ORGANIC ARTICLES.

THE CONSERVATION OF ENERGY AND CONSERVATIVE GYNECOCRIOLOGY.
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There may seem to be some incongruity in the cap-
tion of this paper, a juxtaposition of terms that can
have no possible relation each to the other; or, it
may be, an entire misconception of what is meant by
the Conservation of Energy. The argument from gen-
eral laws of physics to similar laws in the individual,
is not an unusual or an improper one. We know a
force, not in the concrete, but from outward and tang-
ible evidences. As an abstract term we can conceive
it only as an originator of molecular action, which,
one instituted, is never lost.

Life itself, its highest equivalent, may be resolved
into protoplasmic change or motion, governed by a
limited force beyond that point of inchoate con-
sciousness at which the finite is always arrested. This
force infinite, of which our knowledge of finite force
is but the offspring, is intelligent, since it creates in-
telligence as made manifest in consciousness. This
does not assume a creative or potential molecule, but
the harmonious blending of molecules into creative
intelligence, of which science cannot fathom the mys-
tery, though it may recognize the existence of it as a
force. Instead, then, of reading the "conservation of
energy," it might in a large sense be called the
"conservation of life," so that the second clause of
the heading would be associated as a cause in the
production of that end. While carried to its ulti-
mate issue this might be correct; yet it is better for
purposes of discussion to restrict the intention to a
manifestation of potency only, so that my desire re-
solves itself into a study of the relationship between
conservative gynaecology and the bandaging of
strength. Intelligent conservatism and meddlesome
interference is the antithesis that I wish to make very
strong.

The expectant plan in gynaecology, as well as in
general practice, is sometimes a safe one to follow.
Typhoid fever, pneumonia, and some other condi-
tions are oftentimes best treated by being left un-
treated, in so far as medicine assumes prominence.
Hygiene, and with it intelligent nursing, are the sheet
anchors of the physician. Particularly does such a
course seem desirable when pathology is assuming
such new forms that logical therapeusis is out of the
question. Symptoms are combated without any
absolute knowledge of the primary cause of the dis-
order. Fever, its cause and effect; its relation to
the great nervous centers, and the relation of these
centres themselves as originators of fever; the inflam-
atory conditions of fever, and the relationship of the
cardiac nerve centres to febrile excitation—all
these points are very imperfectly understood. Does
nervous derangement depend upon the fever by which
it is accompanied, or is the rise in temperature and
the abnormal pulse due to a primary lesion of the
central nervous organization? Until our knowledge
of these things is absolute, the expectant plan is a
logical one. The disease may have a tendency to
cure itself, and the conservation of energy will de-
dpend upon the proper adjustment in equilibrium of
other forces, which is best done, and only well done,
by furnishing to the system certain equivalents out of
which this energy may be evolved. Easily digested
food, which shall furnish nourishment and heat, stands
first in order.

If all this be true of general medicine, it is doubly
so of gynaecology. There are many reasons which
conspire to make this otherwise invaluable specialty
a matter of ridicule to many of our professional
friends. In the first place many men in country
practice have delivered between one and two thou-
sand women, some more and some less, without so
much as knowing of the antiseptic rules which are
now perplexing erudite medical societies, and with-
out ever having to record a case of puerperal fever.
I know of two men, one in Maine, and one in New
Jersey, with such histories. Again, there are scores
of general practitioners who are governed in their
special practice by text-books, and they have lived
to find that pessaries, as a rule, are humbugs; that
intra-uterine injections are often fraught with much
danger; that women may have dyspepsia and func-
tional cardiac derangements without uterine trouble;
that ophoritis if treated with patience and persistence
may be relieved without recourse to surgery; and that
many of the numberless complaints of minor import-
ance, which are the necessary outcome of any departure
from a normal condition of a female sexual apparatus,
may be overcome by the observance of simple rules
without recourse to elaborate interference; and that a
woman may be the happy mother of healthy children
and enjoy an average share of good health while car-
ying about with her a cervical laceration. The dan-
ger of specialism is the overlooking of intercurrent
disorders which may happen to a woman who is being treated for uterine complaint, or the proneness which we have of relegating them all to the local condition. A greater danger still is exaggeration of treatment. By this I mean a restlessness in watching and waiting, an impatience for immediate results, a too hasty surgical interference, and an excessive medication not demanded by the actual necessities of the case. Reverencing as much as anyone the high calling of my especial field of professional industry, and subscribing most heartily to the teachings of the nestors of gynæcology, I cannot turn a deaf ear to the evidences of experience. Mechanical laws are distorted to meet certain surgical exigencies; instruments are devised and praised, which are contrary to all pre-conceived ideas of sound mechanics, which do not correspond with thorough anatomical knowledge, and which are thoroughly pernicious in the larger proportion of cases. There is a growing tendency to treat with obstinate pertinacity the uterus, when it would be much better to leave it alone for a more convenient season.

I hold it to be proven also, that a woman's strength is nourished and increased by a less frequent interference than we are apt to observe, and that much more is to be gained by general hygienic detail for a certain length of time, until, with incoming vigor and a measure of that confidence in her physician which is a pre-requisite of success, the woman shall submit to local examination without the risk of nervous excitation. It is a dangerous matter to alarm any woman about her uterus. It brings about a persistent, ever-present introspection, which breeds all kinds of imaginative disorders, and leads on to depression and melancholia. All the exaggerations of nervous manifestation are increased by unnecessary or immediate examinations. In the long list of anomalous nervous symptoms incident to women in run down conditions, with dislocated uteri, there is hardly one which can be traced directly to the local mischief alone. If the physician first address himself to the uterus, he will simply make matters worse; improve general conditions first before attempting any special treatment. Not infrequently, but most frequently, does it happen that the nervous derangement and physical drain have produced the ureterine displacement. This very displacement, indeed, may become almost unperceived if the other viscera of the body be brought into harmonious relationship. Because a woman has an aching ovary, an enlarged tube and a pathological menstruation, shall we at once pronounce it a pyo-salpinx, and counsel oophorectomy or rather Tait's operation? It matters not however successful the result of such operation, there has been taken from the woman an essential, integral part of her distinctive individuality; and, in a certain sense, she becomes really unsexed. This will always be, and must necessarily so be, an ever-present grief. She will never quite reconcile herself to the change. Since the ovary and tube bear certain definite and unalterable relations to the whole cerebro-spinal axis, and are important factors in the forces librated by their just and harmonious action, deprivation of any essential—upon which such integrity of action depends—must be felt along the entire tract. An impression has been made upon this extremely sensitive organization which will be felt; and made manifest in various ways.

I believe that there are many conditions of oöphoritis which would yield to patient treatment and constant observation, if the physician and patient would practice both. What matters it if the period extend over months and years, if in the end the woman shall find surcease from suffering, and shall carry with her all of the organs with which she was created? I have not regretted following out such a plan in six cases which I have had under observation for long periods of time. Turkish bathing, attention to secretions and excretions, with special reference to the skin, the direct application of the galvanic current to the ovary, if there be sufficient salpingitis to allow the passing of a very fine electrode (such a procedure I reported during the month of August in the Philadelphia Medical News), general faradization, massage, counter-irritation over the ovary, iodoform vaginal tampons, and well-regulated home rules of hygiene will accomplish very much. Not for a week, nor for month, but for a year, or two years or more, must this treatment be kept up. It is hard on the doctor, and it is hard on the patient. The results are not immediate; they creep on insensibly. It is a long road, but the end will crown the labor.

Looking at the vaginal tube as it exists normally in a condition of rest, the walls are all seen to fall together, so that by their constraining properties they give more or less support to the uterus. The anterior and posterior culs-de-sac, or the vesico-and recto-peritoneal folds, are so arranged that the finger pressed well up into either will permit the physician to manipulate the body of the uterus. So, too, may he arrive at the same step by using the rectum, and even the bladder. But he never directly moves the uterus; neither can he do so in any of these ways. He can indirectly tilt it by using the cervix as a lever, or by conveying the impression through the peritoneal folds, anteriorly or posteriorly. From the very anatomy of the parts no mechanical instrument can ever be devised which shall accomplish more than the finger can do, or which can accomplish as much as the finger with as little danger of bad results. The uterus is a highly sensitive organ, in intimate relationship with every other part of the body; and seldom does it bear manipulation with impunity.

When an inventive medical man threw upon the market a lot of most irrational devices, called "pes-saries," which are correct in no single particular, he placed a dangerous weapon at ready hand, and one which has brought untold misery into the world. Foreign bodies are intolerant everywhere. The vagina is no exception to the rule. What happens in a case of retroversion, when the pessary is used? In the first place the proper lumen of the vaginal tube is put upon the stretch, so that whatever supporting powers it may have possessed are lost. The walls are chafed, and interfered with in such degree as often to overlap the arms of the instrument. The rectal cavity is narrowed, so that the lower bowel is emptied.
with difficulty, and impacted faeces are often present. Rectal tenesmus may supervene. The bladder is irritated, and we have vesical tenesmus. The body of
the uterus, or rather a part of it, presses upon the hard curve, and it is made to support the weight of the entire organ, which is prolapsed and bent backwards as well. It presses the instrument towards the rectum, and conversely, the distended rectum pushes the pessary against the fundus. The tendency of the uterus is downwards and backwards, it is congested and irritable; go between the endeavor of a distended rectum to push the uterus upwards and forwards, and the constant tendency of the misplaced organ to fall downwards and backwards, the pessary is severely pressed upon, and inflammation results. Moreover, the curve of the pessary which is extended to support the fundus in a normal condition, so that the cervix may assume a normal position, does not give this support; and does not accomplish the end conceived in its construction. The entire weight of the uterus is assumed by a small semi-circular band of the organ only. You may caution a woman over and over again about keeping her bladder and rectum empty, but there are times when she cannot, and there must always be more or less intolerant pressure.

In a purely mechanical and anatomical sense, it may be said that a pessary in the rectum or bladder would do about as much good, and would be a conception quite as logical. Of what possible service can the most ingenious pessary, even that of Gehrunz, be in cases of acute anteflexion? I have seen so many unhappy sequelae from pessary wearing, and have myself obtained so few satisfactory results from using them, that I speak feelingly in the matter. The most ardent supporter of the pessary can only offer certain very limited possibilities for using it. He can do no more, if he be a good anatomist, and even the advantages which he may claim, may prove to be disadvantageous, if the possible evil results be weighed in the balance. Mechanical support can be given the uterus by cotton tampons much more safely, for one reason, and with greater claim to scientific appliances, for another. They will adapt themselves to curves and positions; and they will not interfere with any of nature's laws. In the forward displacements, slow and well-directed dilatation, kept up for months, will do vastly more than the stem, which, even if it do not light up an inflammation, will accomplish nothing of permanency. They are only valuable when in position. The uterus once relieved of their presence returns at once to a former position. Even in hands of the most scientific they frequently occasion mischief. I do not believe that any gynaecologist of the day believes these supports to be scientific inventions, but they rather are the make-shifts of imperfect knowledge. My conviction is that better results, without any risk, results that are better locally and constitutionally, can be obtained by conservative practice, by attention to every detail of life, even those the most insignificant, for the aggregation of the little things go to the making of the big ones, and also, by attention to psychical conditions and reactions. The woman should be treated objectively and subjectively. Ill-directed local treatment very frequently aggravates every symptom, and stamps a history of future suffering upon the entire life of the patient; simple conditions depending upon a departure from normal standards; new simple remedies, based upon a thorough knowledge of the laws governing such conditions, and not directed solely by cursory reading of text books.

Again, it seems to me that there are possibilities in electricity, not sufficiently known, which may make great changes in future treatment. Tripler has already gone far in this direction, and what he has written of the treatment of displacements by electricity may be read with much interest.

There is yet one more thought that suggests itself. It is hardly possible for the sexual apparatus to suffer without there being a corresponding derangement in almost every other viscus. The reflex symptoms are not to be overcome by local treatment only. Build up, reestablish the functions that are working badly, and you will not only place the patient in a much better way for the special interference, but you will much more surely bring about a happy result. Local treatment satisfies the local condition only, and it may fail in even accomplishing this much. Instead of fostering a woman's energy, it weakens and vitiates it by exciting new and irritating processes that feed upon her nervous vitality. Great elaboration of detail, exaggeration of treatment, and intricate preventive advice may be sources of mischief, and are not often demanded in any instance.

The simple pad of Garrigues is a valuable suggestion, but few men would undertake the elaborate system of rules advised by Thomas in management of the lying-in woman. How many cases of dislocated uteri are ever permanently cured? How many cases of lacerorrhoea yield to excessive local treatment only? How many neurasthenic women respond immediately to the local interference addressed to a uterus, which may happen to be out of place? If there be one truth above all others of most importance, it is to go slow. Festina lente ought to be the watchword of every gynaecologist.

I have spoken strongly in the matter of pessaries, more strongly, perhaps, than facts will justify. It may be urged that a properly adjusted instrument does not interfere with the rectal tube, since the rami embrace it without constricting it; that the bladder cannot be irritated, as the smaller end rests only against the bony structure of the pubis; that the fundus never presses unduly, since the pessary does not force the uterus into place, but only holds it in situ after it has been once restored to a normal position; and that it is only intended to act as a mild support until the ligaments shall have contracted by rest. If all vaginæ were of the same length and calibre, if all uteri were equally tolerant of interference, and if all uteri, once restored, would remain so, these objections would be of serious moment. But the facts are these; Uteri differ most signaly in their appreciation of manipulation; some will tolerate almost any amount of handling, while the least interference will light up an inflammation in others. Many vaginæ are so short that they must be lengthened before any contrivance will be of service.
With retroversion there must always be some prolapsus and congestion. The congestion is a result of the displacement and will only disappear with the exciting cause. The congestion causes increase in weight, and this increase in weight causes a tendency to drag the whole structure downwards. If a pessary be now applied, there must be more or less pressure upon the bow from the very nature of things. The ligaments are relaxed and will not hold the uterus in place, handicapped, as it is, by an abnormal weight. The pessary has been measured properly, with such expansion of the rami that the rectum may not be disturbed; what will result? The super-sensitive uterus is pressing hard against an unyielding body, which body itself, thus encroached upon, is crowded into the vaginal walls. This condition, the general one, and not regarded as especially significant of danger by the majority of practitioners, may become alarmingly aggravated by distension of the rectum or bladder, by sudden physical or mental shocks, or by the changes engendered by menstruation. These conditions, in whole or in part, may be beyond the control of the woman, and are liable to occur to anyone and at any time. No amount of present mechanical ingenuity can meet the possibility of a future unfavorable contingency. Neither can any man predict what accident of environment will fall to the lot of his patient. Moreover, no physician can satisfy himself thoroughly of the sensitiveness of any uterus, save only after the lapse of weeks. If it be urged that the pessary should not be applied until after the congestion has disappeared, the answer naturally occurs, that such a waiting would be continuous with the life of the patient, and would terminate only at her death. The congestion depends upon the dislocation: the dislocation depends upon a relaxation of the ligaments. Upon what does the weakened condition of the ligaments depend?

Just here is where all that I have written so haltingly and with such a sense of my own shortcomings, culminates. Go to the foundation; let the uterus alone for a time. Build the woman up, mentally and physically. Then reduce uterine congestion by medicated tampons; restore it by the postural treatment. Keep it in place, if necessary, by tampons. The primary steps in the treatment being fulfilled, in the hands of a thoroughly scientific physician, a perfectly fitting pessary may be worn, but only after other indications have been met. For myself I cannot look upon them as desirable inventions, and I never make use of them. Anterior and posterior ulceration of the vaginal walls may result from the long use of a pessary. Infectious muco-purulent products may be absorbed by the lymphatics or veins. Dr. Kelly (Philadelphia Medical News, October 18, 1884) has recently reported a death caused by a pessary; others of similar nature are on record. I maintain that while these sporadic cases may now be regarded as curiosities of medical literature, yet they are dangers that may occur in the practice of even the most intelligent physician. No instrument can claim to be a scientific one which shall entail any possible danger in its use.

Conservative gynaecology does not necessarily mean that surgical interference is interdicted, but it does mean that only such treatment shall be made use of as shall be the one which shall be the best calculated to foster the vital energy of the patient, and shall restore to the nearest possible normal, the abnormality.

THE ETIOLOGY OF TUBERCULOSIS.

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Dr. Formad opened the discussion on this subject, but refrained from presenting it for publication, as a similar paper, by himself, and giving his views in full, had just been published in The Journal of the American Medical Association, April 26, 1884.

He said, in the remarks which he read before the section, that he was not at liberty to present any additional matters upon the subject, being about to publish, in conjunction with Professor William Pepper, Provost of the University of Pennsylvania, a monograph on tuberculosis, in which the whole of his research and experiments, upon which his views were based, will be related with full details.

Dr. Formad's paper elicited the following

DISCUSSION.

DR. AUSTIN FLINT, Sr., thought that if tuberculosis was an infectious disease, produced by a parasite, its contagiousness would follow, as a matter of course. The presence of a parasite had been demonstrated. The great preponderance of evidence is in favor of the view that it is uniformly present in products recognized to be tuberculous. The bacillus is not found in products which from other characters are considered to be not tuberculous. The conclusion which he had reached was that there was some essential connection between the presence of this parasite and the tuberculous disease. In regard to the contagiousness and inoculability of tuberculosis, he thought that all testimony was in favor of this. Other causes may coöperate, and undoubtedly do coöperate in the product of tubercle, but the presence of the specific parasite is essential.

DR. WILLIAM H. WELCH agreed with Dr. Flint. Dr. Formad had spoken of tuberculosis produced by inoculation of other substances than the bacillus. If bacilli be the sole cause, the condition can, of course, be produced in no other way. Koch, in his experiments, had taken every precaution to prevent error. He had, with better methods of investigation, found the bacillus in every case. When the difficulties of the process required for the detection of the bacillus is considered, it is not at all wonderful that at times it should not be discovered. The essential point of Dr. Formad's objection is whether or not tuberculosis can be produced by other causes than the bacillus. The weight of evidence is in favor of the view that tuberculosis can be produced by the inoculation of no other substance than the bacillus tuberculosis.

DR. GEORGE M. STERNBERG, U. S. A., had not been