recovered, apparently, completely. Two weeks afterwards he was instantaneously paralyzed, both in motion and sensation from the level of the eighth dorsal spine downward.

The other spinal paralyses we divide into three main classes according as they (1) have little or no pain, no disturbance of sensibility and are characterized chiefly by muscular atrophy; (2) paralysis of a chronic type in which pain is a marked feature; (3) those in which neither pain nor atrophy are prominent.

In this most commonly accepted classification our first group undergees subdivision according as they have an acute or subacute onset, and develop rapidly; and, on the other hand, those which develop slowly and run a chronic course.

Taking this first sub-group of our first primary division in which we have the paralyses marked by atrophy, we find in it two forms-acute anterior polio-myelitis (infantile paralysis) and Landry's paralysis (acute ascending). In the former the spinal lesion consists in an acute inflammation of the anterior cornua of the cord, followed by degenerative changes. Atrophy of the nerve roots soon follows, and as the functions of the involved area are motor and trophic, it follows that motor paralysis, accompanied by marked atrophy of the muscles, will result. In this case the onset of the disease is markedly sudden and lasts only -a few days, gradually subsiding. It may involve an extensive area or only one limb or group of muscles. Complete recovery is very rare, and, as its pseudonym implies, it is almost confined to children. In the case of Landry's paralysis, we have again a paralysis which develops very rapidly, does not undergo diminution, but, beginning in the legs, spreads rapidly to the trunk and is usually fatal (as a result of paralysis of the muscles of respiration) in about a week. This disease we find most frequently in males between twenty and thirty-five years of age. The diagnostic points will thus be noted between these two as mainly based upon age, progress and termination.

In our second group of the first primary division we include three paralyses, as follows: Idiopathic muscular atrophy, chronic anterior polio-myelitis (progressive muscular atrophy) and amyotrophic lateral sclerosis. The first and second of this group present certain points of similarity and certain points of difference. It is believed that our primary mischief in idiopathic muscular atrophy depends upon change in the muscles, the cord and the peripheral nerves presenting no alter-
ation in structure in either of the two forms of this condition. We know that fatty degeneration is, in many cases, an evidence of impaired nutrition or lessened functional activity, so that we are prepared for the presence of two forms, one of which is characterized by marked atrophy, accompanied by an increase in the amount of connective tissue, while in the other we have a pseudo-hypertrophy, partly due to an increase in the connective tissue, partly to direct deposition of fat. The former type occurs between puberty and twenty, affects as a rule the arms first, while the other occurs most commonly between two and six years of age, first being manifested in the muscles of the calf as a rule, both being most frequently observed in males. In the case of progressive muscular atrophy, in distinction from the former, we have our degenerative changes beginning in the cord, as its name would indicate, involving the anterior cornua. The nerves arising from the involved spinal segments also undergo sclerotic changes, and the muscles supplied by such nerves undergo rapid atrophy. In this case the muscular area first involved is the region of the right thumb (to digress for a moment, note how frequently you find muscular weakness in that area where the major portion of muscular exercise falls); more or less rapidly it spreads to the forearm and shoulder, thence to the trunk. We always find that the corresponding area upon the opposite side of the body becomes affected very soon after the first. The amount of paralysis depends upon the amount of the atrophy of muscles which always precedes it. The muscular reaction remains normal, the amount of contractility being only lessened in proportion to the amount of atrophy, just as the paralysis. This condition is most common in adults and is very slow in its course, death resulting from extension of the condition of the muscles of respiration. There is one case known to me of nineteen years' duration, in which the process of atrophy has not extended beyond the shoulders, but in which the hands and arms are absolutely powerless. The third of our three forms in our first primary group's chronic division is amyotrophic lateral sclerosis. While in chronic polio-myelitis the degenerative changes appear to be best marked in the trophic areas. Here it is in the motor tract in the lateral columns of the cord in the form of a sclerosis, while the anterior cornua of the gray matter also undergo degeneration. The condition is most common in women between twenty-five and fifty, but is rare, also undergoes degeneration. The area involved first is usually the region of the cervical enlargement, and is symmetrical in its distribution. As a result of the situation of the degeneration, naturally, the arms first show manifestations of its presence. As the consequence of the greater strength of certain groups of muscles a certain amount of distortion is present, accompanied by tonic contraction, twitchings and increase of the deep reflexes. We find the arms drawn close to the body, with flexion of the forearms and
fingers. The condition tends to spread upward, the patient dying of glosso-labio, pharyngeal palsy. The main diagnostic points in these three disorders will be noted to be age (only one occurring in (hildren), while we differentiate progressive muscular atrophy from amyotrophic lateral sclerosis by the absence of twitching, rigidity and the absence of increase of reflexes.

The second of our primary divisions is that in which we include cases where pain forms a prominent feature. In this group we include four disorders-cancer of the rertebrae, spinal caries, locomotor ataxia and paralysis due to tumors of the meninges. There is no possibility of diagnosing the lastnamed save by a system of exclusion of the other three, although of course we would have a train of symptoms analogous to what we would find in compression of the brain in its two stages; first, where the compression is sufficient to cause irritation; second, where it is powerful enough to cause depression and consequent impairment of function as contrasted with the prior exaggeration due to irritation. While it is possible for cancer of the vertebrae to exist as a primary affection, it is much more common for it to be secondary to or accompanied by cancer elsewhere. The main indication is intense pain, which closely resembles the pain common in cancer in being markedly persistent. Of course, age here would aid us in our diagnosis, and if the cancerous condition is secondary to elsewhere existent cancer marked by the cachexia, enable a positive diagnosis. In the case of caries of the spine the age at which it is found most usually is in the young, but it must not be forgotten that caries of bone, especially if accompanying the tubercular or strumous diathesis, would, in all likelihood be accompanied by other indications than merely the localized pain. The family history, together with the farial characteristics, would be strong presumptive evidence. The fourth of the paralyses of this group is one of the most common of the spinal paralyses, and before considering it it may be well to devote a few moments to the consideration of the structure and functions of the cord, for a remembrance of the varions tracts in that organ, together with a knowledge of the function of each, is imperative if an intelligent understanding is to be held of these paralyses. The cord is a bilateral and symmetrical organ, consisting of gray and white nerve tissue, the gray being for the most part central, while the white is peripheral. The cord is divided into two hemispheres by the anterior and posterior median fissures, of which the anterior is wide and shallow, and has at its bottom a commissure formed of white matter, while the posterior is narrow and deep, and has gray matter at its bottom. The gray matter of the cord is so arranged as to form roughly the appearance of two crescents, placed back to back and communicating by means of a broad band of gray matter which passes from the one hemisphere into the other between the bases of the anterior and
posterior fissures. In these crescents of gray matter we recogmize two cornua, an anterior and a posterior. Of these the anterior is blunt and rounded, and is in communication with the anterior nerve roots, while the posterior is elongated and sharp, terminating much more close to the surface of the cord than does the anterior, and with it communicates the posterior nerve root. In this gray matter are many groups of nerve cells, forming the vesicular columns. In various regions of the cord we find different relative amounts of white and gray matter, so that in this brief consideration it must be understood that only the chief points are mentioned. By means of the fissures of the cord we divide it into columns, and as there is an attempt at fissuring at the point of emergence of the nerve roots, those points are spoken of as the antero-lateral and postero-lateral fissures. If we trace the anterior fissure up to the medulla we find it becoming lost in the foramen caecum (of Cicq d'Azyr), while the posterior widens out to form the floor of the fourth ventricle. Clinical observation and physiological experiment have taught us much about the cord, so that spinal paralyses are now more thoroughly understood, although there are still matters of grave question. We know that the trophic center for certain tracts, the motor, lies in the upper part of this central axis, while for other tracts, the sensory, we have the trophic centers scattered through the cord. We know that the tracts in the posterior column (lying between the postero-median and postero-lateral fissures) the tracts or columns of Goll and Burdach, are mainly occupied with the transmission of impulses from the periphery to the brain, and that these tracts, by way of the clava and cuneate tubercle, communicate with the cerebellum, and, by the special band of fibers known as the fillet communicate with the corpora quadrigemina, the optic thalamus and the cerebral cortex of the opposite side of the brain. Varied characters of impulses are transmitted through these tracts, painful impressions and impulses of touch, sensation of temperature and that peculiar muscular sense by means of which we estimate the position of various parts of the body without exercising the sense of sight and by means of which we gauge with more or less accuracy the weight of objects by their gravity strain on the muscles. According as impulses travel to the center from the periphery or from the center to the periphery, we find that degenerations in the tissue of the cord travel in the same direction. We find that those tracts which transmit impulses to the brain have their trophic center below the point of entrance of those impulses, and that a degeneration will take place in an upward direction. These tracts are thus spoken of as tracts of ascending degeneration; the reverse is the case of degenerations in tracts which carry impulses from the brain. In this posterior column of the cord we have two more tracts, one a little comma-shaped tract of descending degeneration, situated in the column of Burdach, while lying in close rela-
tion to the apex of the gray cornu we have the tract of Lissauer (ascending degeneration). Passing now to the anterior column (between the antero-median and antero-lateral colunns) we find two columns, the direct pyramidal lying internally, while to its outer side lies the basis bundle of Sir William Turner. Both of these tracts are tracts of descending degeneration. They carry impulses from the brain and are largely concerned in the transmission of motor and trophic impulses. Such being the case, and this being the area involved in such conditions as poliomyelitis, acute or chronic, the explanation of the paralysis and antrophy is apparent. The basis bundle is that directly concerned in the formation of the anterior nerve roots, the fibers of which can be traced within it; the antero-internal (direct pyramidal) is largely commissural in function. Between the antero-lateral and postero-lateral fissures we find the following tracts: The crossed pyramidal (which passes to the pyramid in the opposide side of the medulla, decussating in that region), the lateral mixed zone, which is largely commissural and can be traced into the formatio reticularis of the medulla, transmits also certan sensory impulses, but at the same time has motor fibers as well in its substance; the column of Gowers, a large and important sensory tract and the direct cerebellar which passes to the cerebellum of the same side. We thus see that we have in this area fibers which pass into the pyramid of the medulla, through that into the longitudinal fibers of the pons and so, via the internal capsule, to the cerebral cortex; others which pass to the cerebellum; still others which appear to end in the formatio reticularis. So much, then, for the position and function of these main tracts in the cord, but we must remember that there is more than a mere possibility that there are other and subsidiary tracts of which we, as yet, know nothing. While the cord acts as a transmitter of impulses, it is also the seat of certain independent functions, and throughout its length we have an important series of reflex centers. A spinal segment is a portion of the spinal cord with its attached pair of nerves, each consisting of a motor and sensory nerve root, and in association with each of these segments we have a reflex arc. The term reflex is, as all know, a misnomer, for there is no true reHection, but a true liberation of nerve force, and the amount of energy displayed in the second, or reflected, part of the act bears no relation to the intensity of the stimulus of the first part. As an illustration, we may use the instance of tickling the fauces with a feather; it as once brings into play the complex mechanism of vomiting; or, to use a spinal arc, tickling the sole of the foot will bring into play every muscle with a nerve supply from the lumbar or sacral plexus. Now the initial part of this reflex process, to use the commonly-accepted term, is the stimulus which enters the cord by the posterior nerve root; in the cord certain cells are discharged and their impulse, the second part of the act, is transmitted via the an-
terior nerve root. It will be remembered that reflex actions are, to a considerable extent, under the control of the will, and so we find that lesions involving various portions of the cord produce certain effects upon the reflexes according as the reHex center under consideration is below the seat of the sclerotic process, in the sclerosed portion or above it. In the first case we find that the arc is now shat off from the control of the will; as a consequence the reflex is increased. In the second case the center is in the sclerosed area, is itself sclerosed, and as a result the reflex is abolished, while if the center be above the lesion we find little, if any, alteration. Further, the cord is the seat of certain centers, micturition, defecation, erection of the penis, etc., and if these centers are involved in the sclerotic processes, of course they become inoperative. In the case of locomotor ataxia the accepted etiology is that we have a sclerosis most commonly affecting that area of the cord which is denominated the lumbar enlargement. This process of sclerosis consists in a fibro-nuclear overgrowth of the neuroglia, leading to compression of the nerve fibers and cells; this being the case, it is not difficult to see that the earlier manifestations of the condition in the majority of cases will be similar to what we would expect in any case of compression of such structures; first, symptoms indicating irritation; second, symptoms indicating depression. This selerotic process affecting the areas of the cord directly concerned in the transmission of sensory impulses, also the afferent fibers concerned in a series of reflexes, we would naturally expect to find, as among our early symptoms, pain and increase of reflex irritability. Such are found. It is here that I desire to introduce to the osteopathic profession a theory which I have dreamed upon for some years; but now, for the first time, am able to produce two cases which tend in a marked degree to throw some light upon the question of whether the sclerotic processes in the cord (let me confine my remarks to the posterior columns, as only in their case can I offer evidence) begin in the cord or in the spinal nerves. It must be remembered that while the lumbar enlargement is the most common seat of the morbid process, it may occur in different regions of the cord, the manifestations will then, of course, vary according to the area involved. The commonest of the early or preataxic symptoms, is the occurrence of fulgurant pains. These shoot with a varying degree of frequency down the legs, following the course of the various nerves. Associated with these we frequently have a sense of girdle-like constriction around the body, the site of this constriction usually corresponding with the upper limit of the process in the cord. Disturbances of sensation are common; often early in the case we find a patchy hyper-aesthesia (later becoming anaesthesia, or more commonly, analgesia). Muscular sense is early impaired, and it is to this loss of muscular sense that the peculiar ataxic gait is largely due. In the early stages of ataxy we find increase of
the patellar reflex, but this is very soon diminished thd later on is lost. At the same time we find the speecial remeres in the lumbar enlargement affected just as would be expected; bally we are apt to find priapism, later on loss of the power of erec. tion; the sphincters lose their power in the later stages, so that involuntary evacuation of the bowel or bladder may occur. There is one test which must never be orerlooked in the diagnosis of ataxy, the Argyll-Robertson test, where there is noted an inability on the part of the eye to arrommolate for light while it does so for near vision, the pupil being usually somewhat contracted. As time goes on in the rase, the loss of the power in the cord to transmit impulses of muscular sense hats its effect, the patient cannot now tell the position of his limbs unless he sees them. At the same time he is mable to estimate weights with even an approach to acemacy when attached to his limbs. The anterior columns of the coid not being affected, trophic and motor impulses readily are transmitted; as a result there is no motor paralysis, nor is there atrophy. The patient now has the peculiar ataxis gat ; in this the foot is thrown out with unnecessary violence, and strikes the ground heel first, but the patient not having the muscular sense to determine the position of the limb once it is projected from the body, and consequently no intelligent co-ordination of the muscles as in normal walking; the foot is placed on the ground just where it happens to fall. From this brief description it might be thought that mistakes in diagnosis of ataxy could hardly occur, but it must be remembered that the earlier sigits are rague and indefinite, and that it is in its earlier stages that osteopathy can benefit. Once that the reaction of degeneration is established, the case is hopeless so far as regeneration of the degenerated and sclerosed area is concerned. We may arrest or impede the process, but when once established we can hardly hope for recovery. I lately had the good fortune to meet with two cases which illustrate well the possibility of the sclerotic process, beginning not in the cord, but in the spinal nerves, and from them extending to the cord; also, the second case illustrates well the fact that we may hare existent almost all of the symptoms of ataxy and yet recovery follows osteopathic treatment, provided always that we have some life in the posterior colmms. In this case the patient states that he inst noticed that he could not walk straight; he always deviated to the right and could only wallk slowly: This continued for about a year, to get steadily worse, and at length he could not maintain an erect posture with his eyes closed and was compelled to use crutches in walking. During this time he had fulgurant pains in the limbs. but the girdlelike constriction sense was absent. The eyes were normal, and the Argyll-Robertson test was absent; patellar reflex was at first markedly increased, later on diminished, but never totally lost. Examination of the spine showed that there was a marked lateral curvature with its convexity to the right ex-
tending over the area from the first dorsal vertebra to the fifth lumbar; it will be noted that this is below the level of the lumbar enlargement, is below the level of the point of emergence of the nerve roots from the cord, but is directly in relation with that area through which pass the nerves of the lumbar plexus. The curvature was not the result of trauma, but was traceable to muscular action. Here we had a double force, the posterior branches of the nerves passing into the spinal muscles under some slight irritation-producing muscular contraction, the muscular contraction producing pressure mpon these same nerves, and so the two processes keep one another in existence; the curvature now is made constantly more marked until at length it reaches the stage where the main nerve trunks themselves are affected, and so we get our occasional lightning-like pains. This case was diagnosed by more than one practitioner as a true ataxy, but the interesting fact is that simple osteopathic treatment, directed solely to the redaction of the spinal curvature rapidly eradicated the condition. The condition had been existent for twenty-one months when the treatment was begun, the patient could then only walk with the aid of two crutches. In three months' time He could walk without support, could stand with his eyes elosed and only a very slight abnormality of gait was appazent. In this case I believe that the cord was only secondarilly affected, that the process had extended to so slight a degree that it was completely checked by removal of the exciting cause; in other words, that we had a case of pseudo-ataxy which would soon have become a well-marked case of a true sclerosis. Is it not possible that many ataxics have their condition brought about by some cause producing conditions in the spinal nerves and the process extend to the cord? In the ather case to which I have referred the patient stated that his health had been affected for eight rears. The first indication of anything wrong with him was in connection with his reyes; (visual disturbances or, in fact, implication of several of the cranial nerves is by no means uncommon in ataxy) there was ptosis with dilatation of the pupil, diplopia, and an external strabismus. It will be noticed that this series indicates at once paralysis of the third nerve. Slowly there began disturbance of the muscular system, there was inceordination of muscular morement, staggering gat and inability to walk fast, loss of muscular sense, so no precision in placing the feet. pains in the legs and feet often associated with muscular er $n$ tractures but no girdle-like pain. The patient had been a miner in the mountains, had been frequently injured, but can ascribe no special injury as having been apt to produce his ailment. At length, six months prior to the time when I saw him he could only stand or walk with great difficulty. In washing his face he had to hold on to the table with one hand, :and further his bowel was obstinately constipated. A marked sontracture of muscles was found in the middle lumbar region.

The six months of treatment had now removed almost all the disabilities; the patient could stand with his eyes closed the paralysis of the third nerve had passed away some years prenousiy) the constipation was relleved aud the gait was almost normat. Now, are we to assume that in toms case we had a true spinal sclerosis? The case had many or the indications of locomotor ataxy according to the patients descripuon, for i did not see him until he was so vastiy mproved, or was it a traumatic pseudo-ataxy?

The last group of our spinal paralyses is that in which we include these paralyses in whicu nerther pain nor atrophy are prominent features. One member of this series is acuce in its onset, myelitis. Of course, the indications in such a condition as this would vary markedly according to the site of the mischief in the cord. We may say in a few words that this is usually an infiammatory process, begins with chilliness, mild fever, pain in the back, perverted sensations and commonly painful cramps in the limbs; all being followed by anaesthesia and paralysis below the seat of the lesion. Ali the other paralyses in this series are chronic, lateral sclerosis, cerebro-spinal sclerosis, hereditary ataxy and ataxic paraplegia. In the case of lateral sclerosis, we remember the function of the tracts in that area of the cord, and we find tracts concerned in the carrying of afferent impulses, efferent impulses and the mixed zone so largely commissural. The manitestations of the sclerosis depend very materially upon which special tracts are affected, but we have certain broad indications which are found in most cases. First, slowly progressive weakness of the legs, accompanied by muscular spasms, which eventually develops into well marked tonic contractures, leading to permanent tonic rigidity. The result is a peculiar and characteristic gait, if walking is possible at all, to which has been applied the term of "spastic gait." The knees are kept close together, the patient tends to walk on tiptoe in a peculiar, jerky manner, and leans far worward, appearing as though he were just on the verge of toppling over. So long as the condition affects onty the anterior portion of the lateral column sensation is not disturbed, at least to any great extent, and until the sclerosis exfends to the resicular columns in the anterior cornua, as a rule there is not marked atrophy nor is there alteration of the normal electrical conduct of the muscles. While the progress of the disease is slow, however, it is none the less sure, and after lasting over a varring term of vears the tonic rigidity is replaced by paralysis, atrophy of the muscles occurs. In the early stages we have usually increase of the reflexes, ankleclonus being readily elicited, but in the later stages the reflexes are diminished and erentually lost. With this condition one is apt to confound hysterical paralysis (which may simulate almost any form of sclerosis), but in hysterical we find that the tonic rigidity is not constant in seat, is commonly associated with patchy anresthesia, the paralysis is incomplete
and careful questioning will usually be suifficient to satisfy the practuoner that he has a purety momonal derangement to deat with. Cerebro-spinal sclerosis is characterized by the retention of muscular sense, absence of unsteadiness on closing the eyes, presence of increase of the deep rentexes, presence of tremor on attempting voluntary morement, absence of atrophy, maintenance of the normat etectrical conduct of the muscles. Owing to the fact that the condition is usually co-existent in the cerebral tissue (note the name of the disease), we frequently find affection of the nucles of the cranial nerves, leading to a peculiar slow, syllabic speech, with a certam amount of mental defect, but a clear mond upon the whole. As the case proceeds the tremor gives way to tonic spasms, this getting worse until we have permanent rigidity. At the same time the mental centers commonly become involved and the patient passes gradually emotional, destitute of will and eventually demented. Of course, where any region of the brain or cord may be affected, the symptoms of necessity present a wide field of divergence from any fixed rule. In the case of Friedreich's disease, it differs from ordinary ataxy in that it "ippears to be hereditary, develops most commonly at puber$t y$, affects girls and boys about equally, lightning pains are absent, greater tendency to implication of the arms, disturbance of speech and nystagmus are common." Ataxic paraplegia depends upon a sclerotic process affecting both the lateral and posterior columns of the cord, hence we have a mingling of the symptoms of both conditions. We distinguish it from true locomotor ataxy by the absence of the fulgurant pains, though commonly we have a certain amount of dull pain in the back and legs, we meet with the increase of the deep reflexes associated with a marked weakness of the musculature. There is no loss of muscular power in ataxy, and it is astonishing the distance that an ataxic can walk without marked fatigue. The one great aid to diagnosis of the various forms of spinal paralysis, in fact the essential for correct diagnosis, is a knowledge of the tracts in the cord and their special functions. A knowledge of anatomy in osteopathic practice is essential for intellisent practice, but in the word , matmar we must include physiology and if we understand the construction of the body. its action in health and the manifestation of disease, osteopathic practice becomes at once merely the application of broad principles based upon scientific rensoning. The man who practices esteopathy without a good acquaintance with anatomy, physiology and symptomatology is no osteopath, as I understand the term, but a mere groper in the dark, an antomaton, a charlatan and an impostor.

1. Onset abrupt. Hemorrhage.
2. Paralyses with little or no pain, no disturbance of sensibility, characterized ehiefly by muscular atrophy.
a. Onset acute or sub-acute, acute anterior polio-myelitis. noute ascending paralysis.
b. Onset slow, develops slow, course chronic, chronic anterior polio-myelitis, idiopathic mascuat atrophy, amyotrophic lateral sclerosis.
3. Chronic paralyses, pain a prominent feature. Cancer or caries of the vertebrae, tabes dorsalis, tumors of the meninges.
4. Paralyses in which neither pain nor atrophy are prominent features.
a. Onset rapid, myelitis.
b. ('hronic, lateral sclerosis, ataxic paraplegia, hereditary ataxy, rerebro-spinal sclerosis.
(Always bear in mind the possibility of hysterical paralysis, especially in neurotic women, but be not hasty in assuming the case to be such.)

## INSANITY AND ITS TREATMENT.

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There is no subject which is so little understood, and in which up to the middle of the present century so little progress has been made, as in the treatment and care of the insane. In fact, it is only during the last fifty or sixty years that there has been much advancement along this line. Men and women of intellect and culture who keep abreast of the times in everything else know but little of the methods employed in caring for this class, and it is surprising to observe how many intelligent people associate with our modern institutions for, the insane the dungeons, caves and frightful array of filthy cells, which prevailed for so many centuries. In fact, the entire subject is avoided. An individual who, because of his occupation or otherwise, suffers a period of mental aberration is shunned, and a certain stigma attaches to his name, even though he entirely recovers. This should not be. The institutions for the treatment of mental diseases are hospitals in the same sense as are those for other forms of disease. They are simply confined to this one class and make a specialty of it. The avoidance and consequent ignorance of the subject, which is common in a greater or less degree to all, is due to two things: First, the innate horror associated with the loss of reason, and second, the past history of the care of the insane, which is so barbarous as to make us blush for human-kind. It will be interesting to look somewhat into the methods employed during the past 2 , 500 years in order that we may better appreciate the present; to observe the kind of treatment administered, and to draw some conclusions from data furnished, whether there is foundation for belief that there is a field for osteopathy in the treatment of insanity.

## HISTORICAL.

From the beginning of time there have been lunatics. No country or nation has been free from the blight. We are told, however, that savage tribes are less troubled than the civilized peoples, it being an evil of which the North American Induans and the tribes in Africa know comparatively nothing. The history of the past shows that for hundreds of years before the beginning of the Christian era, and, indeed, clear down to the beginning of the nineteenth century, and even lapping over into it, insanity was associated with divination, demoniacal possession, witcheraft and mysticism.

Superstition has always been a dominant power in all nations and climes, consequently the care of the insane, who were believed to be suffering punishment for having offended their gods or possessed devils, or under the spell of witches was given over to the care of cruel, mercenary brutes, whose sole thought seemed to be to invent new means of coercion and torture. While it is hard to believe, it is nevertheless true that this condition of affairs existed through the ages until the enlightenment and humanity of the closing years of the nineteenth century changed it.

We find mention of insanity in the literature of a very early period, the feigned madness of Ulysses before the Trojan war probably being the first instance given. Hippocrates speaks of mania and melancholia. Diocles, 300 B . C., discusses the subject, while the Old and New Testament are full of allusions to madness and possession of devils, though it is difficult to tell in some cases whether an actual disease of the brain was meant or a spiritual visitation of the evil one.

Before passing to the real history of the treatment of the insane two notable exceptions to the barbarous tale should be mentioned. In Egypt, the birthplace of the Pharaohs, we are told that before the birth of Christ the insane were tenderly cared for, and that in their treatment the Egyptians rivaled the highest development of moral treatment now practiced.

This is another reminder of the statement frequently made that we have not progressed far beyond the civilization of this ancient perple. The second exception is that of Gheel, in Belgium. There is a tradition that about the eighth century the tragic death of an Irish girl who was slain by the hand of her father led to the establishment of an institution for those of unbalanced mind. From a small beginning it has grown until now there exists in the city of Gheel a most unique institution. In a population of 11,000 or 12,000 there are between three and four thousand insane people. Thiey are not collected into one or more buildings, as is customary in our modern asylums, but are distributed among the inhabitants, the wealthy going to the better, the poorer to the more lowly homes. It is considered desirable for families to have several lunaties to care for as large sums of money are paid for their keeping. It is said
that from 65 to 75 per cent. are cured in this way.
With these two exceptions, which are like shafts of light in a cloudy sky, the centuries preceding and the first 1,800 years of the Christian era read like the most blood-curdling passages from Dante's "Inferno," so far as the treatment of the insane is concerned. The history of all countries, where statements have been made in reference to this unfortunate class, is the same. In many countries as late as 1600 and 1700 no asylums were provided; in the vast majority of cases the insane were totally neglected; occasionally reverenced as God-stricken, but more often abused as suffering punishment from the hand of God; tormented, laughed at as simpletons; imprisoned as social pests, and in some cases executed as criminals.

To be incarcerated in the few asylums that existed was far worse than to be neglected. For while neglect was inhuman, it was Christian as compared to the abuse suffered in the asylums or Bedlams, as they were called.

The following description applies to the treatment of the insane and the asylums in all countries where data is accessible up to the beginning of the present century.

Patients, if dangerous, were incarcerated in common prisons; if of a certain rank of society, they were shut up in houses under the care of guardians. Chains, whips, darkness and solitude were the approved remedies. They were kept in unwholesome cells, without air or light, chained in such dens as one might dislike to confine ferocious beasts. Their general physical condition was that of filth and utmost degradation, almost entire nudity, with the exception perhaps of a rag about the loins, prevailing generally, their keepers claiming that they would tear off their clothes, if they were allowed to wear any. On the damp ground upon which they slept was a layer of straw, such as is given for the bed of a horse, and was the only couch prepared for them. Their food, which was of the coarsest kind, was thrown into them through the door, and they were chained by an arm or leg to the wall or floor. They were deprived of fresh air to breathe, and water to quench their thirst, and were given over to the supervisions of cruel jailers who indulged in all sorts of devices for torturing their victims, there being numerous instances of patients being held in irons in most painful positions for twelve, fifteen and twenty years. The most delicate women and vicious men, young and old, rich and poor alike, were subjected to the same treatment. In many instances they were exhibited in their dens and cages like wild animals at so much per head. This seems so repugnant that the only way by which it can be explained is that superstition and ignorance of insanity as a disease were the controlling forces in bringing about and continuing these conditions.

As late as 1800, in England, lunatics were believed to be under the influence of the moon at a particular phase, of which they were bound and whipped to prevent paroxysms. A nother mode of treatment was to lead an unsuspecting victim across
a trap door, when he suddenly plunged into a "bath of surprise," and was either half drowned or frightened to death, carrying out the principle "Similia similibus curantur" -in order to cure a crazy man you must first drive him to a frenzy. Scores of barbarous incidents could be mentioned, but spare forbids. Thus for more than 2,000 years the insane have been treated brutally. It was not until the beginning of the nineteenth century, and we might say until its middle, that there was much adrancement along humanitarian lines.

Pinel, a Frenchman, was the first to undertake a reform in behalf of his unhappy countrymen, but it was slow in making its way, and it was not until about 1830 that results began to be shown. As our own nation came into existence after the reform was inaugurated we have not as much regret as the older countries, but even here shameful abuses have crept into our asylums, and if we can believe the statements of the press, which are of too requent occurrence, to be entirely ignored as newspaper talk, there is still room for improvement.

No State is considered equipped in caring for its people without ene or more hospitals for the insane. Many of them are magnificent structures, provided with every modern appliance, situated on commanding eminences, surrounded by trees and everything to charm the eye. Yet in spite of the money expended we believe there are serious faults in our dealing with this great evil. The first is that the law forbids any of these institutions to do anything for the prevention or cure of insanity before it is fully developed. A patient must first be officially designated as a lunatic and committed to an institution by a magistrate before he can derive its benefits. Unquestionably this law is designated to prevent incarceration of the sane, but there should be some method devised whereby the law should be made discriminating. "An ounce of prevention is worth a pound of cure." An individual should not be obliged to wait until he has stepped beyond the pale of sanity before he can derive the benefits of our modern institutions.

This defect has led to the establishment of private sanitariums. Inasmuch as osteopathy can do more for this class than any other method, there is a crying need for a well-equipped, centrally-located osteopathic sanitarium for the treatment of nervons and mental diseases.

A nother great defect is that the law takes no cognizance of different classes of insanity. There is no distinction made between curables and incurables, between chronic and acoute cases. No resource should be spared for those where there is hope, but for the hopelessly insane a different provision will suffice.
IS THERE A FIELD FOR OSTEOPATHY IN THE TREATMENT OF INSANITY?
The science of osteopathy is so roung that it may seem presumptuous for any claims to be made along this line, but we
believe from statistics furnished, and from the fact that drugs have been practically abandoned as curative remedies, that there is a broad field for osteopathy in the treatment of the insane. All recognized medical authorities agree that treatment must be varied to suit the case, and that narcotics and opiates should be stricken out because of the disastrous effects of their reaction. A gentleman, in describing the methods of treatment of an Eastern institution, said that where medicine was administered, it was for its palliative rather than its curative effects. The results were obtained by natural means, i. e., plenty of rest and nourishing food, surrounding the patient with beautiful scenery and bright companions, giving them, when possible, plenty of outdoor air and exercise, diverting the mind by amusements of a varied nature and treating them as invalids needing care, not as criminals escaped from justice. There are cases when more heroic measures must be adopted, and unquestionably the greatest care must be observed at all times, but by contrasting this treatment with that which is ordinarily administered, we believe its advantages will be apparent to all. Statistics of the institution referred to show that it has the largest record of cures of any in the United States.

If such results can be obtained by natural means, which are within the reach of the osteopathist as well as the medical practitioner, why under the same circumstances cannot the osteopath do much more? He can surround his patients with the same environment and employ the same natural methods, but more than these, with his eye and hand trained to detect the slightest abnormality in the physical development of his patient, he may discover lesions which would escape the notice of any except those whose education had been along this line, which lesions may be the cause of the mental disturbance.

Barring as incurable idiocy and catalepsy and a mal-developed cerebral structure, there are still phases of insanity which are curable.

We believe that hysteria, neurasthenia, epilepsy, temporarily and violently insane may all properly be called phases of insanity which, if taken in time, may be cured by osteopathic treatment, and for the following reasons: They are all based upon spin or cerebral aenemia or hyperaemia (congestion). Where aenemia and congestion have gone so far as to produce atrophy or brain abscess there can be no help, but these would come under the mal-developed cerebral structure before excluded from the list of curables, and would still leave a curative field worthy of our investigation.

Since osteopathy has the data of only a few years to refer to, and has had until recently but a limited opportunity in which to test its ability to cope with insanity, it may give some practitioner courage by comparison to know the methods emploved by the medical profession, which has centuries of practice to fall back upon.

For spinal or cerebral congestion what do they do in case medicines are given? By the use of drastic cathartics they proauce congestion of the viscera, thus endeavoring to draw the FOUR OSTEO-SAWTELLE.
blood from the brain by a counter irritation.
With the excption of the use of a preparation of ox-blood, which is administered on account of the vegetable iron therein contained, what is done in the case of cerebral aenemia? Cardiac stimulants are used which, when they have accomplished their purpose, can only cause the heart to pump faster what blood there is through the body.

Certainly the methods of the osteopath are more logical than these. If the blood is not circulating normally it is because

- there is obstruction somewhere. It may be because of a dislocated bone or a misplaced vertebrae due to accident, or an adhesion of the muscles of the back or any other of the numerous ills which flesh is heir to. This being the case, the blood must flow somewhere; cut off from its natural course, it will flow along the line of least resistance. Take, for sample, adhesions of the four layers of the muscles of the back, which occur in a large percentage of bed-ridden patients, and in many who are not. When the large blood supply of these voluntary muscles is considered, it is evident that when obstructed, either wholly or in part, there is a large amount of blood which, flow ing along the line of least resistance, will be likely to attack some vital part. When it attacks the brain we have congestion. Break up the adhesions of the muscles of the back, stimulate the blood flow to them and, by opening up these natural channels, the blood will be drawn into and through them. With their extensive origins and insertions, these muscles furnisi sufficient area to take care of a large quantity. It seems to us that this method appeals more to reason than setting up a counter irritation by the use of powerful drugs, which must overthrow the normal functional activity of the digestive tract and result in a long train of evils.

There is one class of cerebral congestion which, so far as we are informed, has never been treated successfully except by osteopathists. We refer to those cases which are caused by direct or indirect pressure on blood vessels or nerves. Such a -ase was that of Bart Neal, whose cure has been heralded throughout the land. An accident brought on insanity. After suffering this condition for several years he was examined by Dr. Bernard, an osteopath, who located the trouble at the third cervical vertebrae, which had been thrown to one side, thus pressing upon the large vessels in that region and obstructing the blood flow to and from the brain. That his diagnosis was correct was proven by the result of the treatment, for upon replacing the vertebrae and removing the obstruction, after a number of hours' sleep, the man woke up perfectly sane. Osteopathists occupy this field alone.

In case of aenemia the brain is being starved. The medical practitioner may give the preparation of ox-blood, which is good, so far as it goes, but when stronger cardiac stimulants are added, the stomach and digestive tract are so upset that assimilation cannot take place; thus they cut off the manufacture of good blood, overthrowing the very end they are striving to attain by the use of powerful drugs. In osteopathic treatment all of the processes of digestion are stimulated. There are no drugs for the stomach to combat with, assimilation takes place, which results in the manufacture of good blood. The tendency of nature is toward the normal; with an unobstructed blood flow and the system manufacturing rich blood, the starved brain will gradually assume its tone, and the patient will recover.

Though osteopathy has had but a short time in which to demonstrate the truth of these theories, it has done so to the satisfaction of every practitioner who has had such cases under his care. We have seen cases of neurasthenia, hysteria, and insanity due to uterine disturbances, and insanity from overwork, yield to osteopathic treatment after everything else had failed. We therefore speak with assurance and with the hope that sufferers will avail themselves of the opportunity which osteopathy affords.

We have not considered in this paper the direct effect of osteopathic treatment upon the nervous system of the patient; neither have we spoken of those cases where surgery is necessary; we have not sought to exhaust the subject, having been able to gather up only a few facts from the entrance of the great field of undiscovered truth that lies before us.

If we have stimulated research into ospeopathic methods, or explained in the least how we get results in the treatment of the insane, we shall have accomplished our purpose.

ONE REFLHX ARC-SUGGES:IUN AS TO ITS THERAPEUTIC VAlUE.<br>By N. Alden Bolles, D O<br>Member of the faculty of the Bolles Institute of Ostoopility. Denver, Lolo.

*Read before the A. A. A. O. convention at Kirksville, Mo., June, 1895, and was one of the first attempts at a scientific paper presented to the association. Reference to this article is made on page 717 of Dr. McConnel's Practice of Osteopathy.-Ed.

He whom we love to call the "old doctor" teaches us to use our reason, to apply physiological and anatomical facts wherever they may contribute to the welfare of the patient. I do not understand that we are to confine ourselves merely to the tracing and removal of lesions, either directly by feeling and correcting them, or indirectly by observing how they disturb natural functions, and so ascertaining their location.

If we recognize an abnormality of function which occurs through lack of natural stimulus, and devise a way to supply the deficiency, we may add much therapeutic value to our work, while yet keeping quite within the bounds of true osteopathy. Instances of this are seen in various stimulating treatments we give to peripheral nerves for the sake of their reflex influences.

An eye deprived of light grows weak. Tasteless food, however nutritious, fails of full assimilation, through the non-stimulation of those digestive functions which are aroused by taste. The nutrient reflex, inactive upon a motionless muscle, lets that muscle starve. A cutaneous surface, never stimulated, becomes non-resistant. So a rigorous climate, with well defined seasons, conduces to sturdiness and vigor, while an equable one enervates through lack of needed stimulation. For the sake of health, however, any unavoidable lack of deficiency of these natural stimuli, under adverse circumstances, may, with much benefit, be replaced by artificial imitations of the natural.

It is in this view of the science Dr. Still has outlined to us that I would make reference to a physiological action which intimately concerns the process of involution following parturition.

I think we have here one evidence of the divine intelligence, in that the natural act of nursing reacts upon the organs to cause expulsion of decidual matter and lochia, as well as to aid return of tonicity.

Other means of securing uterine contractions, well known to the osteopath, are not included here, as this paper is only intended to call attention to this one reflex arc and its possible uses to us as osteopaths.

This are was forcibly called to mind by a mother's remark that there was so much "waste" of the lochia while her young
child was being held to the breast.
In searching the literature of this matter one reads in Landois that "stimulation of the nipple causes uterine contraction." Another author notes the intimate relationship between the mammate and uterus, hence advises against massage for local troubles of the mammae during pregnancy; except the last few weeks, in case it seemed called for.

The relationship has been used by accoucheurs in post-partum hemorrhage, a brisk sweeping motion of the hand over the woman's bosom, causing a quick contraction, which stops the flooding. Mothers have remarked the strong uterine pains produced by the child's active efforts at feeding.

Of course, all this depends upon the integrity of the reflex arc, whose afferent sensory nerves are contained in the fifth thoracic nerve, whose center is that controlling parturition, in the lumbar enlargement of the cord, and whose motor and trophic nerve fibers are contained in the hypogastric and pelvic plexuses, terminating in the muscular, vascular and ligamentous structure of the uterus and appendages.

The whole arc needs a good blood supply, as truly the uterine muscle as the lumbar nerve center.

It seems as if the presence of foreign matter in the uterus has much to do with its contractions. Such presence has been noted in all cases where they have come under the writer's notice, and it seems probable that there is little danger here of prematurely terminating a normal pregnancy, though this is evidently feared by those who advise against massage of the breast for mammary troubles during gestation. This thought is further corroborated, in that no such danger appears to have accompanied the very common event of a subsequent preg. nancy incurred within a few months, while the child of the pervious one was very actively nursing. Had normal gestation been to any noteworthy extent terminated by this or any other natural and frequently occurring form of stimulation at these points the danger would doubtless have become generally known long ago.

It has been suggested that non-impregnation during the early months of nursing might be due to these reflex contractions preventing access of the spermatozoa, or to expulsion of the ovum, even, after possible fertilization. In the writer's opinion this may better be attributed to the still existent inactivity of the ovaries and non-maturation of ova during the high functional activity of the mammary glands following parturition. The ovaries seem to be dormant during gestation and early lactation, resting, while the generative vitality goes for a time to the uterus, and another period to the mammary glands-at least till the function of the latter has reached a climax and become a regular habit.

It seems, then, that we have here some therapeutic suggestions which may be of service to the osteopathic obstetrician
and gynecologist. I would offer the following thoughts as being along this line. A few causes in point have given strong indications of their value. It is hoped the experience of others may throw more light upon this matter in a discussion which the writer would be glad to see heartily participated in by all present who may have anything to offer regarding this subject.

During pregnancy the uterus undergoes an enormous physiological hypertrophy, preparing strength for its expulsive efforts. The parturition center apparently enters into this preparation, while the mammae become hypertrophied also, preparing for lactation. Berhaps we may suppese, too, that the nerves of the latter become more sensitive for their part in this reflex effect upon the uterus, though I do not know that this has been demonstrated. Thus we have the normal process greatly favored by a state of physiological preparation, and we may expect normal involution to occur if the general conditions of the patient are favorable. But if there be lesions irritating or depressing the nerves controlling these functions, or suitable behavior of the patient be not secured, sub-involution, displacements, ulcers, in fact, an almost endless train of disorders may be expected to follow.

Thus, in event of the mother's failure to nurse the child, we have one of the causes contributing toward uterine disorders after parturition. This may happen through death of the child, or any circumstances preventing the natural stimulus which should thus act upon the afferent portion of this reflex arc. That a mother should personally give the breast to her own child is a physiological duty to herself, as well as to the innocent being which she has brought into the world. She may not seek to escape this duty without suffering the natural punishment for her unnatural act.

So, too, in cases of abortion or miscarriage, from any cause, this natural stimulus will be wanting. What, then, should we expect, especially in view of the incomplete preparation of this entire apparatus for the work now required of it, but that disorders would follow-sub-involution; incomplete shortening of the ligaments, whose lack of tone then permits all sorts of displacements of the uterus and its adnexae; consequent disturbances of nutrition in the parts; the whole category of flexions, inflammations, adhesions and the like. Especially should we expect these disasters if there be other interferences with normal blood and nerve supply in the lesions we so often findall contributing toward the deadly mess that makes so great a harvest for the chloroform bottle and scalpel.

When termination of pregnancy is so early that functional activity of the mammae is not established, this natural stimulus fails of application, even in the less natural matter of using the breast pump. Imperfect evacuation of uterine contents, placental retention, sapremia, imperfect involution and consequent liability to various disorders are only to be expected; and such conditions, with a long period of invalidism, are the
all too common sequelae to such unhappy events.
In the writer's opinion, we may see in this a valuable index for therapeutic procedure. Of course in these cases we always look for lesions in the spine and pelvic bones. In cases of not finding them, or while treating them, we might well take advantage of this reflex mechanism, to help the return of the uterus and its appendages to the normal tone which should follow parturition. Its use would doubtless be appropriate in such ovarian and tubal dificulties as result from lack of tone in the broad ligaments. It should help a delayed or difficult menstrual flow. It might even so expel septic matter from the uterine cavity as to forestall curetting, which would otherwise in many cases be necessary. It will probably be of value in aiding the closure of an os uteri which remains patulous through retention of old placental matter or from other causes. In the event of foetal death it should insure early expulsion, with little danger of hemorrhage; also speedy removal of a putrefying mass, which all too often proves fatal to the suffering woman. It might be of use in securing the starvation and expulsion of intra-uterine tumors, through a purely physiological process. Note the frequency of such tumors among unmarried or sterile women who have reached or passed middle age. This mechanism might be used in difficult or slow parturition, where the additional afferent stimulus thus afforded might reinforce and invigorate the necessary uterine activity. Some cases of sterility may be corrected by this treatment intelligently prescribed.

In fine, an operator's own reasoning powers will doubtless suggest many conditions in which this reflex might contribute to a patient's recovery.

Dr. Hazzard, whose recent lecture on "The Principles of Osteopathy" have been a delight to every osteopath, suggests that these observations may explain the occasional cure of uterine disorders through the event of a subsequent gestation. At the same time we may note that the gestation method now probably ceases to be so advisable a therapeutic measure-that the cure may doubtless be attained as here suggested without adding to the number of an already perhaps too large family.

Four cases bearing upon some points at interest will here be mentioned.

Case One.-A lady who had borne three healthy children lost a foetus at three months. Sub-involution followed, the uterus remaining soft and enlarged, the os patulous, and the organ displaced backward. She was somewhat anemic, the general circulation being poor. She was told to manipulate the nipples twice a day from five to fifteen minutes each time, drawing them outward and rolling them between the fingers, avoiding enough severity to make them sore. In a few days the os was found closing, and the organ remaining in its place. The patient rapidly regained her strength, whereas she had
been apparently doomed to a long period of invalidism.
('ase '1'wo.-in which pregnancy was unsuspected on account of continued regular menstruation. Purulent matter was escaping from the os, and endometritis was diagnosed. These manipulations were tried in the hope that curetting might thus become unnecessary. Labor pains came on promptly and a decomposing foetus was expelled. A surgeon was called in, who curetted away the placenta. Manipulations were resumed after the prescribed ten days' rest, when involution became rapid and a white non-purulent discharge continued for a short time. Menstruation at the following period was far more natural than any previous one for several years.

Case Three.-That of a puerperal woman whose child died the day of birth. Under this treatment the lochia rapidly changed color; she early expelled some fragments of placenta; supra-pubic palpation lost traces of the contracting uterus in a little over half the usual time. She recovered with remarkable vigor and rapidity, and there was not a trace of puerperal fever, although the air about her the whole time was unavoidably loaded with the foul odors from decomposing garbage. While precautionary aseptic and antiseptic efforts were made in the case, the surroundings were especially dangerous, and much credit for her escape may fairly be attributed to the rapid removal of the waste matter from the uterine cavity by this reflex activity.

Case Four.-One of long-continued uterine difficulties; had an attack of fever, with suppressed menses, through stenosis of the os internum. A septic discharge had been escaping, and there were several ulcers on the external os. The usual osteopathic treatment for amenorrhea was given, and, in addition, the self-treatment suggested in this article. The ulcers disappeared, the menstrual flow was soon established, the fever left, and pus entirely disappeared from the uterine discharge, which itself ceased in a few days.

Perhaps this last case may not have needed the treatment here suggested. It is but fair to state, however, that the usual osteopathic treatment had been unable to subdue the malaise and ward off the attack which was threatening during some ten days before this feature was prescribed, and that amelioration appeared the day following its application.

I much regret the scarcity of experience now available by which to estimate the value of these ideas. Therefore, permit me in conclusion to respectfully suggest that each of us make use of this treatment where it appears to be indicated, and be prepared to announce our observations at the next meeting of this association. A plan of this sort applied to other ideas will surely conduce greatly to the value of these meetingswill promote careful observation and accurate conclusions. In this way the grandest object of this association may be better attained-the advancement of our science, the honor of its worthy founder, and the welfare of humanity especially. "Back
to Nature" must ever be our motto in the work. I am persuaded that in proportion as we succeed in restoring or imitating all the circumstances Nature intended for mankind will we banish their ills.

And so, as true physicians, shall we aid our race in attaining "man's chief end," to glorify God and to enjoy Him forever.

## CAN OSTEOP tTHS PRACIICE IN EUROPE?

By J. Martin Littlejohn, D O and Pr. D., L. L. D., F. S. S. C, F. R. S. L, L. F. R., S. L. (London.)

Former Professor of Physiology. Psy ho-Physiclogv an.t Psycho-Pathology, in the Ameriran Sichool of Osteupathy.

KIRKこVILLE, MO.
Several graduates have written to me in regard to practicing in England. I will try to answer this question from a legal standpoint. Medicine, as construed, may be interpreted from the definition of it in the Encyclopedia Britannica, "the science of medicine is the theory of diseases and remedies." The practice of medicine and surgery is regulated in Britain by a number of acts which it is not necessary to cite. Those laws that relate to the practice may be classified (1) in reference to public health. Sanitation is directly under medical officers and sanitary boards, with medical departments in London, Edinburg and Dublin. These deal with mortality, epidemics, nuisances, vaccination, quarantine, housing, adulteration of food and milk, burial, ete.; (2) in relation to lunacy and habitual drunkenness; (3) in relation to the status of the medical profession. The various medical acts provide for a General Council of Medical Education and Registration, which is chartered to take control of the practice of medicine, keeping a register of the qualified medical practitioners and registered medical students. Only those registered with this council are qualified practitioners. Dentists and pharmacists also acquire legal status corresponding with the medical profession by registration. (4) Certain laws exist limiting the practice of anatomy and physiology. Under these laws licenses are issued to teachers and schools of anatomy and physiology, giving authority to practice anatomy, receive and dissect human bodies under the direction of the Home Department. Vivisection is limited also by license and a system of inspection.

The student in Britain has to follow out certain regulations prescribed by the general council. Before he can be registered as a medical student he must pass a preliminary examination approved by the council, unless he possesses a degree in arts from a British or colonial university or other recognized foreign university. This preliminary examination includes En-
glish, mathematics, elementary science, Latin and Greek or French or German. Before this examination is passed and the student is registered no time spent in college or attending lectures will be allowed to count.

The curriculum of professional training covers a period of five years. The different licensing colleges and universities differ only in the degree of severity in examinations, some granting simply a diploma or license, others giving a degree. The course of professional study required by the General Medical Council, under the medical acts, includes fifteen subjects(1) physics, including elementary mechanics, heat, light and electricity; (2) chemistry, including the principles and the detailed application to the science of medicine; (3) biology, (4) anatomy; (5) physiology; (6) materia medica and pharmacy; (7) pathology; (8) therapeutics; (9) medicine, including medical anatomy and clinical medicine; (10) surgery, including surgical anatomy and clinical surgery; (11) midwifery, including diseases of women and children; (12) theory and practice of vaccination; (13) forensic medicine, including toxicology; (14) hygiene; (15) mental science. At least one year must be devoted to clinical work in some public hospital. According to the requirements of the Royal College of Physicians and Surgeons, London, the course is divided into three stages, with three examinations-(1) elementary science, including physics, chemistry, biology and practical pharmacy; (2) anatomy and physiology. The student must attend six months in didactic anatomy and twelve months in demonstrations on anatomy, six months in didactic physiology and six months in physiological demonstrations; (3) the professional branches of medicine, surgery, midwifery, etc. Attendance is required for the systematic and practical study of disease by clinical attendance upon patients, in the clinical lectures and the laboratory and postmortem room. The didactic lectures include six months in medieine, six months in surgery, three months in midwifery, three months in pathology, three months in histology and bacteriology, three months in therapeutics, three months in forensic medicine, three months in public health, three months in gynecology, together with practical clinical instruction in medicine, surgery, midwifery, eighteen months in hospital practice and twelve months in post-mortem demonstrations. Inaddition instruction is given in ophthalmology, insanity, surgical attendance, vaccination and infectious diseases.

Practitioners from foreign countries cannot practice in Britain without liability under the apothecaries' act and the acts dealing with unqualified practitioners, unless as stated later. Without regular registration they cannot recover fees by legal process, give medical evidence or certificates or hold medical offices. The medical act of 1886 gave to the General Medical Council power to recognize equivalent qualifications from foreign countries that treat Britain with reciprocity. This reci-
procity provision, however, has never been carried out.
Previous to 1858 , when the first general medical law was passed, there were no general regulations applicable to the practice of medicine and surgery in Britain. There were older acts of lariament granting certain privileges to physicians and surgeons in England and Ireland. In 1815 the apothecaries' act was passed, imposing a penalty on any person practicing as an apothecary without having received a certificate from the Society of Apothecaries. In a case decided in 1834 it was declared to be illegal for any person not a British citizen to practice medicine in Britain unless he had received a qualification from some of the examining bodies in England. Two medical acts have been passed, one in 1858 and the other in 1886, providing for the General Medical Council and a medical registration for the purpose of distinguishing qualified from unqualified practitioners. Under these acts a registered practitioner is entitled to practice medicine, surgery and midwifery and to recover legally fees for his services. At the same time stringent penalties are annexed against unregistered and unqualified practitioners. The way in which this is carried out is, that a stringent penalty is imposed on any person willfully or falsely assuming a medical title or pretending to be a duly qualified practitioner. A person is not a duly qualified practitioner unless he has complied with the law in regard to qualifications and registration. In the year 1859 an amendment was passed providing that a foreigner who has obtained from a foreign university a degree or diploma of doctor of medicine and has been duly recognized in his own country as qualified to practice medicine in his native country may act as medical officer of any hospital exclusirely established for the relief of foreigners. According to a legal decision in the year 1896, a foreign medical practitioner who is not registered under the medical acts is not recognized legally as a practitioner and is subject to all the penalties and disabilities applying to unqualified men in the practice of medicine and surgery in any of its branches.

In 1886, when the medical law was amended, provision was made to establish a list in the medical register for foreign practitioners with recognized diplomas. The Queen has the power by an order in the Privy Council to apply this provision relating to foreign practitioners to any foreign country which grants to the registered medical practitioners of Britain the privileges of practicing medicine and surgery. After such an order has been made in the Council, the General Medical Council is empowered to recognize such medical diplomas as in their judgment may be recognized as reputable, the holder thereof being registrable in the foreign list of the medical register. This would entitle such foreign practitioner to all the rights and privileges of British practitioners.

According to this act, the executive power of the British
government has authority in conjunction with the British Medical Council to grant foreign practitioners the right to practice medicine, surgery and midwifery on the basis of reciprocity between the two countries. The present status of a foreign practitioner of any of the branches of medicine would be good only in attendance upon his own fellow countrymen.

The question of reciprocity between Britain and other countries is a matter for executive action. It a recent meeting of the General Medical Council to the executive committee recommended a representation to the Queen in council, that the time had arrived when application should be made of the principle of reciprocity to the kingdom of Italy. Conservatism, however, is characteristic of Britain. The General Council, instead of making the application of the recoprocity provision, asked the Privy Council to inquire into the regulations regulating the practice of medicine in Italy with a view to determining whether it may be advisable to make application of the reciprocity provision.

In 1898 the German government communicated with the British government regarding the admission of German practitioners to practice in Britain. But nothing has been done to carry it out.

According to the regulations of the Royal College of Physicians and Surgeons, London, a person holding a foreign qualification which entitles him to practice in the country where such qualification has been obtained is after a course of study and examination equivalent to those already described under the regulations of the Royal Colleges admissible to the second and third examinations at the same time; and if the person is the holder of the degree of doctor of medicine of a foreign university recognized for this purpose, such as Jefferson Medical College, Philadelphia, he may be admitted to the final examination for the diploma of qualification in medicine, surgery and midwifery. Any one receiving this diploma may be registered as a qualified practitioner.

The question is asked, will osteopathe not be considered outside the practice of medicine and surgery? Before 1887 the medical practice was divided into branches, and any one could practice a branch without qualification in the other branches. Since 1887 the practitioner must be qualified in all branches of medicine, surgery and obstetrics. Legally, osteopathy will br regarded as medicine and surgery, because it includes diagnosis based on physiology and pathology, and also mechanical skill in dealing with diseased conditions. According to the legalized description of osteopathy it is a system or science of healing. Medical legislation in Britain has been based on the assumption that medicine is the science of healing. The apothecaries' act regulate the drug-prescribing and compounding side of the medical profession. It has been said by some that the medical acts in this country were primarily intended to
protect the people from poisonous drugs. If that is so-but we do not believe it-in Britain the medical acts are additional to the apothecaries' act that deals with drugs. The medical acts provide for medicinal and surgical measures. So complete is this that midwifery is by act of Parliament incorporated as a part of the medical profession; and while the law recognizes a nurse in connection with labor cases, it does not recognize a midwife nor give the nurse any legal status as such midwife in midwifery. British law takes no cognizance of different schools of medicine. There are undoubtedly homeopathic, hydropathic, etc., practitioners, but they are such simply from an individual standpoint without any legal status. The Constitution of Britain forbids discrimination in connection with different systems of healing.
It is quite true that dentistry occupies an independent status. But this is dependent on an act of Parliament, according to which dental surgery is practiced legally only by those who are registered in the dentists' register as possessing a sufficient qualification to practice dental surgery.

Osteopathy will undoubtedly be recognized, but only on the basis of equality in educational status, preparatory to its practice as a system of healing. Meantime foreigners, even graduates, would simply have a standing in treating their own countrymen, unless they complied with the regulations already referred to.

In Germany any person can practice medicine, but he does so at his own risk, and any mistake, even the most trifling, may subject the individual practicing to fine and imprisonment. The legally qualified practitioner must have a state license, and no university can grant the degree of doctor of medicine to one who has not passed the state examination. Since 1871, when the German Empire was founded, there has been a universal imperial law for all Germany. Since then unqualified practice has not been illegal; but in order to distinguish the qualified from the unqualified, those examined by government commissioners, independent of the universities, receive certificates of approbation as "praktischer Artz" throughout the Empire. It is illegal to deceive the public by holding one's self out to be qualified if unqualified. If a foreign practitioner goes to Germany and practices, he is regarded as unqualified, and if his foreign title is the same as the German one he is liable to penalties if he uses it. Foreigners wishing to become qualified must pass all the examinations required for the state certificate. It is almost impossible for foreigners to pass the state examination. Hence Germany is the Eldorado of foreign quacks as well as native quacks, in some districts the "nature," "sympathy," "massage," "magnetic" and "tape worm" healers ontnumbering the qualified practitioners.

In France no foreign practitioner can practice wthout having received a regular diploma from the French government as doc-
tor of medicine. Graduates of foreign universities can be registered by one of the six diploma-granting faculties for a state degree or producng certificates covering studies similar to those in the French universities. They must thereafter pass all the examinations required of French students. The course of study is four years, and five examinations are required.

In Italy qualified foreign practitioners may practice among their own countrymen, but if they practice among Italians they must obtain the qualification from one of the twenty-one medical schools in Italy. In Belgium the government may grant, upon the recommendation of a jury, permission to practice to the holders of diplomas entitling them to practice in their native country. Foreigners wishing to practice in Denmark must pass the medical examination in the Danish language at the University of Copenhagen. Foreign graduates wishing to practice in Greece must pass the practical examination before the University of Athens. In Norway, Sweden, Portugal and Spain foreign physicians must pass a severe State examination before being allowed to practice.

In all of these countries a foreigner has no guaranteed constitutional rights; hence, without legal qualification, he has ne right to practice, and no protection if he attempts to do se.

## RETROSPECTIVE

By Joseph H. Sullivan. D. O
CIICASO, ILL.

## RETROSPECTION.

The science of osteopathy has hardly held its present proud position long enough to warrant one's looking back many years, although already we have a number of treasured cases for reference and encouragement.

One of the noted cases the writer now recalls was a case of etaract (double posterior polar) of long standing.

Looking up a standard author of the school, "D. Chalmers Watson on Cataract," we read pages of symptomatology and pathology, and invariably the treatment is, in effect, to allow it to develop, to ripen, and then cut it out.

No claim is made that the cause is thereby removed; in fact, the cause is said to be obscure, and is not seriously discussed.

In this case we found on examination ten months ago an abnormal "atlo axiod" articulation, the result of a severe neck strain some time previously. This resulted in distinct congestion of right cervical region as low as the seventh. We feel sure also that nutrition to the cord and medulla was involved and vaso motor control of whole head irregular as a result. In fact, there was consciousness of a congested head most of the time, particularly at region of the left mastoid.

Opacity in both eyes was very manifest; patient was unable
to recognize friends, and was barely able to go about alone.
We have treated case about eight months. During first three months we relieved the cerebral and cervical congestion almost completely. During following three months vision improved so that she was able to go about quite well, even to extent of doing shopping and read with aid of a glass. During the summer she was abroad, and had improved so that she wrote me several letters, telling of her good condition.

On her return home I discovered a marked diminution of the opacity. It had diminished fully 50 per cent., and was hardly discernible.

At present the patient is able to use her eyes very well; in fact, Dr. —, leading occulist in Chicago, who preceded me in this case, and who is watching it closely, threatens to take a course in osteopathy.

The chief comment I make in this case is that in removing the cause the effect has disappeared-not a very deep philosophical comment, but it applies in all the cases we relieve after medicine has failed, and I want to ask right here, if cataract is curable, where shall we stop?

Another case comes to mind-a case of consumption (so called). The physician who preceded us pronounced it a welldefined case, and a hopeless one, and "pooh-hood" osteopathy as being likely to affect it. But we found the four right upper ribs depressed enough to distinctly compress the apex of the lung, and the girl recovered. Physician is now noncommital.

A case of epileptiform spasms of the facial muscles is recalled. It had resisted all medical agencies. Found lesion at first dorsal due to a severe fall; relieved the trouble completely.

A case in which pathos and humor figured together was a case of persistent vomiting of ten years' standing, baffling medicine and surgery. Massage was recommended, but failed to relieve. The physician was asked about osteopathy, and replied that it was all "bosh." However, we took the case; found a posterior derangement from fourth to eighth dorsal, and in three minutes' treatment patient was completely relieved. The lady's husband sent word to the eminent physician advising him to lay in a stock of bosh; it was all right.

A case of peculiar interest to us was a case of ataxia of long standing. He had fallen in the hands of one of the numerous bogus osteopaths in Chicago, and they treated him sometimes every day, sometimes every other day, each treatment lasting about one hour. In one month they developed "brachial agitais" (palsy) in both arms. He came to us and we treated him twice a week for two months before he recovered from the ignorant mauling he had been the victim of.

No doubt you hear the question often as to whether osteopathy will endure, stand the test of time, etc. I hear it often. I answer and ask them not to needlessly alarm themselves on this point.

No system of treatment so closely follows mother nature.
No system of treatment has ever overcome such an amount of prejudice in such short time, nor departed so radically from the old orthodox ideas of disease and its remedies.

And most astounding truth, no system of treating disease has ever placed such a percentage of cures to its credit as has osteopathy. So let our well-meaning but overanxious friends rest easily, for osteopathy, unadulterated, will endure just so long as disease exists.

Unskilled practitioners may and will call to their aid other appliances, even drugs. Their incompetency forces them to do so. Osteopathy, the young, vigorous gladiator in the arena of therapeutics, will give full account of itself.

# SUBLUXATED RIGHT INNOMINATE. 

By Dain L. Tasker, D. O.

Member faclty Pacific School of Osteopathy, Los Angeles, Cal.
In the March number of the Osteopath a report of a case of subluxated innominate appeared. Thinking that some of the points in that case are of paramount importance to the osteopathic profession at large, I venture to present what has appeared to me to be something absolutely original.

On August 14, 1899, Mr. Harry Tobey was brought to Los Angeles to receive osteopathic treatment. His case had been diagnosed as rheumatism and neuritis of anterior crural and sciatic nerves of right leg.

Examination revealed loss of voluntary motion in both hip joints, evidently due to intense muscular contraction. The slightest movement of either leg caused intense painful contraction in adductor groups of both thighs. Bedclothes were not allowed to touch the feet on account of causing these painful contractions.

The pain prevented us from finding out whether the hip joints were actually ankylosed or not. By gentle inhibitory work we were able to control nerve excitement, so that the knees were forcibly separated some twelve inches. This proved that ankylosis had not taken place. There was a noticeable difference in the length and position of the legs, the right being the shorter and the foot ererted. Close examination did not reveal any hip dislocation, but we immediately noticed an inequality in the position of the innominate bones. The right anterior super-spine was on a line posterior to the left; the right public spine was higher and more prominent than the left; the right tuber ischii anterior to the left. The case was diagnosed as upward and backward dislocation of right innominate.

Inquiry into the young man's history brought out the facts concerning a coasting accident, in which he struck a fire hy-
drant, the impact of the blow being received on the right knee. Since that time he had been troubled with growing pains.

Three attempts have been made to set the innominate, but were only partially successful, so we settled down to a steady effort to relax the muscles gradually. The results of this method have been highly satisfactory; pain and spasmodic contraction have been done away with; all bodily functions are normal and power to use the muscles steadily increases.

This condition of the innominate is so rare that we thought an X-ray photograph would be invaluable to prove the condition.

This case with its history of years of drug treatment ending in helplessness; then the osteopathic diagnosis and treatment, ending in activity. The incontrovertible proof of the condition in this picture made by an M. D., who is a stranger to all concerned, makes an excellent addition to osteopathic pathology and probably adds an equal amount of knowledge to medicine in general.

## HOW SHALL WH EDUCATE?

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\text { By L. W Hannah, D } \mathrm{O} \\
\text { Prisident A. A. A. U., Indiamapolis, Ind }
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Your editorial, which appeared under the above caption in the last issue of the Quarterly, and which was devoted mainly to an attack on the "lecture method" in osteopathy, shows that you have given that subject very little thought; some statements therein contained are manifestly unjust, and altogether unworthy of the writer and the raluable magazine in which they were published.

Let us review some of your statements with comment:

1. "The lecture method seems questionable, and we doubt if this is the best way of presenting the claims of the science." Many things which at first seem cloudy and "questionable" clear up wonderfully with a little careful consideration. This method has never been recommended as the best method. It is not the best method just as scattering magazines is not the best method, and here I speak advisedly, too. It is recommended as a good method, and is not intended to supplant any other reputable method now in use; it is to be simply an additional method.
2. "We believe that the element of commercialism cannot be sufficiently eliminated to excite interest and confidence on the part of the best people." Also, closely following this, "Perhaps the best method is a regular osteopathic publication (añd there are many good ones," is the complete statement.-Ed.) Speaking of commercialism, does this not smack strongly of it, especially coming from an editor recently embarked, and anxious to get returns on his investment? Osteopaths are as one in ranking the results of treatment first in importance in the
spread of osteopathy; then if magazines do not show too strongly the spirit of commercialism, they may be ranked second, leaving third place for the lecture method.
3. "Would not the people look upon it as a kind of Wizard Oil venture?" Also, "The pamphlet has a field and a limited value, provided it is used in a dignified way," etc. Now, why were you not fair enough to allow for the same proviso in connection with the lecture method? Any one knows what you say of the pamphlet is correct, and it applies equally to the lecture method, and according to your own argument if we refuse to take up the lecture method in osteopathy because some one might assume the Wizard Oil style with it, we should at once discontinue the use of the pamphlets, for some of them savor very strongly of Wizard Oil, Sagwa, etc. The success of any plan, no matter how perfect in conception, depends entirely on how it is carried out. The "Association Lectures" are not projected as undignified harangues calculated to disgust, but as polished, scientific and literary expositions of the science calculated to reflect all the culture and refinement of the profession, correct wrong impressions now held by the people, and impart the great fundamental truths in osteopathy to all who desire to know them.

Unlike yourself, I have too much confidence in the genuine, reputable osteopaths to think that they will ever use the regularly authorized "Association Lectures" in any way that will lower the dignity of the science or compromise themselves. If they have not already done this by forcing unwelcome literature on the people, the same good judgment which caused them to desist from doing so will cause them to use the lecture method judiciously.

The lecture method, as a means of popular education, is not a new and untried thing; it has demonstrated its merit in presenting whatever was new in the fields of science, literature and art, and in osteopathy it is more than justified by the popular demand for information. Already it has served to present osteopathy in an an effectual way in different sections of the country. Dr. A. T. Still, whom we delight to honor, has for years lectured on osteopathy to the people, that they might be correctly informed regarding the philosophy of his science. Reputable practitioners have lectured on the science at seaside and lake resorts, where many have been impressed with the reasonableness of its philosophy, and later have received its benefits at their homes, and it is only necessary to see with what keen relish each osteopathic thought is received by interested listeners on such occasions to be able to forecast the splendid results in store for the "Association Lectures."

But this is not all. There are disreputable operators in the field, only quasi osteopathic, who are presenting osteopathy to the people simply as a sort of "general rubbing." Medical men and their journals misrepresent us on every hand. In their private talks with patients they brand us masseurs,
while in a court of law they claim we are practicing medicine. Shall we stand by quietly and see ourselves and our science so grossly misrepresented and depend on a few friends and a few magazines for defense? It is true that osteopathic friends are friends, indeed, and our magazines as a rule are of high grade and are doing much to further the cause of osteopathy, but the number of people reached by them is necessarily limited, as they are on the subscription basis, and many practitioners who would like to scatter them in their communities refuse to do so on account of the expense. We would not permit such gross misrepresentation as we receive to go unanswered in politics or religion. Why, then, in osteopathy? The question is really not so much should osteopathy be presented in lecture form, but how shall it be presented in lecture form? It is not a question to dream on nor to spend any time on in idle speculation. Osteopathic lecturers-good, bad and indif-ferent-are already in the field, and they are leaving impressions accordingly. If genuine practitioners do not push out and give the people correct ideas of osteopathy, incompetent practitioners and interested opposition will give them incorrect ideas of it. We owe it to humanity in general, and to our patients in particular, that they may be informed concerning osteopathy, and prepared to meet the cutting criticisms constantly hurled at them by our prejudiced competitors.

In closing, I will say that the lecture method in osteopathy stands almost universally approved by osteopaths, and just now a plan to put it into working order, eliminating entirely the feature of expense to the association, awaits the approval of the trustees. Yours truly.


## LADY ASSISTANTS.

The importance of this subject is our excuse for its appearance a second time in the editorial pages of this magazine.

Since our editorial on this subject in a recent issue we have received more than a hundred letters from osteopaths indorsing our position.

At the last meeting the Tennessee State Branch A. A. A. O. unanimously amended its constitution, as follows: "Any member who shall advertise on stationery, cards, etc., or in any manner, any one as assistant who has not attended a reputable school of osteopathy shall be dismissed from the association."

Any osteopath who has the good of the science of osteopathy at heart will not advertise one as "lady assistant" if she has not attended a reputable school of osteopathy. If they advertise such a person, why do they do it? Would any osteopath claim that a lady, who had never spent a single day in an osteopathic school, could be of any assistance to him? Then, why advertise her as assistant when she can't be of assistance to one? To this there is but one plausible answer. To lead the people to believe that you have a lady osteopath in your office. There could be no other reason for this.

Now, the question is, what action will the association take on such matters?

## HOW SHALL WE EDUCATE?

Elsewhere will be found an article bearing the above heading by Dr. F. W. Hannah. In justice to Dr. Hannah, we publish the article in full. In justice to ourselves, we review some of Dr. Hannah's statements.

He says that the editorial under this caption was devoted mainly to an attack on the "lecture method." If that editorial is re-read it will be found that the strongest attack was made against those who advertise in daily newspapers in that familiar "fake specialist style."

Dr. Hannah says: "Speaking of commercialism, does this not smack strongly of it, especially coming from an editor recently embarked and anxious to get returns on his investment?" This statement, we feel, is unjust, and had he taken time to make a few figures we do not believe it would have been made. In the first place, the American Osteopath has published free of charge a complete directory of all
graduates of the reputable colleges of osteopathy, and in this directory has noted the nembers of $A$. A. A. O. We have never charged a cent for copies sent out to the secretary for official use; we have charged nothing for the hundreds of copies sent out to those writing us for copies of our magazines containing a complete directory of the graduated osteopaths, and notwithstanding all this, we have sent our monthly magazine out in package lots to the graduates at 3 cents per copy, which is exact cost. Hence, in view of these facts, we feel that Dr. Hannah had given this subject but "little consideration" when he made the broad assertion.

We say this, that if by any method that is legitimate, the public may know more of the science of osteopathy and know a means of obtaining the genuine when the services of an osteopath is required, let us have that method.

## AID FROM A. A. A. O.

As the association grows and its worth as an influential body is felt there will be many demands for financial aid made upon its treasurer. That this will be the natural course of affairs any one can foresee, especially on account of the very vigorous opposition brought about by the organized efforts of the drug doctors to stamp out the science of osteopathy.

This will undoubtedly be one of the great benefits to come from the association, helping the oppressed osteopath to fight the battles brought upon him by jealous drug doctors.

The discriminate use of funds in this direction can bring but good to the association, and the science of osteopathy, and will show to the world, as well as to the drug doctors, that we are thoroughly in earnest and fully organized to protect the school of healing that is to be our life work.

The aid given by the association and the distribution of its funds are not without the dangers which would follow the wrong appropriation.

We mean by "wrong appropriation" aiding any member of the association who has been guilty of acts which are not to the best interest of the science of osteopathy.

It is true that we have no code of ethics as yet, but a man who has brains enough to complete a course in osteopathy knows without a code of ethics when he is doing that which will bring disrepute on the science-his common sense will guide him in that direction.

For instance, the osteopaths are as one in condemning any osteopath who will take some lady into his offices and advertise her as "lady assistant," "competent lady assistant," etc., when these "assistants" have never spent a single day in any osteopathic school as a student.

Now, in the first place, what assistance could an "assistant" of that kind be? She has never studied osteopathy, and hence
knows nothing about it. In the second place, why advertise her at all, if it is not to mislead the people and have them believe that this "lady assistant" is an osteopath?

Should any member of the association who has been guilty of an act of this kind apply for aid the association should undoubtedly refuse it.

We make this statement believing that there is but one way to hew to the line, and the sooner we condemn this practice in unqualified terms the better it will be for the profession.

No osteopath can honestly go before the people and the legislative bodies and say to them, "We want a law in this State that you may be protected from the unqualified," and at the same time have some "assistant" in his offices who has never seen inside of a school of osteopathy as a student, and then call upon the association to help him pay the bills. When a condition of this kind comes up before the association the opportunity to settle this question should not be lost, and we believe a failure to properly act on this question will be detrimental to the best interests of the association..

## RESOLUTIONS OF RESPECT.

Whereas, we, the St. Louis Society of Osteopaths, have been reminded of the uncertainty of life by the calling home to rest of Mr. H. J. Eckert, father of Dr. W. H. Eckert, member of our society, be it

Resolved, That we, the members of the St. Louis Society of Osteopaths, mourn the loss of a pure citizen and stanch friend of osteopathy; be it

Resolved, That we, by this, extend to the bereaved family the assurance of our deep sympathy, and commend to seek condolence from him who doeth all things well; be it

Resolved, That a copy of these resolutions be presented to Dr. W. H. Eckert, secretary of our society, and that also a copy be presented to the journals of osteopathy for publication.
A. H. Sippy,
H. E. Bailey,
M. B. Harris, Committee.

OFFICERS OF THE A. A. A. O., 1899-1900.
President-Arthur G. Hildreth*, Kirksville, Mo. First Vice-President-F. W. Hannah, Indianapolis, Ind. Second Vice-President-A. S. Burgess, St. Paul, Minn. Secretary-Irene Harwood, Kansas City, Mo.
Assistant Secretary-C. T. Kyle, Kansas City, Mo. Treasurer-C. M. T. Hulett, Cleveland, O.

## BOARD OF TRUSTEES.

(Three-Year Term.)
E. W. Goetz, Chairman, Cincinnati, O.
L. A. Liffring, Toledo, 0 .
A. L. Evans, Chattanooga, Tenn.
(Two-Year Term.)
D. Ella McNicoll, Frankfort, Ind.
E. W. Plummer, San Diego, Cal.
J. R. Shackleford, Nashville, Tenn.
(One-Year-Term.)
J. D. Wheeler, Boston, Mass.
A. T. Hunt, Omaha, Neb.
H. A. Rogers, Minneapolis, Minn.

ARE YOU A MEMBER OF THE A. A. A. O.?
In all things organization is necessary to gain the best results. This is especially true with the professional man of whatever school. By organization many things can be accomplished with ease, which are next to impossible single-handed.

It is especially important that the Osteopathic profession should be in close sympathy with each other, and united in their efforts in obtaining their rights as American citizens and as practitioners of a science that has demonstrated to the world its ability to successfully handle the ills of humanity.

If you are not a member of the A. A. A. O. don't put it off any longer, but become a member at once and help others to work out the problems that present themselves. You are needed in the Association, and you need the benefits to be gotten from the Association. Write Irene Harwood, D. O. Kansas City, Mo., N. Y. Life Bldg.
*Resigned to accept a position on A. S. O. staff.

## StATE SOCIETIES.

## COLORADO ASSOCIATION OF OSTEOPATHS

Dr. H. R. Bynum, Memphis, Tenn.-Dear Friend: The Colorado Osteopathic Society, local State Branch of the A. A. A. O., met in Dr. Brown's office January 9, and elected Mrs. Nettie H. Bolles president for the ensuing year, Mrs. E. C. Bass secre-tary-treasurer, and a programme committee, consisting of Dr. Brown, Dr. Buffum and Dr. Mary Bolles.

The next meeting is to be held at the Bolles Institute, when an interesting programme is expected.

With kindest wishes, I am as ever, truly yours,

N. A. Bolles.

## INDIANA ASSOCIATION OF OSTEOPATHS.

H. R. Bynum, D. O., Memphis, Tenn.-Dear Doctor: The Indiana Osteopaths met in Indianapolis February 17, office of Drs. Jones and Tull. Officers elected:

President-W. A. McConnell.
Vice-President-F. L. Tracy.
Secretary and Treasurer-D. Ella McNicoll.
Trustees-G. W. Tull, Chairman; F. W. Hannah, Charles Sommers, G. V. Niensted, John T. Reese.

New members admitted: F. L. Tracy, R. R. Elmore, Charles Sommers.

Membership fee or annual dues continued at $\$ 5$. Court of this State, the association shall take up the case, em-

Decided that should any member be arrested in the Circuit ploy attorneys and bear all expenses of the suit. If advisable, appeal or defend the case in the Supreme Court of the State.

Since date given Dr. E. G. Goth, of Indianapolis, formerly of Aberdeen, S. D., has been admitted to the membership. So far as I am informed, the osteopaths in this State are resting in peace. Fraternally yours,

> D. Ella McNicoll, Secretary.

## IOWA STATE BRANCH A. A. A. O. OFFICERS.

President-S. S. Still, D. O., Des Moines.
First Vice-President-U. M. Hibbits, D. O., Brooklyn.
Second Vice-President-M. Machin, D. O., Keokuk.
Third Vice-President-L. O. Thompson, D. O., Red Oak.
Secretary-Effie Koontz, D. O., Des Moines.
Treasurer-Ella Ray Gilmour, D. O., Sheldon.
TRUSTEES.
Charles Hartupee, D. O., Des Moines.
O. E. McFadon, D. O., Davenport.

Harry Emeny, D. O., Eldora.
Robert I. Johnson, Mason City.
J. K. Johnson, D. O., Jefferson.
J. E. Owen, D. O., Indianola.

Ed Morris, D. O., Ottumwa:

## KENTY(KY ASSOCIATION FOR THE ADVANCEMENT OF OSTEOPATHY.

OFFICERS.
President-W. Ammerman, D. O. Madisonville. Vice-President-S. H. Morgan, D. O. Lexington. Secretary-Treasurer-H. E. Nelson, D. O., Louisville.

TRUSTEES.
J. S. Gaylord, D. O., Cave City.
S. H. Morgan, D. O., Lexington.
J. S. Oldham, D. O., Franklin.

## THE MINNESOTA STATE OSTEOPATHIC ASSOCIATION.

President-G. L. Huntington, D. O., Germania Life Insurance Building, St. Paul.

First Vice-President-A. G. Willets, D. O., Globe Building, Minneapolis.

Second Vice-President-B. P. Shepherd, D. O., Winona.
Third Vice-President-Helen H. Fellows, D. O., 210-11 Providence Building, Duluth.

Secretary-Olivia C. J. Thomas, D. O., 251 Bank of Minneapolis Building, Minneapolis.

Treasurer-F. D. Parker, D. O., 708 New York Life Building, St. Paul.

Librarian-Clara T. Gerrish, D. O., Syndicate Block, Minneapolis.

Legal Adviser-Robert B. Henderson, D. O., Germania Cife Insurance Building, St. Paul.

## TRUSTEES.

N. B. Patten, D. O., 238. Central Avenue, Minneapolis.

Harriet A. Moore. D. O., 908 Seventh Street, South Minneapolis.

Roger E. Chase, D. O., 916 Pioneer Press Building, St. Paul. J. W. Henderson, D. O., Germania Life Insurance Building, St. Paul.
E. C. Pickler, D. O., Globe Building, Minneapolis.

Florence L. Barnes, D. O. St. Peter.
R. S. Shepherd, D. O., Mankato.

NEW YORK STATE SOCIETY OF OSTEOPATHS.

## OFFICERS.

President-George J. Helmer, D. O., New York City. Vice-President-W. E. Green, D. O., Glen Falls.
Secretary-W. M. Smiley, D. O., Albany.
Treasurer-W. W. Steele, D. O., Buffalo.
EXECUTIVE COMMITTEE.
Albert Fisher, Jr., D. O., Syracuse.
Guy Wendell Burns, D. O., New York City. W. A. Crawford, D. O., Buffalo. President and Secretary, ex-Officio.
From the "Declaration of Principles" is gleaned the following:
"Osteopathy as discovered and first announced to the world by Dr. Andrew T. Still is a science based upon exact, detined and veribiable knowledge of the anatomy and physiology of the humau organism, including the chemistry, histology and psychophysics of its known elements, and such deducible conclusions from this practical knowledge as render possible a characteristic system of manipulation and stimulation, apart frow all medicinal and internal stimulation, except by such means as is strictly food, by which all structures and fluids of the body are recovered from displacement, obstruction and disorganization, the circulation of the blood and lymph freed, nerve forces aroused and all the innate vital forces utilized to regain equilibrium and harmony throughout the body."

In Section 3, Article I. of the Constitution they state what is meant by a recognized school:
"A recognized School of Osteopathy in the meaning of this Constitution, is one regularly organized and incorporated, the curriculum of which provides for such a course of instruction extending over four terms of five months each, as has been adopted by the Associated Colleges of Osteopathy."

Another feature of note in the Constitution is that the membership fees are sufficiently high to give them an ordinary working basis, and when occasion requires the Constitution provides for assessments.

## ST. LOUIS ASSOCIATION OF OSTEOPATHS.

Osteopaths of St. Louis met at the office of W. H. Eckert, D. O., 708 Commercial Building, and organized the St. Louis As. sociation of Osteopaths, with E. P. Smith President, W. H. Eckert Secretary.

The following committee was appointed to draft suitable by-laws for governing the association: Drs. Bailey, Sippy and Jones.

Their meetings will be held the second and fourth Saturday evenings of each month.
W. H. Eckert. Secretary.

THE OHIO STATE ASSOCIATION FOR THE ADVANCEMENT OF OS'TEOLATHY.

OFFICERS.
President-H. H. Gravett, D. O., Piqua.
Vice-President-T. F. Kirkpatrick, D. O., Columbus.
Secretary-M. F. Hulett, D. O., Columbus.
Treasurer-Tacie Beall, D. O., Mansfield.
EXECUTIVE COMMITTEE.
President and Secretary, Ex-Officio. John T. L. Morris, D. O., London.
C. M. T. Hulett, Cleveland.
N. O. Minear, Springfield. Laura J. Wilson, Urbana.
L. H. McCartney, London.

This society is subsidiary to the National Association.
PENNSYLVANIA STATE SOCIETY OF OSTEOPATHISTS.
The practitioners of osteopathy in Pennsylvania met at Philadelphia on March $9-10$, in the office of Dr. Clara Martin, 419 S. Broad street, and perfected a State organization. After preliminary organization the following permanent officers were elected:

President-Dr. O. J. Snyder, Witherspoon Building, Philadelphia.

Vice-President-Dr. S. C. Mathews, Simon-Long Building, Wilkesbarre.

Secretary-Dr. J. Ivan Dufur, 44 East Fourth street, Williamsport.

Treasurer-Dr. Nettie C. Turner, 1715 N. Broad street, Philadelphia.

Executive Committee-Drs. Snyder and Dufur (ex-officio); Dr. C. B. Canfield, Sunbury; Dr. H. R. Underwood, Coal Exchange, Scranton; Dr. W. B. Keene, 2002 Thirty-first street, Pholadelphia.

Following are the charter members: Drs. Canfield, Vastine and Huston, Harrisburg and Sunbury; Dr. J. Ivan Dufur, Williamsport; Irs. Mathews and Hook, Wilkesbarre; Drs. Allabach and Harding, Wilkesbarre; Drs. Walpole and Towle, Reading: Drs. A. D. Campbell, T. E. and Nettie C. Turner, Mason W. Pressly, O. J. Snyder, Clara Martin, W. B. Keene and G. G. Banker, of Philadelphia; Dr. R. W. Miller, Washington; Dr. Lda McMurray, Franklin; Dr. J. A. Thompson, Titusville; Dr. F. W. Underwood, Wellsboro; Dr. H. R. Underwood, Scranton; Drs. Heine and Hart, Pittsburg;Dr. V. W. Peck, Wilkinsburg.

Those present at the convention were entertained Saturday evening at the home of Dr. Nettie C. Turner, 1715 N. Broad street.

The Secretary asks all who know of anything conducive to the good of osteopathy in Pennsylvania to communicate with him.
J. Ivan Dufur, Secretary.

## ILLINOIS ASSOCIA'IION OH OSTEOPATHA.

The Osteopaths of the State of Inlnois met at Galesburg and formed a permanent organization of the Illinois Association of Osteopaths. The following officcrs were elected:

## OFFICERN:

President-Joseph H. Sullivan, Chicago.
Vice-President-L. H. Taylor, Peoria.
Secretary-Treasurer-Herman F. (foetz, Quincy.

## ENECUTIVE COMMITTEE.

## J. D. Wirt, Bloomington.

Mis. Ida Hincly Chapman, fialesburg.
Dudley Shaw, Decatur.
Albert Fisher, Englewood.
J. W. Banning (Resigned).

The Secretary urges all Osteopaths in the State of Illinois not members of this Association to send in their names for registration at once.
H. F. GOETZ, Secretary.

## THE TENNESSEE STATE BRANCH OF THE

## AMERICAN ASSOCLATION FOR THE ADVANCEMENT OF OSTEOPATHY

held its regular meeting in Nashville on May 10. The meeting was called to order by the president, J. R. Shackleford, and he presided in a very business-like manner. New members admitted were: Dr. Brown Godwin, of Lebanon; Dr. T. L. Drennon, of Jackson; Dr. Bessie A. Duffield, of Nashville.

The constitution was changed, making the initiation fee $\$ 5$. The following clause was added to Section 9 of the constitution, and reads as follows: "Any member who shall advertise on stationery, cards or in any manner any one as assistant who has not attended a reputable school of osteopathy, shall be dismissed from the association." This amendment was carried unanimously, and every member present expressed himself highly pleased with the action of the association.

The election of officers resulted as follows: President, Ed H. Shackleford, D. O., of Nashville; secretary and treasurer, Bessie A. Duffield, D. O., Nashville; assistant secretary, H. R. Bynum. D. O., Memphis; first vice president, Brown Godwin, I. O.. Lebanon; second vice president, T. L. Drennan, D. O. Jackson; trustees. J. R. Shackleford, D. O.; A. L. Evans, D. O.; W. F. Tink. D. O.

On the whole. the meeting was well attended, and the work during the past year was satisfactory.

Bessie A. Duffield, Secretary.

## OSTEOPATHIC DIRECTORY.

## Arranged According to Location and Graduation.

Achorn, Ada A(N197)*Boston, Mass., 178 Htgton av. Achorm, C. E. (N197)*Boston, Mass., 178 Htgton av. Agee, P. M. (AS99)*Lexington, Mo.
Alligight, Grace (AS98)*Salem, 0 .
Albright, J. B. (AS00)*Havana, 111 .
Alkire, J. W.(PS98)*Portland, Ore
Allabach, L. D. (AS00) Wilkesbarre, Pa.
Allen, Bertha W. (AS00) Hartford,Ct.,Sage-Allen Bl An!merman, W. (AS96)*Madisonville, Ky.
Ammerman, Lou (AS96)*Madisonville, Ky. Anderson, J. E.(AS99)*Augusta, Ga., Dyer Blk. Archer, G. S. (N198)*Atlantic, Ia.
Arnold, R. B. (AS00) Galena, Ill.
Arthaud, D. (AS00)*Burlington, Ia., 816 Maple st. Ashlock, H. Thos.(AS99)*Burlington, Wis.,Gill Blk Ash, Mary E. (AS97)*Kenton, O.
Atty, Norman B. (N199)*Raleigh, N. C., Hotel Yar.
Bailey, H. E. (AS98)*St.Louis,Mo., 456 Century Bld.
Bailey, M.W. (AS97)*Council Bluffis,Ia., Merriam Blk Bailey, Jas. R. (N199) Ft. Atkinson, Wis., 3 N.Main. Baird, Frank H.(N198) Battle Creek, Mich.
Bailey, C. A. ) ( (PSe8) Los Angeles, Cal., j0th and Flower sts.
Baker, Arthur D. (BI99) Address unknown.
Bandel, C. F. (AS99)*Brooklyn, N. Y., 147 Hancock Banning, J.W.(AS98)*Chicago, Ill., $167^{\prime}$ Dearborn st. Barnes, Florence L. (NI99) Streator, Ill.
Barnes, S. D. (AS99)*Chicago, Ill., McClurg Bld.
Barber, E. D. (AS95) Kansas City, Mo.. Hall Bld.
Barber, Helen (AS95) Kansas City, Mo., Hall Bld. Barker, Mrs. Nannie T. (AS00) Cookville, Tenn.
Barrett, Roy F. (MC00) Lansing, Mich.
Barrows, Harry C.(NI99)*Minneapolis, Minn., 317 6th st., S. E.
Bass, Elizabeth C.(Bli99)*Idaho Springs, Col.
Baughman, J. S. (AS00)*Burlington, Ia., 523 Div.
Beal, Tacie (ASi 8 )*Mansfield, O., 160 Park av., W.
Beall, Isaac M. (AS00)* Address unknown.
Beaven, Elmer H. (AS97)*Iowa Falls, Ia., Ellsworth Blk.
Becker, Kathrine G. (NI97) Faribault, Minn.
Beckham, J. J. (AS99)*Creighton, Neb.
Bell, Adeline (AS97)*Paris, Ky.
Beeman, E. E.(AS98)*Montpelier, Vt., 64 State st. Bemis, J. B. (NI99)*St. Paul, Minn., N. Y. Lf. Bl. Benham, Roy H. (NT99)*St.Paul, Minn., 138 E.6th st.
Eenrett, C. C. (NI99) Wadena, Wis.
Bernard, Roy (AS97)*Centerville, Ia.
Bernard, H. E.(AS97)*Detroit, Mich., 504 Ferguson Bld.
Beets, W. E. (AS99)*Bethany, Mo.
Bickford, E. (MC00) Elyria, 0.
Bickford, Mi.e. Elizabeth B. (MC00) Elyria, 0.
Pigsby, Edgar O. (AS95)*Monmouth, Ill.
Bird, Arthur (AS94) Rich Hill, Mo.
Blanchard S. W.(AS00) Address unknown.
Blaser, II O.(NI99)*Madison, Wis., Main and Carroll sts.
Boawell D. M. (AS99)*Cripple Creek, Col., Collins Hotell
Bodwent R. C. (AS99)*Waterloo, Ia., 222 W. 4th st. Bolles, Nettie H. (AS94)*Denver, Col., 832 E. Colfax av.
Bclles, N. Alden (AS98)*Denver, Col., 832 E. Colfax av.
Bolles, Mary (B1199)*Denver, Col., Steele Bl.
Bond, Thos. P. (MC00) Waukesha, Wis.

Borup, Georgia W.(N199) St. Paul, Minn.
Bowden, R. W. (SC9y)*Des Moines, Ia., 1422-30 W. Locust.
Bewer, John H. (AS99)*Manhattan, Kan.
Boyles, L. G. (AS00) Hillsboro, O.
Braden, A. E.(AS00)*Walla Walla, Wash., Paine B!
Brock, W. W.(AS98)*Montpelier, Vt., 134 State st,
Browder, U.M. (AS00) Walla Walla, Wash., Paine Bl.
Brown, L. S. (AS98)*Denver, Col., 33 Masonic Tpl.
Brown, Lou (PS98) Los Angeles, Cal., 2582 W.Pico st
Brown, Sarah A.) ( (PS00) Los Angeles, Cal., 910 W. 10th st.

Brown, Vadie M. (NIOO) Hampton, Ia.
Boyes, E. H. (AN99)*Willow Springs, Mio.
Boyles, J. A. (AS95)*Baltimore, Ma., Equit. Bl.
Brundage, C. L. (AS98) Belle Płain, Ia.
Puckbee, C. E. (NI99)*Grafton, N. J).
Buckmaster, R. M. (AS97) ${ }^{*}$ Frankfort, Ky.
Buckmaster, R. P. (AS98)*Frankfort, Ky.
Bumpus, J. F. (AS 99$)^{*}$ Sioux City, Ia., Security Bld
Burgess, A. S.(NT99)*Montreal, P. Q. (Can.), \& Belleview Apartments.
Eurke, Anna M. (AS98)*Shreveport, La., Simon Bld
Burns, Guy W.)( (N196)*New York, N. Y., Presbyterian Bld.
Burtis, J. I. (AS99) Marshall, Mo.
Burrows, C. A.(PS98)*San Francisco, Cal., 732 Gol. G. av.
Burton, Geo.F. (AS98)*Los Angeles, Cal., Frost Bld
Burton, J. C. (AS98)*Address unknown.
Busch, Marie L. (NIO0) Kalistpell, Mont.
Butler, Mary E.(NI99)*Minneapolis, Minn., G.L.Bl.
Byrum, H. R. (AS00)*Memphis, Tenn., 302-4-6 Randolph Bld.
Campbell, A. D. (AS98)*Phila., Pa., Weightman Bl
Canfield, C. B. (AS00)*Sunbury, Pa.
Carlock, Chloe C.(AS99) Youngstown, O., Gilman \& Wilson Bld.
Carstarphen, E. T. (AS99)*Memphis, Tenn., I. O. O. F. Bld.

Carter, (has. (AS00)*Hazlehurst, Miss.
Carter, Georgia(AS99)*Springfield,111.,413 E.Cap.27
Case, C. M. ) ( (AS99)*Wheeling, W. Va., Main and 10th sts.
Chafee, Geo.D. (AS00) Appleton, Wis., 772 College av
Chambers, Etta (AS98)*Genesee, Ill.
Chapman,Nora (AS98)*Mobile, Ala., 32 Y.M.C.A.Bld
Chapman, Mrs. Frank (AS99) Galesburg, Ill.
Chapman, Frank (AS99)*Galesburg, I11.
Chappell, E. C. (AS99) Louisiana, Mo., $2121 / 2$ Ga.
Chappell, G. G. (AS99)*Wheeling, W. Va., 10th and Main.
Chappell,Minerva K. (AS00)*Louisiana,Mo.,2121/2 Ga
Charleston, Chas. J. (NI00) Minneapolis, Minn.
Chase, R. E. (NI99)*St. Paul, Minn., 916 Pioneer Press B1.
Chase, L. (AS99) Virquo, Wis.
Chase, W. B. (AS99)*St. Paul, Minn., 704 Ger.L.Bl. Cheatham, W. E. (AS00) Boulder, Col.
Cherry, Essie S.(NI97)*Milwaukee, Wis., Juneau av and Milwaukee st.
Cherry, L. E.(NI97)*Milwaukee, Wis., Juneau av and Milwaukee st.
Christensen, Edward W.(N199)*Santa Fe, N. M.
Clurch, John M. (NI99) Luverne, Minn.
Clark, D. L. (AS98)*Sherman,Tex., Jones \& Crocket
Clark, F. A.(NI97) Portland, Me., 43 Y.M.C.A.Bld.

Clark, M. E. (AS99) *Kirksville, Mo.
Clark, Wm. (AS00) ${ }^{*}$ Houston, Tex., 303 Mason Bl.
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Noble, Mary R.(B1I99)*Colorado Springs, Col., 706 N. Nevada.

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Ncrthrop, Wm.N(AS98)*Memphis,Tenn.,Johnson B1
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Shortridge, Anna B. (NIO0) Devil's Lake, N. D.
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Still, H. T. (AS94) St. Louis, Mo.
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Swan, Camile N. (AS98)*Clarksville, Tenn., Franklin House.
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Towle, Anna C. (NI99)*Providence,R.I.,55 Waterman Tracey, F. L. (AS99) Noblesville, Ind.
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Tyndall, Jean M. (AS00) New York, N. Y.
Underwood, Evelyn (AS98)*New York, N. Y., Presbyterian Bi.
Underwood, E.B(AS98)*Eimira,N.Y.,Steele Mem.Bl
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LuderWood, Harvey R.(AS98)*Scranton, Pa., Coal Exchange Bl.
Ur derwood, H. W. (AS99)*Wellsboro, Pa.
Urbain, Victor P.(AS00) Ottumwa, Ia.
Urbain, Mary A. (AS00) Ottumwa, Ia.
Vallier, Robert (AS97)*Address unknown.
Van Horn, Helen M. (AS00) Chicago, 111.
Vance, Geo. T.(AS98)*Brownsville, Tenn.
Vance, J. A. ) ( (AS99) Chillicothe, O.
Vastine, H. M. (AS00) Harrisburg, Pa.
Vernon, A. W. (AS99)* Bra-1ford, Pa.
Vernon, J. H. (AS00)*Address unknown.
Vernon, Elizabeth (AS99) Brighton, Ia.
Von Wedelsteadt, B.(NI99)*Deadwood, S. D.
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Wait, W. O. (AS99)*Jacksonville, IIl.
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Wendell, Canada (ASO0)*Peoria, Ill., Woolner B1. Werger, H. U. (AS99) Fulton, Mo.
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Whitcomb, Mrs. Chas. H.(AS00)*Brooklyn, N. Y., 392 Clinton av
Whitcomb, Henry P.(AS00)*Knoxville,Tenn., 3111/2 W. Clinch.

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Wilderson, W. H. (AS99)*Memphis,Tヒnn.,I.O.O.F.Bl Wiles, A. M. (AS00)*Jerseyville, Ill.
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Willard, Earl (AS99) Wilmington,N.C., 418 Grace st Willard, W.D(AS00)*Wilmington,N.C., 418 Grace st Willard, Asa M. (AS00) Address unknown.
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Williams, Oscar W. (MC00) Lake Geneva, Wis.
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Williams, R. A. (AS99) Junction City, Kan.

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Wilison, Laura J.(AS99) Urbana, O., 211 Scioto st.
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Winmer, Florence (NI99)*Address unknown.
Wimmer, Gordon (N199)*Address unknown.
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Wirt, Jerome D.(AS98)*Bloomington, Ill., Eddy Bl.
Wood, E. P. (AS99)*Bristol, Tenn.
Wood, Ethel McK. (AS99) Bristol, Tenn.
Woodhull, S. C. (AS00)*Topeka, Kan., 627 Kan. av.
Woods, Albert (NI99)*Colorado Springs, Col., 401 N. Tijon.

Woolery, Homer (AS99)*Bloomington, Ind.
Wright, Adelbert A. (PS00) San Jose,Cal., Theater Bl

Wright, Anna A. (PS00) San Jose, Cal., Theater Bi. Wyckoff, Louis E.(AS98)*Bay City, Mich., Crapo Bt Yowell, O. Y.(AS99) Chattanooga, Tenn.,Tpl.Ct.BL Yowell, Elizabeth (AS99) Chattanooga, Tenn.,Temple Court Bl.
EXPLANATORY NOTES-A.S., American School of Osteopathy; B. I., Boston Institute of Osteopathy; Bl. I., Bolles Institute of Osteopathy; M. C., Milwaukee College of Osteopathy; N. I., Northern Institute of Osteopathy; P. S., Pacific School of Osteopathy; S. C., Still College of Osteopathy. )( Physicians' Course, 10 months. - I| Regular Course, 20 months. * Member A. A. A. O.
The date of graduation is placed immediately fellowing the first two letters of the school. (AS96) placed after name would mean "Graduated from American School of Osterpathy ( $O$. is omitted for want of space) in 1896." ) ( (SC99) took physical course at Sill College of Osteopathy in 1899, etc-

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Prescott.
Kellogg, S. M.
Tuesen.
Parcells, M. L.
ARKANSAS.
Fort Smith.
Lorenz, C. E.
Little Rock.
Merris, B. F.
CALIFORNIA.
Anaheim.
Roberts, Margaret.

## La Panza.

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Sisson, Effie.

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Didson, Coston.
Dodson, Ella 0.
Haney; J. F.
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Wright, Ann A.
Santa Ana.
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Overfelt, L. B.
Canon City.
Waters, A. R. Colorado Springs.

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Ncble, Mary Riggs.
Ryon, W. E.
Woods, Albert.
Lyda, J. L.
Cripple Creek.
Bodwell, D. M.
Gunsaul, Ermine Z.

Derver.
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Bolles, N. A.
Bolles, Mary.
Brown, L. S.
Harlan, W. L.
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Grand Junction.
Johnsen, Norman S.
Idaho Springs.
Bass, Elizabeth C.
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Noyer, Mrs. Adella. Loveland.
Garrett, M. E.

## Monterista.

Powell, R. B.
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Downing, D. N.
De Tienne, H. G.
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Polley, Mabel A.
Sacramento.
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Uriderwood, H. F.
New Haven.
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Waterbury.
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Patterson, H. E.
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Augusta.
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Atlanta.
Liardin, M. C.
Swanson, John.
Savannah.
Mayhugh, C. W.
ILLINOIS.
Aurora.
Green, Wilmer D.
Green, Emilie L.
Bloomington.
Wirt, Jerome, D.
Carlinville.
Stephens, M. L.
Canton.
Ellis, H. P.
Ellis, Sue E.

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Champaign.
Hartford, William. Suter, Robt. E.

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Corinor, R. F.
Darling, Charles.
Davis, A. P.
Densmore, 0 .
F.dmunds, Bessie.

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Ecrok, C. O.
Kelley, Mary E.
Kretschmar, Howard.
Lewis, N. H.
Lardes, Igries.
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Sullivan, J. H
Switzer, C. R.
Williams, Mrs. D, S.
Williams, Roger K.

| Decatur. | Springfield. | Washington. | Creston. |
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| shaw, Dudley H. | Carter, Georgia. | Shrum, Mark. Harris, W. E. | Green, Genevra I. Runyon, S. H. |
| Englewood. | Streator. | INDIAN TERRITORY. | Clarinda. |
| Fisher, Albert, Sr. | Barnes, Florence L. | Muskogee. | Wilson, Thomas N. |
| Galena. | Sycamore. | Muskogee. |  |
| Arisold, R. B. | McCully, Maggie. | McGavock, R. E. | Corydon. |
| Galesburg. | Waukegon. | IOWA. | Hester, J. M. |
| Chapman, Frank. | Hamilton, Lulu B. | Albia. | Davenport. |
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