THE BROOKLYN MEDICAL JOURNAL

Published Monthly under the superintendence of the Medical Society of the County of Kings.

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VOL. VI. No. 7. BROOKLYN, N. Y., JULY, 1892. [Single copies 25 cents.
WHOLE No. 55. $2 a year, in advance.

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THE INFLUENCE OF HABITUAL POSTURE ON THE SYM-
METRY AND HEALTH OF THE BODY.

BY ELIZA M. MOSHER, M.D., BROOKLYN.

Read before the Medical Society of the County of Kings, March 15, 1892.

In connection with several educational institutions, and in the
general practice of medicine, it has been my duty to make a care-
ful physical examination of many hundred girls and women.

Early in this work I observed variations from the normal sym-
metry of the body. Some of these variations were demonstrable
by tape-measure and calipers. Others, although obvious to the
eye, were incapable of measurement. As these cases have mul-
tiplied it has been possible to classify them and to discover to some
extent at least the influences at work in their production.

It is the object of this paper to present some of the results of
this study. The time allotted to it, however, will only permit a
discussion of those changes in symmetry which are produced by
long-continued habit, best seen, therefore, in individuals at middle life, when, as Emerson says, "The tell-tale body is full of tongues. The wise man reads its private history in its looks, its gait, its behavior."

In order to present the subject clearly it will be necessary to briefly review the postures which the body naturally takes when in equilibrium, standing and sitting. The human skeleton consists of two symmetrical halves which exactly balance each other. It is clothed by muscles, which when properly developed and equally used, give to the body its shapeliness and grace. Unevenly developed, and unequally used, they have the power to distort and cripple the whole structure. In the standing posture the pelvis (which is practically one solid bone) becomes the pivotal region of the trunk; upon its position the symmetry of the body depends. Balanced equally upon the legs, the crests of the ilia occupy a horizontal plane, and move upon an axis which passes vertically through the centre of the sacrum.

The spinal column with its weight of arms and head, rests upon the pelvis; with the arms hanging at the sides, and the head erect, the lateral portions of the body balance each other, so that a line drawn through the spines of the scapulae is parallel with that drawn transversely through the pelvis, and the axial line of the pelvis prolonged upward traverses the centre of the trunk and head.

Remove either foot from the floor, and the leg instead of being a support, becomes a weight attached to the pelvis. To maintain its equilibrium upon one foot the body must shift some other weight to the opposite side of the median line, to balance the weight of the unsupported or partially supported leg.

The head and shoulders are used as counter weights. If the unsupported leg is thrown forward, they drop backward, and vice versa. If it is thrown outward they fall to the opposite side. In this process of equilibration the spinal column plays a most active part; made up as it is of movable segments, it permits this process of shifting the weights, by curving upon itself; shortening upon one side and lengthening upon the other; at the same time rotating, if necessary, upon its axis.

The ribs through their articulation with the spinal vertebrae, participate in its movements, becoming approximated upon the concave side of its curve, and separated upon its convexity. The scapula being attached to it only by muscles, move with the arms and head, independent somewhat of the movements of the spine. They possess, by virtue of their attachment, however, a powerful leverage upon the dorsal region of the spine.
In the sitting posture the weight of the lower extremities, as a modifier of posture, is removed. The pelvis becomes fixed in the position which obtained, when it rested equally upon both legs.

![Image](https://via.placeholder.com/150)

**Fig. 1.**

Influence of weight of arms and head on shape of back in sitting posture. (Common posture of child at study.)

The lumbar region now becomes the pivot upon which the remainder of the trunk moves. The "balance of power" is vested in
the arms, which hang like weights upon the base of an inverted cone; suspended at the sides upon the hip line, they balance each other, permitting the spinal column to poise itself upon the pelvis, and the head to rest upon the spine. This attitude is maintained with comparatively small expenditure of muscular force. Remove the weight of one arm (by supporting the elbow) and the trunk finds its resting place with the weighted shoulder depressed, and the head thrown towards the opposite shoulder. Swing both arms in front of the hips and the normal antero-posterior curve in the upper spine
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increases, while the head drops slightly backward, projecting the chin forward,—at the same time the scapulae are drawn apart.

Suspend the arms behind the hips and the upper antero-posterior spinal curve straightens, while the normal corresponding curve in the lower dorsal region increases. Support both elbows and the shoulders approach the head, not only by removal of their weight, but by the sinking of the trunk downward, by the force of gravitation.

The posture of the head, owing to the intervention of mobile cervical vertebrae, does not in itself greatly modify the posture of the trunk, in standing, whereas, as has been shown, the position of the lower extremities and the movements of the trunk have much to do with the posture of the head. By this brief review it is evident that gravitation (so called) is the great controlling force of the body at rest, and that its work is beneficent, tending to take the place as far as possible of muscular activity in the maintenance of the upright posture both in standing and sitting. The weights are shifted by muscular movement and when equally placed “gravic force” aids the muscles in maintaining them in position.

Having reviewed the postures which the body naturally assumes with its supports and weights variously adjusted, we are now prepared to consider the influence upon the shape of the body, of permitting it to fall habitually into one of these natural postures.

The will presides over the activity of the skeletal muscles, but it has so much beside with which to occupy its attention that it permits them to do their work more or less automatically, and it happens, sooner or later, in the life of the individual, that certain groups of muscles take upon themselves the larger part of the work of maintaining the body in the standing or sitting posture. Very trivial causes may decide the choice which is to affect the symmetry if not the health of the body. More often, however, enforced attitudes, as those of the school-room and the workshop, produce this result. In whatever way acquired the influence upon the shape of the body is potent for good or evil.

I have already spoken of the three fundamental postures which the body assumes in standing, viz.:

1. With both extremities evenly placed beneath the pelvis.
2. With one leg thrown forward, as in the attitude of walking.
3. With one leg thrown outward or in abduction.

The influence of the first as a favorite posture would be to maintain the symmetry of the body, as by it all its parts are evenly placed. But experience shows that this position cannot long be maintained. Through fatigue one support or the other drops out
from under the weight, whereupon the posture changes to the third of the series. The second position, viz.: with one leg in advance of the other, as in walking, permits the body to rest upon one extremity with very slight reduction of the normal spinal curves. The bones of the skeleton are all so placed in this posture as to retain the muscles in normal and symmetrical relations, as regards the distance between their origin and insertion, the direction of their fibres, etc. The backward movement of the head and shoulders to balance the weight of the forward leg, calls into action the muscles of the cervico-occipital region, while those upon the anterior aspect are placed in an equal degree of extension. The influence of this is to fix the scapula and upper ribs in a position favorable to the best action of the respiratory muscles, hence the posture is conducive to chest expansion. The head cannot drop to either side without disturbing the equilibrium of the body, and the soft tissues of the face, which are apt to become distorted by unequal muscular movement and gravitation, retain their symmetry under the influence of this position, even though it become habitual. The internal organs swing evenly upon their supports, presenting thereby no impediment to the blood current, an element more important, perhaps, to the health of women than to men. The ease with which the weight of the trunk can be transferred from one extremity to the other not only makes this a posture which can be retained a long time without undue fatigue, but renders it favorable to the making of gestures and the use of the voice. Hence it
naturally becomes the favorite posture of the orator and the public singer.

Because of the narrow base which it gives to the body, however, and the corresponding sense of insecurity which the individual unaccustomed to it feels, this is not the posture naturally chosen. In standing with a stable foundation beneath the feet, and a little training, it, however, becomes easy to assume it, and it is always healthful.

![Fig. 5.](image)

Shape of skeleton in "second fundamental posture."

The third fundamental posture of the body in standing, is the one most commonly chosen as the habitual one, doubtless because of the broader base which it gives, when needed, for the support of the trunk. The change from the walking posture to this, too, is so radical that it gives a sense of rest most grateful to the tired tissues.

The best way to make a critical study of this position with reference to its healthful tendencies or otherwise is to examine an
individual whose occupation has for several years necessitated the standing posture, and who has acquired the habit of dropping upon one and the same leg.

Understanding symmetry to mean "exact accordance of the two halves of one body," we place our patient evenly upon two feet and compare the two sides. We find in most cases the following variations more or less well marked, according to the general health of the individual and the length of time the posture has been habitual. (In robust persons the muscles and soft tissues are not moulded by posture as readily as in the poorly nourished and overworked.)

If the left extremity has been the favorite one (as it is in a large number of cases) the left thigh will measure a little more than its fellow. The left hip is higher than the right, and the spinal column is slightly curved, presenting its concavity toward the supported side. In exaggerated cases, and when the right arm has been much used, a compensatory curve is found in the upper dorsal region, the concavity of which presents in the opposite direction. In all cases there is marked projection of the angles of the ribs upon the unsupported side, indicating more or less rotation of the bodies of the spinal vertebrae toward the right. The ribs upon the left side approach each other and the crest of the ilium, shortening in a very marked manner the body line upon that side. The spaces between the ribs on the right side are proportionately widened, and the lengthened body line lacks the curve presented by the op-
posite side. The left shoulder is lower than the right. The left hand accordingly reaches a lower point upon the thigh than does its fellow.

The shoulder lines are unsymmetrical and the vertex drops toward the left shoulder while the chin points toward the opposite side. There is marked loss of symmetry in the two sides of the face, due to the influence of gravitation and unequal muscular

**FIG. 7.**
Shape of skeleton in "third fundamental posture."

activity. Unmodified by defects of sight or hearing, or by a variation in the length of the extremities, the lines of the face always manifest the following deviations from the normal in all cases where this posture has become habitual.

With the head tipped to the left side the angle of the jaw becomes the lowest portion of the face, hence the soft tissues of the cheeks gravitate in that direction, producing a rounded contour on
the left side in contrast with the flattened outline of the other side.

The angle of the mouth usually drops a little upon the downward side; sometimes, however, it becomes elevated instead. The median line of the nose frequently inclines to the left as it approaches the tip, and the ala is drawn upward by its levator muscle,

![Image](image_url)

**Fig. 8.**

Asymmetry of face in girl of fifteen, produced by habitual use of "third fundamental posture," viz., resting on right foot with the left abducted. Right eye oval. Left eye linear. Right cheek fold partially erased. Left cheek fold deepened. Tip of nose to right of median line of face. Right nostril dilated. Left nostril flattened. Right angle of mouth lower than left.

shortening the distance between the angle of the nose and the eye, as compared with the corresponding line on the opposite side.

The left nostril is dilated and more movable than the right. The septum narium being drawn toward that side below tends to project in the opposite direction above, thus occluding to some
extent the cavity of the nose in the region of the right middle turbinate bone. The cheek fold becomes more or less erased on the left (by gravitation of tissue outward), while on the right the same force deepens and elongates it. The left lower lid is pulled slightly downward and outward, increasing the breadth of the opening at the outer canthus. The same tractile force applied to the right eye from the nasal side lengthens or seems to lengthen the opening, at the same time widening the space at the inner canthus, hence the left eye becomes oval and the right linear in well marked cases.

The facial muscles, owing to their insertion into the soft tissue of the cheek and into each other, participate in the changed relation of parts. Because of greater freedom of movement upon the left side the muscles become more mobile than those upon the flattened side. As a result of this they retain their tone, becoming, perhaps, in some cases slightly hypertrophied, while those of the opposite cheek, through disuse, approach the condition which obtains in paraplegia facialis. Lack of symmetry in the two halves of the face has long been observed by artists and photographers, but the casual observer seldom takes note of it until his attention is called especially to the subject.

The changes in the face which I have here pointed out are all produced by carrying the head on the same side, whatever the cause. Most often, however, it occurs as a result of standing and sitting with the trunk tilted to one side. When asymmetry is produced by defective vision the face-lines differ from those described, according to the angle at which the best refraction is obtained.

It will readily be seen that it is important for the general physician, as well as the specialist, to recognize the significance of facial asymmetry in order to utilize it as an aid to diagnosis, as well as to enable him to remedy faulty habits of posture, which, in time, are sure to distort the features.

The neck muscles tell the story of habitual posture more loudly, if possible, than do the lines of the face. Those which are attached to the occipital ridge and basilar process participate most markedly in the changes observed elsewhere. The sterno-cleido-mastiod and trapezius muscles become tense, and limit the bending of the head toward the high shoulder in these cases, so that inspection of these alone, betrays the habitual posture of the head.

The muscles which rotate the face toward the right shoulder, viz.: the left complexus, rectus capitis posticus minor and superior oblique, obtain a greater degree of development than their fellows, hence the greater fulness of the neck, which may be observed upon the left side posteriorly. (This fact may, in some cases, account
for the fatigue and pain in this region complained of so frequently by patients who are overworked.

If the head does not incline toward the left shoulder in an individual who habitually rests on the left leg in the posture described, and there is no defect of vision or hearing, it is safe to conclude that the right leg is short, in which case the head is not needed as ballast. Indeed, if there is a marked difference in the length of the extremities the weight of the head is transferred to the side of the short leg in order to balance the body. The low shoulder and shortened body line are still found upon the supported side. The external skeletal muscles are not the only ones involved in this process of change. The extra ocular groups are, to say the least, placed at a disadvantage in the sidewise posture of the head. The obliques, especially, are forced to do more than their share of the work of rotation of the eyeball. No observations have as yet been made which demonstrate special abnormal conditions thus produced, but it is not unreasonable to include this posture among the causes of incoordination of the extra ocular muscles. That the septum narium is deflected by it more or less in all cases there is no doubt. The prevalence of this habit of posture, coupled with the frequency of occurrence of nasal disease, produced by deflection of the septum, renders the presumption a safe one that the two are related to some extent, as cause and effect.

The pharyngeal muscles participate almost invariably in the general loss of symmetry. Taking origin as they do from the base of the skull, they are so placed in sidewise postures of the head as to work with origin and insertion approximated on the low side, while the opposite condition prevails upon the elevated side. The effect of this is seen in the high and firm palatal arches on the one side as compared with the relaxed and drooping ones on the other. What influence, if any, upon the health of the pharynx the unequal activity thus produced may have, has not been determined so far as I know. It is an interesting fact, however, that in the shape of the interior of the nose and throat we may find an intimation in reference to the habitual posture of the individual.

In a large number of the cases studied there was a demonstrable increase in the size of the chest upon the supported side. This is probably due to several causes, mainly, however, to the position of the scapula, which has its posterior border approximated to the spinal column. Fixed in this attitude by the rhomboidei muscles, it places not only the serratus magnus but other respiratory muscles in the best possible attitude for contraction, whereas the opposite condition obtains upon the unsupported side. Here the scapula
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recedes from the spine, and has its posterior border everted. The rhomboidei muscles are stretched and weakened and the normal direction of the fibres of the serratus magnus is changed.

The rotation of the bodies of the spinal vertebrae to the right interferes also to some extent with the movement of the ribs. It is evident that these influences are capable of diminishing the capacity of the chest on that side. How much such a variation predisposes to disease it would be unwise to premise in the absence of conclusive evidence. It is certain, however, that the diagnostician should be familiar with this variation and its cause. Shortening of the abdominal wall on the supported side by the approximation of the ribs and ilium displace the intestines downward and toward the opposite side. The effect of this upon the already relaxed and lengthened abdominal wall may predispose to the production of hernia.

The pelvic organs of women doubtless undergo more positive injury from this posture than do any others in the body. The uterus is crowded toward the supported side by the displaced intestines. The broad ligament upon the opposite side is placed under tension, which, in time, lengthens and weakens it as a uterine support. At the same time the one upon the elevated side gradually shortens under disuse. The round ligaments suffer in the same way, and the final result is permanent deflection of the uterus and ovaries, whose circulation is interfered with in proportion as the vessels become tortuous upon the side of the shortened tissues.

The more common posture upon the left foot is probably more productive of harm than that upon the opposite one, for the reason that it places the uterus and ovaries on the left side of the pelvis in close contact with the rectum, and immediately below the sigmoid flexure. Mechanical pressure, due to an inactive condition of the bowels, is likely to occur as a result of this close contact, especially during the menstrual epoch.

I do not know the microscopic condition of muscles which have become shortened by habitual approximation of their extremities, nor of those which have undergone continuous stretching. The gross effect upon the former is to increase their size, at the same time lessening their elasticity, while the latter become attenuated under the slow lengthening process. Neither condition tends to increase their usefulness; on the contrary the tendency is in the direction of weakness and premature loss of power.

Every occupation presents temptations to the body to acquire a habit of posture which, in time, modifies the shape of the individual. The school-girl, who habitually sits with one elbow sup-
ported and head to the opposite side, is likely to acquire the body shape which I have described in connection with a right or left abducted leg. The carrying of her books upon the left arm, as is the habit of girls, tends to modify or increase the lateral curvature produced by sitting and standing. The woman who sews by hand acquires a low right shoulder; while the one who habitually uses a machine, upon which both arms rest, tends to become high-shouldered with symmetrical body lines. The man who stands at a desk with arms supported, in time, assumes the same shape. The sailor, who climbs the masts, acquires a similar shape, although in a different way. The man of letters, with head forward and chin depressed, elongates his cervico-occipital muscles, so that at middle life we recognize him without difficulty. The drug and dry goods clerk, if right-handed, works with left foot thrown to the side and body to the right; both arms in front of the hip line. The resultant shape we are all familiar with, if at all observant. The horsecar driver, as he stands with his right hand on the brake and left on the dash-board, acquires a "left foot twist" in accordance with this posture. The truck-driver, who sits with arms forward holding his reins, is a characteristic figure. The man who digs the street, the brick-layer and the hod-carrier all assume, in time, their own trademark.

So general is the tendency to acquire habits of posture we must accept it as a law of life. What influence it shall have upon the symmetry and health of the body depends upon the posture. Those postures which limit chest expansion, which curve the spine abnormally, which displace the viscera and distort the features, can-
not be otherwise than harmful in themselves, although the body is long suffering; and, if allowed sufficient time, adapts itself as far as possible, to unhealthful conditions.

To recapitulate: There are three fundamental postures in which the body in the upright equilibrates. A certain amount of muscular force is required to retain it in any of these positions. The first posture is not practical as an habitual one, because it does not admit of alternation in the use of the lower extremities. The second places the body in the most symmetrical attitude it can take, and at the same time permit the alternate use of its supports. This is a posture not naturally chosen, but easily acquired by training. The third, which is the favorite posture of mankind, is harmful in its tendencies, both as regards its influence upon the symmetry of the body and the economic and healthful use of its complex machinery. Its adoption then should be deprecated, and especially so in our schools and stores.

The shape of the body in the sitting posture is greatly dependent upon the position of the arms and head. The one which best maintains the symmetry of the trunk, and therefore is most healthful, is that in which the spinal column balances upon the pelvis with the arms at the sides and the head upright. This posture is the one which the body should be trained to assume in the schoolroom, the workshop and the carriage.

**DISCUSSION.**

Dr. Wurtz.—In the first place I desire to thank the author of the paper for the excellent manner in which the subject for discussion has been presented to the society. A subject of more importance could not be brought before us; and there is none of more general interest, none more suggestive of advantage to our patients, none which has a more extensive bearing on preventive medicine.

For many years my attention has been drawn to the question of asymmetry, to the subject of deformity, to the results of injury. I have lectured and written on asymmetry, deformity and injury, and I have pointed out some of the relations of asymmetry to surgical practice. In the meantime I have made a careful study of the static and kinetic relations of the voluntary muscles to the bones, showing how motion is gained by the expenditure of muscular force, demonstrating the magnitude of the retentive and displacing components of various muscles which span the joints, and pointing out the great strength and resistance of the cancellous structure of the ends of the bones.
Dr. Mosher's paper has brought to my mind certain suggestions which I may offer as briefly as possible. In the formation of the body there seems to be an effort to make it as symmetrical as we could wish, but the effort, as we know, very often fails for some reason or other. Let me not be understood as saying that any body is perfectly symmetrical; nor would I like to say exactly where asymmetry ceases to be only asymmetry and becomes deformity; nor would I hope to embody in a few words of discussion all the causes of asymmetry and deformity. Yet here I am led to reflect on the normal antagonism going on between gravic force and muscular force. The weight of the body is ceaselessly tending to bring it to rest; it ever opposes the efforts of the contracting muscles; the muscles of the body are making repeated attempts to move it in one way or another, or to lift it and keep it in the upright attitude. How evenly these contending forces are balanced at times, and how unevenly at other times, is well known to every thorough student of the subject.

In regard to the question of variation as related to asymmetry and deformity, I have often reasoned as follows: I am not prepared to say why one member of a family grows tall and another grows short; why one race has certain characteristics, and why another race has characteristics that are different. I am not quite ready to explain why the left thigh-bone is so often longer than the right; I have difficulty in understanding the asymmetry of the skull, which so frequently amounts to a deformity. If I understood the origin, the history, and the biogenesis of man, and could decipher the secrets of his entire environment, I might hazard a more definite opinion on a subject which is one of the most difficult I ever approached.

Yet there are, as the author of the paper has shown, many things of which we have a knowledge that is quite accurate. Let me illustrate: I have seen cases in which the knee-pans were so small as to produce a disabled walk, and yet I could not tell what made the knee-pans so small. I have seen cases in which the tibial arteries were so small as to cause the corresponding foot to be much smaller than the other, and yet I could not find any cause for the small size of the arteries. More than once have I seen one eye larger than the other, and I could no more explain it than I could tell why the branches on one side of a tree grew more vigorously than those on the other side; yet I do know that the branches of trees grow most plentifully in the direction of the prevailing winds.

On the other hand, I have noted the following facts: A young girl has been compelled to carry for a long time heavy weights
JOHN CAUSEY, CA, KAY, KAYE, KEY, OR KEYE.

So various are the forms by which the name of this distinguished physician and scholar are seen. He was born in Norwich, Eng., October 6, 1560. At an early age he entered Gonville Hall, Cambridge, where he was distinguished for his application and scholarship, having at the age of twenty-one translated several works from Greek into Latin and others from Latin into English. From Cambridge he went to Italy, where he studied medicine under the learned Montanus, at Padua, and soon became so eminent in that faculty as to become the public professor of Greek, upon which subject he continued to lecture for several years. While in Padua, Causey lodged in the same house with the celebrated anatomist, Vesalius, and pursued his anatomical studies with an ardor equal to that of his companion.

He took his medical degree at Padua in 1591, and returning to England, he was in 1593, admitted a fellow of the Royal College of Physicians, in which he successively held all the higher offices, succeeding Linacre as its second President, to which office he was re-elected no less than nine times, between the years 1591 and 1592, when, "in considerations of his age, engagements elsewhere, and long and valued services to the college," he was excused from further attendance, "except at the quarterly consils," or on occasions when any important or extraordinary business was under discussion.

During his period, he kept a complete record of all the annals of the college, written in his own hand in elegant Latin, entering every memorable transaction in its due time and order. He was always a zealous defender of the college's rights and privileges, and a strict observer of its statutes, never even in advanced age, absenting himself from the council or meetings, without a dispensation.

During the reign of Queen Elizabeth, there arose a difference between the physicians and surgeons, as to whether the surgeons might give internal remedies. Dr. Causey was summoned (as President of the college) to appear before the Lord Mayor and others of the Queen's delegates, before whom he so learnedly defended the rights of the College of Physicians, and showed the illegality of the surgeons' practice, that it was unanimously agreed that it was unlawful for them to practice in such cases. His zeal in this and similar cases may have earned for him the enmity of the surgeons and some of their friends, or at all events, it, together with his exalted position as court physician, made him notorious; though it appears strange that Shakespeare should have selected his name for the ridiculous French doctor in the "Merchant of Venice," for to no one was the character less fitted than the real Doctor Causey, who as we have seen, was a man of extensive acquisitions and profound knowledge.

He was the recipient of the highest honors obtainable by a physician in his day, being successively physicians to Edward VI., Queen Mary, and Queen Elizabeth. In 1599, being in great favor with Queen Mary, and it is said, almost an oracle in her opinion, he determined to employ this influence in behalf of his Alma Mater. Accordingly, he obtained a license to advance Gonville Hall, at Cambridge, to the dignity of a college. As it was not a corporation, but by the interest of the college, it was incorporated by the name of Gonville and Causse College which he endowed with considerable estates, for the maintenance of an additional number of fellows and scholars. This is now the leading medical college at Cambridge. He drew up the first statutes of the new college, and that he might have the better opportunity of consulting its interests, he accepted and resided at the mastership, almost as long as he lived, and after the appointment of his successor, he continued to reside in the college as a fellow-commoner, assisting daily at divine service in the chapel. Here he died, July 29, 1599, in the 60th year of his age, and his remains were deposited in a tomb which he had erected in the college chapel some time before his death, which it is said he had accurately foretold, and on his monument was placed this laconic inscription:
with one arm, and so has become permanently deformed. A school-boy habitually sat with one arm resting upon his desk for the purpose of study, and in time incurable deformity resulted. A pleurisy in childhood has destroyed one lung, and the side on which it occurred has contracted and the other has greatly expanded, causing rotary curvature of the spine. A boy has imperfectly nourished bones and the muscular action, normal and convulsive, bends them nearly to a right angle, carrying asymmetry to the extent of unsightly deformity. A sickly school-girl has yielding, non-resisting, vertebral bodies, making it possible for the super-incumbent weight of the body to bend and twist the spine. In old age the neck of one thigh-bone may suffer from fatty degeneration and slowly become deformed, producing more or less disability. These facts, and others like them, are significant and help to explain to some extent the questions of asymmetry and deformity.

Are we not confronted with the questions of dis-use and ab-use? Are we not called upon to point out the way to make a normal use of our bodies? And are we not called upon to advise in regard to the normal and proper supply of food to enable the body to be used in the right and symmetrical way? I was on the point of exclaiming, How great is Preventive Practice!

Let us open a few more ways that lead into the field of deformity. Let us illustrate the question of dis-use and that of ab-use: Examine the head of the little crustacean, whose ancestors have inhabited the dark abode of the Mammoth Cave for centuries. You will first think it has eyes to see. Externally it has the form of eyes. Incise the points that so much resemble eyes and you will find that the nerve-structure which conveys the motions of light has degenerated into an insensible fibre. All the powers of the sun-beam cannot awaken these dumb organs to a sense of vision.

Examine a man whose ancestors have lived for a few generations in the low places of a great city. The light of the sun does not penetrate his abode; the pure air of the sea and hills is a stranger there; food and drink full of micro-organisms are all he has for his hunger and thirst; his raiment shows accumulated dirt and filth; the accidents of an unhappy environment beat him into moral, mental, and physical asymmetry and deformity.

If any one from want of knowledge, from indolence, or from any other cause, neglects to use a muscle until its special function has been much impaired and it has for the most part become a ligament, it may have passed beyond the possibility of restoration; it may have passed toward the condition of the crustacean's eyes referred to as living in darkness. If a muscle is not used it
tends to perish as a muscle; if a joint is not used it tends to ankylosis. Structure and function appear to have been born on the same day; they are twins. Mutilate one and the other suffers. Perfect function must have complete structure to work in.

In this place I am reminded of the fact that I have often seen school-girls carry their books clasped with the left arm, and pressing almost directly upon the left breast. The persistency of this practice has caused the absorption of the left breast to a greater or lesser extent, and so it has become smaller than the right. I do not doubt that the effect of this change has impaired the power of the breast to perform its special function. In some instances I have taken the liberty to suggest to mothers the propriety and advantage of having their daughters abandon this practice.

And then we sit by, we do not even stand, and look upon the most deplorable deformities of the feet of our girls and women, without having the courage to utter a word against the inhuman and revolting arts of the contriver and maker of foot-garments which mutilate instead of protect. I know of no more unhappy disaster that could befall the unfortunate than deformation of the feet.

Here I am reminded of the deformities that have been made among alien races, for special purposes, and without any good reason. They may not have known any better way, but of a truth we ought to be above such practices. The highest art is that which holds to the lines and forms of nature's tracing and shaping.

There is no doubt that special occupations and special amusements will tend to develop and enlarge certain muscles, leaving certain other muscles in a state of atrophy and weakness. Baseball, tennis, and bicycle riding may be cited as illustrations of amusements which cause unequal development of the muscles. The question of occupation is so familiar to all that examples need not now be given of its causing asymmetry and deformity. The author of the paper has pointed out some of the bends and twists of various parts of the body that come from the persistence of certain fundamental attitudes. In producing these effects asymmetry of vision and hearing have much to do at times; and then we come to ask: What makes the eyes and ears asymmetrical? Again, we are reminded of the magnitude and importance of the subject before us. Its principles will be developed in the future when preventive medicine has made its final conquest.

In fine, take the question of asymmetry of function. When we look at it, we may have a more striking contrast than we do in regard to structure. Let a single illustration suffice: How few
people are ambidexter; Is not a person who is right-handed suffering from asymmetry? Let us take one who is left-handed, and how soon we notice it.

Dr. Anderson:—The cause of physical education is to be congratulated in having Dr. Mosher interested in the work. As it stands now there are not enough physicians interested in or connected with this business. Basing my opinion upon ten years’ experience I do not believe that physical education, which is my profession, should be left to the charge of the laymen. A physician is the one who should oversee it. He should know something of the practical workings of gymnastics; and yet there are only a few doctors who are thoroughly acquainted with both the theory and practice of bodily training.

During the last ten years I have had the privilege of teaching gymnastics to thousands of youths and adults of both sexes, and during this time I have come to the conclusion that it is not wise for even a doctor to try to cover all the ground of physical education. This subject is divided into educational gymnastics, which pertains to the training of scholars; medical gymnastics; and aesthetic gymnastics. I find now that I have more than I can do in paying all of my attention to educational gymnastics. Here in Brooklyn I have about three thousand pupils a week, one-half of whom are school-girls, and it is safe to say that at least two pupils are brought to us every week for special training who are suffering from some spinal defect. It may be a light lateral curve, or a severe case of rotation. We can trace the defect to a bad standing or sitting position, in very many cases, and if you will watch the pupils in our schools you will see that habitually they stand or sit in the positions shown here to-night.

Of course, the first treatment is to remove the cause, and then do what we can by gymnastics. You who have had experience in this special part of orthopaedic work know how unsatisfactory the training of these cases is. After working for one or two years it is sometimes difficult to see any great improvement in the pupil. We cannot yet say that the physical training of these spinal diseases is scientific, but it does not necessarily follow that it will not be scientific at some future day. We are striving to get at the right side of the subject. We are trying to cure; we are trying to remedy the defects which are common in our schools, which are due to the influences mentioned in the doctor’s paper.

Dr. Mosher goes into a field entirely new to me, and I hope she will continue her researches; and let me say that I wish the physicians of Brooklyn would pay more attention to the subject of
physical education in this city. New York, Boston, Chicago, St. Louis, and many of the large cities have introduced this work in the public schools. It is a part of their regular curriculum. When the physicians in Brooklyn demand the same work in our schools it will be placed there. Will you not give us the benefit of your influence and education in this profession? Can you not find time to look up the records, or to investigate the interesting theories upon which rational gymnastic training is based? I believe the most sceptical physician here to-night will admit that there is a great deal more in the science of physical education than is generally admitted if he will give a little time to the study.

Dr. W. F. Dudley—Mr. President, when Dr. Mosher asked me to discuss her theory I hesitated; I hesitated because the theory which she propounded, and the ideas and conclusions at which she arrived were so novel in their nature, that it is difficult to criticise them in the light of any past experience. I have had my attention called to three cases which presented all the features Dr. Mosher has spoken of this evening, and I examined with some attention the condition of the nose and throat in each one of those cases. In the pharynx I found in each case that the pillars of the fauces, anterior and posterior, were drawn markedly towards the side on which the weight of the body rested, presenting a strong concavity towards the median line, and on the opposite side the arch had disappeared, the pillars presenting a straight line running from the superior insertion at the uvula to the inferior insertion at the base of the tongue. In the larynx I could find no definite changes. In the nose, however, there were changes which were obvious. I found that the tip of the nose in each case was turned towards the affected side quite markedly. Mr. Mayo Collier in a paper read before the British Laryngological Society recently said: "I shall make this extraordinary statement to you, and I am prepared to prove it, that an enormous number of cases of deflection of the septum narium are due to paralysis of the external muscles of the nose." The theory hinged on the fact that in paralysis of the external muscles the valve at the anterior entrance of the nostril on the paralyzed side closed, and the other side only was available for respiration. I think Dr. Mosher in her theory has given us a much more possible clue in explanation of this fact. Collier in his very exhaustive paper, besides stating that paralysis of the muscles of the nose leads to a closure of the nostril on the affected side, makes no further reference to the causation of paralysis of the external muscles, or how frequently it occurs, and does not state whether the seventh nerve is paralyzed to its entire extent or in part only.
Now, in each of the cases the nose has been drawn to one side or the other. If you press the tip of the nose ever so gently towards the right, we will say, you will find that on the left side there is no nasal respiration. A very slight turning of the nose to the right will close the left nostril completely at its anterior extremity. Each inspiration drawn through the right nostril will act as an exhaust draught. A very familiar illustration is that of the common spray, in which there are two tubes. By blowing through the air tube we exhaust the air in the fluid tube, and so draw out the fluid. If there is a partial vacuum on the left side of the nose there will be an inequality of pressure exerted on the two sides of the septum which will tend to deviate the septum to the left side. It may not be out of place to state that the septum is composed of three parts. Posteriorly the vomer is a very dense and firm bony structure, and we rarely have deviation there. Superiorly the perpendicular plate of the ethmoid, thinnest at its lower articulation. Anteriorly the anterior cartilage, which is thickest at the anterior extremity and thinnest posteriorly and in the middle portion. Both of these bones and the cartilage unite in the central portion of the septum, this is its weakest part, and any force directed against the septum would tend to cause a deviation at that place. Roughly, the shape of the septum is a parallelogram about three inches high and three inches deep, approximating nine square inches of surface. In the experiment of taking a V-shaped tube, filling the bend with mercury, and placing one end of the tube in the nostril, a deep inspiration will cause the mercury to fall one inch in the distal arm of the tube, and to rise one inch in the proximal arm of the tube. The atmospheric pressure at the sea level will sustain a column of mercury twenty-nine inches high and will represent a pressure of fifteen pounds to the square inch of surface. If, then, at each inspiration we can raise the mercury one inch or lower it, that will represent about one-half pound of pressure—not exactly, but approximately—and if one-half pound of pressure represents one square inch of surface, the nine square inches on the septum would represent a force of between three and four pounds directed against it.

I think this is rather a high estimate, however, possible only during a sudden and deep inspiration. In an ordinary inspiration we might have a pressure directed against the septum at right angles of one-half to two pounds. Certainly the pressure would be towards the left side, and would tend to deviate the septum in that direction.

If you can throw any light whatever, Mr. President, upon the causation of the deviation of the septum, it is well worthy of con-
sideration. In the examination of living subjects deviation of the septum narium occurs in 900 cases out of a thousand cases examined. Morell Mackenzie found that 76 per cent. of 2,100 cases had deviations of the septum. These were all in civilized beings. Savages, or barbarians who lead an out-door life, and are more perfectly developed physically, give us 80 per cent. of normal septum and 20 per cent. of deviated septum. These facts may, I think, be important in their bearing upon Dr. Mosher's subject. I think her theory gives us a new factor in explanation of the ætiology of deviation of the septum narium.

Dr. Lawrence Coffin.—This paper of Dr. Mosher's is extremely interesting and instructive. So far as the eye is concerned, however, it seems to me that faulty postures of the head are often induced by an instinctive effort on the part of the patient to correct a faulty condition of the eye itself rather than vice versa. The patient Dr. Mosher has presented well illustrates, as she has stated, the importance of an early recognition of defects of vision, and their correction before the habitual posture of the head shall have produced asymmetry of the face. Dr. Mosher certainly has set us all at work thinking about these things, and I am sure from the variety of the expression to which this paper on posture has given rise, the subject has a wide practical as well as a theoretical bearing.

Dr. Mosher.—I only wish to say in conclusion I hope you all observe that I have advanced no theories in reference to the actual results of these postures—the effect upon the tissues—and I think with you all, that the subject is entirely too new for any one at this time to formulate conclusions in regard to the matter; but I shall be very glad if you will take it home with you and bring out, by observations in your offices and elsewhere, all the facts you can find which have a bearing upon it.

THE LIMITATIONS OF A COMMON SURGICAL PROCEDURE.

BY JOHN C. MACEVITT, M.D.

Read before the Brooklyn Gynecological Society, February 5, 1892.

Is ultra conservatism in gynecological surgery becoming the prevalent fad? I have been led to ask this question by reading an article published in the Medical News, of Philadelphia, volume lviii, number xx, written by Professor J. M. Baldy, entitled, "Minor Uterine Surgery," in which he advocates almost the entire abolition of a
minor surgical operation, one so thoroughly established by the
good results achieved, that it seems as if the conservative wave
that has been gradually advancing against unnecessary mutilations
has caught in its undertow an operation so nearly harmless that it
has long ceased to be considered important except for its beneficial
issues.

It is well for us to understand, that when a surgeon recognized
by virtue of his position as a teacher or specialist, gives dissemi-
nation to his views through the medical press, credence is given to
them by the general practitioner, and if such deductions are
erroneous irretrievable harm is accomplished.

In diseased conditions of the uterus or its appendages, the gynae-
cologist is admittedly the better therapeutist and operator; if in his
hands these therapeutic measures have been found wanting, and
surgical ones successful, is it not grievously wrong to indicate a road
leading backward rather than forward? These preliminary re-
marks are pertinent to the subject, when based upon the correctness
of my personal ideas in relation to the theories expressed in the
article referred to, and may be at variance with others held by
members of this society. I will only refer to that portion of the
article pertaining to operations upon the cervix uteri, offering my
objections to, or concurring with, the deductions formulated as the
premises may warrant, as follows:

"The splitting up of the cervix for dysmenorrhoea and sterility
has fallen into deserved disuse; all that can be accomplished in
that direction can be done with the dilator."

With this statement, I feel there will be general acquiescence,
and it is mentioned only to place in stronger light the following:

"Emmet's operation for closure of the cervix should meet with
much the same fate, at least in the vast majority of cases."

Of all innovations in modern surgery, without exception, Em-
meth's operation has brought more happiness to womankind than
any other. It has served to render his name as revered and as
well known as that of his patriotic ancestor. Its history illumines
the paper of gynaecological literature the world over, and places
American gynæcology upon a pedestal to which all must bow. At
first tardily recognized abroad, it is to-day accepted wherever a
scalpel is used. The conditions demanding it are so ably set forth
by its author, so exhaustively dilated upon by other eminent
specialists, and so well known to all professing a knowledge of
gynaecology that reiteration in this paper would be superfluous.
The proposition quoted is a broad one and must necessarily be
followed by reasons. Are the following sufficient to justify it?
"The only excuse for the number of such operations which are being continually performed is a fear of subsequent cancer."

At the present time there are but few, if any, that dispute the fact, that laceration of the cervix is the most prolific cause of uterine cancer, consequently the fear of its occurrence need not be offered as an excuse for its repair, but its probability a bounden duty upon the surgeon to operate.

"A simple uncomplicated cervical tear causes no more trouble or inconvenience to the patient than does a woman's ear which has been torn through by her ear-ring; the ear would be repaired for cosmetic effect; the cervix is hidden from view and that factor would not come into consideration."

The question here arises, what is meant by a simple uncomplicated cervical tear. Its meaning certainly appears plain enough, but might we not as well speak of a simple uncomplicated vesicovaginal fistula; have we not in both cases the integrity of an organ destroyed, its economy interfered with, adventitious products formed and constitutional sequelae. The cervical and aural simile savors of the extravagant. One is a factor in Nature's greatest phenomena liberally endowed with cerebro-spinal and sympathetic nerve filaments prone to reflex neuroses, always functionally active and suspended in a cavity subject to various discharges, and in almost constant attrition; the other, an addendum to an appendage. We admit the analogy of the tear; the comparison otherwise is imaginary.

"Most women have laceration of the cervix of a more or less degree."

Willingly admitted.

"If the lips are thickened, everted or eroded, they will need treatment."

Self evident.

"Oftentimes simple scarification followed by the application of iodine and glycerine tampons will reduce this condition and leave a clean, healthy tear."

I have had nine years' experience in hospital and dispensary practice, under the best of tutelage, and make the open confession that I have found a complete cure the proverbial exception when the above-mentioned conditions were treated medicinally. I have time and time again thought I had secured a clean, healthy surface that would remain so permanently, only to find the patient returning in a few weeks or months, showing a return of the old symptoms and conditions. It is hardly to be expected that we can secure an epithelial covering to the lacerated muscular tissue
LIMITATIONS OF A COMMON SURGICAL PROCEDURE.

exposed in the rent, but rather fibrous or scar tissue with its tendency to reflexes.

"If the lips cannot be brought into a healthy condition, or if the uterus is subinvolved, or the endometrium diseased, the case may resolve itself into an operative one, but even here a trial with electricity will not often disappoint the surgeon."

The doctor here so strongly intrenches himself behind the subjunctive mood that we are left in doubt whether or not under the designated condition the operation is justifiable. With electricity in the treatment of such cases I have had no experience, and hope the discussion will reveal its positive or negative value.

"In my practice it is rare to see a lacerated cervix which calls for repair."

A courageous statement, but only in keeping with the views already expressed regarding the conditions in his opinion requiring an operation, and in which I believe he stands defiantly alone. In this connection it may be well to quote Dr. Emmet: "I would state that in every instance where the condition is evident, and where enlargement of the uterus still remains, or where the woman suffers from neuralgia, I consider an operation necessary notwithstanding the parts have completely healed."

"Cases which have come to me from other men who have advised an operation get well without. Oftentimes the symptoms for which the operation was proposed, were found to be due not to the torn cervix at all, but to other trouble, principally constitutional."

Women with torn cervices are not exempt from other ills, but a differential diagnosis between the chain of symptoms, objective and subjective, of a cervical tear, and constitutional dyscrasia is easily made. Certainly, specific diseases or loss of bodily tone will respond to proper therapeutic measures in the majority of cases even with torn cervices, but why leave a nidus for future trouble?

"It is the easiest thing in the world to relight a pelvic inflammation whilst repairing a cervix, and I have seen this result follow such practices only too often."

This is the only seemingly valid objection to the operation offered and this one has but slight justification in fact. I will venture the assertion that in the majority of the cases of trachelorraphy followed by peritonitis, the previous history of the patient was not taken, or if taken, ignored for want of proper appreciation, and that there was a want of proper examination of the pelvic viscera immediately preceding the operation. How many times have you not seen
cases sent in for operation which, upon examination, revealed old pelvic adhesions or recent inflammatory products, rendering the operation at the time criminal. Proper care is requisite here as in all other operations, and simply because you find the cervix torn is no reason why you should repair it at sight. When the operation was first brought to the notice of the profession, I have no doubt theoretical objections were made, but it has now stood the test of years, and its advisability is beyond successful dispute. Admitting, however, for argument sake, that the claim of topical dressings will leave a clean, healthy tear, and that after such is obtained the pathological conditions and general symptoms disappear, which is the better? which is the more just to our patients? submit them to daily, tri- or weekly applications, causing loss of time, great inconvenience, discomfort, and pecuniary loss, with a problematical result, or a painless operation lasting from twenty to thirty minutes, with eight or nine days painless rest in bed.

In general practice I find that frequent abortion where this condition exists, and its prevention by remedying the evil a source of elation to both physician and patient. Paradoxical as it may appear sterility is cured by the same condition.

Gonorrhoea is, so it is claimed, a productive cause of pyosalpinx, the gonococcus migrating from the vagina to the Fallopian tubes. I have never heard the theory advanced, but I believe the raw exposed lacerated tissue is a most frequent factor in uterine infection.

It may appear to you that the radical views of Doctor Baldy will fail to enlist sympathy, but when you take into consideration that the gynaecological chair is the first article of office furniture that the recent graduate in medicine purchases the doctrine of topical application to lacerated cervices will lead to quackery, misery and death.

**DISCUSSION.**

**Dr. Chase:**—Mr. President, I presume the deductions from the paper read will be pretty generally accepted by the gentlemen present. I should class the author, whose quotations the writer has used, among those who should be styled abdominal surgeons, not gynaecologists.

It seems to me, Mr. President, after some years of observation, that it does not take a great while to arrive at a just conclusion with regard to the influence of cervical laceration. To assume that all cases should be operated on would be entirely wrong, probably the majority of cases require no operative treatment; but with a cervical laceration attended with subinvolution, with hyperplasia,
and there is disease of the Nabothian glands, and an area of raw surface appears, I think the common experience is, that the patient is greatly relieved by local treatment. I remember in my early experience I treated cases of that kind. I did not know exactly what the condition was, but my patient in the course of one to three months went away, as she supposed, cured, and I congratulated myself she was cured, but she came back again as bad as ever, and I resorted to the same method of treatment, and history then repeated itself. Nothing short of the restoration of the parts was followed by permanent relief.

There was a single suggestion made by the writer of this article, that perhaps one of the causes of difficulty in this connection was from septic absorption from the eroded cervix, and that was the point which was brought out in a short paper by Dr. Graily Hewett, of London, which I read before the Medical Society of the State of New York, at its last meeting. Dr. Hewett mentions the influence of septic absorption in keeping up the diseased conditions.

Regarding the advantage to be obtained from operation in proper cases, I think there is no doubt whatever. A train of symptoms which you are all familiar with, are, as a rule, wholly or considerably relieved, and I can recall in my own experience but a single case in which the results were not satisfactory, where the relief anticipated was not obtained, and that might have been due to some error on my part in not removing enough of the cicatricial tissue. The seeming allegation in the minds of some against this operation I think must be the outgrowth either of a want of observation, or prejudice. It is a well-known fact that Lawson Tait, of England, practically ignores this condition, while Graily Hewett, and others of eminence recognize the utility and necessity of plastic restoration.

Dr. Hewett:—In the matter of the treatment of laceration of the cervix, the ground has been well covered. It is no doubt the case that the systemic effects depend on the secondary mischief that develops in the cervix more than the mere fact of laceration alone, and that the treatment is to be governed accordingly. It is true these secondary conditions may often be relieved by local applications; but as the last speaker has said, they very soon return. The laceration will seem shallow when the eversion has disappeared and the diseased condition of the cervix has been relieved, and deeper again when it returns.

Subinvolution is almost always present in deep lacerations of the cervix, and that is a condition that is not in my experience materially benefited by electricity. The curette does much more
than the current, and curettage. I assume, is generally combined at the present day with repair of the laceration.

Dr. F. Baldwin:—The question arises in my mind as to just how far we should allow the presence of induration due to past inflammation to keep us from an operation of that kind. I saw a patient to-day in whom there is evidently the remains of a past inflammatory condition in the pelvis with considerable induration, but it is so evident to me that the woman is suffering from the results of a laceration that I shall operate in a few days unless I see very good reasons for not doing so.

Dr. Jewett:—I would like to ask Dr. Chase if I understood Dr. Hewett's views in regard to the evils that come from sepsis in these cases—that it does mischief by invading the corporeal endometrium. It is easy to believe that infection is frequently carried from the cervix to the uterine cavity by the uncleanly use of the sound, but not by simple extension.

Dr. Chase:—I cannot recall in the brief statement which I received from Dr. Hewett, his views as to the rôle sepsis plays under these conditions except as one of the factors present in these lacerations.

Dr. Skene:—There are one or two points which I would like to refer to. First, in reference to the few men in the world who know anything about gynecology who have anything to say against restoration of the cervix when it is injured. When we look at it from the standpoint of the surgeon, not any special surgeon, but a man well grounded in the principles of surgery, we strike first of all the great surgical principle: namely, that wherever there is an injury or deformity, restore the one and overcome the other just as promptly and as effectually as you can. There is no exception to that rule. As for the arguments that were brought up by Dr. Baldy, based upon the objections raised by Lawson Tait, it does seem that Lawson Tait is sure to be sustained in all his wise and unwise statements by a few men in this country. There is a statement (which I think I can quote correctly, in fact, if not in language) in Lawson Tait's book, and that is, that this laceration of the cervix spoken of by Dr. Emmet, is simply a piece of American nonsense, or something to that effect, and then adds, that the whole trouble is the subinvolution as pointed out by Sir James Simpson. Lawson Tait always quotes one authority—Sir James Simpson. Perhaps he has every reason for that, but the statement when I read it reminded me of a celebrated bookbinder, one noted for his proficiency in that branch of handicraft, who was exhibiting to a friend some choice specimens of his bookbinding. The gentle-
man complimented him very highly, and he appreciated the compliment far enough to say: "I tell you what it is, sir, any fellow can write a book, the binding is the thing." Lawson Tait would know, if he knew anything about the subject, that nineteen out of every twenty cases of subinvolution are due to laceration of the cervix or perineum, or both, and the easiest and quickest way to cure subinvolution is to repair the laceration. So it is hardly worth while to say anything about it, for we are very much in advance of him in that branch of surgery. This Dr. Baldy evidently seems to have caught the inspiration from Lawson Tait and so abuses this operation.

I need not add a single word to what Dr. MacEvitt has said about Emmet's contribution to the science and art of surgery in this connection, except to say that we all must fully and thoroughly agree with him. I do not think any man who has taken time to acquaint himself with that lesion as pointed out by Emmet, and its consequences, and the means by which it can be relieved, can say too much in his praise. If he had never done anything else since he practiced surgery or medicine that alone would have entitled him to a monument as high as any in this country, and if not given to him by the medical profession, by the women who have been saved from suffering through him.

In regard to this question brought up by Dr. Chase, as contained in Dr. Hewett's paper, I am free to confess that I have not given that subject the consideration in the past that I know it deserves. As I understand it, it simply amounts to this: that one of the dangers arising from laceration of the cervix is that it exposes the patient to auto-infection, and renders her far more liable to extrinsic contamination; in other words, a patient who has a lacerated cervix and all the pathological conditions which follow, as a result of this laceration, is much more liable to have endometritis and salpingitis. A woman with a lacerated cervix is more likely if she is exposed to gonorrhea to have it extend to the uterus and tubes. Is that your understanding, Dr. Chase?

Dr. Chase:—As before stated, I am unable to recollect at this moment what Dr. Hewett's opinion is in that particular, for the reason that he simply alludes to it, but the impression I have is that the trouble was from direct absorption that kept up the endocervicitis.

Dr. Skene:—From talking with Dr. Hewett on that subject, and similar subjects (and he is by far the best authority on all such subjects in England), I understood not that there was so much danger from absorption from the diseased portion of the cervix, as
there was danger of the extension of the disease; that a laceration
of the cervix being the primary injury, you get all the rest of the
difficulties which follow suppurative degeneration, and that that is
not so liable to be absorbed and cause immediately (I mean after
recovery from the immediate lesion) cellulitis or peritonitis, as it
is likely to extend to the endometrium, and hence to the tubes. I
think, that is as I have observed it, that they are more liable in time
to have endometritis and tubal trouble even if there is no exposure
to any special influence, and if they are exposed to special infection
they are much more liable to have endometritis and salpingitis.

Dr. Jewett:—The possibility that the corporeal endometrium
may become septic by extension from the cervix must be admitted,
yet the occurrence it would seem must be rare. Bacteriologists
tell us that the cavum uteri in health contains no micro-organisms,
while the cervix is the habitat of certain bacteria. The os internum
is a gateway, which ordinarily, they do not pass. True, the ordi-
nary genital germs are comparatively inactive, and the kind of
germs which obtain in cervical disease may more easily invade the
endometrium of the body. We know that an endometritis usually
leads to a salpingitis, but this is possibly explained as the natural
consequence of the periodical contractions of the uterus forcing its
contents into the tubes. It is not easy to understand why septic
disease of the cervical mucosa should frequently invade that of the
body. This, however, is theory, and the views of the Chair are
based on more substantial grounds.

Dr. Skenes:—When I began to practice gynaecology, I was taught
that the whole pathology was congestion. A Ferguson speculum
was introduced and the cervix leeched, then scarified, then swabbed
over with nitrate of silver, a scruple to the ounce of water, and
if that did not bring relief and speedy cure—and that meant treat-
ment six months or a year—then begin and go over with the treat-
ment again. I have seen a good many hundred of those cases,
where after this treatment the irritation was relieved, the leucorrhœa
cured or arrested, and to a certain extent, some of the constitutional
symptoms disposed of, but they invariably came back after a time
worse than before, and I am not sure that within the last few years
I have not had the privilege of curing some of my former patients,
not of the original disease, but of my own treatment in the form of
scar tissue that I managed to produce. That is enough to satisfy
me that the treatment quoted as being competent is as poor scien-
tific nonsense as anything I know of, and I may simply say this,
at the present time, thanks to Dr. Emmet, and him only, I am
sure that we can do more in the way of getting, not only present,
but permanent relief in fifteen or twenty minutes by Emmet's operation, than I used to be able to give my patients in an unlimited length of time. They were patients for all time if they only came as long as they suffered. I do not believe I ever permanently cured a case of that kind in the old way.

In reference to the question of the causation of malignant disease of the cervix, I have never believed that a laceration of the cervix would produce cancer in a typical organism; but if there is the slightest constitutional tendency to malignant disease, I know that laceration of the cervix will determine its appearance in that organ first and infinitely sooner than if that laceration had never occurred, and from my observations I am convinced that laceration is an active agent in producing cancer of the cervix in the way named.

Dr. MacEvitt:—I have only to add that I am much pleased by the discussion which the gentlemen have given the paper.

I had hoped that some of the members would dwell upon the harm of the indiscriminate practice of gynaecology by the general practitioner. I endeavored to emphasize that point in my paper, that if the views of Dr. Baldy gain currency I believe it throws that special department of gynaecology back to the treatment of thirty or forty years ago. At the present day there are practitioners here in Brooklyn who still use the stick of nitrate of silver in the treatment of what they call ulceration of the cervix, and it is almost impossible to go into an office to-day without finding a gynaecological chair there, and all forms of gynaecological practice are conducted by general practitioners.

Another point which I would like to bring out, I will emphasize by reading a few sentences from the paper:

"Gonorrhoea, so it is claimed, is a productive cause of pyosalpinx, the gonococcus migrating from the vagina to the Fallopian tubes. I have never heard this theory advanced, but I believe the raw, exposed, lacerated tissue is a most frequent factor in uterine infection."

I do not think Dr. Hewett mentions the fact of this infection in his work on the Diseases of Women. I believe it to be original with myself, but if it has been suggested before by Dr. Hewett, I am only too happy to know it, and am glad to be in such good company.

Dr. Skene:—I do not believe anything is said on that subject in Grailly Hewett's works. It is in this recent article which Dr. Chase received from him, which is not yet two years old, so it would have been impossible for Dr. MacEvitt to have gotten at that unless
he had gotten a direct communication from Dr. Hewett as Dr. Chase did. Graelly Hewett's books do not represent his views on laceration of the cervix uteri and its treatment as he understands it himself to-day. He has changed his views altogether on that subject, and he is a long way ahead of his book in that respect. At least that is as I remember the matter.

Dr. MADDREN:—I would like to ask if Dr. Noeggerath does not advance that theory?

Dr. SKENE:—He advances the idea, but not in laceration of the cervix uteri.

NARRATION OF CASES.

Dr. SKENE:—I will present the following history of a case that I saw a short time ago. A lady married about five or six months, past history very good, menstruated twice normally after marriage. It is now a little over three months since she menstruated last. When her menses failed to appear the first time, she called upon her physician, Dr. Richardson, who told her that he thought she was pregnant, but advised her to wait and see if she passed another period, and then call and see him. She did so, and as it was rather important that she should know whether she was pregnant or not, he investigated the case and found she was pregnant beyond a reasonable doubt. She went on well for quite a while, but after a rather unusually hard day's tramping around the city, shopping and calling, she was seized with pain and hemorrhage. He was called, and found her threatened with a miscarriage. He put her to bed and gave her an anodyne, but in spite of the efforts of himself and the nurse, the miscarriage progressed. On Tuesday he found the ovum protruding from the os externum and removed it, emptied the uterus and washed it out with 1/1000 bi-chloride solution. There was something peculiar about the uterus, being almost all on one side, the left side mostly, that made him doubt the fact that the uterus had been emptied. Before washing out he made an exploration, and as the uterus was well down and could be brought down further by manual pressure, he satisfied himself that the cavity of the uterus was not as large as he expected, and he was positive nothing was left in the cavity. He says he put his finger so near the fundus that nothing could have escaped it. That was on Tuesday. She did perfectly well until this morning, Friday, when they telephoned to him that she had had a chill. He got there perhaps an hour-and-a-half afterwards and found the temperature 103, no offensive discharge, very little discharge of any kind, and not much pain. She had pain, but it was between
THOMAS LINACRE, or LYNACRE.

The founder of the Royal College of Physicians, and is regarded as one of the most classical scholars of his time. He was well descendent; was born in 1420 at Canterbury, and lived at All Souls College, Oxford. Thence he visited Italy, where he was so fortunate as to gain the friendship and patronage of Lorenzo de Medici, with whose sons he became a pupil of the great masters of Latin and Greek, and is said to have applied himself so well to these studies that he excelled his teachers in their own specialties.

He studied philosophy at Rome, and having taken a degree of Doctor of Medicine at Padua, he returned to England and settled at Oxford, and read lectures upon medicine.

He was not long, however, permitted to remain in this place; for Henry VII. called him to his Court in 1509, and appointed him physician to his son, the Prince Arthur, and he was subsequently made physician to the king himself, and afterwards to his successor, Henry VIII., Prince Arthur, and the Princess Mary. Among his patients were Erasmus, who said of him: "Is sought more acute, more exalted, or more refined than the judgement of Linacre 1st and Cardinal Woolsey, whose interest he secured to procure from the king (Henry VIII.) a charter, in 1516, for the Royal College of Physicians.

Previous to the establishment of this body, the power of granting authority to practice was vested in the bishop of the diocese in which the applicant wished to practice. The constitution of the college expressly provided for the examination of the candidates intending to practice, by the President and dean of the faculty, who have power to give letters of testimony to the qualified, unless they should be graduates of the Universities of Oxford and Cambridge.

Linacre was appointed the first president of the college; and he retained the office for the remainder of his life, a period of seven years, during which the meetings were held in his house, which at his death he bequeathed to the college.

Linacre founded two lectureships of medicine: the one at Oxford and the other at Cambridge, imposing the duty upon the lecturers of explaining Hippocrates and Galen to the students.

Linacre published several works, mathematical, philosophical and medical. His medical works were translations from Galen, which critics say makes Galen speak better Latin in the translations, than he did Greek in the original.

A few years before his death he entered the priesthood, and held various ecclesiastical positions. It is recorded, that only a little before his death, when worn out with fatigue and sickness, he read for the first time Christ's sermon on the mount; but struck with the purity of its precepts, he hurled it away in a passion, saying: "Either this is not the gospel or we are not Christians!"

He died in 1536, and was honored with interment in St. Paul's Cathedral, where a handsome monument has been erected to his memory.

J. H. H.
the shoulders. There was no distention of the abdomen, and he again washed out the uterus, the first time since Tuesday, and at the same time gave her a small dose of phenacetin and remained with her a couple of hours and the temperature came down below 100°. He attributed the reduction of the temperature to the phenacetin, but that may not have had anything to do with it. It seemed as if the washing out had all to do with it, or else the temperature was going to come down anyway. I saw her in the afternoon, her temperature was 99, with a rapid pulse and pain and no distention of the abdomen. The interesting point is this: at his first washing out he discovered she had a double uterus and double vagina. The left side of the double uterus was the one that was pregnant, and the one that he investigated and removed the ovum from; he examined the right side and found, apparently, a nulliparous half of the uterus, the os not at all dilated. He made that discovery on either Tuesday or Wednesday. When I made the examination this afternoon, I found the left side had had a miscarriage, the canal was contracted and there was no discharge of any kind coming from it. On the right side the os had dilated, and I fancied that in the upper portion of the cervical canal I found a body that felt as if it might be another ovum. There was free oozing about like a menstruation from the right side, and also a free leucorrhoeal discharge such as we see in the early stages of miscarriage in the early months of pregnancy.

Now the question that I want advice about is this: was she pregnant on the other side also, and if so, the size of the right half of the uterus would suggest to me that if she was pregnant and was miscarrying on the right side, or in the right uterus, if you like, it certainly must have been a pregnancy that occurred after the first on the left side. If it was not, is it possible that the decidua formed on the right side of the uterus the same as occurs in tubal pregnancy, and that she was not having a second miscarriage on the right side, but simply throwing off this decidua. At the time I was unable to satisfy myself that such a thing was either possible or likely.

The question I want to ask is this: if there is a double uterus, and pregnancy occurs on one side, is a decidua formed and thrown off from the other non-pregnant half, the same as in tubal pregnancy in a single uterus?

Dr. Hye:—Mr. President, if there is a double uterus and double vagina, what is to prevent that woman from menstruating from one side while she is pregnant from the other?

Dr. Skene:—I do not know what prevents it, but it is the rule that they do not. I have seen certainly one patient with a double
uterus and double vagina who bore three children in one side of the uterus and never menstruated from the other during her pregnancy. This one certainly did not menstruate, and it remains to be seen whether she is pregnant. We will know, because I begged the doctor to settle the question of what it is that is now in the uterus. I told him that it might prove to be an ovum. That there is something there I am satisfied, for it is an unheard of thing for a nulliparous uterus, and a small one at that, to have the canal dilated so as to admit the finger. One-half of the first joint of my finger could be introduced nicely without effort. That is positive evidence to me that there is something in that uterus; whether it is a decidua or an ovum remains to be seen.

Dr. Hyde:—In any of the cases that you refer to as having seen, did you ever know of the decidua being formed?

Dr. Skene:—No; and that is the very thing that leaves me in the dark and so anxious to know what has been observed in that way. I see no reason why a decidua should not form in the non-pregnant half of a double uterus. I see as much reason why it should form there as in tubal pregnancy, which we know is the rule. I think in all cases of tubal pregnancy there is a decidua not only formed but thrown off, and it is not the decidua of membranous dysmenorrhea, but the decidua of gestation, that is, it resembles it much more in size, etc.

Dr. Jewett:—Of course time will settle the question, but I think development of the decidua in the non-pregnant half of the uterus is inevitable. We know that decidual development is the rule in tubal pregnancy, and in the case before us the relation between the pregnant point and the non-pregnant is more intimate than that of the fruit sac and the uterus in ectopic gestation. I do not know of any reported cases, but the fact must be the growth of a decidua entirely analogous to that found in tubal pregnancy.

Dr. Skene:—It seemed to me to be the natural outcome, and yet in the history of this one case that I have in mind, while there was undoubtedly a decidua formed there, there was no history of its being thrown off about the time when it usually is, the end of the third month or thereabouts, although it might have been thrown off at the time of parturition without its being known.

There is one peculiarity here in this case which I have never seen, so well marked at any rate, and that is, that the division was perfect, both sides of the vagina being as nearly alike as could be in capacity, etc., the septum seemed to be an equal division of the vagina, and also of the uterus, so far as I could make out. Of course before this ovum was thrown off from the left side the
doctor found that side the largest, and he found out afterwards that
that was what gave the uterus its appearance of being one-sided,
but to-night in my examination or external manipulation, it seemed
to be a pretty uniform sort of uterus. In all the cases of double
uterus and vagina that I have seen, one side has been more developed
than the other. Of course that was markedly so in this lady who
bore three children on one side and came to me for an endome-
tritis on that side, and I found a nulliparous vagina and cervix on
the other side. So marked was the condition that although she
had been attended in her three confinements by three different
physicians, she was not aware of any malformation until I called
her attention to it. I can readily see how her former attendants
failed to discover it, because the septum was so far to one side that
on digital examination, unless you really knew what to look for the
smaller vagina never would have been found. It was only on
speculum examination that I happened to notice the other vagina.

Dr. ChasE:—I would like permission to ask a single question:
whether the husband has been interrogated regarding the situation.

Dr. Skene:—I infer that he has been blissfully unconscious, and
from the fact of the development of both sides of the vagina, I
could see how it might be possible for a second pregnancy to
occur after the first. In other words, in making an examination
you are just as likely to reach one side of the vagina as the other.
The lower portion of the septum is just within the vulva, the se-
tum is lax, and a little care is necessary in order to ascertain in
making repeated examinations of the two in comparing them in
which side the examining finger is, so there are no mechanical
conditions to prevent gestation occurring on either side, but it is
still a question whether that is likely or not. I have learned since
from Dr. Richardson that she did not have an ovum on the right
side and did not expel a decidua, so far as he could ascertain until a
month after her miscarriage at which time she expelled some
membranous shreds which he presumed to be decidua.

Dr. Jewett related a case of sudden death after labor. He
said the patient was in her third confinement, about twenty-seven
years of age, and in good general health. She had been under
great mental anxiety for several weeks, and yet I am not sure that
this fact had anything to do with the result. The labor was a
perfectly natural labor of not much over twelve hours. The child
was larger than the average. The only interference required was
the use of chloroform which was given by the nurse under my
guidance, and the total quantity, as appeared from inspection of
the bottle after the birth, did not exceed a half ounce. It was
given in the usual obstetric fashion, except at the perineal stage, when for about five minutes it was pushed to the surgical degree.

The patient rallied promptly from the chloroform, but within a few minutes she fell into what appeared to be a syncopal attack, and her condition became alarming; but after a hypodermic injection of digitalis and nitro-glycerine, the action of the heart improved. I had learned from the patient directly after the birth, that she had had an adherent placenta in two previous confinements. I took no notice of this as it is so common a mistake, but I subsequently found that the placenta was in fact abnormally adherent. During the time immediately preceding the supposed syncopal attack, I had made one or two applications of Credé's method. A recent paper in the Edinburgh Medical Journal alludes to the danger of inducing shock or collapse by pressure upon the ovaries in the unguarded use of Credé's compression, but I do not think I did that.

The placenta did not yield in the least, and at the end of about two hours (after the patient had rallied under the use of the cardiac stimulants), I separated the placenta with my hand and removed it. I found it adherent as far as I could discover nearly over the entire surface. A short time after I had begun operations on the placenta, the woman was again seized with a worse attack than the first, her complexion was ashy and she became partially unconscious. Later she complained of dyspnoea, but there was no vomiting as is usual in such cases. She became extremely restless, complained of violent lumbar pain, and died within less than three hours after the birth of the child. My theory is that death was caused by pulmonary thrombosis. The question arises, was it a spontaneous thrombosis, or the result of embolism? The first seizure occurred before I attacked the placenta. Had it occurred during my interference I should have thought embolism was the cause. This is the fourth case of the kind that I recall. In two of them there had been prolonged haemorrhage. In one, placenta praevia had been treated by a physician who carried the case along for two months or more with the use of occasional pledgets of cotton in the vagina, the haemorrhage being more or less profuse during that length of time.

In another case, the patient had been in process of abortion for several weeks, and during that time was walking about the streets and constantly bleeding. I emptied the uterus, and within a short time after the woman developed a pulmonary thrombosis and died in a few hours.
The question suggests itself—is a long-continued hemorrhage more likely to result in thrombosis than an acute hemorrhage? Another question is the possible bearing of chloroform on such an accident as this. It is reasonable to presume that the slowing up of the circulation under chloroform may favor the formation of thrombosis.

Dr. Skene:—I can add an item to one of the questions by way of answering it in part. The influence of hemorrhage and deterioration of the blood from exhausting discharges as favoring cardiac thrombosis is well recognized. It is a fact that in cases of large ovarian tumors where they have been tapped repeatedly and then operated upon, a sufficient number of them have died of heart-clot to call attention positively to that fact.

In cases of abdominal dropsy, hepatic in origin, which have been tapped repeatedly, many have finally died of heart-clot after any surgical operation, and I look upon these cases as surgical to that extent. I suppose every parturient patient is, to a certain extent, a surgical case, there are some surgical conditions present—anaemia from prolonged hemorrhage or large serous discharges, as in ovarian dropsy and abdominal dropsy, and there is no doubt that there is heart-clot under conditions making an extra tax upon the heart and circulation. As to how far the chloroform has any influence I am unable to say.

Dr. Chase:—As related to this topic under discussion, I am glad to have the testimony that there is such a thing as adherent placenta. Nowadays it is rather common to hear men declare that they do not believe there is any such thing, and that it is a very easy matter to deliver any placenta by Credé’s method. It has been my experience, perhaps common with others, to see a goodly number of retained and adherent placentae, so that manual effort was required to separate them, and testimony coming from such a source will tend to disabuse the minds of some gentlemen that there is no such thing as adherent placenta.

Dr. MacEvett:—To verify the assertions of Dr. Jewett and Dr. Chase, I would like to mention the case of a woman I attended upon two occasions where there was adherent placenta, and in proof of that there was phosphatic degeneration of a portion of the placental site, which I picked away in small pieces with my fingers. This phosphatic deposit was in the meshes of the portion of the placenta that I removed, which is prima facie evidence that there were intimate adhesions there.

Dr. Skene:—Twelve days ago I saw a lady sent to me from the northern part of the state (by Dr. Farnham), aged forty-seven, had
had a number of children; past history first-rate. Three months ago she began to have hematuria, and the quantity of urine passed was much beyond the normal, and appeared to be one-half blood. This continued for three months with only a few days exception, when about six weeks ago it pretty nearly cleared up. The doctor tried washing the bladder, gave gallic acid, ergot, etc.

When she came to me I tried to determine whether the blood came from the bladder or the kidneys. She had no symptoms; she urinated two or three times in twenty-four hours without pain. There was retention of urine for a time, some weeks ago, which was caused by a blood-clot and was relieved by catheterization.

There was no irritation of the bladder, no tenderness or pain in the region of the kidney or ureter, and examination of the urine gave no evidence of any disease of the kidney. I felt satisfied that the blood came from the bladder, as it was not so much mixed with the urine as when it comes from the kidneys in a moderate quantity.

By bimanual examination I thought I excluded stone, or if there was one it was small. There were no products of inflammation in the urine. I was unable to find any growth by the bimanual touch by which I have frequently found neoplasms in the bladder in favorable cases. I was entirely unable to make a diagnosis, so I advised the patient to remain with me a few days, and then set to work to stop the bleeding from the bladder. I found that a mild solution—half an ounce to the quart—of ordinary vinegar, using one or two quarts at a time, introducing four or five ounces and douching the bladder, stopped the bleeding. On the third day after this treatment, I distended the bladder with four to six ounces of clear water, and then with the endoscope I was able to take out a papillomatous growth—an epithelioma—about the size and not unlike in shape of a carnation, and about as brilliant in color when I first saw it; parts of it seemed stained or shrivelled from the use of the acetic acid, and here and there were deposits of urine salts. I invited the doctor who came on, and a week ago yesterday I opened the bladder by a vaginal cystotomy, and was able to pass a finger up to the mass, and then using Hunter's depressor, which is the best scoop made, I was able to bring it out through the fistula and clamp it, including in the clamp probably one-eighth of an inch of the mucous membrane, and then cut the entire mass off with the cautery, and then just heating the clamp enough so that it would desiccate the portion held in its grasp. I then let it go, washed the bladder out, and closed the fistula with silk, and I think I may say to-day she is perfectly well; there is no
haemorrhage, the fistula has healed, and there is no pain. There is only a slight irritation of the urethra on urination.

I thought at first, because the growth was lying pretty well down, that it was at the entrance of one of the ureters, but with the finger in the bladder I found that it was three-fourths of an inch higher up, somewhat pedunculated, spreading out as we see the same growth from the cervix, somewhat greater than its base.

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**ERUPTIO AESTIVALIS BULLOSA.**

BY GEORGE D. HOLSTEN, M.D.

Hutchinson (Clin. Soc. Trans., vol. xxii.) described under the title "Eruptio Aestivalis," an eruption occurring on exposed portions of the body—face, hands—characterized by the formation of small isolated vesicles, followed by crusts, loss of substance, and white, variola-like scars; appearing in spring or early summer, and due to exposure to sunlight. He had previously reported fourteen similar cases in his lectures on Clinical Surgery, under the designation "Summer Furigo. Furigo aestivalis, seu Furigo adolescentium, seu Acne prurigo."

Hanford (Illustrated Medical News, October, 1889) reported a similar eruption occurring in a boy whose first attack was in his second year, recurring subsequently every following year, usually in April, and lasting until August; and Jamison (Lancet, 1889) added another to the list of a similar eruption due to the same cause.

This disease was first described by Bazin (Cours de Sémiotique cutanée), under the title of "Hydroa Vacciniformis." Bazin says it is a rare and but little known disease, often mistaken for syphilis or scrofula. Beginning after exposure to fresh air or strong sunlight, as red spots on which herpetic-like vesicles form, on the second day they become umbilicated and turbid, and resemble a variola or varicella pustule. Crusts then form, which, after falling off, leave deep scars. Itching or burning is absent. In some cases the crusts become thick, then resembling impetigo. Relapses are frequent.

Carl Berliner (Monats f. prak. Derm., vol. xi., Nos. 10 and 11) describes another case, tabulating those previously reported, making, with his one, eighteen in all, and divides them into two classes, erup. aest. bullosa, and erup. aest. pruriginosa, the former being seen on the tender and susceptible skin of children, and the difference between the two being only one of degree.
Theo. Buri (Monats. f. prak. Derm., September 1, 1891) reports a similar eruption, where the diagnosis was confirmed by Unna. The patient—a six year old girl—had her first attack at the age of two years. It recurred every spring, and lasted usually from four to six weeks. Present attack began after exposure to a bright April sun, by the formation, on the bridge of the nose, of small vesicles, which ruptured the same day; the following day similar vesicles appeared on cheeks, interspersed with small "prickles." Patient presented variola-like scars from former attacks, and variola-like efflorescences, with crusts on hands and face. Removal of crusts showed a red, moist, slightly suppurating, sharply defined excoriation. Scars were white, small, and superficial. Buri did not see the eruption from the beginning, but such lesions as he observed began as small papules in the skin, which rapidly grew in size; the centre became transparent, while the remainder gradually became deeply brown. A crust formed, on removal of which loss of substance was seen, and a variola-like scar subsequently was left.

Buri calls attention to the following points in diagnosis: Beginning in childhood; predilection for exposed portions of the body; absence of itching; healing with resultant variola-like scar; appearance in summer, absence in winter; causation, sun's rays.

Buri suggests the addition of "vacciniformis" to "eruptio aestivalis," as denoting better the character of the eruption, and as also giving credit to Bazin for the first description of the disease.

A histological examination could not be made, but Buri regards the process as a sharply defined, not infectious, deep inflammation of chemical causation, ending in necrosis. The presence of blood on the under portion of crusts, and the formation of scars, showed that the inflammation extended into the cutis.

T. Broes van Dort (Monats. f. prak. Derm., March 1, 1892) adds another case to the list of a young lady, in whom the eruption occurred every summer for twelve years, and whose appearance was similar to those of the cases mentioned above.

Van Dort diagnoses it from impetigo where the crusts are thicker, more yellow, leaving red spots after removal, and secretion is contagious. In herpes, scars are absent, the lips are often involved, and itching or burning pain is severe. In pemphigus, the blebs are larger, with a raised border, and, after rupture, a raw burn-like appearance is left; not limited to face. He prefers the term "erup. aest. bullosa," as suggested by Berliner, because the scars in his case were superficial, not resembling variola.

The etiology is then considered. Widmark in 1889 showed that the ultra-violet rays of an intense electric light could produce
changes in the skin, and Hammer (On the Influence of Light on the Skin, Berlin, 1892), experimenting with electric and sun light, supports Widmark’s views, finding further that a sat. sol. of quin. sulph., or glycerine-quin. oint. gave the best protection against the chemical rays. He also calls attention to the increase of pigment under the influence of sunlight, as being due to light, not heat, for the strong electric light may cause the same phenomena, and that the interception of the ultra-violet rays will protect against erythema solare.

Van Dort considers erythema with scaling of the epidermis and resultant pigment formation as being etiologically related to Hutchinson’s summer eruption; with protection against the sun the process ceases in both. That erythema solare is not alone due to the warm rays is proved, in that in arctic regions, with a temperature under 0°, erythema often occurs, partly from direct sunshine, partly from reflection from the snow, of light rich in ultra-violet rays. Further, erythema solare often occurs under a cloudy sky, when the warm rays are absorbed by the clouds, and, therefore, eliminated.

Erythema caloricum, as a designation for sunburn, is incorrect, and should be dropped from dermatological nomenclature.

DYSTOCHIA FROM IMPACTION OF THE SHOULDERS.

BY J. L. KORTRIGHT, M.D.

Read before the Medical Society of the County of Kings, March 15, 1892.

The topic to be presented forms one of the minor difficulties that beset the accoucheur on his way through the world, and one of the lesser dangers that menace the foetus on his way into the world. That difficulty of delivering the shoulders after the birth of the head does occasionally occur, all physicians, especially those of largest experience, will admit; and that danger to the foetus from this cause does exist, the following list of accidents will prove: Rupture of the fibres of the sterno-cleido-mastoid muscle with subsequent abscess of the neck, injury to the brachial plexus followed by temporary paralysis of the arm, fracture of the shaft of the humerus or separation of its epiphysis, cerebral effusion, or asphyxia, with consequent death of the child. Incredible as it may seem, the head of the child has been torn off in endeavors to deliver the trunk when the shoulders have become impacted.
In ordinary labor, after the expulsion of the head, there is rest for a few seconds followed by turning of the foetal face toward one or the other of the thighs of the mother. A movement of advance begins and the child is extruded in the antero-posterior diameter of the pelvis. First one shoulder appears and then the other followed by the trunk, the knees, the pelvis and the feet. If the maternal pelvis be large, if the child be small, or if the pains be strong, no restitution takes place, and the shoulders appear in the transverse or oblique diameter. Regarding which shoulder is born first, the anterior or posterior, authorities differ. The truth of the matter seems to be this: If the delivery be left entirely to nature, the anterior shoulder slips out first in ninety per cent. of the cases. If, however, the head be lifted from the bed and we endeavor to make the delivery slow and gentle, the posterior shoulder appears first in the great majority of the cases.

I have given above the external phenomena of ordinary births of which the internal mechanism is as follows: Restitution is caused by the child's shoulders engaging in the oblique pelvic diameter opposite to that in which the head has descended. The anterior shoulder slides upon the anterior inclined plane of the pelvis under the symphysis pubis; the posterior shoulder passes along the posterior inclined pelvic plane into the hollow of the sacrum thence to sweep over the perineum into the world.

This familiar mechanism has been rehearsed at length because it has a bearing upon the proper management of the class of cases now to be considered and which form the true material of my theme.

We frequently find multiparae of the following character: They are wives of poor men and have borne their husbands from four to nine children at the regular tenement-house interval. In their youth, they were slender girls of less than the average height and have married early. Their sylph-like proportions have long since disappeared so that they present the large limbed, full bosomed, cuboidal aspect with which we are all so familiar. Repeated child bearing has caused separation of the abdominal recti, weakness of the oblique abdominal muscles, subinvolution of the abdominal walls so that the uterus falls forward when enlarged, and what they call their high stomachs become markedly accentuated during pregnancy. There may be no suspicion of rickets about them, but their pelvis are very shallow, the pubic rami widely divergent and one or all of the pelvic diameters small. When they stand erect, the axis of the uterus is nearer the horizontal than the perpendicular. If one has occasion to remove an adherent placenta
from such a uterus he will be painfully impressed by the extreme extension of the hand necessary to reach the anterior border of the placenta, or the anterior uterine wall. These women bear, as a rule, large children which frequently present in the occipito-posterior position.

When such a patient comes in labor, the head engages badly, progress is slow, and even if the forceps be used the uterus is in a condition of partial inertia by the time the head is delivered. The pains are inefficient to deliver the large body. One shoulder is caught above the symphysis at the angle of the parturient canal, the other is at the promontory of the sacrum or slightly below it. The head of the child is extended and laterally flexed at a right angle to the trunk.

It is just this condition concerning which so little has been written and the best management of which is not to be found in any text-book. It is plain that this position of the child is one of great danger; for the pressure of the maternal parts upon the body of the child without any corresponding pressure upon its head soon leads to death from asphyxia or effusion within the skull. We are all familiar with the cyanotic face and the pouting lips of a child in this position. Jacqueimi, the first to mention this variety of dystocchia, lost twenty children in twenty-six cases; and Parvin says, (Science and Art of Midwifery, p. 435,) "I have met with this hindrance to delivery in three cases in which the child could not be extracted soon enough to prevent death."

Treatment.—Jacqueimi, who as has been said, was the first to make a special study of this condition, advises bringing down the arms by extending them over the head. This procedure is acknowledged by himself and other writers to be difficult and to cause fracture of the arms. Hodge advises pressing the child's neck against the symphysis and in this manner bringing the posterior shoulder to the edge of the perineum. When the posterior shoulder appears the child is to be carried backward and the anterior shoulder disengaged. Parvin advises traction with the finger in the axilla of the perineal shoulder or with the finger in each axilla. Lusk advises traction upon the sides of the head, or with the finger in the axilla. Mann advises pressing the neck backward upon the perineum with traction till the anterior shoulder appears under the symphysis, and then forward pressure till the posterior shoulder is born. This is all that is written upon the subject.

By means of any of these procedures we would be able to deliver in the great majority of cases, but in none of them does
the proper rationale obtain. How does nature relieve herself in this condition? In the Medical Record, Vol. 37, p. 444, may be found the report of a case of impaction of the shoulders in which the pains were strong and delivery took place without external aid. In this case restitution was toward the right thigh of the mother. The face then turned backward toward the perínæum until it looked toward the left thigh. By this semi-revolution the posterior shoulder passed under the symphysis pubis and the anterior shoulder passed into the hollow of the sacrum. The mechanism was exactly analogous to that which obtains in most cases of occipito-posterior presentation of the vertex. This spontaneous rotation then is nature's solution of the problem and should furnish us a proper basis of treatment. Bearing in mind that the shoulders engage in the oblique diameter of the pelvis we should endeavor to rotate the child in the direction of the least resistance. And this direction will be that in which the anteriorly lodged shoulder passes away from the medial line of the mother and not toward it.

In practice this rotation will be best accomplished in this manner: Introduce the finger of the hand corresponding to the maternal thigh toward which the child is looking. If the restitution has been toward the right thigh use the right hand and conversely. The finger thus introduced will enter the axilla of the posterior shoulder on its dorsal aspect. Pull the shoulder sidewise and toward the symphysis. Don't push, but pull. Make the dorsal side of the posterior shoulder the advancing surface. In this way the anterior shoulder is pushed away from the symphysis and is not crowded against it. Passing into the transverse diameter the shoulder glides into the hollow of the sacrum, thence to sweep over the perínæum.

This proposed method of unlocking the impacted shoulder is not mere theoretical reasoning, but has stood the test of actual experience. Previous to its adoption I had had one case of paralysis of the arm from injury to the brachial plexus caused by traction on the head. I had also lost a child from asphyxia during delay while trying in succession the methods given in the books. Since the adoption of this manœuvre, I have had neither accident nor difficulty.

DISCUSSION.

Dr. Jewett:—Mr. President, we are indebted to Dr. Kortright or something new in the obstetric procedure and for a very lucid explanation of the technique. The difficulty in the cases in ques-
tion consists in the fact that the anterior shoulder is fixed behind
the pubes. Dr. Kortright's manoeuvre is an easy method of re-
leasing it and unlocking the difficulty.

The little things of practice receive too little attention. Yet so
simple a measure as that which has just been proposed, has a far
greater value as a life-saving procedure than most capital operations
to which much more éclat attaches. The man who saves a life in
this unpretentious way is entitled to the same credit as he who
saves a life by Caesarean section. The capacity for attention to
detail which is shown in the experience just related is a talent
which is none too common.

In regard, however, to the management of the complication to
which the paper alludes, I have been accustomed to depend upon
a method something like this: When the posterior shoulder pre-
sents I lift the head well towards the mother's abdomen. I then
place the fingers in the posterior axilla and lift that shoulder over
the edge of the perineum, pushing the perineum gently back. The
posterior arm can then be released. When this has been accom-
plished, the other shoulder may be delivered usually with no diffi-
culty. In other words, I deliver in detail, the entire bisacromial diam-
eter never being allowed to engage at one time. This method has
always served my purpose; yet I fully recognize the fact that there
may be cases so difficult that it may fail; and I heartily commend
the method of Dr. Kortright and shall hold it in readiness for use
when the other does not serve.

THE APPLICATION OF THE ELECTRIC LIGHT CURRENT
IN ELECTRO-THERAPEUSIS.

BY CHARLES JEWETT, A.M., M.D.

Read before the Brooklyn Gynecological Society, April 7, 1892.

Electrical effects in therapeutics, as elsewhere, depend mainly
upon the current-strength or volume of the circulating force.
This in turn depends upon, the electro-motive force, or the
pressure under which the current moves, and the resistance,
or the obstruction which opposes the passage of the force through
the medium in which it circulates. A clear conception of the sig-
nificance of these terms affords the key to a practical knowledge
of electro-physics. Since, in the adaptation of the electric light
current to office use, the doctor must be to a great extent his
own electrician, a few words in elucidation of these rudimentary facts of electrical physics may not be amiss before taking up methods and appliances for our purpose.

ELECTRO-MOTIVE FORCE.

The electro-motive force of a current of electricity is the propelling power of the current. To borrow an illustration from mechanics, electro-motive force is to an electrical current what the driving force or pressure is to a current of water. As water tends to flow from a higher to a lower level, so electricity tends to move from higher to lower tension, in other words, to seek an electrical level. Just as the force of a waterfall is measured by the difference of water level above and below the fall, so the pressure of an electrical current is proportionate to the difference of electrical level or potential, in the body from which and that to which the current is due. Electro-motive force then depends on difference of electrical level or potential. It is frequently spoken of, therefore, as the difference of potential, or simply the potential. The term tension is also used synonymously with electro-motive force.

Definite units have been adopted for the measurement of each of the factors of electrical currents. The unit of electro-motive force is the volt. The potential or pressure of the current is, therefore, sometimes termed the voltage. The value of a volt is approximately the electro-motive force of a single Daniell cell in perfect working order. More definitely, it is the equivalent of a mechanical force capable of generating a velocity of one metre per second in a mass of one gramme.

ELECTRICAL RESISTANCE.

A column of water moving through a conducting pipe meets with a certain amount of resistance. So the circulation of electricity encounters more or less obstruction from the conducting medium in which it moves. This is termed electrical resistance. It varies with the nature of the conducting medium. It is least in metals which are consequently good conductors. In many substances, such as glass, hard rubber and dry wood the resistance is so great that these bodies are practically non-conductors. Again, electrical resistance, like that of the water column, will vary directly as the length of the conductor and inversely as its cross-section. Long wires, then, will offer proportionately more resistance than short ones of the same size and material, and fine wires more than coarse ones in the exact ratio of their sectional areas, and the same is true of all conducting media.
It must be borne in mind that in battery circuits the battery forms a part of the circuit, and the battery elements as well as the conducting wire offer resistance. The resistance within the battery is called the internal resistance in distinction from that without which is the external resistance of the circuit. The internal resistance varies greatly in different types of battery, and this fact has an important bearing in explaining the great difference in the performance of batteries of different construction.

The unit of resistance is the ohm, the value of an ohm being the resistance of a column of pure mercury whose cross-section is one square millimetre, length 106.25 cm., and the temperature zero centigrade (the temperature of melting ice).

CURRENT.

The term current technically stands for the current-strength, or the volume of electricity that flows in the circuit. The current-strength depends upon the resistance in the circuit and the electro-motive pressure under which the current is impelled. Remembering that the battery itself forms a part of the circuit, it is plain that a battery of high internal resistance, like most of those in common use, can yield but a limited volume of current, however small the resistance in the metallic or external portion of the circuit. On the other hand, storage batteries, in which the internal resistance is but a few thousandths of an ohm, yield current in enormous volume through small external resistance. The same is true of all batteries of low internal resistance. Since the internal resistance of a battery is due chiefly to the resistance of the fluid between the plates, it follows that batteries of large plates are capable of yielding more current than batteries of the same type having small plates, since the conducting power of the fluid column varies directly as the area of its cross-section. But it must not be forgotten that the current volume from large cells is greater than from small ones of the same type only when the external resistance is small. Where high external resistances are concerned, like those of the human body, the size of the cell makes practically no difference in the current-strength, as can readily be shown by Ohm's formula.

No matter what the volume of current a given battery is capable of yielding, the current which actually flows in the circuit will be limited by the external resistance. Resistance, however, is partially overcome by increased pressure, therefore whatever the external resistance, so long as there is any current at all, its volume will become greater and greater in proportion as the electro-motive
force is higher. The current, therefore, varies directly as the potential or electro-motive force under which it moves and inversely as the total resistance. This fact is known as Ohm's law, and is expressed mathematically by the formula \( C = \frac{E}{R} \). It is evident from this formula that if the resistance were zero, the current would be infinitely great, even from a single cell of battery. If the resistance were infinitely great, the current would be zero, no matter how powerful the generator. It will be found in practice that the amount of resistance in the circuit is a very important factor in determining the volume of current. When the external resistance is reduced to an amount so small as to be inappreciable, when, in other words, the battery or dynamo is short-circuited, it yields its full volume of current. On the other hand, if the resistance is very great the current may be insignificant even from a generator of great power.

The unit of current is the ampère, the value of which is the volume of current that flows in a circuit, under a potential of one volt through one ohm of resistance. In medicine, however, where we have to do with small quantities only, the milliampère or thousandth of an ampère is the unit commonly employed.

We are now prepared to understand the difference between battery currents and the current of the Edison light system. Currents from batteries of the ordinary type are currents of small volume, owing in part to the high internal resistance of these batteries. Moreover, since only about fifty elements are ordinarily used, the voltage is lower than that of the incandescent light current, and the drop in current-strength under high external resist-
ance is greater. A battery of fifty of the latest pattern of Law cells, for example, in good order, is capable of giving on short circuit a current of about four amperes, with a voltage of 74. The Edison current, on the other hand, has a voltage of 115, and will yield a current, therefore, of 115 amperes, through a resistance of one ohm.

Two terms, *multiple-arc* and *series*, here require explanation. Instruments are said to be arranged in series when they are so connected in circuit that the current runs through them successively, as in Fig. 1. An instrument is in series when it is placed in one side of the circuit. Instruments are said to be arranged in multiple arc when two or more are so connected as to form bridges or arcs between the two sides of the circuit. This latter arrangement is shown in Fig. 2.

The ordinary applications of electricity in a doctor's office fall under three heads: galvanism, faradism, cautery. Each requires a somewhat different adaptation of the incandescent current, which we will now proceed to consider.

Galvanism. This I assume, and not electrolysis, is the proper term for the application of the smooth or interrupted galvanic current as used in gynecology and in general medicine. It will naturally be feared that more or less danger may attach to the use of therapeutic currents from so powerful a source as the Edison dynamo. There is no difficulty, however, in using the direct current from the Edison mains with entire safety. The whole secret lies in the use of plenty of resistance. The volume of current which flows into the office is limited first by the size of the conducting wire. Again, at the point where the circuit enters the house, safety fuses of limited capacity are intercalated in both sides of the circuit. These fuses, which consist of thin lead or copper wire, act as safety valves, since they melt or "blow out" and break the circuit if the current by any accident exceeds the capacity of the fuse, which may be fixed at any amount required by varying the size of the fuse-wire. If now the current thus controlled is passed through a 16 c.p. lamp, connected in series as shown in Fig. 3, the volume of current which flows through the lamp, and, therefore, in the entire loop in which the lamp is connected, is about one-half an ampere. The lamp acts as a water-gate does in a water-main, with this important difference, however, that if the lamp breaks the entire circuit is instantly arrested. A larger or smaller current may be had by substituting for the 16 c.p. lamp another of higher or lower capacity. The half ampere current, however, is a good stock current from which to draw for
most gynaecological and medical purposes. By means of a suitable rheostat this current can be controlled as the flow of water is by a tap, and may be varied from zero to any number of milliamperes required.

On first undertaking the adaptation of the Edison current to office uses I shared the opinion of Dr. Piffard that the high voltage of the current from the street mains would render it more painful than the currents of lower pressure we have been accustomed to use. Further examination of the subject has convinced me of the error of this assumption. Electro-motive pressure has no influence except to overcome resistance. The physiological effects of a smooth current depend upon the volume and quantity of current. With a given ampereage actually flowing through the tissues, the effects are the same whatever the electro motive pressure. The

![Diagram]

S. F. Safety fuses at the Edison terminals; L, 16 c.p. lamp; M, milliammeter; R, Rheostat or current regulator.

current does the work, the pressure pushes it through the tissues. Since these views are somewhat at variance with a commonly accepted opinion among medical writers, I may say that they are endorsed by my friend, Prof. Robert Sprouse, of the Cooper Union, a physicist of recognized authority.

Under the belief that the high voltage of the Edison current is painful, Piffard and others make use of a shunt circuit for the purpose of reducing the potential. This plan may be understood by referring to Fig. 4.

L and L' are lamps connected in series in the main circuit. A secondary loop is led from points of the main circuit on either side of the lamp L. The patient is placed in this secondary or shunt circuit, which also includes the milliammeter and the regulator,
and both lamps are turned on. This arrangement is not only unnecessary, but it does not even accomplish what it is supposed to do. On short circuit the voltage in the shunt drops more or less, and may be varied, according to the, resistance in the shunting lamp, from three or four to seventy volts. With the patient in circuit, however, the voltage is practically the same for a given current whether the patient is in the direct or the shunt circuit.

For determining the polarity of the electrodes the milliammeter affords the most convenient method, provided the direction in which the needle turns with an up-current has once been determined. In most instruments the needle is deflected in the direction in which the current flows. If, therefore, in the arrangement

![Diagram](image)

shown in Fig. 3, the needle of the milliammeter turns to the right, \( E \) is the positive, \( E' \) the negative electrode. The polarity may also be determined by the electrolytic action of the current. If the copper terminals are dipped at a short distance apart in a glass of water and a half ampere current turned on, hydrogen bubbles will be given off at the negative pole, while no visible action occurs at the opposite pole. Or if platinum terminals be used and dipped in a solution of iodide of potassium, a brownish discoloration will be noted about the positive electrode from the liberation of iodine.

**Faradism.** For Faradism a coil may be operated by a switch from the main circuit. The current required may best be obtained by a separate loop with a 16 or 32 c.p. lamp, connected in series. The milliammeter should not be included in this circuit; it is desirable that a rheostat should be, for regulation of the primary current.
No little misapprehension obtains in regard to the construction required in Faradic apparatus. It is a common error to assume that galvanic, Faradic and Franklinic electricity are different kinds of force. They are, in fact, one and the same. The essential differences in their physical or physiological effects is due to difference in the character of the currents. Galvanic currents as ordinarily used are smooth, continuous currents. Faradic currents are alternating currents. The peculiar effects of a Faradic current are mainly due to the fact that it is an interrupted current. The current from the secondary coil is at the same time an alternating current. Yet the impulses in one direction are so much feebler (about 13 times) than those in the other, that little importance can be attached to the alternating character of the Faradic current. The physiological effects, too, vary with the rate of interruptions— the number of periods per second. While the current-strength on short circuit is very small, the drop, even under great resistance, is comparatively little owing to the high electro-motive pressure. There can be no important physical difference, then, between a Faradic current and a direct interrupted galvanic current of the same volume and tension and number of periods per second. The tension of secondary Faradic currents as commonly used in medicine I have estimated at from 50 to 100 volts or more, and the current, on short circuit, averages about a half milliamperé, does not often exceed a milliamperé. A current of this strength and tension obtained from the Edison mains by the interposition of suitable resistance and with the use of an adjustable rheotome, would answer all the purposes of Faradic electricity. With a milliammeter capable of registering fractions of a milliamperé, precision of measurement would be possible by this method, and that at present is out of the question with Faradic instruments. Having rheostat, milliammeter, rheotome and patient in circuit, the required current could be turned on and broken at the required rate of interruption. With suitable metric apparatus the current-strength and the number of impulses per unit of time could always be accurately known and recorded. The Faradic coil, however, is practically indispensable as a simple and convenient source of interrupted currents of infinitesimal volume and high tension. Precision of measurement in the use of Faradism is not yet possible.

The requirements of a Faradic instrument may be met by a very simple construction. All that is needed is an induction apparatus with a secondary coil of long, fine wire and a rheotome or rheotomes adjustable to give from 2 to 200 interruptions per second. An instrument thus simple will accomplish all that is pos-
sible with the multiple coils of Engelmann and others. It is a
fallacy to assume, as certain writers on this subject have done, that
a secondary coil, wound with a given length and fineness of wire,
enures a current of fixed volume and tension, even with the same
primary. Current-strength, as we have seen, depends upon the
resistance in the circuit and the electro-motive force. Resistance
varies with the moisture of the electrodes, their area and firmness of
contact, the thickness and dryness of the skin at the point of con-
tact, and other conditions. Electro-motive force, and therefore the
current in the secondary circuit, varies with the strength of the
primary current, the rate of interruptions, and the extent to which
the outer covers the inner coil. Hence, an induction coil wound
to give the highest electro-motive force that can be required for any
use will answer for all uses. The tension, and therefore the current,
can be graduated from this maximum to zero by moving the outer
coil so as to gradually uncover the inner one, or by regulating the
strength of the primary current by means of the current controller.
A still simpler method of regulating the secondary current is by
means of a current controller placed in the secondary circuit. The
entire range of tension (and therefore volume) of which the coil is
capable is thus at command without moving the outer coil or
changing the strength of the primary current.

More or less importance is attached to the so-called primary
current from induction apparatus by many writers on electro-thera-
peutics. This current is nothing more than a series of impulses all
moving in one direction, and the result of self-induction in the
primary coil. It has no properties that distinguish it in any
essential particulars from induced currents obtainable from the
secondary coil, or an interrupted direct current of equal volume
and tension.

The most approved Faradic apparatus is that constructed on
the Du Bois-Reymond principle. An excellent Faradic instrument
in point of both mechanical construction and physical perform-
ance is made by the Law Battery Co., of New York, and is
shown in Fig. 5. Its secondary coil is wound with 1,200 feet
of No. 32 wire, giving a wide range of tension, and it is provided
with two rheotomes for slow and rapid interruptions. The outer
coil is movable over the inner by means of a rack and pinion.

Cautery. A convenient plan for cautery currents is shown
in the right-hand section of Fig. 8. A is a bank of lamps
arranged in parallel multiple-arc. Two of the lamps are 16 c.p.
lamps, each carrying a little less than a half ampère (0.43 ampère)*

*Edison lamps.
current. The others are 50 c.p. lamps, having each a current capacity of not quite one-and-a-half ampères (1.35 ampères). Each lamp turned on adds to the current an amount equal to its own capacity. Such a bank is suitable for a twenty ampère current,

which is an average cautery current. The system may be easily extended to give thirty or forty ampères for heavier work. If a switch-plug is placed in B, the right-hand section is ready for cautery; if in C, the left-hand section may be used for galvanism.

The conducting wires in the handles of most cautery electrodes are made too light, and are liable to become heated. The contact points are especially apt to suffer, and for this reason it is well to close the contacts of the electrode handles permanently, and to make and break circuit by a heavy floor push-button such as is shown in Fig. 6.
THE APPLICATION OF THE ELECTRIC LIGHT CURRENT.

The simple plan above described will be found far more convenient and satisfactory for cauterity currents than the cumbersome and costly motor-dynamo-transformer. The latter apparatus is wholly unnecessary for the purpose.

For a portable cauterity plant the storage battery has practically supplanted all others. A storage battery, however, to be kept in good condition must be used daily, must be recharged as often as used, and its charge must never be more than one-third exhausted. It is advisable, therefore, to make the portable storage battery do duty also.
for office purposes. Most of the annoyance which attaches to the use of storage batteries that require to be sent out at short intervals to be recharged may be obviated when the charging current can be had on tap in the office. If the battery is kept well charged, and the charging current allowed to run through it daily, very little additional attention will be needed to keep it at all times in perfect working order. For charging, the positive terminal of the charging wire must be connected with the positive pole of the battery, and the negative with the negative pole. Moreover, the volume of the charging current must be regulated according to the size or capacity of the battery. It may be just enough so that the fluid does not boil perceptibly. The battery will be injured or destroyed if these precautions are not observed. A safe charging rate is three ampères for every square foot of anode surface in the battery plates. A more convenient rule, however, is about one ampère for every twenty ampère-hours of battery capacity. For the usual medical battery a half ampère current answers sufficiently well. A simple and economical method of charging is shown in Fig. 7. The battery is connected by a loop with a single 16 c.p. lamp circuit, which is used for ordinary illumination. When the lamp is turned
on the battery is being charged. Frequent charging and the maintenance of a full charge are thus secured without special attention.

A search-lamp may be operated by the storage battery or by connecting it with the terminals of the cautery plant represented in the right-hand section of Fig. 8. The current required by the miniature lamps usually employed for this purpose is about two or two-and-a-half amperes. Turning on two of the 50 c.p. lamps in the bank the current may then be turned up by the regulator till the search-lamp burns to full incandescence.

**Rheostats or current regulators.** After careful comparison of a number of rheostats, I have found nothing better for use with the Edison current than the Bailey water rheostat. In the old instrument, however, the aluminum wire should be replaced with platinum to prevent corrosion at the contacts. The new Bailey regulator (see Fig. 9), made by the Law Battery Co., of New York, is in many respects an improvement on the old one. A good dry rheostat for
the purpose is the Willms. The Vetter regulator is suitable for use only with currents of half an ampère or less. Where currents of large volume are required, as for charging storage batteries, a single lamp of large capacity may be used. A still more convenient regulator for large currents is a bank of lamps arranged in parallel multiple-arc, as shown in Fig. 8.

Milamometers. The milameters sold by most instrument makers are inaccurate, unreliable, and otherwise imperfect. Absolute accuracy of measurement, while not indispensable for medical use, is certainly desirable. The only accurate milameter at present made is that of the Weston Electrical Instrument Company, of Newark, N. J. The instruments of this company are universally recognized as standard. Another advantage of the Weston meter is the fact that it is absolutely “dead beat”—in other words, the needle moves to the reading and stops instantly. Unfortunately this instrument is a costly one. The next best milameters that I have tested are the Vetter and the New Barrett meters.

For those who prefer to purchase a switch-board fully equipped for use with the electric illuminating current, a suitable apparatus may be had of the W. F. Ford Surgical Instrument Company, of New York. A switch-board sold by the McIntosh Battery & Optical Company, of Chicago, is shown in Fig. 10.

A simple and inexpensive adapter intended for use with galvanic and Faradic apparatus only is made by J. C. Vetter & Co., of New York. It is a lamp socket with connecting posts for conducting cords. It may be screwed into any lamp socket or wall receptacle. The apparatus is shown in Fig. 11.
SOME SUPPURATIVE CONDITIONS OF THE SKIN
FOLLOWING PRICKLY HEAT.

BY GEORGE D. HOLSTEN, M.D.,
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Read before the Medical Society of the County of Kings, February 16, 1892.

During the past summer there have been periods varying from three to six days, during which the temperature was very high and the amount of humidity in the atmosphere considerable. At these times, and for two or three weeks after, there came to the clinic for diseases of the skin in the Brooklyn, E. D., Hospital, a large number of cases characterized by eruptions, which were more or less suppurative in their nature. The lesions varied in intensity from simple superficial excoriations of the epidermis, to deep seated collections of pus, causing more or less loss of tissue, and which were attended in certain instances by enlargement of the lymphatic glands.

In many of these cases a dermatitis of varying extent and intensity also existed on some portion of the body, or the condition popularly known as "prickly heat"; or else the history was obtained that one or the other of these conditions had been present before the appearance of the supplicative lesions, and that these latter originated for the most part, on the same portion of the body. The face, scalp and neck were seats of predilection; the legs and feet, including the toes, came next, then the forearms and skin surrounding the finger nails, and lastly the abdomen, chest and back. The buttocks and pubic regions were also frequently affected in certain cases, notably in infants.

In character, these lesions varied very much. Some began as superficial, small, flat vesicles, whose contents rapidly became purulent or semi-purulent, and which dried up forming thin, yellowish or greenish crusts. On removing this crust an abrasion or excoriation of the epidermis, and a small amount of pus would be noted; or the lesions were slightly deeper, and surrounded by an areola of redness, but differing only in representing a more intense grade. At times the primary vesicle would not be met with, only an excoriation being observed.

Closely associated with these morbid phenomena, pustules would also be seen, which were variable in size, though generally
small and superficial, and projecting above the level of the skin, with pointed or rounded tops; they would become converted by being ruptured into excoriations or ulcerations, which occasionally left cicatrices, faint and slightly pigmented, but which, after a time, faded away until they were hardly discernible. A deviation from this course was, however, frequent; the pustule becoming larger, the inflammatory process extending deeper into the corium, a higher grade of intensity ensuing, and the result being shown in the production of furuncles accompanied by a more or less loss of substance.

These various manifestations, differing from each other in proportion as they were superficial, or more or less deeply seated in the skin, did not always occur separately and alone, but were often seen on the same individual, combined together to a greater or less amount on the same portion of the body. The face and scalp were most frequently the seat of the polymorphous form of the eruption, and on these surfaces it manifested its greatest severity. On the legs the appearances were more those attributed to ecchymatous lesions, and they were always more numerous around the ankle and over the instep. Around the finger nails the suppurative conditions became, in some cases, so great that marked changes in the growth of the nail and subsequent malformation sometimes resulted.

In the patients in whom these suppurative processes of the skin occurred, the general condition varied. Some were, to all appearances, in the enjoyment of the best of health, were well nourished, with all the functions of organic life apparently in good condition. On the other hand, others were very much depressed physically, thin and poorly nourished, sufferers from disturbances of digestion, assimilation, etc. These latter were invariably the most severe sufferers from the skin symptoms, and upon them the lesions developed rapidly and with great intensity. Still, there were exceptions, and patients would also be seen who, to all appearances, were healthy, but yet literally covered with suppurative lesions of the furuncular type. A predisposition to excessive perspiration was an especially marked feature in all of these, and some of them dwelt strongly on this feature, stating that during hot weather, or after severe exertion the perspiration had a bad odor; smell sour and stale.

A certain amount of personal uncleanliness was also almost always observed, and as a rule, the dirtier the patient, the more severe the eruption.

The majority of the cases were children, from the very young infant, up to the age of twelve or fourteen years. Often all the children of one family had the trouble in varying degrees of in-
tensity. Occasionally, however, adults, notably women, were met, similarly affected; but the proportion of adults as compared with the total number was small.

If we sum up the characteristics of the cutaneous symptoms described, we find that the most striking feature in all of the cases is the presence of suppuration in varying degree, and, in view of this fact I may be permitted to briefly review the literature bearing on the subject, and explanatory of the origin and source of this particular characteristic, before taking up the consideration of the instances which have been under my observation.

Tilbury Fox, (1) in 1864, first called attention to the fact that impetigo lesions were contagious; and Vidal, (2) in 1872, demonstrated that the pustules of eczema were auto-inoculable. Kocher, (3) in a paper upon osteomyelitis published in 1878, drew attention to the possibility of all acute inflammations being due to microorganisms, and the constant presence of micrococci in pus led Ogston (4) to investigations directed towards determining the reason of their existence there, and their connection with it. He examined the pus from 69 abscesses, and found in 17 of them a chain coccus (streptococcus); in 31, cocci arranging themselves in groups (staphylococcus); and in 16, both of these forms were present. He also found that the action of these two organisms on the tissue differed; the staphylococcus being found only in abscesses which were circumscribed, while the streptococcus followed the lymphatic channels and was seen to be the cause of diffuse supplicative processes.

Rosenbach, (5) availing himself of improvements in bacteriological research, cultivated the pus microbes upon solid nutrient media, and designated the different cocci differentiated by him as the staphylococcus pyogenes aureus et albus, the streptococcus pyogenes, and the micrococcus pyogenes tenius.

Passet, (6) in 1885, found in an examination of thirty-three cases instead of the four pyogenic cocci described by Rosenbach, no less than eight; and he concluded that the pyogenic organisms could at one time be the causation of a light panaritium, hordeolum, or small subcutaneous suppuration; at another time could produce severe diffuse fatal phlegmons, acute osteomyelitis or pyemic abscesses, etc., and this great variation in the results depended on whether the inoculation was made subcutaneously, intra-pleural, or intravenous, and he laid special stress on this point of invasion of the micro-organisms (invasionsortes). He also believed that infection was not always produced by one coccus alone, but often by the invasion of the body by several species of cocci at the same time.
As to the source of these pyogenic cocci, it is interesting to know that Passet found the staphylococcus p. aureus in house-drain water; the staphylococcus p. albus in raw beef which had lain in the kitchen for several days, and was beginning to smell; while examination of air, dust, earth, milk, drinking-water and "sauerkraut" were without result. Many other investigators have, however, found them in dust, air and earth.

Garré, (7) in 72 cases of paronychia, furuncles, abscesses and phlegmons, found in 68 of them, the staphylococcus p. aureus and albus, either together or alone. In four cases of phlegmon the streptococcus, three times alone and once with the staphylococcus. He also undertook an experiment upon himself with a culture of staphylococci, bringing a small quantity in contact with wounds of the fold of the finger nail, which on the second day produced epidermal suppuration, extending around the entire circumference of the finger nail, and cultures from the pus yielded on agar the staphylococcus aureus. He then applied a mass of a culture of the third generation in the same manner as a salve on the sound, unbroken skin of his left forearm, and after four days a large typical furuncle developed, around whose periphery were seated a number of isolated furuncles. There was also swelling of the contiguous lymphatic glands. The process continued many weeks and ultimately left numerous scars. Garré was of the opinion that the infectious material had gone through the excretory ducts of the glands of the skin.

Bockhart, (8) in 1887, in an article on the aetiology of impetigo, furuncles and syphosis, showed that these conditions were due to the invasion of the staphylococcus p. albus and aureus into the skin, and claimed that these three affections were not different diseases, but only different grades of development of the same disease process.

Twenty-two cases of impetigo were examined microscopically and by cultures and in all the staphylococcus p. albus and aureus were found, without any other micro-organism. The same results were obtained in five cases of syphosis, and in many cases of furuncles which had developed on the patients affected with impetigo.

Bockhart, in experiments on his own person, also obtained the following results. Unlike Garré, who used all of the substances produced by culture, he took small particles of the bacteria grown on agar, suspended them in a sterilized 0.5% salt solution, and then placed them on the normal, unbroken skin; when the skin was then lightly scratched with a disinfected finger nail so as only to remove the horny layer of the epidermis, the result was the same as
obtained by Garré, but of a milder type—impetigo pustules, with here and there small furuncles. The microscopical examination of an excised piece of skin, on which was seated a pustule, showed cocci in the hair follicles and the ducts of the sweat and sebaceous glands; or, where the protecting horny layer had been removed by scratching, the micro-organisms were found in the rete.

If these cocci passed into the surrounding tissue through the glands or through some other portion of the epidermis, then an abscess and not a furuncle was produced. This he proved by making inoculations with a fine lancet and obtaining abscesses as a result. Inoculations on the hairy portions of the body were not made, still Bockhart considered sycoosis as impetigo pustules modified by anatomical situation.

Schimmelbusch, (9) in 1888, repeated the experiments of Garré and Bockhart, achieving the same results.

Welch, (10) in an article on "Wound Infection," read at the last Congress of American Physicians and Surgeons, said that the bacteria concerned in wound infection may be many, but the pyogenic cocci of Ogsten, Rosenbach and Passet, far outranked in frequency, and therefore in importance, all other bacteria combined.

Another observation made by Welch I think of so much importance that I quote from this article:

"The skin may have all sorts of bacteria upon its surface, but, like the mouth and the intestine, in addition to these it has its own destructive bacterial flora.

"If the hands be thoroughly scrubbed with soap and hot water with a sterilized brush, or if this be followed by washing the hands in sublimate solution, and the mercury be precipitated by sulphide of ammonia, the cultures obtained from scrapings of the skin so treated, will generally be found to contain, as the prevailing organism, the white staphylococcus, and often this will appear in nearly or quite pure culture.

"But the most important point is, that this coccus is very often present in parts of the epidermis deeper than can be reached by any known means of cutaneous disinfection, save the application of heat. *

"So far as our observations extend, and already they amount to a large number, this coccus may be regarded as a nearly, if not quite, constant inhabitant of the epidermis."

Welch proposes to call this deep lying coccus the staphylococcus epidermis albus, because it possesses but feeble pyogenic power, and thinks it is probably the same as identified by Bosowski and others with the ordinary staphylococcus pyogenes albus of Rosen-
bach, and that it is an attenuated or modified form of the latter organism.

From this brief summary of a few of the large number of investigators who have contributed to our knowledge of the causes of suppuration, and who have aided in establishing on a firm basis the bacteriological origin of pus, it cannot but be evident that, associating the symptoms described and met with in the cases which came under my observation with the presence of pus cocci, we are strictly in the path of modern pathology, and the views which may be expressed by me have in consequence the sanction of the highest authority, and the support of scientific research. In other words, instead of considering the lesions in these cases—pustules, furuncles, etc.,—as the outcome of some matter pecans floating around in the system; instead of accusing some "impurity of the blood"—and what this impurity may be has never been demonstrated—as their cause, we have ocular and inoculation demonstrations of the fact that they are due to the presence of certain micro-organisms, which, obtaining a foothold in the skin at various depths, have led to the symptoms of reactionary inflammation and the formation of pus. As a result, it is possible for us to form some satisfactory opinion in regard to the symptoms; an opinion important both as regards the treatment of these cases and their prophylaxis.

In the first place, we find that the development of the lesions occurred during a spell of intensely hot weather, that a simple dermatitis or an eruption of prickly heat on some portion of the body preceded their appearance, that excessive and offensive sweating was a noticeable forerunner and accompaniment of the eruption, and that personal uncleanliness was a marked factor, and under these circumstances we can easily understand how the effects of the presence of bacterial life may be produced. The humid weather, the hyperactivity of the skin as shown by the sweating, the weakened condition of the skin owing to the inflammatory condition already existing—the dermatitis, the prickly heat—can all be regarded as factors favorable to the development of the micro-organism; while the scaling incident to the presence of these inflammations, and the slight wounds produced by the scratching, would open the door for the entrance of the bacterial agents. We do not have to seek far for these latter, for inasmuch as both pathogenic and non-pathogenic micro-organisms have been found as constantly present on the skin, we would certainly expect them to be all the more abundant in those who were uncleanly in their person, such as were the patients seen by me.
From what has been said, therefore, I would regard the conditions seen in the cases referred to in this paper, as the outcome of bacterial invasion of the skin under circumstances favorable to the development of the micro-organisms, the different lesions not being representative of different diseases, or each due to any special cause, but being the result of the same agent, and varying in character only on account of the location in the skin of the infection, whether superficial or deep, whether in the glandular bodies or on the surface, or in the corium.

That after the inception of the pustular lesions others should appear here and there on the surface of the body is easily explained by what has already been said, and also by inoculation. The patients experience a certain degree of itching which induces scratching, the pus gets under their finger nails, and is conveyed by these here and there to other portions or the surface, and is inoculated by the rubbing and scratching of the skin always going on in these cases, not only on the affected, but on contiguous parts of the body. Another mode of conveyance is by means of the clothing of the patient, most often soiled and infrequently changed, which allow the infecting agent also to remain in contact with the skin for a more or less long period of time. When we consider how easily this conveyance can take place, it is readily understood how new lesions are continually cropping out, and how a case continues in existence for a long period of time; or rather until proper treatment being used, and internal and useless dosing given up, the source and cause of the infecting process is destroyed.

As an example of the effect of clothing in propagating such suppurative process, I would briefly mention a case reported by Leloir, of a young man who, regularly every winter, suffered from furuncles of the neck. As soon as the cold weather began he was accustomed to wear an overcoat, the collar of which was soiled, and which had formerly belonged to his brother who had died of a carbuncle on the neck.

Before turning to the possibly most important portion of the subject—the treatment—allow me to report briefly a few of the cases which have been under my care:

Florence D., at eight months, was brought to my clinic suffering from prickly heat of over three weeks' duration. The chest and face were covered with the eruption, and in addition there were vesicles, vesico-pustules and pustules on the lower extremities; impetiginous pustules on the face, two suppurating excoriations on the abdomen, and a small pustule on her left arm. The nails of middle fingers of both hands were surrounded by paronychia.
Louise E., ret. eleven months. Has had prickly heat more or less intensely all summer; considerable itching and scratching. During the past two weeks furuncles have appeared on the scalp and neck.

Kate and Joseph S., ret. respectively seven and three years. Two weeks before they came to the clinic Kate developed a dermatitis on the buttocks which spread around to the abdomen, and up on to the back; through scratching the epidermis was torn off and these excoriation began to suppurate. Pustules also appeared on the hands and around finger nails. One week afterwards, Joseph, without any previous affection of the skin, began to develop pustules on hands and fingers.

Kate H., ret. twenty-nine, came July 20th with an eruption of prickly heat on her face and chest, which had existed since the early part of the summer. Itching was intense, inducing considerable scratching, and the face, body and extremities were covered with scratch marks; in addition there were furuncles on forehead and chin. These latter first appeared one week before.

Fannie R., ret. five years, came July 27th with a dermatitis of face and scalp which, in places, was suppurative in character, and showed signs of scratching. This had existed a little over two weeks. The child was fretful, and her mother carried her in her arms during the greater portion of the day, holding her in such a position that the child's head rested on the mother's right arm. The mother had four pustules on the right wrist, and three on the forearm near the bend of the elbow. These had appeared about a week previously.

Mary T., ret. two-and-a-half years, came to the clinic July 27th with a moist eczema of neurotic type on the face, and in addition, prickly heat and patches of suppurative excoriations on neck and chest. She returned August 3d and 17th, but owing to inattention in carrying out treatment the lesions during that time did not improve; if anything, the suppurative conditions became worse.

Nellie N. was brought to me on August 10th with impetiginous lesions on face and hands. William Y. was brought to the clinic on August 31st. He had one large ulceration on chin and around its periphery seven smaller ones. On right thumb paronychia and at its base a vesico-pustule. On left thumb were seated two pustules, and under the left arm was a large superficial suppurative excoration. The families of these three patients lived in the same house, on the same floor, and were very intimate with each other, the children almost continually playing together, thus showing the contagious nature of these suppurative conditions.
In the treatment of these suppurative conditions of the skin, two indications are to be met. First, the skin must be brought to a condition that it be no longer subject to, and can withstand the attacks of the pyogenic cocci; and second, that these latter, already present, be destroyed.

In regard to the first; all causes which lower the vitality and resisting power of the patient, and thereby of the skin, have to be combated on the same principle as they would be were there no cutaneous lesions present, or evidences of local infection existing. In other words, digestive, assimilative and other functional and organic disturbances must be corrected by appropriate means, and it must especially be borne in mind that there is no internal medication, no specific remedy or remedies, which per se, have any efficiency in curing the skin trouble, but whatever is given must be on broad general principles, the object of which is to improve the patient's nutrition and general health, and thus in an indirect manner to remove the susceptibility of the skin to succumb to the attacks of the micro-organisms.

The necessity of thorough cleanliness must be insisted upon and the patient washed frequently; the clothing should be light and suitable to the existing atmospheric temperature. Very frequently children were seen whose entire bodies were covered with a dermatitis caused by being wrapped up in a too abundant amount of clothing, and which passed away entirely as soon as a proper reduction in the amount of the clothing was made.

As the contagious principle may remain for a long time in the clothing, and continue in the suppurative condition, it should not be forgotten that the proper disinfection of the clothing, especially that worn next to the skin, and the bedding, is of importance. This can be best accomplished by prolonged boiling; it having been demonstrated that a temperature of 212° F. will destroy the pus cocci.

For the destruction of the bacteria present in the lesions and their cure, there are many remedies of the class of antiseptics which can be recommended.

The mercurial preparations are all good; corrosive sublimate, in solution or in ointment, either alone or combined with other remedies, being one of the best. Care must be observed to guard against absorption and poisoning when this remedy is used over an extensive area or for any length of time; and also that the primary condition is such as not to be made worse by the mercurial application. In impetigo, eczema and furuncles, when the lesions are not very numerous or cover a large area, corrosive sublimate in strength from 1 in 2000 up to 1 in 500 will be found to answer
very well. But it must be remembered that this, or any other remedy, will have but little power if the lesions are covered with crusts; these should therefore be removed before applying the remedy.

The peroxide of hydrogen can be highly recommended as a parasiticide. I often use it in cases of superficial ulcerations, first removing the crust, then applying the peroxide on a cotton swab to each lesion until effervescence ceases; this should be repeated every day for several days, the lesions between the applications being dressed with some other antiseptic. In deeper lesions, as large furuncles, the peroxide can be injected into the cavity, or the furuncles should be opened, then thoroughly swabbed out.

Carbolic acid is good in certain conditions. Applied either pure or in a 5% solution on beginning furuncles it is a painful but very efficient remedy in aborting them. If pus formation has already taken place it is better to open the boil, evacuate the pus, and then treat antiseptically. Care, however, must be observed to guard against carbolic acid poisoning.

Boric acid is used to a considerable extent by me, and when, as in the case of children, the pustular condition is extensive, and preceded or accompanied by prickly heat, its use, or that of bicarbonate of soda in solution or in ointment will be found very beneficial. It may be combined with ichthiol, also an antiseptic in action. The antipruritic property of this remedy is also of importance in treating children, as, by allaying the itching it diminishes the scratching and danger of auto-inoculation. From 2% to 5% of ichthiol with boric acid in saturated solution, or in ointment (51-31) will be as strong as necessary.

There are many additional remedies such as the hyposulphite of soda, the sulpha-carbolate of soda, iodoform, arsilot, europhen, resorcin, sulphate of zinc, etc., which can be employed and will prove serviceable, and the choice of any of them will rest with the physician, who, making use of the one he is most familiar with, will obtain good results by carefully following out the indications existing in any given case.

Sulphide of calcium, first proposed by Ringer in 1874, in doses of 1/4 grain frequently repeated, has since then so often been recommended to check suppuration, that I would like to record my own experience with it. I have used it extensively in doses from one-tenth to three grains, at intervals of one hour to three times daily, without having observed any benefit that could not have been more quickly and easily secured from local antiseptic applications.
SOME SUPPURATIVE CONDITIONS OF THE SKIN, ETC.

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DISCUSSION.

Dr. George T. Elliot, of New York,—Mr. President and Gentlemen: I have been very much interested in Dr. Holsten's paper, more especially for the reason that its contents are an evidence of progression in dermatology, a progression from those old times when dermatology was mysterious and was always ascribed to specific causes, to some trouble in the blood, to some materia pecans floating around in various unspecified regions of the body. In those days, unfortunately not so very long ago, the pathological origin of cutaneous lesions was neither investigated nor considered as being external, but they were always regarded as of internal source, to be cured by internal treatment alone. When we, however, take skin diseases upon the basis of modern pathology, especially in view of the advances which have been made in the last ten years in bacteriology and the connection of germs with suppuration and disease in general, we have arrived at the conclusion that a very large proportion of the morbid phenomena observed on the skin are entirely external in origin and have no connection whatever with internal disturbances of one kind or another. Clinically,
I have repeatedly seen the truth of these statements, having taken pains to treat a large number of cases of the same disease internally alone, and an equal number externally alone, and to watch the results. In those diseases which we were inclined to consider purely external in origin and existing only in association with functional disturbance of the alimentary tract, we found that the cases treated internally alone improved to a slight extent only after long treatment; but those which we treated locally alone got well in a very short space of time.

Under these circumstances, it would certainly appear as though the systemic disturbances did not originate the skin disease, and among cutaneous processes thus clinically investigated, I would mention those which are met with very frequently, especially in general practice—affections like furuncles or pustular eczema, or contagious impetigo, or slight suppurative conditions on one part or another of the body.

When besides the clinical and therapeutical observations made, those obtained by experimentation are also taken into account, we may safely say, I believe, that it is impossible for us to ascribe these lesions to any other cause than some external agent, which, acting upon the skin, produces the inflammation which we see, and which in one case results in a furuncle, in another in a superficial pustule, or a pustular eczema; or again, if it is situated in a hair follicle, a sycosis. In other words, all of these lesions being due to the same pyogenic cause, the form of cutaneous disease observed will depend simply on the location in the skin of the pathogenetic organism.

In substantiation of the views expressed in regard to the purely external origin of many clinically different diseases, I would refer to the following case, which has been under my care: A young boy developed after vaccination a universal impetigo contagiosa, and was treated for a long time with arsenic and a number of internal remedies without a particle of benefit. When he came under my care he was placed under strict antiseptic treatment, bichloride baths associated with ichthyol applications locally, and it was found that whenever the boy was wrapped up so that the skin was completely covered there were no new lesions formed, but whenever a portion of the body was left uncovered so that he could reach it and scratch it with his hands, then we would have new lesions arising. These observations were made every time that the experiment was tried, and the only possible conclusion was, that he would inoculate himself by the scratching, but that this being prevented the lesions could not develop. Under this antiseptic treatment the boy got well without any internal treatment. This
impetigo contagiosa shows its inoculability, moreover, by its going from one member of a family to another, and it is a matter of every day occurrence to see one child develop the process, its brothers and sisters and even parents gradually becoming affected in proportion as one is more exposed than the other to contact with the lesions of the disease. But perhaps the most common form of trouble which we see in children is the pustular eruption on the scalp and elsewhere, associated with pediculosis capitis. The pediculus lives simply upon the scalp, but we almost always find its presence accompanied by pustular lesions on the face, or on the fingers, or also extending more or less over various other portions of the body. The explanation of the presence of these lesions in these cases is certainly to be found in the fact that there is always itching of the scalp from the bites of the insects, the child scratches itself, the pus gets under the finger nails and the children scratching their face or various other parts of the body inoculate themselves, and on those surfaces we thus find pustular lesions arising. We do not find them developing on other parts except those scratched, and I have seen in children with only one arm the pustules appearing wherever the single hand could reach, but not on the surfaces out of its reach.

All of these cases simply go to show the fact that the diseases spread by means of auto-inoculation, as it may be expressed; the infection having been implanted on one spot it is carried by the fingers and perhaps in various other ways to other portions of the body, and wherever the pathogenetic element gets a foothold it starts up the same process again.

Another case, illustrating the effects of local infection, which I would also instance, is one of a child who received a scratch on the leg from riding a velocipede. No attention was paid to it until a fungoid growth began to develop along the wound. Auto-inoculation of the pus in the vicinity gradually led to the development of new granulomata until a large portion of the lower third of the leg became implicated. The patient was subjected to internal treatment and oxide of zinc ointment for some two months before he came under my care. The lesions were then perfect fungoid growths, or what is usually called granuloma, with a number of small pustules in between the granulations. The parents, objecting to surgical procedure, a very strong antiseptic, the compound tincture of iodine was used, and it required only one week to remove the entire growths, no internal treatment whatever being given.

In conclusion, I would only state that my views are entirely in accord with Dr. Holsten's, and from my standpoint I cannot but state in the strongest manner, that dermatology should be dealt
with from a modern standpoint of view, and that the current ideas that all the diseases are due to specific internal causes should be utterly cast aside. On the contrary, a very large and perhaps major portion will be found entirely local and external in origin, requiring only local and external means for their cure.

Dr. Sherwell.—Dr. Holsten did me the honor to call a day or two since, mentioned title of paper of this evening to me, and asked me to be present to discuss it. I am sorry that an important engagement has caused me to lose one-half my pleasure, at least. I am not naturally, and I believe scientifically, able to speak on it as the gentleman, Dr. Elliott, who has just closed; still, I would like to add a few words on the subject, as I cannot quite agree with his remarks in toto. It would have greatly interested me to have listened to the points referred to in the first part of the paper, relating to parasitic origin and nature of skin diseases, so commented on by Dr. Elliott, and of which theory he is so earnest and able an advocate. The doctor represents a large section of dermatologic thought in his opinions on the subject of micro-organisms and their influence upon the skin, a certain amount of which no one would want to contradict. But when the doctor goes on to assume that all, or perhaps more correctly, that most cases of eczema have their origin in external parasitic conditions, rather than in some other conditions which are due to constitutional or diabetic causes, or aberrance of function, traumatism, etc., I am driven to protest. I must differ with him, and as I judge, also, the author of the paper; and there are a great many other gentlemen of considerably greater eminence in the dermatological world who do also differ.

In connection with the row of cases, of which he, Dr. Elliott, has spoken, I think any one may take a series of cases of such small number and produce similar results with entirely different treatment. The number is too small. As for instance, to take the acne type, it may well be asked, if parasitic alone, why do they take only the developmental stage of life for their appearance, and why should the parasite be only, or to put it very mildly, most active then? Were I given my choice between constitutional remedies and local ones to be used alone, I think I should prefer the former.

I am inclined to think that most advances in medicine and many in surgery, are results of empiricism more or less wise; though I do not want to be considered as saying anything unsympathetic or unscientific on the question of bacteriology in medicine. Empiric medicine is stumbling perhaps all the time, but stumbling forward. The reason for an already ascertained fact in medicine is often afterward proven by microscopy, and its pathology defined by the
same medicine. Speaking of dermatological remedies for instance, I think the more or less accidental discovery by Balmanno Squire, of the virtues of the active principle of goa powder, chrysophanic acid, far exceeds that of all of the synthetic remedies up to date, as resorcin, etc., valuable as that named is, and others are.

Microscopical pathology is a curious thing, and we seem to have to revise our opinions every twenty years, or less. To go to Virchow for instance, who would have been bold enough to dispute his pathology of inflammation about that time ago; then Cohnheim comes and reports it, and is trusted; now Baumgärtner comes sustained by others, and succeeds in impressing some good authorities at least with the notion, that at least as regards some of the tissues, Virchow was right.

We know how about eighteen months ago, an assertion that Koch (that learned and careful man whom we all respect) did not know it all, would have been received. Lupus, according to his dictum was tuberculosis of the skin, and the very thing in which to demonstrate his theory. Lupus we know now it did not succeed in curing; some of us think still it is not a tuberculosis of the skin.

Doctor McGuire, of Washington, succeeded by a series of printed questions, in eliciting the opinions of about, I think thirty-four or thirty-five men of ability, dermatologically, in this and other countries. Nineteen of these were in the affirmative, that is, they were convinced with more or less positiveness that lupus was tuberculosis cutis; the other fourteen were of the opposite opinion. I think it is fair to say in view of the eminence of the individuals, that in weight of opinion, it would be about a tie. It must be remembered too that this series of questions was propounded in the spring and summer of 1890. Published in "Morrow's Journal" in fall of '90 or spring of '91—just when the treatment of Koch was first promulgated, etc., with all its attendant kalat.

To come back to the concluding portion of Dr. Holsten's paper, I am gratified to agree with him in many of his conclusions. In what he says relating to the action of sulphide of calcium, I certainly agree, I have never found benefit from its use. I think most of his therapeutic suggestions are valuable and well founded; though somewhat differing with him in the reasons for their use and efficacy. I have had already in my writings to put myself "in evidence" as a believer in the frequent involving of the internal organism and in eczema, acne and the like. Every one who knows Dr. Elliott has an earnest respect for his great talent and industry, as also for the writer of the paper, but there is some fighting to be done before we shall all be convinced that antibacterial treatment is the only and one thing needful.
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EDITORIAL.

LINACRE AND CAIUS.

We give our readers in this number of the JOURNAL the portraits of Linacre and Caius, with short sketches of the lives of these two great men, great not only from the professional standpoint, but also from having been very intimately connected with the revival of learning in Europe, and the introduction of the Latin and Greek classics into England, and with the first establishment of a rational practice of medicine in that country.

Besides lecturing on medicine at Oxford, Linacre was the first to teach the Greek language in that University (Sir Thomas Moore was one of his pupils), a novelty which is said to have rent that celebrated seat of learning into violent factions, that frequently came to blows. Besides introducing the study of Greek into the University, Linacre founded two medical lectureships at Oxford, and one at Cambridge, as noted in the biographical sketch, besides securing the charter and organizing the Royal College of Physicians.

Caius was a man of similar tastes, acquirements, habits and character. He was Linacre's worthy successor as President of the College of Physicians; he became, like Linacre, court physician. They were both masters of the Greek language, with which there
were few at that time conversant, and both translated from the works of Galen, and other classical authors.

Previous to the time of these men the state of the medical art was very low in England. By no competent legal restraint was its exercise restricted to competent practitioners; but engrossed by illiterate persons, chiefly monks and empirics, whose impositions upon the public were practiced with impunity. We quote from the charter of the Royal College of Physicians: “Before this period a great multitude of ignorant persons, of whom the greater part had no insight into physic, nor in any other kind of learning; some could not even read the letters on the book, so far forth, that common artificers, as smiths, weavers, and women boldly and accustomedly took upon them great cures, to the high displeasure of God, great infamy of the faculty, and the grievous hurt, damage and destruction of many of the king’s liege people.”

Both Caius and Linacre wrote principally in Latin; but one of the most singular of Caius’ works was written originally in English, being designed for the instruction of the common people. The quaint simplicity of the language of that day, more than three centuries past, sounds strangely in modern ears. But the work itself forms a very curious article in the annals of medicine, and relates to a pestilence which infected England at various periods, committed great ravages, and was attended with some remarkable circumstances. A few quotations from the book may be interesting not only as an example of the distinguished author’s style of expressing himself in “English as she is wrote” at that period, but also as giving an interesting description of military fever as it appeared at that time. The title of the work is “A Boke, or Counsell against the disease commonly called the Sweate, or Sweating Sickness. Made by Ihon Caius, doctour in physicke. Very necessary for everye persone, and much requisite to be had in the handes of al sortes, for their better instruction, preparation and defence, against the soudain conyng and fearful assaulitng of the same disease.”—12mo, 1552.

The author makes an apology for writing his treatise in English, “For,” says he, “the commoditie of that which is so written, passeth not the compass of England, but remaineth enclosed within the seaa. But as this disease is almost peculiar to us Englishmen, and not common to all men, following us as the shadowe the body, in all countries, albeit not at all times; therefore compelled I am to use this our English tongue, as best to be understood, and most needful, to whom it most behoveth to have speedy remedie.”
The "Sudor Anglicus" is described as an extremely violent fever, which began after a short chill, with cardialgia, headache and lethargic stupor, destroyed the strength at the onset, and ended in twenty-four hours. Excessive perspiration and rheumatic pain were its characteristic symptoms. The disease was first disseminated in England, after the battle of Bosworth, by the army of the victorious Henry, in August, 1486, a year distinguished by extremely wet weather. The mortality was frightful; eighty to ninety per cent., and often more, of those affected died. Caius describes the disease and gives its history with characteristic minuteness, but his treatment of it is perhaps the most interesting. It turns upon the sole idea of promoting the sweat. On this point he is peremptory. "If two be taken in one bed let them so continue, although it be to their uneasiness; for fear whereof, and for the more quietness and safety, very good it is during all the sweating time, that two persons lie not in one bed." To promote perspiration they are ordered to drink "posset ale, made of sweet milk, turned with vinegar, in a quart whereof parsley and sage, of each half, one little handful, hath been sodden, etc." If under this treatment, loaded with bedclothes, and almost stifled with heat they happen to feel faint, "cause them," says the doctor, "to lie on their right side, and bow themselves forward, call them by their names, beat them with a rosemary branch, or some other sweet little thing; do not let them on any account sleep, but pull them by the ears, nose, or hair, suffering them in no wise to sleep, until such time as they have no lust to sleep; except to a learned man on physic the case appears to bear the contrary. If under this discipline they happily recover, and find their strength to be sore wasted, let them smell an old sweet apple, and use other restoratives of similar efficacy; for there is nothing more comfortable to the spirits than good and sweet odours."

Caius enumerates many causes of the disease, but chiefly shows why it attacks the English more than any other nation. "The reason is none other than the evil diet of the country, which destroyeth more meats and drinks, without all order, convenient time, reason, or necessity, than either Scotland, or all other countries under the sun, to the great annoyance of their own bodies and wits, hindrance of those who have need, and great dearth and scarcity in the commonwealth, wherefore if Esculapius, the inventor of physic, the savior of men from death, and restorer to life, should return again to this world, he could not save these sorts of men." In corroboration of this he remarks: "Those who had the disease, sore with peril or death, were either men of wealth, ease
and welfare, or of the poorer sort, such as were idle persons, good ale drinkers, and tavern haunters; the laborious and thin dieted escaped." This curious English book the author afterwards revised, and put into a more scientific form, and into the Latin language, and published it in 1556, under the title "De Ephemera Britanica."

HYGEIA PARK SANATORIUM.

The advantages of the sandy soil of the middle of Long Island, with its pines and refreshing breezes, are attracting the attention more and more every year of the sanitarian and the capitalist. Those who have never visited Brentwood will be surprised at the evidences of development and growth which are to be seen on every hand in the private residences and especially in the Austral Park Hotel, which is one of the finest structures on the Island. Immediately adjoining this property is that of the Hygeia Park Sanatorium Company, the prospectus of which has been widely sent to the profession of both cities. It is proposed to establish here a sanatorium for the treatment of incipient phthisis, nervous diseases, dyspepsia, liver troubles, etc., on the cottage plan, much after the system which Dr. Trudeau has found to work so satisfactorily in the Adirondacks, and which has been so successful at Falkenstein and Görbersdorf. That there is need of such a place to which suitable cases can be sent is, we think, the experience of all physicians. The feature in the enterprise, which seems to us the most promising, is that patients are to be treated, and are not to be left to their own ideas of what is adapted to their individual cases. Too much reliance is now placed on change of air and scene, and too little on the medical and hygienic care of the patient, the consequence being that many who go away from home for the restoration of their health return, if ever they do, but little benefited, if, indeed, they are not made worse.

PHYSICIANS’ BUREAU OF SERVICE AT THE WORLD’S FAIR.

The World’s Fair at Chicago would poorly represent the progress made in this country since its discovery did it not contain in many and varied forms the products of the art and science of medicine, and other evidences of the enterprise of manufacturers of
medical appliances. Among the attractions which will be found there will be a physicians' bureau of service and information, to be operated by the well-known firm of Truax, Greene & Co. The services which are offered, without cost, to those members of the profession who may visit the Exposition are postal benefits, banking facilities, interpreters, telegraph, telephone, baggage and freight service, etc., etc. In short, physicians may register at the bureau, and make it their head-quarters during their visit.

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EPITAPHS FROM THE TOMBSTONES OF MEDICAL HISTORY.

Under the above title have been issued in a form both elegant and convenient for preservation, the portraits of the Fathers of Medicine, reproduced from the unique collection of engravings in the library of Dr. Joseph H. Hunt. These portraits, with sketches of the lives of these worthies, written by Dr. Hunt, have appeared in the Journal during the past year, and form the first series. The second series commenced with the present volume, and will be continued throughout the year. The editors of the Journal take this opportunity to thank Dr. Hunt for the great treat which he enables them to monthly spread before the readers of the Journal.

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OBITUARY.

CHARLES EUGENE DE LA VERGNE, M.D.

The death of Dr. De La Vergne removes from our midst one of the most active members of the profession, and one who had endeared himself to his fellow practitioners by his many and varied qualities. To few men of his years were the prospects of a successful and useful life brighter or more certain. The manner of his death was one which does honor to the vocation which he had selected as his life's work. In attendance on his niece, during a fatal attack of diphtheria, he contracted that disease, which invaded the pharynx to such a degree as to require removal of the uvula in order that air might enter. The larynx escaped, but the force of the disease was spent on the lungs, the membrane invading the bronchial tubes and producing death in less than a week of great suffering. His death occurred on June 4th, and in accordance with
his wishes his body was cremated at the Fresh Pond Crematory on June 6th.

Dr. De La Vergne was born in Brooklyn and received his academic education at the Polytechnic Institute. His medical degree was obtained at Long Island College Hospital in 1878. He had repeatedly occupied the position of Councillor of the Alumni Association of that institution and had been its President. He was for a considerable period Secretary of the Medical Society of the County of Kings and a member of the Kings County Board of Pharmacy, and had also been surgeon of the Thirteenth Regiment, N.G.S.N.Y.

PROCEEDINGS OF SOCIETIES.

MEDICAL SOCIETY OF THE COUNTY OF KINGS.

A regular monthly meeting of the Medical Society of the County of Kings was held at the Society rooms, No. 356 Bridge Street, Tuesday evening, May 17, 1892, at eight o'clock.

The President, Dr. Z. T. Emery, in the chair.

The minutes of the April meeting were read and approved.

The Council reported favorably upon the names of Drs. J. H. Lawrence, R. C. F. Coombs, George E. Reed, Edward Morgan, A. L. Sherman, Charles D. Napier, Henry T. Hotchkiss and A. H. Staub, and recommended that they be elected to membership.

The following were declared elected: Drs. Joseph C. Leiter, Constantine McGuire, Smith E. Jelliffe, and Evan F. Smith.

The following gentlemen were proposed for membership:

Dr. Frederick C. Holden, 877 Union Street, University of New York, 1892; proposed by Drs. H. B. Delatour and W. M. Hutchinson.

George Everson, 125 Willoughby Street, Dartmouth Medical College; proposed by Drs. J. H. Raymond and George McNaughton.

Jennie W. Farrell, Blytheburn, L.I., Woman's Medical College, Philadelphia; proposed by Drs. Z. T. Emery and W. M. Hutchinson.

SCIENTIFIC BUSINESS.

The following papers on the subject of "Appendicitis" were read:
1. "Aetiology and Pathology," by J. M. Van Cott, Jr., M.D.
2. "Symptoms and Diagnosis," by W. J. Cruikshank, M.D.
3. "Medical Treatment," by Glentworth R. Butler, M.D.
4. "Indi-


UNFINISHED BUSINESS.

The committee appointed to arrange for the entertainment of the American Gynecological Society reported progress.

On motion, the meeting adjourned.

W. M. HUTCHINSON,
Secretary.

PROGRESS IN MEDICINE.

SURGERY.

BY GEORGE RYERSON FOWLER, M.D.,
Surgeon to St. Mary's Hospital, and to the Methodist Episcopal Hospital, Brooklyn.

TREATMENT OF SPHILITIC STRicture OF THE RECTUM BY ExTRIPATION.

Quénn (Bul. et Mem. de la Soc. de Chir. de Paris, vol. xvii., p. 140). The results of the old treatment of syphilitic stricture of the rectum by dilatation by means of bougies or by rectotomy have always been unsatisfactory. Nor could extirpation of the rectum, though repeatedly recommended and performed in Germany, thoroughly satisfy the surgeon as long as the patients were condemned to permanent incontinence. Krasko's method of preserving the sphincters in the treatment of rectal ulceration and stricture was a decided step in advance. For lower stricture without extensive ulceration above, resection of the coccyx and sacrum is unnecessary, incision of the soft parts being sufficient. I communicate a case in support of the favorable results occurring with this treatment in which after seven months the tissues presented a normal appearance; no recurrence; perfect continence.

NOTE UPON METHYILE CHLORIDE.

Beignonnet and Naville (Paris, 1890). Methyl chloride is frequently employed as a local anaesthetic. It is most successfully used in cases of sciatica of long standing, in different forms of rheumatism, lumbago, hyperæsthesia and pleuritic pains. It is applied
on portions of the skin by means of syphon-like apparatus by the manufacturers. A temperature of 20° below zero is obtained, which is very soon followed by a powerful reaction in an extensive area of irritations of the skin which may arise from the use of methyle chloride (blisters, pigmentation, etc.) can easily be avoided by careful administration. To produce anesthesia for smaller operations, tampons saturated with the agent and applied are sufficient.

**OPERATIVE TREATMENT OF PES TALUS PARALYTICUS.**

Eugène Rochard (Rev. de Orthop., 1891, No. 5). Two methods are employed: The shortening of the tendo Achillis by excision of a portion of the same or by an oblique incision and attaching both portions to each other, followed by the transplantation of tendons by the blending of the peronei with the insertion of the tendo Achillis. The shortening of this tendon by Walsham’s and Willet’s method was almost completely successful in seven cases; in no case was there a complete failure. However, the period of observation was not long enough in these cases. Gibney by oblique separation reached quite excellent results in seventeen cases—in eight cases, satisfactory results,—and in but three cases was he unsuccessful. Kirmisson also obtained a good result in a similar case. The author modifies the latter process by adding a lateral freshening to the simple lapping over each other of the separated parts of the tendon, thus increased chances of union with shortening being offered. Which of these methods is to be preferred is to be determined by a careful examination of the individual muscles. If the gastrocnemius, plantaris and soleus are only atrophic and not completely paralyzed, the anomaly being exclusively caused by an exceedingly strong tension of the tendo Achillis, simple shortening is to be recommended. But if the muscles are completely paralyzed,—which, however, occurs but rarely, it almost without exception following infantile paralysis—the transplantation of tendons is to be employed in order to connect the peronei. Arthrodesis is to be employed only in clear cases of dangling foot. The good results of the operation are, of course, lessened by secondary changes in the plantar arch by retraction of the plantar fascia, etc. A priori, however, the idea (Fayette Judson) that a weakened muscle must not be allowed to act as it may be injured thereby is to be abandoned.

**PERMANENT ANTISEPTIC IRRIGATION.**

Edward V. de Meyer (Deutsche Zeitschrift für Chirurgie, vol. xxxi., p. 407). The author who was for two years an assistant in
the septic department of the Heidelberg clinic, reports eleven cases treated by means of antiseptic irrigation during that time. The patients were suffering from severe gangrenous conditions following severe injuries, such as compound fractures, etc., and in whom dangerous septicæmia was present—and consequently amputation or resections inevitable. The good effect of the treatment was shown by its influence on the general condition—improvement in pulse, abatement of fever, as well as by the favorable change in the wounds, clearing of the phlegmonous cavities of the stumps after amputation, etc. Only two of the patients treated died, one of tetanus, the other of septic embolism.

For irrigation a one per cent. solution of acetate of alumina is used. About sixty litres of the fluid were allowed to irrigate the wound in twenty-four hours. The patient's bed is protected against wetting by the use of divided mattresses. The fluid is led to the wound through a small serpentine metal tube, perforated by numerous small holes and attached to the end of a rubber tube. Beside the antiseptic irrigation for the purpose of cleaning the wound, iodoform was freely used, and while the general septic appearance existed, strong alcoholics (sherry, cognac, etc.) were administered in abundance, the author laying great stress upon this point.

GASTROSTOMY IN CASES OF CARCINOMATOUS STRicture OF THE CARDIAC ORIFICE.

Dr. Carl Lauenstein (Centralblatt für Chirurgie, vol. xviii., No. 27, p. 513). The advantage offered by fistula of the stomach in cases of carcinoma of the oesophagus or cardiac extremity of the stomach depend upon the condition of the fistula and of the stomach itself. The fistula should permit of the ready introduction of food, and also retain the gastric juice and chyme in order that its edges may not become excoriated from the pouring out of its contents. Experience shows that a small fistula affords the best results. The stomach must not only retain the food, but digest it. These two demands are, as a rule, fulfilled, even when carcinoma attacks the lower extremity of the oesophagus, excepting occasional disturbances in the chemical conditions, as the absence of the hydrochloric acid in the gastric juice.

A very different condition was shown in two recent cases of Lauenstein's where not only was the passage to the stomach obstructed by carcinomatous distress of the cardiac orifice, but the stomach itself was involved. The gastric mucous membrane was deprived of the physiological qualities necessary for digestion and no food could be retained. In addition, the shortening of the car-
cinomatous stomach may be so considerable that the stomach may be closely adherent in its original position by means of attachments of the cardiac tumor, that it will be found impossible to secure a portion of its anterior wall to the wall of the thorax or abdomen. Lauenstein reports a case of carcinomatous obstruction of the cardiac extremity in which he failed to approximate the wall of the stomach to the fistula, established by Haems' method in the anterior part of the eighth intercostal space.

Lauenstein disapproves of the establishment of a fistula in cases of complete obstruction of the cardiac orifice resulting from carcinoma. He recommends nourishment per rectum exclusively in these cases. The following are diagnostic points in obstruction at this point by the presence of a carcinomatous tumor. Von Harléer's measurements show that the distance between the upper front teeth and the cardiac orifice is thirty-eight to thirty-nine centimetres in women, and forty to forty-one in men, hence lesions at this point are diagnosed if the obstruction begins from thirty-eight to forty-one centimetres, beyond the upper dental arch. In two of Lauenstein's cases the exploring instrument met the obstruction forty-two and forty-two-and-a-half centimetres beyond the upper teeth. In both cases no traces of blood were found on the instrument, while in carcinomatous affection of the esophagus, especially after repeated examinations, blood is usually found. In a second case a loud systolic noise was apparent in the epigastrum below the ensiform cartilage simultaneous with the radial and femoral pulse, the heart sounds being quite normal. This symptom is explained by the probable presence of a tumor pressing upon the aorta, (a post-mortem examination revealed a tumor the size of the fist attached to the spleen).

LUECKE'S METHOD OF TREATING Erysipelas.

Winkler (Wiener med. Wochenschrift, No. 46-48, 1891). The method of Luecke consists of the application of rectified oil of turpentine with a brush or small compress with stroking movements from the healthy toward the diseased portion several times daily; the sèances should not exceed five in the twenty-four hours. In the after-treatment, following each sèance, the parts are covered by cotton wadding held in place by a bandage. The parts are thoroughly cleansed in the beginning with ether or alcohol. Excoriations are covered with sublimated lanolin. Twenty-two cases are reported, showing an average of five days elapsing between the first application and the desquamation marking the subsidence of
the disease. The benefit derived is said by the author to depend upon the ozone present in the oil of turpentine.

THE TREATMENT OF ANCIENT LUXATION.

Thiery (Gaz. des Hôpitaux, 1891, No. 136). Thiery suggests that the expression "ancient" be replaced by "irreducible" luxation. In considering the measures to be employed in this class of cases he reaches the following conclusion: First. Under anesthesia trial of manual reposition is to be made. Second. Forcible measures may be tried if manipulation fails. Third. Tenotomy is useless in this class of cases. Fourth. Arthroty is, as a rule, the operation of choice, particularly in luxations of the shoulder. Fifth. Resection, especially in combination with the artificial formation of acetabulum, is to be preferred for the hip-joint; in the shoulder-joint it may likewise be useful, but should be preceded by a trial of arthroty. Sixth. Osteotomy and ostoclastic have succeeded in a few cases of a desperate character; they are rarely indicated however. Seventh. At the present time there can be no justification for amputation, which was in former times resorted to upon occasion.

OBSTETRICS.

BY CHARLES JEWETT, M.D.,

Professor of Obstetrics and Diseases of Children, and Visiting Obstetrician, Long Island College Hospital; Physician-in-Chief to the Department of Diseases of Children, St. Mary's Hospital, Brooklyn.

Dörhessen (Centralblatt, Feb. 20, 1892). The Löhein and Olshausen statistics emphasize the statement that twenty-five per cent. of all eclamptic patients, whether seized before or after birth, fall a victim to the disease. According to Winckel twenty-three per cent. of the mothers and about half the children die. To reach a rational basis for the treatment of this disease, two questions require to be answered.

1. Do the eclamptic attacks cease with the termination of labor?

2. Does operative interference aggravate the prognosis?

The first question is answered negatively by the older statisticians, affirmatively by later authorities. This difference of opinion is explained by the fact that the older statistics (also those of Brummerstadt and Shauta) are based on cases in the larger majority of which the delivery was accomplished without an anesthetic, and in which the beneficial effects of emptying the uterus were more
than offset by eccentric irritation involved in the operative interfe-
erence. The old text-book dogma that artificial delivery aggravates
the attacks is untrue, provided the operation is conducted under full
anesthesia. Artificial delivery in eclampsia should always be con-
ducted under chloroform narcosis to the surgical degree. Statistics
show that in labors so terminated the eclamptic attacks cease with
the birth of the child in from seventy to eighty per cent. of all cases.
No true eclamptic cases terminated by operation show a higher
mortality than those spontaneously delivered. Yet operated cases
comprise those which are primarily most unfavorable. Death
comes rather in spite of the interference than because of it. Lantos
statistics show that cases operated, after an average of not more
than four attacks recovered, while after sixteen they died. Most of
the latter died of sepsis; they belong to the pre-antisepctic period.

Immediately on the diagnosis of eclampsia the severest oper-
tions are justified (under narcosis), provided they can be
performed without danger to mother or child. Early delivery is
especially indicated, for the reason that after a small number of
attacks a fatal cerebral hemorrhage or fat embolism of the lungs
(Virchow) may develop. That the gravest operations do not
aggravate the eclamptic seizures when performed under anesthesia
is shown by the results of Cesarean section in puerperal con-
vulsions. Of eleven cases so delivered the attacks ceased on
delivery in ten. Four died, all but one from causes other than the
operation.

Notwithstanding these facts the author is not an advocate of
Cesarean section in eclampsia. It is too dangerous to the mother.
It is a laparotomy and as such will at the best be attended with a
mortality of five per cent. while delivery *per vias naturales*, if prop-
erly conducted, is wholly without danger.

When dilatation is not promptly accomplished the author advan-
cates deep cervical incisions. He has operated in twenty-six cases
by this method, losing none of the mothers and but two of the
children, and these by asphyxia. After the cervical incision
forceps delivery was practiced in twenty-one, version in three,
ordinary breech extraction in two. No hemorrhage occurred
worthy of mention. This procedure is applicable when the os
internum is effaced.

In the rare cases in which the cervix persists after the onset of
convulsions the author advocates forcible dilatation of the
cervix.

This method is applicable not only at the beginning of labor but
before labor begins. If the cervix admits a single finger the colpeu-
rynter can be introduced into the uterus. This method is better than the more gradual induction of labor in eclampsia. The slow process of induced labor as practiced in other cases is here dangerous to the mother. The operation is not to be delayed till the woman is in extremis, but may be done immediately on the first attack. Finally, the author proposes immediate evacuation of the uterus on occurrence of eclampsia after the eighth month by one of the three methods already mentioned, viz.: cervical incision, mechanical dilatation, or the combination of both methods. Before the eighth month he is more inclined to rely on medicinal treatment.

DISCUSSION.

Olshausen agreed with the author that the termination of the birth resulted in most cases in cessation of convulsions, and concurred in the author's views of the necessity for speedy delivery, but with the proviso that it should be possible without serious traumatism.

The method for dilatation practiced by Tarnier and Barnes he thought simpler, and therefore to be preferred. He would have the indications for Cesarean section in eclampsia clearly defined.

Mackenrodt did not consider the incisions of Dührssen entirely free from danger. He had seen two cases at the hands of general practitioners in which after making the incisions they were unable to control the hemorrhage by suture. Moreover, he had frequently seen a parametritis follow at the polyclinic of A. Martin in spite of the strictest precautions. Within a year he had lost a patient by embolism after delivery by Dührssen's incisions. The treatment he thought should be restricted to exceptional cases.

Van Der Mey related a case of Cesarean section in eclampsia. The child lived five days, the mother making a good recovery.

Czempin said that Dührssen's method had not changed his pessimistic views of the prognosis of eclampsia. Cases of eclampsia in which labor sets in actively after the onset of convulsions have a fairly favorable prognosis. If one wishes to shorten the spontaneous birth he may make incisions. He believed, however, that the prognosis was not favorably influenced by this practice. He favored the use of chloroform and waiting for spontaneous dilatation.

Cases in which the eclamptic attacks appear in pregnancy, follow each other in quick succession and continue days with little or no dilatation of the cervix seldom recover. Whether in these cases D.'s proposition to use the colpeyrnter would be an advantage,
remains to be seen. This class of cases are almost always fatal even after evacuation of the uterus.

Bokelmann was opposed to the universal adoption of Dührsen's method. He did not doubt its utility in exceptional cases, but thought D. too sanguine in regard to the value of measures of his own device.

Gusserow thought D.'s treatment in severe cases a great step in advance. The unfortunate results which Mackenrodt related, Gusserow had never seen. Their importance in comparison with the danger of Cæsarean section was scarcely worthy of mention.

FISSURED NIPPLES.

Vinay (Wien. med. Presse) commends the use of aristol in cracked nipples. He uses a twenty per cent. ointment, applied after nursing. The fissures are held open during the application to bring the medicament in contact with the entire wound surface.

SEPSIS OF THE UMBILICAL WOUND.

Eröss (Arch. f. Gyn., B. xii., H. 3) observed the process of healing of the umbilical wounds in 1,000 new-born infants under different modes of treatment. A strictly normal course was the exception rather than the rule. Morbid conditions of greater or less gravity were found in sixty-eight per cent. These consisted in sloughing of the stump, softening instead of complete mummification, decomposition of fragments left undetached after the rest had separated, suppuration and gangrene. Pyrexia occurred in 220 cases and in a certain proportion of instances was the only evidence of septic absorption.

GYNAECOLOGY.

BY WALTER B. CHASE, M.D.

HYDROSTINE IN UTERINE HEMORRHAGES.

Emanuel (Therapeutische Monatshefte, Dec., 1891) relates results which differ somewhat from Falk. It was administered in gelatine capsules ½ gr. hydrochlorate of hydrostine every six hours, to be decreased in frequency as hemorrhage abated. From six to twelve doses were usually required. If twelve doses were not effectual its use was discontinued. Of the forty-eight cases, the cause of the bleeding in twelve was disease of the adnexa. In five
of these cases the hemorrhage was promptly arrested, in from twenty-four to thirty-six hours. In three cases the result was not so good, and in two it was ineffectual.

In cases arising from forms of endometritis the effect was negative in one case, in twelve it was promptly efficient. In those cases associated with retroversion, longer time was required for it to control the bleeding.

In four cases of myoma of the uterus it was inert. In the eleven remaining cases the hemorrhage was of congestive origin. In two cases of profuse hemorrhage at first menstruation after confinement, its efficacy was demonstrated, and in two cases of increased menstruation following abortion its use was not effective. In five other cases in which the congestive cause was supposed to be operative the results were good in three and negative in two. Emanuel concludes that this remedy acts upon the small vessels of the mucosa, whereas ergot exerts its influence upon the smooth muscular fibre. It is not, therefore, indicated in post-partum hemorrhage or that of abortion. No disagreeable symptoms were observed from its use.

TREATMENT OF CHRONIC ENDOMETRITIS.

Duke (London Med. Record, March, 1890) has obtained excellent results in chronic endometritis by applying horacic acid to the endometrium by means of a slightly curved vulcanite tube, rather larger than a No. xii catheter. The tube at its terminal end is charged for two inches, and emptied by a piston. Many cases of this variety have been cured. D. thinks most ordinary cases should yield to a dozen applications. The acid acts as an antiseptic astringent and deodorizer.

GLASS ROD IN PERITONEAL CAVITY.

Wylie (Med. Record, May 7, 1892) relates a case of laparotomy for removal of tube six inches long by one-third of an inch thick, in an unmarried woman, aged 25 years.

About six weeks after pregnancy the rod was introduced into the os uteri and escaped into the uterus. Six weeks subsequent to this she miscarried, and a little less than three weeks after the tube was found in the left lumbar region. The left tube and left ovary were found diseased and removed.

INCLINED DECUBITUS.

Emmet (New York Journal of Gynaecology and Obstet., February, 1892). E., after reviewing his teachings as to rest and the inclined
position, declares that in his judgment there is "scarcely a condition of disease of the female pelvis which is not benefited to some extent by maintaining a recumbent position, with the foot of the bed elevated from twelve to eighteen inches." The lesser elevation is of little value. By this method he has cured several cases of tubal lesion and he has observed prompt relief in allaying the constant irritation of the bladder associated with local peritonitis about the retro-sacral ligaments.

He believes this method, combined with the rest cure of Weir Mitchell, will accomplish excellent results in functional disturbance of the genital organs. He relates a case of great interest—one of pus tube—where there was discharge of pus from the vagina, with frequent rigors and rise of temperature.

The right tube was distended with pus, and as large as the wrist, lying behind the uterus, which was crowded well forward against the bladder. The uterus was fixed in position, and as he had just treated a case where cure was effected without an operation, he had less reluctance in giving her the benefit of delay. Almost immediately on her being put to bed, with the foot of the bed elevated eighteen inches, a free and continuous pus drainage was established through the uterine canal.

Within a week she ceased to have any afternoon rise of temperature and she was allowed to get up. Twice this was attempted, but the escape of pus ceased, with increase of pain and a return of the rigors, with elevation of temperature. She was, therefore, kept on the inclined plane for five weeks, the discharge gradually diminished, when circumstances made it necessary for her to return to her home. It was then found that this tube had returned to its normal position, and was about the size of the little finger, and the tube was much more movable.

E. trusts that the use of the inclined plane will prove as valuable to others as to himself, but says too much should not be expected of it.

AN IDEAL DRESSING FOR ABDOMINAL WOUNDS.

Kelly (Am. Jour. of Obstet., Dec. 1891). An ideal dressing should be a paste, which would harden quickly—thin, flexible, transparent, impenetrable, which would hermetically seal the wound from external septic invasion.

"After closure of the incision, the skin, the line of the wound, and the sutures are dried, and two layers of sterilized gauze or cheese-cloth, large enough to project five to ten centimetres (two to four inches) beyond the incision on all sides, laid on the skin.
This is saturated with the following adhesive mixture, which is evenly distributed over the whole surface:

"½ Squibb’s ether, or washed ether, and alcohol, absolute, equal parts;
Bichloride of mercury (Merck’s recryst.), enough to make the solution {\text{10}}%;
(Anthony’s) snowy cotton, enough to make a syrupy consistency, added in small pieces, stirring.

"As soon as this is poured over the wound evaporation begins to take place at once, and the celluloidin hardens, gumming the gauze fast to the skin. To avoid delay in waiting for this to grow quite hard, and to prevent adhesion to the cotton applied above it, the whole surface is freely dusted over with a finely powdered mixture of iodoform and boric acid:

"½ Pulveris iodoformi, 4 grammes, or 1 drachm;
Acidi boric, 28 grammes, or 7 drachms.
M.—Exactissime. Sig.—Dust freely on wound.

"This powder is of itself an invaluable protective. I use it constantly in obstetric cases, separating the labia and throwing it into the vagina, where it acts as a guard to the vaginal outlet against septic invasion from without.

"The wound thus sealed with celluloidin gauze may be left untouched for a week or more, when the dressing should be softened with water, or more rapidly with ether, the gauze lifted off, and the stitches taken out."

DISEASES OF THROAT AND NOSE.

BY WM. F. DUDLEY, M.D.,
Attending Physician, Department Throat and Nose, Dispensary of L. I. C. Hospital; Instructor in Diseases of the Throat and Nose, New York Post-graduate Medical School and Hospital.

SUPpurATIVE OTITIS AND CEREBRAL SYMPTOMS AFTER PLUNGING POSTERIOR NAres FOR EPISTAXIS.

Gellé (Jour. Laryngol. and Rhinol., vol. vi., No. 1). Tamponing of the posterior nares may not only cause suppurative otitis, but may endanger life.

The frequency of otitis from this source depends upon the length of time the tampon is allowed to remain in situ. It has occurred two days after insertion of plug.
Blood may have entered the ear before introduction of tampon, or hemorrhage may occur in Eustachian tube. The otitis may be primary and hemorrhagic, or it may be secondary and infectious. In both events the tampon is condemned. In the first, the exit of blood in Eustachian tube is opposed by pressure of tampon, and in the second it facilitates the entrance of pus into an unaffected ear.

The cerebral danger is absorption of septic material and inflammation. Chatellier believes that posterior tamponing is never necessary, bleeding occurring always from anterior portion of septum.

Lubet-Burbon claims that ninety per cent. of cases of epistaxis is limited to anterior part of septum.

Luc advocates use of antiseptic (iodoform) plug in cases of surgical interference which may have caused hemorrhage. Gouguenheim deprecates use of Bellocq’s sound, as it might cause additional injury to mucous membrane, advises introduction of soft rubber sound. Gelé has used successfully subcutaneous injection of ergotin, in cases of obstinate and profuse hemorrhage.

CYST OF THE MIDDLE TURBINATED BONE,

Charles H. Knight. This condition affects the special sense of smell, the drainage of upper nasal fossae, and may also be the cause of various reflex phenomena. The cysts are rarely large enough to interfere with the respiratory functions of the nose. The subjective symptoms are impairment of smell, persistent headache, neuralgia of fifth nerves, and some obstruction. On inspection the mucous membrane may appear atrophied, the tumor is firm and unyielding to touch, a considerable discharge of mucus into post-nares generally present. A case has been reported by Schaffer of cystic involvement of inferior turbinated, and one by Bayer of the superior turbinated; none have come under the author’s observation.

This condition is frequently associated with myxomatous degeneration. Females are more often affected than males, and most of the patients have been past middle life. No case occurring during childhood has been reported.

This condition must be differentiated from osteoma, myxoma and mucocele of the ethmoid cells.

A cross-section of a cyst presents the following microscopic appearances: On outer surface a layer of pavement epithelium, beneath a strata of connective tissue, moderately vascular. Under this a layer of bone of varying thickness, then a lining of loose connective tissue, and covering the inside of the cyst a row of ciliated epithelium. The lesion causing this condition is probably
an osteophytic periostitis, following a hypertrophic rhinitis. The bone of middle turbinate curls upon itself until it reaches and adheres to its own base. The external layer of mucous membrane may hypertrophy or atrophy from pressure. The glands on internal surface secrete until cyst cavity is filled to distention, when the atrophic process is initiated. The cyst contents may become purulent. The treatment is entirely surgical, consisting of removal of mass by means of cold wire snare. In case it is impossible to ensnare the growth it may be removed by means of the cutting forceps and scissors. To examine cyst contents, hypodermic puncture is necessary, as the cyst walls are always broken during the removal of the bone. The hemorrhage during the operation is generally insignificant.

The indications of surgical interference are as follows:
1. Obstruction of nasal respiration.
3. Reflex neuroses.
4. Anosmia.
5. Impaired quality of voice.

CHILDREN AND THEIR DISEASES.

BY FRANCIS HART STUART, A.M., M.D.

GASTRIC DIGESTION IN SMALL CHILDREN, AND IRRIGATION OF THE STOMACH.

Troitsky (Jahrb. f. Kinderheilk., xxxii., 4, abstracted by Dr. T. M. Rotch, "Boston Medical and Surgical Jour." vol. cxxvi., No. 2, p. 33) presents the following propositions:
1. The presence of completely coagulated casein in the stomach does not warrant one in speaking of the excessively acid contents of the stomach, for a precipitation of the casein from the solution can only happen in consequence of the influence of labferment, and this acts in the presence of an alkaline reaction.
2. The change of the casein which has begun to coagulate to the state of solution with subsequent peptonization, is due to the simultaneous action of acid and pepsin, and the stomach takes up the albumen more successfully and completely the more the quantity and composition of the digestive secretions approach the normal.
3. Lactic acid must be regarded as a normal constituent of the gastric juice, at least in very young children, and in those with whom the diet is exclusively one of milk, and its formation is encouraged by milk-sugar, which is abundant in the milk. This constant presence of lactic acid has its effect alike upon the digestive process and upon the action of microbes.

4. Hydrochloric acid plays the principal part in digestion, but its determination is not always easy, because the casein of the milk has the property of holding it until digestion begins. Hydrochloric acid may usually be found in small quantities in the stomachs of very small children. As digestion increases in activity, the quantity of hydrochloric acid also increases.

5. The quantity of acid in the gastric juice of children is relatively very much smaller than in adults, and is conversely as to the quantity of food taken into the stomach.

6. The average time during which the food stays in the stomach of small children is two hours.

7. Slight mechanical, thermic or chemical irritation of the gastric mucous membrane will increase the acidity of the secreted juice, and favor a rapid emptying of the stomach. Alcohol stays digestion, but counteracts fermentation.

8. The part in digestion which is played by the stomach of the child is an important one, even though it does not appropriate all the albumen which comes into it.

9. The anti-microbial properties of the gastric juice are undoubted, and are due to the presence of free acid, especially hydrochloric acid. In consequence of the slight acidity of the gastric juice in the stomach of children, it cannot act as forcibly to retard fermentation as the same secretion in the adult.

10. It has not yet been determined what significance certain micro-organisms have upon digestion.

11. Functional disturbances of the stomach of children are due to changes in the quality and quantity of the gastric juice, the regular exchange in its ingredients being disturbed, or the parts being subjected to physical or chemical changes which are not yet understood.

12. The quantity of gastric juice in the stomach of children may be lessened without necessarily causing an increase of lactic acid, or the appearance of acetic or butyric acids.

13. When the normal secretion of the stomach is deficient, acids are developed which are not suitable for normal digestion.

14. The presence of too much mucus in the stomach may paralyze the digestive activity of the gastric juice, though the latter may be normal as to quantity and as to composition.
15. If too much food enters the stomach, or if it remains there too long, an insufficient quantity of gastric juice will be secreted for its digestion.

16. The majority of gastric dyspepsias in children are caused by the deficiency of hydrochloric acid in the gastric juice. Functional disturbance is rarely caused by excessive secretion of gastric juice.

17. Diseases of the stomach with definite anatomical peculiarities manifest themselves by the presence of an abundance of mucus, serum and inflammatory elements. The more severe the disease, and the longer it lasts, the more conspicuous will be these elements.

18. With inflammation of the gastric mucous membrane digestion is reduced to a minimum, even if the gastric juice remains normal in quantity and quality.

19. Disturbed digestion is accompanied by the appearance of an increased number of fermentation-phenomena, with the formation of acids foreign to the stomach and its work, as well as the breaking up of albumen and the formation of decomposition products. The substances which are submitted to fermentation are the fats and the excess of mucus, which ordinarily do not undergo such changes.

20. A diminution or failure in the presence of hydrochloric acid in the stomach signifies the formation of pathogenic elements in the soil favorable to such development, the anti-microbial power of a sufficient quantity of hydrochloric acid being wanting.

21. It is quite possible that certain forms of micro-organisms, or their products, are responsible for the different diseases of the stomach of children. The means for treating the abnormal condition of the stomach, which has been found extremely efficient in numberless cases, is irrigation.

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**MISCELLANEOUS.**

**AN ANTI-HOMŒOPATHIC PRIZE ESSAY.**

Dr. G. M. Gould, of Philadelphia, offers a prize of $100 for the best essay showing "The Ridiculous Pretensions of Modern Homœopathic Practice." An essay should not contain over 15,000 words, and in simplicity and directness should be adapted to the commonest lay understanding. Papers should be sent Dr. Gould on or before January 3, 1893, type-written, without the name of the author, but accompanied by a sealed letter, giving the author's
name with motto or non-de-plume. The essays will be given to a competent committee, and when their decision is reached the sealed letters of the authors will be opened, and the prize sent the winner. The essay will then be cheaply but well printed in large quantities, and supplied physicians at the cost of printing.

GELSEMIUM IN THE TREATMENT OF A BAD COLD.

Dr. John Askle, in the "Medical Record," advises the use of gelsemium in the treatment of colds. He says: "Gelsemium arrests profuse nasal secretions, quiets headache and neuralgia, subdues cough and pain, favors a re-establishment of the secretions through its influence upon the skin, kidneys and gastro-intestinal tract. It reduces temperature and pulse-rate, promotes sleep, and creates a feeling of comfort and well-being without in any way approaching narcosis or destroying the oxygen-carrying capacity of the blood-corpuscles. By the use of this single remedy, much discomfort to the patient is avoided, digestion remains undisturbed, nauseating draughts are banished, the necessity for purgatives precluded, and all dangers of subsequent relapse practically eliminated while recovery is prompt, perfect, and satisfactory in every particular. Ten drops of a reliable fluid extract (assayed) are dissolved in three ounces of water, and of this mixture the patient takes a teaspoonful every ten or fifteen minutes for an hour, then at less frequent intervals according to the effects produced. The plan is simple, the medicine harmless, in the dosage recommended, and not at all unpalatable."

INTERNATIONAL DERMATOLOGICAL CONGRESS IN VIENNA.

The second meeting of the International Dermatological Congress will be held in Vienna from the 5th to the 9th of September, 1892. Many of the most distinguished representatives of dermatology and syphilography from all countries have promised to present papers, and the indications are that the meeting will be a great success from a scientific standpoint.

The Committee on Organization, through the President, Professor Kaposi, has extended a cordial invitation to the members of the American Dermatological Association and of the New York Dermatological Society and others interested in dermatology in this country to be present.
The membership fee (five dollars) should be sent with titles of papers intended for presentation to the Secretary for North America, Dr. Prince A. Morrow, 66 West Fortieth Street, New York, or to the Secretary-General of the Congress, Dr. Gustav Kiehl, Wien 1-20, Bellaria Strasse 12.

INTERNATIONAL PERIODICAL CONGRESS OF GYNAECOLOGY AND OBSTETRICS.

FIRST SESSION—Brussels, Belgium, Sept. 14 to 19, 1892.

The following named distinguished gentlemen have been delegated to represent the British Gynaecological Society at the International Congress of Gynaecology and Obstetrics next September: Robert Barnes, Granville Bantock, A. S. Simpson and Lawson Tait.

Great preparations are being made to entertain visiting physicians. His Majesty, King Leopold, will assist at the opening of the Congress. There will be a grand reception by the Belgium Gynaecological Society; gala performance at the Grand Opera; also a banquet by the British Gynaecological Society; garden party in the gardens of the Royal Family, etc.

For all information relating to the Congress address,

Dr. F. Henrotin, American Secretary.
353 La Salle Ave., Chicago, Ills.

BROOKLYN VITAL STATISTICS FOR MARCH AND APRIL, 1892.

By J. S. Young, M.D., Dep. Commissioner of Health.

Population (State census), April 1, 1892, 655,333; Births reported, March, 1,540; April, 1,338; Deaths reported, March, 1,761; April, 1,643.

CAUSES OF DEATH.

March—Croup, 39; Diphtheria, 93; Scarlet fever, 68; Typhoid fever, 7; Whooping-cough, 6; Pneumonia, 284. April—Croup, 27; Diphtheria, 70; Scarlet fever, 48; Typhoid fever, 7; Whooping-cough, 3; Pneumonia, 282.

REPORTED CASES.

March—Diphtheria, 180; Scarlet fever, 445; Measles, 321; Small-pox, 0; Typhoid fever, 28. April—Diphtheria, 162; Scarlet fever, 355; Measles, 352; Small-pox, 15; Typhoid fever, 25.

DEATH-RATE FOR 1892.

MARIE FRANCOIS XAVIER BICHAT

Was the son of Jean Baptiste Bichat, a doctor of medicine, in the University of Montpellier, and to his instruction Xavier Bichat's early knowledge of medicine is to be attributed. He was born on November 15, 1771, at Thiers, France. He had the good fortune to early become the pupil of Desault, in the Hotel Dieu of Paris, whose celebrity was at that time giving such preponderating influence to the study of surgery in France. The practice was established among the attendants of this surgical course, of pupils being selected each day to make an abstract of the lectures of the previous day, and this was delivered in the presence of the second surgeon. An accident, in great measure determined the future fortunes of Bichat, for the pupil whose turn it was to have delivered the abstract of a long and important lecture on the fractures of the clavicle being absent, Bichat, offered to supply his place. He was blessed with a retentive memory, and his extemporaneous abstract from the purity of his style, the precision, the charm of his ideas, the correctness of his conclusions, seemed like the thunder rather than the pupil. He was listened to with much attention and roused not exulted and admired intelligence of this talented display reached the ears of Desault, and he immediately offered to receive Bichat into his house to direct his studies and to treat him as a son. The foundation for his future career was laid. Desault gave him every possible opportunity and Bichat devoted himself with the greatest ardor to acquire information. By incessant application he accumulated an extraordinary fund of information, which was important, as it enabled him to hold up against the almost sudden death of Desault in 1795. We have not the space to enter more than glance at the great original work done by this founder of the modern system of pathological anatomy.

Prior to the time of Bichat the whole of the membranes were referred to a common origin and described in connection with the different organs. Bichat was the first author to consider them in relation to their structure, etc., and class them as mucous, serous and fibrous, with various subdivisions. These views he gave to the world in his "Traité des Membranes," in 1806. As a physiologist he, in 1799, published his "Recherches Sur la Vie et la Mort," in which he claimed that there was an organic life and an animal life having their seats respectively in the ganglia and the brain. These two works rendered an entirely new system of anatomy necessary, and this extraordinary work was affected in his "Anatomie Générale," in which Bichat arranged the various organs of the body as comprised in twenty-one different tissues, thus laying the foundation of our modern system of normal and pathological pathology. This great undertaking is said to have been composed in the course of one year (printed chapter by chapter as it was written), a circumstance almost incredible when we consider the other labors of Bichat in teaching, dissecting, etc.

A system of descriptive anatomy followed, the first two volumes of which were finished by Bichat, and the remaining three being left imperfect, were completed by Brison and Roux. Besides these he edited an edition of the works of Desault and was, at the time of his death, engaged in preparing a work on pathological anatomy, which has since been published from the author's manuscript. Besides these he was physician to the Hotel Dieu, and daily lectured to large classes of students and made numerous original investigations. He is said to have made upwards of six hundred "post-mortems" during one winter.

Death, whose nature he had so well described, claimed him in the midst of his active studies at the youthful age of thirty-one. He sustained the injuries which caused it in falling down the stairs of his pathological laboratory in the Hotel Dieu, and passed away fourteen days after on the 31st day of July, 1802; "That any one should have accomplished so much, and of such a nature, so original, so vast, so practical, and it may be added, so perfect, in such a short period of existence, is only to be attributed to the possession of genius accompanied by the most patient and indefatigable industry."

His portrait forms one of the trio of heads so artistically grouped in the saloon of the Brooklyn Pathological Society.

J. H. H.