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THERAPEUTICAL AGENT.

BY

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NERVOUS SHOCK AS A THERAPEUTICAL AGENT. By ROMAINE J. CURTISS, M. D., of Joliet, Ills.

It may be true, scientifically, that all remedies addressed to the nervous system, as drugs and the galvanic current, act by producing a shock upon the nerve centers to a greater or less extent, and that the beneficial effect of these remedies may be independent of the cause of the disease. It is established that pain may continue in a nerve or set of nerves from habit after the cause which originally produced the disease has been removed and that the pain under these conditions may be removed by galvanism, which may be classed as a mild degree of shock. No verification is longer necessary to establish the fact that shock of the nervous system, from injury of the sensory nerves, or through the higher nerve centres from emotional excitement, is a factor of the greatest importance in the etiology of nervous diseases. Shock kills a large proportion of wounded persons who die from injuries, and the history of mental development is filled with instances of endemic and epidemic nervous diseases of the convulsive type which were the sequences of superstitious and religious emotional excitement. Death, idiocy, insanity and convulsions it is well known, result from the terrible shock the nervous system sometimes receives through the avenues to the brain, of fear or other emotions.

The importance of shock as a cause of nervous disease is granted, and it is easy from these data to infer that such phenomena, properly modified, and used as remedies have a very beneficial effect upon nervous diseases. The general induction I wish to make from citations of the following cases is: that nervous shock by drugs, electricity, etc., sometimes cures nervous diseases without reference to action on the cause of the disease, and that this law holds good in many methods of treatment now employed in the management of nervous diseases which are supposed to be addressed to the cause of the disease. I believe that

this view of certain nervous diseases, the cause of which is referred to the sexual organs, and the cure of which is referred to the surgical operations of circumcision and dilatation of the urethra, can be explained with greater satisfaction in this way, than by the induction attempted, and so violently disputed, that the nervous diseases in question are caused by preputial irritation and contracted meatus and the surgery of circumcision and dilatation removes the cause. In the cases of this nature already reported it must be conceded that the supposition given that the nervous disease—generally paralysis—is a sequence of the genital irritation is not verified, and if proofs cannot be furnished, it is probable that the cure, or apparent cure of the nervous disease, is due to the nervous shock of the operation acting independently of the cause of the disease.

In support of this view, relating to this open question, I will cite cases and discussions from medical authors as well as cases from my own practice.

CASE I.—Mrs. — in 1879 when she became my patient, was thirty-two years of age. She had been divorced about four years, and while living with her husband six years, had one child and three miscarriages. The clinical history showed that since her divorce she had been continuously in the care of physicians for symptoms referred to the pelvic organs. The first year she was subject to weekly applications to the uterus by an eminent gynecologist of Chicago, for ulceration. I had reason to believe that the diagnosis was correct, that the remedy used was nitrate of silver, and that the ulceration was cured, though the patient declared she was not benefitted in the least.

The patient next consulted a medical gentleman who owns a homœopathic sign board, formerly a regular, and who advertises that he “doctors both ways,” yet his treatment of this patient was neither way, as he subjected her to the operation for restoration of a perineum which was never lost; for the most critical examination by myself and another physician failed to find any evidence of perineal rupture or cicatrix of operation, except two round cicatricial marks in the skin, one on each side and just posterior to the vulva, which were probably made by inserting a wire, drawing the vulva together, and leaving things *in situ*, as the patient said, for two weeks.

I am convinced, from my own examination and opinion of

the physician who examined the case with me, as well as the statement of the patient herself, who, when questioned, said she could perceive no change in the anatomy of the parts, that the patient never had any degree of perineal rupture, and I concluded that the accomplished physician who made the operation, did so with the intelligent design of producing a nervous shock on the patient. The effect was good, as a therapeutical measure, for the patient declared that her subjective sensations of distress were removed, though they were not the symptoms belonging to a rupture of the perineum, and that for several months afterwards she thought herself cured.

However, when the patient consulted me, she was as "bad as ever." Her symptoms were: A burning pain in the pelvis, extending to the hips, and up the spine and abdomen, some rectal tenesmus, or rather as she described, a feeling of something pressing upon the rectum. This distress was not constant, but described a rhythm of about three weeks duration. During the paroxysmal periods, or when the pain was on, the abdomen would become greatly distended, and in addition to the burning pain and tenesmus, there would be a throbbing sensation throughout the pelvis. An examination of the uterus with sound showed a depth of three and a quarter inches. There was no marked tenderness of the uterus or ovaries, nor visible discharge from the uterus. This was the condition when the pain was off. During the paroxysm there was general hyperæsthesia of vulva, vagina, uterus and ovaries and abdomen, and pressure in direction of cellular regions of the pelvis gave her great pain. At this time, also, blood vessels apparently enlarged, could be felt pulsating notably behind the uterus.

About this time I read a description, I think in Emmet's work, of a case somewhat similar in which a gentle elevation of the uterus would stop the pulsation, and the case was cured by a pessary, which held the uterus in just the right position. I now thought I had the key to the situation, and used temporarily a cotton pessary with very happy effect. I followed this up by the trial of nearly all pessaries of all sizes. When the patient had no pain or hyperæsthesia she was contented with any pessary; but on accession of her paroxysm, any pessary had to be removed, and I finally gave up this view of the case, also, the pessaries. I then thought the disease might be due to the effects of malaria, and gave large quantities of quinine, also applying

quinine locally to the uterus, and gave rectal injections of twenty-five grains at a dose. For a few months this method promised a cure, but finally had to be given up. I noticed at this time a theory put out by a Baltimore physician which was, in substance, that most uterine diseases, if not all, were caused by a condition of venous congestion of the uterus by obstruction of the circulation due to stricture of the cervix, and that dilation of the cervical canal by bougies was the sovereign "balm in Gilead" for suffering woman. I thoroughly dilated the cervical canal by bougies, and other dilators without effect of permanent character. The next new light on uterine disease which attracted my attention, was a statement in some journal, that many obscure diseases of this nature were due to endometritis and the diagnosis could be made by applying a cotton tampon saturated with a solution of tannin over the cervix and examining the discharge collected with the microscope when, if endometritis was present, pus cells would be seen. I tried the method and on examining the discharge with Tolles very best microscope, sure enough the pus cells were there. I now proceeded to treat the endometritis with comp. tr. Iodine, as recommended. I made all applications to the uterine cavity by means of a syringe having a long, slender, flexible nozzle, the distal inch of which is perforated with fine holes, and which I wrap with cotton, and which combines syringe and swab. The applications were always more or less painful and were made every fifth day for about two months. At this time, for the first time since using this instrument, the cotton on one occasion became displaced in passing the cervical canal, some of the holes were uncovered, and I met with the calamity of producing a terrific uterine colic in my patient by injecting a drachm of the medicine into the uterine cavity. I need not describe the scene which followed, and which lasted for two hours, the patient refusing to take morphia. It is sufficient to say, that the patient received a nervous shock, the first since the homœopathic restoration of her perineum, and the second of the series.

After the accident the patient was free from her pain, tympanites and tenesmus for several months; but had during this time an attack of sciatica, and short session of *tic douloureux*. At the end of about six months she returned and stated the feeling of pressure on the rectum had returned, though she had no further burning pain in back and abdomen, and her bloating from tympanites was as bad as ever. During this rest from labors, I

had read two articles by Dr. Sutton of Pittsburg, on fissure of the anus in male and female, describing the symptoms which fitted my patient as well as anything else did. The cases of cure were so graphically given, so convincing and so successfully treated by anal stretching, that I was confident my patient had an anal fissure, and that I had overlooked it. Dr. Sutton, when commenting on the benefits resulting from stretching the sphincter, remarked that equal benefit had occurred by the procedure even if there were all the pelvic symptoms of fissure, and the fissure not there. I made a very careful examination of my patient's rectum, turning it out by my finger from the vagina, and the fissure was not there. I nevertheless determined to make the operation, and gradually getting both thumbs through the sphincter I *eked* with all my might, and my patient received her third nervous shock, which, up to date, has proved to be sufficient. At the time of this operation the abdomen was enlarged equal to the full term of pregnancy by tympanites, which disappeared in a few days, and has not returned.

I am positive that the criticism of this case cannot be that it was one of hysteria, or "speculum mania." I regard the affection as having been *vaso-motor* in character, probably originating from irritation of uterine organs following child-birth and miscarriages, and I think there was some, and had been more, pelvic cellulitis, and I also believe, now, that the series of nervous shocks she received by fraud, accident and design, cured her.

CASE II.—Master J., aged six years, has for a year been unable to retain his urine when awake, more than half an hour. In fact, his mother states that he is continually making water. He is habitually pulling at the prepuce, which has become unnaturally elongated by this habit. The prepuce is not tight, but is retracted over the glans, and there is no lack of cleanliness. The urine was examined for deposits and proofs of cystitis, and bladder sounded for stone—all giving negative results. After sounding for stone the symptoms were relieved for a time, but returning it was deemed best to cut off the prepuce which was done, and was followed by recovery. To get at the chain of antecedents and sequence in this case, I made much persistent enquiry, and became satisfied that the first phenomenon of this series was the habit formed by the boy of pulling on the prepuce, which was followed by a discharge of urine because of the

pull, and not because of the length of the prepuce. I think the shock of the operation, as well as diminished length of prepuce, broke up the habit and the disease.

CASE III.—Master W., aged nine years; when I was called to see him this patient had been ill about three months with hystero-epilepsy. At time of my visit, the left arm was rigid, hand flexed, with almost the appearance of the contracture of paralysis. The left lower extremity was rigid as a stick. During the three months of his illness he had several convulsions or rather series of convulsions, and had taken a great deal of worm medicine. He was taking at the time of visit, ergot and bromide of potassium, the diagnosis being spinal meningitis. I had just read Sayre's report of nervous disease depending on phimosis and cured by circumcision; his theory being that the retained and dried secretions—smégma—above the glans was the source of irritation which originated the nervous disease, and the removal of which by circumcision cured the disorder of the nerves. I naturally examined the penis in this case and found the characteristic long prepuce, phimosis, and I thought I could feel the smégma, the very *corpus delictu* in the case. I recommended circumcision which was declined by the physicians in council, and the parents, pending further consideration.

In the meantime I wrote to Dr. Sayre and to Dr. Hammond, relating to the case. As I expected, I received, very kindly, a letter from Dr. Sayre stating his belief that phimosis was the cause, and circumcision the cure; but Dr. Hammond stated that nobody but Dr. Sayre believed that phimosis ever caused such diseases, or that circumcision ever cured them, that some of Sayre's reported cases were actually Jews; and recommended bromide of zinc. Soon after this the case was turned over to me and I prescribed the bromide of zinc, but could not dismiss the brilliant results of Sayre's operations from my mind. I still felt the smégma, noted the long prepuce, and the phimosis, and discovered further that whenever the penis was touched, however slightly, an instant erection would follow, of only momentary duration, which could be repeated several times a minute. I was perplexed to know on which end of this cart the horse could be hitched, and "tendon reflex" not then having been invented or discovered as a symptom relating to spinal disease, I was the more unsettled in decision, but decided to make

the operation, and remove the source of irritation. On cutting off the prepuce and drawing the stump over the glans I found no smegma as expected. The parts were, in fact, clean. I thought the operation a vexation of spirit, but almost immediately the patient began to improve and in ten days was apparently on the high road to recovery, when he was attacked by facial erysipelas and died.

I do not think now from the further experience I have had in these cases, that the nervous disease affecting the muscles was reflex from genital irritation, but was a centric nervous disease; nor can I account for the rapid improvement following the operation in any other way than that the shock to the nervous system acted therapeutically.

CASE IV.—The causes of dysmenorrhœa are doubtless as complex as the physiology of the function itself, with the added complexities of other incidental diseases. The affection is described as obstructive, or painful from mechanical reasons as flexion, prolapse, and procidentia, from stricture of the cervix, uterine varicose veins, constricted *os tinæ*; congestive, from engorgement of uterus, ovaries or cellular tissue; inflammatory, from various forms of pelvic inflammations; and without doubt many cases of dysmenorrhœa are purely nervous in origin. Much surgery has been performed on the conoidal cervix with contracted os, and much good has been accomplished in relation to dysmenorrhœa even when the result of the operation has been a further contraction of the cervix by cicatricial tissue and a still more elongated pointed cervix, which certainly ought to result in still more dysmenorrhœa if the theory of the cause was correct.

These facts are so generally known that argument and cases are not required for proof. Instances are numerous reported in which bilateral section of the cervix uteri for sterility and dysmenorrhœa has been made, the object being to manufacture a wide patulous *os tinæ*, and the result has been a cicatricial contraction of the os, making it smaller than before, while the dysmenorrhœa has been cured. A theory to account for these results is that an inflammatory condition existed previous to the operation which was relieved by the loss of blood, and that the reconstruction so to speak, of the uterus following the operation caused the cure of painful menstruation and sterility. There may be some truth in this theory, though it is not very evident

that one such bleeding could cure an inflammation, even if present, nor is there known to be any reconstruction of the uterus following such operation except the cicatrix. In my opinion the generality of these cases so operated on, were of nervous origin, and the operation resulted in a cure by reason of the therapeutics of nervous shock, as in the case of Mrs. B., aged 34 years, married nine years, was sterile, hysterical and had dysmenorrhœa. An examination revealed the conoidal cervix, a small virgin os, no abrasion, no mucus of any account in the cervical canal, and no displacement. Bilateral section of the cervix was the fashion and was made, and, as is the case in all such operations I have ever seen or made, the cervix contracted to such an extent (cicatrices always contract), that I could only with great perseverance and difficulty introduce a small silver probe through the canal. This lady's next menstruation was painless, and in three months she became pregnant, and now has six children. I attended her in three confinements. I believed at the time that the contracted cervical canal was the cause of her troubles, but I think now, other things equal, that spermatozoa could crawl through the cervical canal equally as well before I cut it as afterwards, if the size of it was a factor in the case, nor can I understand even yet why a cicatricial pathway is more attractive to a spermatozoa than the soft mucous road provided by nature. I believe now that in this case, and twelve similar ones which have occurred in my practice, that the reconstruction of organic tissues resulting from these operations and in cases of sterility and dysmenorrhœa, were not owing to the cicatrix formed but were brought about through changes in the nutritive powers of the nervous system induced by the shock of surgery.

In the *Boston Medical and Surgical Journal* for November, occurs a report of the Neurological Society of New York, for Nov. 1, 1881. At this meeting Dr. Langdon Gray read a paper on the subject of the effect of genital irritation in the præduction of nervous disorders. He gave a *resumé* of the history of this subject, stating that the first paper attracting the attention of the public to the subject, was by Mr. Stanley in 1833, who found that in many cases of nervous disorder there were marked lesions of the genito-urinary apparatus, while none could be discerned in the spinal cord, and concluded therefore, that the trouble was reflex. This dictum was accepted by the profession.

until in 1856, when the now Sir William Gull declared that Stanley's cases were utterly worthless as proofs.

It may be observed here that Stanley's reports do not state that the verification afforded by cure of the lesions was given: as were Dr. Sayre. S. W. Mitchell in 1861 coincided with Stanley's critics, and said the lesion of the spinal cord in his cases must have been microscopic, and further that the genito-urinary lesions might have been due to the diseases of the nervous system. Brown Sequard, however, said Dr. Gray, had lately appeared as champion for Stanley, but the opinion of the profession had taken a turn against Stanley until the reports of Dr. Sayre on want of co-ordination and paresis had appeared, when another reaction of the professional mind had set in, and one physician had gone so far as to report the cure of cases of cerebral softening and insane paralysis by circumcision. Dr. Gray then went on to criticise Dr. Sayre's cases singly; in part of them denying that there was any lack of co-ordination, and in others, that there was actual organic disease as myelitis of the anterior horns, while others were cases of meningeal hæmorrhage with softening, and were not cases of reflex disorder as supposed by Dr. Sayre.

To account for the benefits of circumcision in these cases, a fact which cannot be disputed, Dr. Gray believed that the rest afforded to patients by the removal of a source of irritation from an exquisitely sensitive organ was really the source of benefit. Obviously this theory can prove nothing but the theory of reflex nervous disease. But Dr. Gray goes on to say that the tearing and cutting in these cases, when circumcision is performed, makes a decided impression upon the nervous system, acting in the same way in which a fit of intoxication has been known to do in breaking up an attack of *tic douloureux*. Dr. Gray is very near the true theory of the therapeutics of these cases when he cites a case of epilepsy and kleptomania which was cured by removal of some old cicatricial tissue from the scalp. Certainly in this case the cure would not be accepted as a verification that the kleptomania and epilepsy depended upon co-existent cicatricial tissue of the scalp.

Dr. Gray, while denying the theory of reflex paralysis in these cases, advocated the operation by circumcision when it existed, or whatever other operation might be required to remedy

disease or deformity of the genital organs, which was co-existent with nervous disease.

Dr. Sayre replied to the paper of Dr. Gray, stating that he had thought before hearing the paper that he was the first in the profession to call attention to this matter. He read a number of extracts from letters of physicians written to him in which successful cases were reported in the treatment of nervous disease by circumcision. He declared that his observations were so large in cases of this kind that he was unprepared to believe that organic disease was present in at least but very few. He cited a case in which paralysis was caused by tying a string around the penis, and which disappeared when the string was removed. And a case sent to him by Dr. Knapp with atrophy of the optic nerve, who had phimosis and was perfectly cured by circumcision. Obviously atrophy of the optic nerve is not simply a result of a reflex irritation without organic change, nor do the two reports of Dr. Sayre pretend to limit the nervous disease, produced by reflex genital irritation to functional disorders.

Dr. Otis next states his belief that there was something more in the relations of genital irritation and nervous disease than coincidence, and that the same fact held good in relations between a removal of genital irritation; and the disappearance of the nervous disease. Dr. Otis cited a case of epilepsy cured by dilatation of the meatus urinarius, a case of melancholia in a gentleman which was benefited by a series of such dilatations and cured entirely by a cutting operation; a case of apparent hip joint disease with atrophy of the limb which was cured by circumcision and dilatation of a contracted meatus. Dr. Sturgis thought the verdict of not proven would apply to Dr. Gray's cases, as well as Dr. Sayre's, and that in Dr. Gray's paper, the point made was, that in such cases as reported by Dr. Sayre, the disease would return.

Dr. Seguin remarked that he had never seen a case of paralysis from genital irritation; yet did not deny the possibility, and stated that Dr. Jacobi had never met with such a case. Dr. Geo. M. Beard remarked that he had drawn two conclusions, viz.: that in the vast majority of cases the presence of phimosis and contracted meatus, bore no relation to the general health, or nervous diseases; and that only in a few cases could the brilliant results achieved by Drs. Sayre and Otis be obtained and that these operations often did harm.

The most striking feature of this discussion is the entire disagreement of the participants. The question is raised relating to the difference and likeness of functional and organic disease. And this difference is asserted to be so great, of course in kind, that it is made the ground upon which the conclusions of one gentleman are refuted by another. It is remarkable that any two physicians engaged in the same line of practice and study should observe such different results in the same methods of treatment, and in studies of the etiology of disease. It is undoubtedly true that in a discussion of this sort, on a scientific question not yet proven to be true or untrue, that no positive agreements could be arrived at, and more especially when the personal equation is taken into account. It is safe to conclude, from indications based upon all such cases given in this discussion, that nervous disease may result in genital deformities, and that genital deformities may result in development of nervous diseases; that the cure of nervous diseases may cure the genital irritation, and removal of genital irritations may cure nervous diseases; that the physician who treats all nervous diseases, with co-existent genital irritation, by the usual methods, may do good to both, and possibly harm to either, and the physician who treats genital irritation with co-existing nervous disease by surgery, may do good and possibly harm. It is to be expected that when a scientific question lacks the essential verification required to make it a science those observations from only one side of it, and of different sides by different observers, can only give corresponding results.

At present, there is probably no more evidence that a contraction of the meatus will cause epilepsy, than that the nervous disease, of which epilepsy is a symptom, can cause a contracted meatus. It may be as scientific to infer that a diseased trophic nerve, even embryonic, may cause a phimosis, as that a phimosis may cause atrophy of the optic nerve, and the same I think will hold good in that other remarkable case cited, and we may well question whether a contracted meatus caused apparent hip joint disease with atrophy of a limb, or whether a nervous disease caused them both, or a real hip joint disease produced a contraction of the meatus, and an atrophied limb. From the fact that clinical reports and the discussion quoted do not establish scientifically the real relations of genital irritation and nervous diseases, and from the fact they also do not as a consequence,

establish the philosophy of the therapeutical effect of surgical operations upon the genitals as related to nervous diseases, it becomes necessary to seek some other explanation than these disputed ones, and I think the likeness of this effect to other established therapeutical facts will warrant the conclusion that in such cases the benefit to the nervous disease is produced by nervous shock!

A nervous shock, to be therapeutical, must differ from nervous stimulation only in degree, and this treatment in these cases, bears a very close analogy to the established fact that stimulation of the nerves in organs which receive their termination, as the muscles for instance, by the electric current, exert a beneficial effect—a curative effect—upon diseased nerves, and their centres. In my opinion the cases cited, of cure of atrophy of the optic nerve by circumcision, and of melancholia by dilatation of the meatus, are instances in point, and to further illustrate this law deductively, I will cite:

CASE V.—Mrs. — aged 74 years, when she was 71 years old, now four years ago, had an attack of right hemiplegia. From the history I concluded the cause was not hæmorrhage. Sensation and motion were entirely abolished in the arm, and the hand was contracted. There was some sensation in right side, and lower limb, and she had power to flex and extend the limb from the hip joint to a limited degree. The foot was inverted upon the ankle joint. She had never attempted to stand since her attack three years before. During past two years her mind had become impaired—the manifestation being amnesic aphasia. She first gradually lost the power of making herself understood, and then of understanding what was said to her as well. This was particularly noticeable from the fact that she was much given to reading, especially the newspapers, which practice she ceased from evident inability to gather ideas from language. She would pick up the paper and try to read, and in a short time shake her head sadly and give up the effort.

I treated this lady for sixteen months using no remedy but electricity to the paralyzed muscles, and a club foot apparatus for her foot. After six months treatment she began to walk, the muscular power and sensibility of the right side, except the arm, continued to improve while she was under treatment until the action of the lower extremity was remarkably good: the arm

remained the same. But the surprising results of this long continued stimulation of nerve ends and muscles was the almost entire cure of the aphasia. She began first to read the newspapers, and the first idea she got from this source known to her friends, was that Grant was in Egypt. From this time she gained confidence and began to talk again, and her aphasia was removed to a greater extent even than was the paralysis.

In the treatment of this case the partial relief of the paralysis, and the cure of whatever lesion caused the aphasia, there was no remedy used but the indirect current of electricity which was applied only to the affected muscles. The result proves the proposition, as well as anything in medical treatment can be proven, that nerve stimulation and shock are very valuable therapeutical factors in the treatment of nervous diseases.

It may in time be observed that the operations of iridectomy, or that for pterygium, will have as beneficial an effect upon atrophy of the optic nerve, when eye deformities and atrophy co-exist, as the operation of circumcision has been known to have, when phimosis was co-existent with such atrophy; and I believe that the theory of cure by nerve shock in these cases, acting independently of cause and sequence, will be established by verification to be the true therapeutical philosophy.

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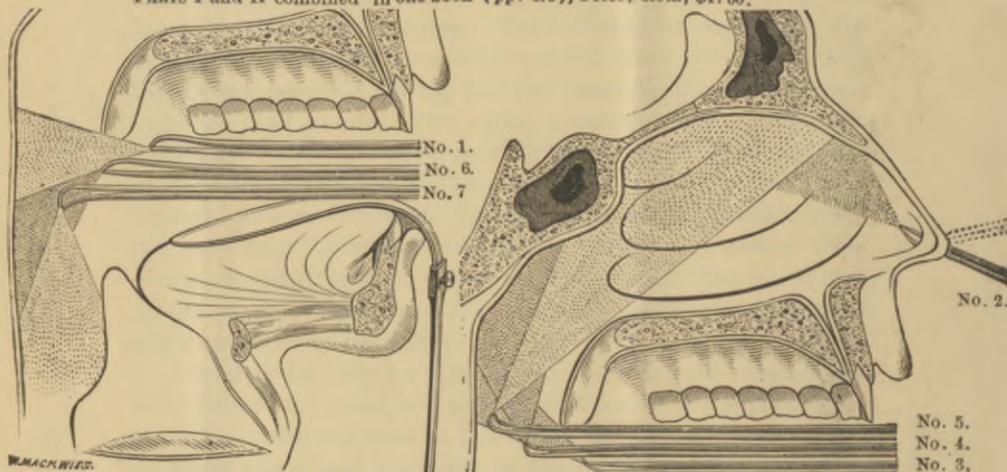
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