DEWEES (W. B.)

* An Essay on means of lessening the sufferings of parturition.

"THESIS"

BY

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Salina Job Printing Co., Salina, Kansas.

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AN ESSAY

— ON —

MEANS OF LESSENING

— THE —

SUFFERINGS OF PARTURITION,

SUBMITTED TO THE EXAMINATION OF

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THE TRUSTEES AND MEDICAL FACULTY
— OF THE —
UNIVERSITY OF PENNSYLVANIA.

FOR THE DEGREE OF DOCTOR OF MEDICINE,
on the Twelfth day of March, one Thousand Eight Hundred and Seventy-seven.

BY WILLIAM B. DEWEES, M. A.,
OF FLEETWOOD, PENNSYLVANIA.

At the Public Commencement, held Monday, March 12, 1877, at the American Academy of Music, on Broad street, Philadelphia, Pa., after the Degree of Doctor of Medicine was conferred upon a class of 121 Graduates by Charles J. Stille, LL. D., Provost, Distinguished Honors were conferred upon ten members of the class for the Merits of their Theses; William B. Dewees receiving second highest honors for the Merits of this Thesis.

MEANS

—OF—

LESSENING THE SUFFERINGS OF PARTURITION.

THE GREAT—the noble objects of medical science are to prevent, to alleviate, or to cure disease. The more immediate duties of the cultivator of that division of the science termed *Midwifery*, consist in alleviating suffering, in facilitating the process of parturition, and in preserving life, amidst the natural or accidental difficulties to which females and their offspring are constantly exposed.

The diseases peculiar to the female sex, and more especially those connected with a state of pregnancy are highly interesting, and have at all times excited the greatest attention of physicians. The study of these diseases, although most interesting, is, however, exceedingly difficult; their care and treatment is most anxious, and most responsible, but at the same time productive of all those rewards arising from the exercise of the best and kindliest feelings of the human heart—from the delightful consciousness of being instrumental in preserving the inestimable blessings of health and life.

That woman—the fairest and loveliest part of creation—should suffer more than an equal share of the evils that afflict mankind, is an hypothesis inconsistent with the "Law of Nature." Imbued with this principle, I have endeavored to show—by facts drawn from the study of anatomy, physiology and history, and from observation at the bedside of human suffering—that it is absolutely unnatural for woman to suffer pain in parturition. *Civilization in disobedience to the "Law of Nature," is the only true source of pain in childbirth.*

By consulting the best practical writers, missionaries and travelers, we learn that it is among the higher classes, in the more civilized countries that women suffer the greater in both pregnancy and parturition; but that the peasantry, the savage, the barbarian, and those whom we call heathen are comparatively exempt.

Numerous treatises have been published on the art of midwifery, in which the greatest attention has been paid to the operative part; but an attempt to lessen the *pains of parturition*, appears to have been almost entirely neglected. I cannot account for this neglect in a more satisfactory manner than, that all those who have written on this subject be-

lieved the hypothesis, that pain is necessarily connected with parturition. That practitioners have held such an idea is sufficiently obvious; hence we find an eminent accoucheur, Dr. Osborn, (Essay on the Practice of Midwifery, page 28,) observes, that "woman is *necessarily* exposed to great pain, difficulty, and danger in parturition." Again, "it is the *intention* of nature that labour should be a slow, deliberate, and *painful* operation." —[*Ibid, page* 48.

And another not less distinguished for his abilities, Dr. Denman, says, that "it is *natural* for women to have slow and *painful* labours." —[*Denman's Midwifery, vol.* 2, *page* 482.

Dr. Meigs says: "Men cannot suffer the same pain as women. What do you call the pains of parturition? There is no name for them but *agony!*"

And again "There is probably no suffering ever experienced which will compare, in proportion to its extent of time, with the throes of parturition."

This doctrine of the necessity of pain, appears to be founded upon the declaration of Revelation, (Genesis 3:16) "In sorrow thou shalt bring forth children;" which was announced to the mother of the human race, as a punishment for her disobedience; and secondly upon the erect position of the human body. From the various writers of all ages who were advocates of this doctrine and belief I shall only quote that of the eminent accoucheur and classical writer, the late Dr. Hugh L. Hodge:

"The cause why contraction of the uterus should be painful is enveloped in obscurity. It seems difficult to imagine why the physiological action of this organ should be attended by suffering, when no other similar example can be presented in any other muscular tissue of the male or female in their healthy conditions. Speculations have been advanced upon this subject, but they are altogether unsatisfactory. We must again refer to the original law of the animal economy, impressed upon it at its creation, or take the declaration of Revelation that in 'sorrow thou shalt bring forth children.'"

That labor is frequently a tedious and painful operation will not be denied; that this is the rule among the higher classes in all civilized countries, is authentically substantiated by the statistics of the present age of the world's history; but that pain should be a necessary consequence of the form and structure of the human body, or that the Supreme Being should have enjoined it as a curse upon the female sex, appears so derogatory to the idea we have of his wisdom and goodness, that we cannot admit it; for were this true, it would of necessity follow that the women of both civilized and uncivilized nations were suffering similarly; again nature has formed such a stucture of parts as to counteract the effects of gravity, prevent premature labor, and effect childbirth without difficulty and without suffering; but civilization has stepped in, and the means she has employed create those obstacles which impede delivery, and are unavoidably the cause of the excruciating pains which the unhappy sufferer is compelled to endure.

That a woman may bring forth in sorrow, and yet not be subjected to much bodily pain, may very readily be conceived. When she reflects upon

the dangers attending the puerpural state, the slow and difficult recovery of some, the death of others, when she considers that half of the human race do not attain the age of seven years; that hardly a half of the remainder arrive to years of maturity, and that even should the fruit of her womb be so fortunate as to escape death in its youth, yet that it will be exposed to dangers and temptations, in the world, to which it may fall a prey, and which may render life a burden to itself, and a reproach to its parents; under circumstances like these, it may truly be said, that in sorrow does she bring forth children.

That it is not the intention of *nature* that parturition should be a painful operation is sufficiently evident from the ease and facility with which many women are delivered, which fact is authentically substantiated by the records of history.

"We know that many women are safely delivered of full sized children, so suddenly that they have scarce time to call for assistance; that, sometimes waking from their sleep with a slight pain, labour is hurried through in a few minutes, while the woman is almost unconscious of what has happened. Some women, again, have been taken in labour while walking, and have not even had time to be conveyed to any house, or convenient place but have dropped their burdens where they happened to be first seized. Others while on a visit, at dinner, or in the midst of some amusement, have been surprised by labour, and have parted with their children with little pain or trouble."—[*Bland on Parturition, p.* 24.

"The greater the pain the more violent the effort. This declaration, however, must be received with many restrictions; for frequently the whole first stage of labor is accomplished without pain, and with even trifling sensations; indeed, in the second stage—that of expulsion—the contractions may be very efficient, and the suffering very moderate. Indeed, in one case a lady insisted she had *no pain*. The practitioner, therefore, cannot always trust to the sensations of his patient, either as to the occurrence or progress of labor, by the degree of pain existing, and he cannot alway be satisfied that there is no labor because there is no pain; his investigation must be more minute and extensive."—[*System of Obstetrics by Hugh L. Hodge, p.* 119.

If these facts be admitted, they will substantially prove the fact that *pain* does not occur in every case of parturition; therefore, the parturient process is not necessarily painful; and hence it will follow, that if all women are not necessarily and inevitably subjected to pain, none are; but that pain, in childbirth, must depend upon *adventitious* causes.

In proof of this we find, that women who live in a certain state of society, in a certain climate, or who follow a particular mode of life, or in other words, women who live and move in a natural sphere; whose physical development is the fulfillment of nature's intention, are entirely free from pain.

Bruce, (Travels to discover the source of the Nile, vol. 2, page 21) speaking of the women of Abyssinia, says: "They do not confine themselves even a day after labour, but wash and return to their work immediately."

"A Morlack woman neither changes her food nor interrupts her daily fatigue on account of pregnancy, and is frequently in the fields, or on the road by herself, takes the infant, washes it in the first water she finds, carries it home, and returns the day after to her usual labor, or to feed her flock."—[*Dobson's Encyclopedia, article Morlackia.*

It is related by Hennepius, (Ceremonies and religious customs of various Nations,' Vol. 3, page 20,) that "the Spaniards in Brazil, who perform the office of midwives to their teeming consorts, receive the infant, tear the navel string, and wash and paint it. The lying-in woman does not meet with more indulgence than the infant; as soon as she is unburdened, she goes and washes herself, and immediately sets about her work without suffering the least inconvenience from it." He also says, "The wives of the Livonian peasants use the same custom. The women retire to some private place when the time of delivery is at hand, and return immediately after to their work."

"The Moorish women," says Sagnier and Brisson (Voyage to the coast of Africa, page 494,) "have no midwives, but are usually alone at the moment of delivery, laid on the ground, under an indifferent tent. They have seen these women depart even on the day of their delivery, to encamp at the distance of fifteen or twenty leagues."

The labors of the Sicilian women are accompanied with so little pain and danger, that they appear perfectly well the day after delivery. "For in this happy climate," says Brydone, (Tour through Sicily and Malta, vol.11, letter 22,) "child bearing is divested of all its terrors, and is only considered as a party of pleasure."

The Indian women (squaws) of our country also possess this happy privilege to a great degree; "when taken in labor while marching with their husbands, they will retire behind a bush, deliver themselves, and in an hour's time rejoin their companions,"

A traveler in the Sandwich Islands writes, "The native women scarcely suffer any in childbirth; instead of remaining in bed they get up immediately, bathe themselves in cold water, work, walk, exercise and eat as usual."

Prof. P. Cazeaux, in his classical work, (Theoretical and Practical Midwifery, page 288), says: "There are certain females who have the happy privilege of being delivered almost without any or at least with but very inconsiderable pains. It is highly probable that the dilitation of the neck goes on quietly in such cases, under the influence of contractions which are not perceptible to the patient from being unattended with pain."

This testimony, in favor of the ease and facility of parturition, authentically and indisputably proves, that it is not the intention of the great Author of Nature, that the parturient process should be painful. Could it be possible, that the Supreme Being who has established general laws for the government of the universe would be partial in this particular? I answer *No!* This testimony equally proves, that parturition would at all times be performed with ease and safety, had not mankind, as they became more civilized, introduced customs and modes of living so very different

from those of their ancestors, and so very inconsistent with the Law of Nature. To this alteration, therefore, in diet and habits of life—yes, to this *false civilization*—must be attributed the sufferings of pregnancy, and the pain and difficulty of childbirth. In other words may we not then truly say that *pain in childbirth, is the curse of civilization in disobedience to the Law of Nature.*

Prof. Huxley, the great English scientist, says: "We are, indeed, fully prepared to believe that the bearing of children may and *ought* to become as free from danger and long debility to the civilized as it is to the savage."

Prof. Wm. P. Dewees, late Professor of Midwifery in the University of Pennsylvania, says: "*Pain in childbirth is a morbid symptom;* it is a perversion of nature, caused by the modes of living not consistent with the most healthful condition of the system, and a regimen which would insure a complete healthy condition might be counted on with certainty to do away with such pain."

Having clearly shown that *civilization in disobedience to the Law of Nature,* is the sole cause of painful and difficult parturition, it remains to be proven in what special physiological phenomena this *false civilization* produces the pathological symptoms of pregnancy, and the pain and difficulty of childbirth.

All the soft parts concerned in parturition—os uteri, perineum, and adjacent soft parts—in a natural and healthy state, are prepared and disposed to dilate; they therefore make little resistance to the expulsion of the child, which is effected with very little exertion, and without pain. But from unnatural, and irregular, and improper customs and habits of living; these parts acquire such a firm and rigid texture, that it requires considerable force and time to dilate them.

Although all the soft parts concerned in parturition, are susceptible of this rigidity, yet in general it is more particularly confined to the os uteri and the perineum, and the strongest and most violent contractions of the uterus, are sometimes unable to overcome it.

This firm and rigid condition of the os uteri and perineum, has been universally noticed by writers on the obstetric art, as a cause of *Dystocia*; and we have frequently known parturition delayed for hours, and even days, in some instances, from this cause alone, when every other circumstance was in favor of a speedy and happy termination of the patient's sufferings.

For the purpose of dilating the soft parts and expelling its contents, the uterus is possessed of a strong power of contraction, by which means the liquor amnii and the fœtus is pressed against the os uteri, and thus gradually dilating it. This action of the uterus I shall consider as threefold:

First—The occasional contraction. This it owes to muscular structure. It is a temporary contraction, and cannot be continued long at a time.

Secondly—A permanent contraction, by which, like other hollow viscera, it adapts itself to its contents, as the blood-vessels to the blood, and the bladder to the urine, etc.

Thirdly—An irregular, spasmodic or convulsive action.

By the first of these actions, the os internum and externum, and cervix is dilated. By the second, when there is no resistance from the soft parts, the contents of the uterus is expelled. These two actions I consider as the natural, and healthy action of the uterus. The last is a disordered action, arising from great irritability of the uterus; from inflammation of the os uteri and parts adjacent, occasioned by violent pressure of the child's head, or from irritation of the os uteri, by too frequent examinations or attempts to dilate the parts with the hands, or form irritation of a congested condition of the soft parts resulting from plethora, which is superinduced by the indulgence of the appetite and a deficiency of exercise, during gestation.

This irregular, spasmodic and convulsive action is never of any service in dilating the parts, or expelling the fœtus, and is generally attended with the most *excruciating pain*. It frequently occurs after the delivery of the child, and by closing the os uteri or by the contraction taking place in the middle of the uterus, (hour glass contraction) it prevents the accoucheur from extracting the placenta, [See the writings of Hodge, Dewees, Cazeaux, Thomas, Taylor, Denman, Bandelocque, Meigs, Hamilton, Osborn, and La Motte.] It is always overcome with difficulty. In some cases it is impossible to introduce the hand, and even dangerous to attempt it.

The *seat* or location of pain during uterine contraction, has been a subject of discussion.

"The pains are felt in the lower part of the abdomen; and in the early stages generally follow a line drawn from the umbilicus to the second bone of the sacrum, but when the head presses against the pelvic floor, they run more towards the coccyx. Sometimes they are felt in the lumbar and sacral regions only; these are called the *pains* in the back; and the patient has good cause for dreading them, for they do not much advance the delivery, and always leave behind them a feeling of discomfort and prostration.

"According to Madame Lachapelle, these lumbar pains may generally be referred to too great a rigidity of the external orifice, either because this experiences a kind of cramp, or that owing to its unyielding condition it receives the full force of the uterine efforts, and consequently suffers more than when softened.

"These lumbar pains doubtless depend on the sensibility of the orifice, and this can readily be explained by the origin of the nerves distributed to the neck, for the hypogastric and lumbar plexuses furnish them; whilst the ovarian plexus of the splanchnic nerve alone sends its branches to the fundus uteri."—[*Cazeaux's Midwifery, page* 289.

A very simple remedy to assuage these pains, and one which of itself, suffices in the majority of cases to relieve the patient, is, to place the hand with palm to the patient's aching back, over the seat of pain, and making firm support or steady pressure.

Madame Boivin, who ought to be a correct judge, having suffered *in propria personæ*, locates the pain about the cervix uteri, and declares the dilatation of the same almost the only source of suffering.

Without denying that these various conditions—rigidity of the os uteri,

external orifice and other adjacent soft parts—may be the first cause of the pain, M. Beau observes, "that the suffering which they produce is not seated in the uterus, but in the lumbo-abdominal nerves." He regards the pains of childbirth as being, for the most part, a lumbo-abdominal neuralgia, precisely as though the case were one of pathological disease of the uterus." "If," says he, "a woman in labor be examined with the object of determining the existence of the five painful points which characterize the lumbo-abdominal neuralgia, there will then be found, as in diseases of the womb, points which are painful on pressure in the lumbar, iliac, hypogastic, inguinal, and vulvar regions. In some cases, it is the lumbar point; in others, the inguinal or iliac, etc. Pressure on the same points is much less painful during the interval of the pains; in some cases, indeed all tenderness then seems to disappear."

Probably the most acceptable explanation is given by Cazaux, (Cazaux's Midwifery, page 291.) "The pain which accompanies the uterine contractions is not a unique fact in the organism, inasmuch as all rather severe involuntary contractions, in whatever organ they may take place, are attended with pain. I would mention in illustration, cramps in the muscles of animal life, colic pains in the bowels, spasmodic contractions of the bladder, and palpitations of the heart. Under ordinary circumstances, it is true that the muscles of the limbs, of the intestinal canal, of the bladder, and of the heart, are constantly contracting without pain, but the moment they become affected with severe involuntary contraction, pain is experienced. This would seem to be a law of pathological physiology which is as applicable to the uterus as to any of the organs. We believe, therefore, that the pains of labor have their seat in the uterine walls precisely as colic pains are situated in the walls of the intestines. The painlessness of the contractions which take place during pregnancy, is explained by their feebleness, and are comparable to the peristaltic motions of the bowels of which we are unconscious."

This testimony, offers irrefragable evidence, that the principal causes of the pains of parturition, are:

First—The resistance to the expulsion of the fœtus, from the rigidity of the os uteri, perineum and adjacent soft parts.

Second—The irregular spasmodic or convulsive action of the uterus.

Hence the indications of lessening these pains are two-fold:

First—Te give, to the os uteri, perineum and adjacent soft parts a disposition to dilate.

Second—To restore the uterus to its natural and healthy action.

We do not find that anything has been offered for the express purpose of lessening the pains of parturition until the beginning of the nineteenth century. (See Dr. Rush's letter to Dr. Miller, Medical Repository, vol. 6, p. 26.) Accoucheurs believing it impossible to give to the parts their disposition to relax, (Denman's Midwifery. Vol. 2, page 69,) thinking it most prudent not to interfere, but in all cases (preternatural presentations, or where there was a great deformity of the pelvis, excepted) to trust entirely to the efforts of nature.

Dr. Hamilton relates a case in which, though the contractions of the uterus were "strong and frequent," yet it required two days before the os uteri was sufficiently dilated; and in his remarks on that case observes, that it "shows the advantages of waiting patiently for the efforts of nature." What, I would ask, are these advantages? The case proves that nature, left to herself, had power sufficient to expel the child; but surely subjecting the patient to the most exquisite pain for forty-eight hours, can not be considered an advantage. It is the more surprising that Dr. Hamilton should advocate this doctrine, as he appears to be well acquainted with the effects of blood-letting, in relaxing the os uteri, and recommends it in cases where we might apprehend a rupture of the uterus.—[*Hamilton's Cases, p.* 152.

That the powers of nature, in a simple state of society, and in those in whom a general relaxation of fibre is produced by climate, or particular habits of living, are sufficient for the expulsion of the fœtus, has already been noticed. We also grant, that in general nature is adequate to the task, in those who, from different modes of life, have produced the rigidity of os uteri and adjacent soft parts, which we have considered and irreferagably proven, as the principal cause of difficulty and pain; but here she requires a considerable time to effect her purpose, and her patient is subjected to much unnecessary pain and great anxiety of mind.

From great rigidity of the os uteri, perineum and adjacent soft parts, and strong and violent contractions of the uterus there has occurred:

1. Rupture of the uterus.—[*Noticed by Foster, Dease, Denman, Hamilton, Cazeaux, Hodge and Dewees.*

2. Laceration of the os uteri.—[*Perfects Cases, case* 142, *Foster's Midwifery, p.* 246; *Hodge's Obstetrics, p.* 421.

3. Laceration of the perineum, and sphincter ani.—[*Foster, p.* 246; *Dease, p.* 36; *Denman, vol.* 1, *ps.* 67 *and* 383; *Hodge, p.* 422; *Cazeaux, p.* 680.

4. Protrusion of the os uteri before the head of the child, which in some cases has been divided before delivery could be effected.—*Annals of Medicine for* 1798, *p.* 31.

5. From long continued pressure of the head upon the soft parts, has arisen inflammation and mortification, which has sometimes proven fatal; and in other cases, though the patient has survived, she has been subject to an involuntary discharge of fæces or urine through the vagina.—[*Dease's Midwifery, ps.* 38 *and* 75; *Clarke's Practical Essays, p.* 68.

6. From too frequently repeated and violent contractions, the uterus becomes exhausted, an atony succeeds, and even though the rigid soft parts should then become relaxed, the powers of the uterus are insufficient to expel the fœtus. In some such cases we must have recourse to instruments, with which delivery being soon accomplished, yet the injury does not end here; from an inability of the uterus to contract, an hæmorrhage supervenes, which is generally fated to the patient.—[*Hamilton's Cases, order* 2, *c.* 1.

And when we add to these, the risk of convulsions (Denman, vol. 2, p. 403) or rupture of blood-vessels, (Ibid, vol. 2, p. 50,) all of which have happened, and may again happen under similar circumstances. We cannot suppose

that any great advantage can be derived from "waiting patiently for the efforts of nature."

To view the distress of a fellow creature, from whatever source it may arise, is to the mind of sensibility extremely painful; but there is no situation which excites greater solicitude, or in which our feelings are more interested than that which we are now considering. The parturient woman has therefore a strong claim, not only for our sympathy, but also to every exertion that can be made to alleviate her pains. Certainly then we ought not to be inactive spectators, when we have it in our power to give almost instantaneous relief, but should make use of those means, by which, a mitigation of suffering may be obtained. And more especially employ such means that will not only produce present relief, but also prevent future danger.

Having pointed out the ill consequences arising from a rigid state of the os uteri and adjacent soft parts, and an irregular, spasmodic or convulsive action of the uterus, we proceed to the consideration of the means by which these evils may be remedied. We shall notice,

First—Such as are necessary during gestation, and which will prevent a morbid irritability of the uterus, and enable the os uteri and adjacent soft parts to retain their disposition to dilate; and,

Secondly—The means to be employed at the time of parturition, by which we may effect a dilation of the os uteri and soft parts adjacent, and restore the uterus to its natural and healthy action.

From the stimulus of distension, the indulgence of the appetite, and a deficiency of exercise, during the period of *uterine gestation*, there is a constant tendency to a plethoric disposition; this, if not actual disease, is *the cause* of most of the irregularities of the system attendant on pregnancy, and lays the foundation, for the causes of pain and difficulty in parturition, already mentioned. Hence it becomes necessary to pay particular attention to the state of the system, and when symptoms of disease occur, to be early in giving proper directions, and if necessary administer remedies, for their removal. As most of the complaints of pregnancy arise from this plethoric disposition of the system, it will be proper in almost every instance, and especially where the patient will stubbornly refuse to follow the necessary directions as to diet, exercise, etc., to meet them with the lancet.

The safety of blood-letting in pregnancy is already sufficiently established, and although it is not necessary to bleed when there is no symptom of disease present. Yet, if we wish to conduct our patient in such a manner as to ensure her an easy labor, it would be as highly improper to neglect *blood-letting* when these symptoms do occur, as it would be to neglect a low diet and exercise to prevent plethora—the cause of those symptoms. "Plethora, or an increased turgescence of the blood-vessels, is a very general characteristic of pregnancy, especially after the fifth or sixth month of gestation. This we regard as proved by the fullness of the pulse, of the capillaries, and superficial veins; by the sensations of the patient, who often complain of a feeling of distention, of fullness over the whole body, as if her hands and feet and face were distended, when no such

distension can be perceived by her attendants. There is also a great increase of the excretions of the body, but at the same time, nutrition is active in all the tissues. The woman, also, suffers from "flushes of heat," the face and neck become red, and eyes injected; while there is often a general sense of languor and depression, the patient complaining of weakness, weight, oppression; it is an effort for her to move about. Under such circumstances, the loss of blood, spontaneously or artificially, or a profuse watery diarrhœa, affords great relief, the woman feeling lighter and better from such evacuation."—[*Hodge's Obstetrics, p.* 81.

This disposition to plethora, we have good reason to believe is the normal state of pregnant women, judging, not from the limited sphere of individual practice, but from the general history of parturient women in all countries, and in all stages of society. Her whole system, vascular as well as nervous, is normally excited, in sympathy with the vital activity of the uterus, produced and kept up by the existence of a living being within its cavity. In a large majority of cases, the woman feels well, is active, and able to enjoy society, and to attend to her ordinary avocations. This is especially the case among the savage, the peasantry of foreign lands, and the Indians and slaves of our own country; while on the other hand, the enlightened and more favored daughters of earth, whose superior education, intelligence and marked *civilization in disobedience to the Law of Nature* is accompanied with an exaggerated development of the emotional nature and a corresponding deterioration of the physical powers, hence the physiological functions are interfered with, and a pathological phenomena manifests itself.

Prof. T. Gaillard Thomas, in his classical work on diseases of women, published 1874, p. 53, speaking of the etiology of uterine disease, says: "Neither appreciation of, nor desire for, physical excellence sufficiently exists among the refined women of our day. Our young women are too willing to be delicate, fragile, and incapable of endurance. They dread above all things, the glow and hue of health, the rotundity and beauty of muscularity, the comely shape which the masters gave to Venus de Medici and Venus de Milo. All these attributes are viewed as coarse and unladylike, and she is regarded as most to be envied whose complexion wears the livery of disease, whose muscular development is beyond the suspicion of *em bon point,* and whose waist can almost be spanned by her own hands. As a result, how often do we see our matrons dreading the process of childbearing as if it were an entirely abnormal and destructive one; fatigued and exhausted by a short walk or their ordinary household cares; choosing houses with special reference to freedom from one flight of stairs, and commonly debarred the great maternal privilege of nourishing their own offspring. These are they who furnish employment for the gynecologist and fill our homes with invalids and sufferers."

What better language could be framed to depict, *civilization in disobedience to the law of nature* and its effects upon the physical development of woman, and may we not add truthfully—to the above words of Dr. Thomas—that these are they who are compelled to suffer the pains of childbirth.

This doctrine of vascular excitement and plethora, which characterizes the pregnant state is further confirmed, by the irrefragable evidence of the occasional occurrence of hemorrhages, from various tissues, during pregnancy. These hemorrhages do not debilitate, but afford relief. Hence we meet with bleeding from the nose, lungs, bowels, stomach, etc., during gestation which do not aggravate the sensations of weakness and oppression, but, on the contrary, relieve the suffering congested organs, and the whole distended system.

"This doctrine of plethora," says Dr. Hodge, "is still further strengthened by the result of the evacuating treatment of parturient women. By consulting the best practical writers, both in Europe and America, the reader will be surprised at the extent to which bleeding has been carried, not merely with impunity, but with decided advantage. Dr. William P. Dewees of this city (Philadelphia) in whose judgment and discretion the greatest reliance was placed, was a great advocate of free bleeding, in all the congestive complaints of the parturient woman. He would frequently bleed his patients fifty or sixty ounces, or even more in the course of a few hours. Such evacuations proved very universally advantageous, and were not followed by any deleterious effects; on the contrary, the patient was less liable to inflammatory affectations, and her "getting up" was more favorable. The fact, therefore, that during gestation and parturition, the evacuating treatment has been so fully and successfully employed, is altogether inconsistent with the hypothesis that there is, under those circumstances, an impoverished state of the blood, and that the woman is debilitated and in a 'chloro-anæmic' condition.

"The effusion of serum into the cellular or arœlar tissues, into the cavities of the cranium, chest and abdomen, which not unfrequently in pregnancy, constitute, like hemorrhage, one of the natural consequences of plethora. Hence, females who take much exercise in open air, and especially when engaged in active, laborious occupation, suffer lsss in prognancy, have less disposition to œdema, and are less liabable to miscarriage—'they work off their fluids.'"

Such are some of the irrefragable evidences of vascular excitement and plethora which characterizes the pregnant state. The remedies to obviate this plethoric disposition are:

First—A low diet.

Second—Exercise.

Third—Laxative remedies.

FIRST—A LOW DIET.—The appetite during pregnancy is frequently considerably increased and much mischief has accrued from an inordinate indulgence of this morbid craving. It will not only be necessary to lessen the quantity of food, but also to attend to its quality.

Animal food, condiments, especially fats and sweets, as these two are pure carbons, therefore cause and increase febrile conditions—all substances of a stimulating nature and all alcoholic beverages should be absolutely avoided, and the *bill of fare*, must be made solely by selections from the

grains, fruits, vegetables and milk. Probably the best diet that can be selected is *rice* and *fruit*.

The easy labors of the Indian women of America have very properly been ascribed by Dr. Rush (Medical Repository, vol. 6, p. 26,) to their scanty and restricted diet.

Case I.—In the following cases its good effects are manifested:

Mrs. C. R., aged twenty-nine years, was admitted pregnant into the almshouse on the 14th day of October, 1876. In consequence of an ulcer on her neck, she was ordered into the surgical ward, and was confined to a low diet, consisting entirely of vegetable substances, until the 12th day of December, 1876, when she was taken in labor; it came on so suddenly, that there was scarcely sufficient time to remove her to the lying-in room before she was delivered, and with so much ease, that it was observed by a fellow medical student present, that it might be truly called a case of parturition without pain. Immediately after her delivery she arose, made up her bed and undressed herself, with as much unconcern as if nothing had happened to her. This patient was not confined an hour to her bed, either from debility or disease.

Case II.—I copy this from a small pamphlet published in London, England, in 1841, written by Mr. Rowbotham, a practical chemist, who states that his wife had been such a sufferer in two parturitions that he entertained fears she would not survive the third. Feeling it a sense of duty that science must be capable of rendering some means for the amelioration of his wife's suffering, advanced the theory that "in proportion as a woman subsists during pregnancy upon aliment that is free from earthy and bony matter, will she avoid pain and danger in delivery; hence the more ripe fruit, acid fruit in particular, and the less of other kinds of food, but particularly of bread or pastry of any kind, is consumed, the less will be the danger and suffering in childbirth.

"The subject of this experiment had, within three years, given birth to two children, and not only suffered extremely in the parturition, but for two or three months previous to delivery her general health was very indifferent, her lower extremities exceedingly swelled and painful. She had on this condition, two and a half years after her last delivery, advanced *full seven months* in pregnancy before she commenced the experiment at her husband's earnest instance; her legs and feet were, as before, considerably swelled; the veins distended and knotty, and her health diminishing.

"She began the experiment in the first week of January, 1841. She commenced by eating an apple and an orange the first thing in the morning, and again at night. This was continued for about four days, when she took just before breakfast, in addition to the apple and orange, the juice of a lemon mixed with sugar, and at breakfast two or three roasted apples, taking a very small quantity of her usual food, viz: wheaten bread and butter. During the forenoon she took an orange or two, and an apple. For dinner, fish or flesh in small quantity, and potatoes, greens and apples, variously prepared. In the afternoon she sucked an orange or ate an apple or some grapes, and always some lemon juice mixed with sugar or treacle.

For supper again roasted apples or a few oranges, and rice or sage boiled in milk; occasionally apples and raisins, or figs with an orange cut among them, etc.

"She continued this course for six weeks when to her *surprise and satisfaction, the swelled and prominent state of the veins*, which existed before she began, had *entirely subsided;* her legs and feet, which were also swelled considerably, had returned to their former state; and she became so light and active she could run up and down a flight of twenty stairs, with more ease than she did before she was pregnant. Her health became unwontedly excellent, and scarcely an ache or a pain affected her up to the day of her delivery.

"At nine o'clock, A. M., after having cleaned her apartments, she was in the yard shaking a carpet, which she did with as much ease as any one else could have done. At half past ten she said she believed her time was come, and the accoucheur was sent for. At one o'clock the child was born, and the surgeon had left the room. He knew nothing of the experiment being made, but on being asked on paper by the husband two days afterward, replied on paper: 'I hereby testify that I attended Mrs. Rowbotham on the 3rd inst., and that she had a safe labor and more easy than I generally meet with.' On his asking the midwife, she replied: 'Why, I should say that a more easy labor I never witnessed—I never saw such a thing, and I have been at a great many labors in my time.'

"The child, a boy, was finely proportioned and exceedingly soft, his bones resembling gristle. He became of large size and very graceful, athletic and strong as he grew up. The diet of his mother was immediately changed after confinement, and she ate bread and milk and all articles of food in which phosphate of lime is to be found, and which had been left out before. She also got up from her confinement immediately and well. After her previous delivery, July 1838, full ten days elapsed before she could leave her bed, and then she swooned at the first attempt; on this occasion, March, 1841, she left her bed the fourth day, and not only washed, but partly dresssd herself. She had no assistance from medicine.

"During former pregnancies, she had subsisted very much on bread, puddings, pies, and all kinds of pastry, having an idea that solid food of this kind was necessary to support the fœtus. Nutritious food can be had without that hard and bony element, which is so large an ingredient of wheaten flour; sage, tapioca, rice, etc., have little of it."

From the above statement it is evident that Mr. Rowbotham had only expected to arrest or decrease the development of bone in the fœtus, which evidently was fully accomplished, but the experiment proved itself of more benefit than this, viz: *by eating so largely of acid fruits, the inflammatory or "billious" condition was overcome.* This is explained by *the oxygen of the acids uniting with the excess of carbon previously taken and remaining in the system, thus relieving the pathological symptoms under which she was suffering.* This doubtless was the greatest factor in givingthefinal favorable results in this case as by *this means the phlogosed and plethoric condition of the system was removed.*

That this congested state of the system is the main cause of the suffering during gestation and parturition, is evident from the fact that prolonged suffering often accompanies a premature labor, even when there is little osseous development.

The experiment of Mrs. R. is the only one of the kind I can find on record, and gives irrefragable evidence that an *improper diet* is the leading cause *per se* of the *plethora* of parturient women, and it is to be remembered that *plethora* is the main cause of the sufferings of gestation and parturition. Hence the truth of the words of Prof. William P. Dewees, who more than half a century ago, wrote that "a regimen which would insure a complete healthy condition, might be counted on with certainty to do away with such pain."

SECOND—EXERCISE.—Upon research I find that it has been observed by Aristotle, "that those women who take most exercise endure uterine gestatation and labour with greater ease and safety."—[*Introduction to Smellie's Midwifery, p.* 16.

This observation has been confirmed by most of the succeeding writers on midwifery. Hence we account for the more easy deliveries of the women residing in the country, than of those in cities, and of the laboring classes than of those in higher states of society.

And to the combination of exercise and scanty diet, may be attributed the little pain and difficulty attending parturition among the female slaves of the Southern States, as well as the Indians of our own country, and the savages, etc., of other countries mentioned before.

I had the opportunity of having the following remarkable case come to my personal notice. This case is especially interesting from the fact of giving unquestionable evidence that exercise and scanty diet are capable of remedying the sufferings of parturition :

Case III.—Miss M. H., aged twenty-two, (residing about 2 miles north of Fleetwood, Pa.,) a farmer's daughter, who was obliged to labor with her father in tilling the soil and other farm duties like a man, consequently worked hard and fared scantily, was denied by the parents the privilege of society and education, as well as her brother, from whom she conceived, (a pitiful circumstance to relate). She followed all her usual labors, as above stated, during the entire period of gestation, without any suffering or inconvenience, and one morning in June, 1870, while on duty, driving her father's cattle into the pasture, after letting them into the field and just in the act of closing the bars, (about one-half mile away from the house and all by herself) she was surprised by a gush of water from the vagina and a sensation of something coming from her, she got down on her knees, but before she could raise her clothes to see what it was, the child had dropped on the ground, placenta (after-birth) and all. She tore the naval string (umbilical cord) threw away the after-birth, and carried the child home in her apron, much to the surprise of all in the house, as both she and her parents insisted absolutely that neither was aware of her pregnancy. I saw this pitiful young mother afterwards, and she repeatedly declared that she absolutely had no pain whatever, using her own words: "No more feeling

than when my bowels move," her mother corroborated her statement, that she was not a day confined to bed, but following somewhat minor duties than usual for a few weeks, when she again resumed her position on the farm, feeling well and nursing her own babe.

THIRDLY—LAXATIVE MEDICINES.—These should be administered two or three times a week, for a month or six weeks previous to parturition. Their efficacy in disposing the os uteri and adjacent soft parts to dilate is evident, from the advantage following the use of sweet oil among the women of Turkey, which is supposed by Dr. Rush (Medical Repository, vol. 6, p. 16) to act merely as a purgative.

For the purpose of ascertaining the effects of lactives, in relaxing and disposing the soft parts to dilate, I was anxious to secure such cases that had given birth to a number of children, and who had (from constipation, plethora or sedentary habits, etc.,) always suffered greatly from an unyielding or rigid condition of the soft parts during parturition. On making this desire known to my preceptor, he at once selected the following cases in his private practice, and by his influence I was allotted the opportunity to prescribe and carefully watch the effects of laxatives.

Case IV.—Mrs. A. S., aged 32 years, mother of ten children and about six months gone with her eleventh pregnancy, had been a constant sufferer of chronic constipation, which condition was always increased during gestation, and in addition, this woman had suffered long and severe in each of her ten previous parturitions from a rigid condition of the soft parts. The shortest labor she ever experienced was of over three days duration, and the longest lasted almost six days, of continuous agony. On being informed of my desire to try the intended experiment, she said: "I am only too eager and willing to subject myself to anything within reason that will better my condition and lessen my indescribable sufferings in confinement." On the 20th of March, 1876, I prescribed:

RECIPE—

Oleum Recini, fluidunciæ iv.
Oleum Menthæ Piperitæ, guttæ v.
Oleum Caryophilli, guttæ v.
Oleum Gaultheria, guttæ v.
Glycerina, q. s. ad. ft., fluidunciæ viii.
Misce.
Signa. Two tablespoonfuls every other day.

On the first day in May following she called and stated that it had entirely done away her constipation, her bowels moving every day and that she was feeling so much better. The same prescription was continued, and in two weeks later she called again and stated that the medicine was not acting with the same promptness, and that the last few days she was again more inclined to be bound, and that she was not feeling quite so well. I then ordered the dose to be repeated daily which she did, and continued with good effect until the day of her confinement. On the 2nd day of September, 1876, we were called in great haste, the summoner stating that she was taken suddenly with labor and that the waters had already broken

before he was able to leave the house. Upon reaching the house we found her in natural labor, the head presenting and already bulging out the vulva and perineum, and in less than half an hour after we had entered the house the child was born. She had scarcely suffered any pain and she declared that she was not two hours in labour, and that to be able to thus easily give birth to children was a God's blessing to woman.

Case V.—July 1st, 1876, I was requested by Mrs. M. C. to attend her at the time of parturition, which she supposed would take place in about six weeks. She was thus early, she said, in her application, because in all her previous labors she had suffered extremely from the duration of labor, and the intensity of pain with which it was attended; and if anything could be done whereby she might obtain an alleviation of pain, she would willingly comply with any directions that I might give for that purpose. This case it seemed to me at the time, could be expected to have little benefit from any source, as she was a woman who all her life had violated natural laws, and consequently had become a chronic invalid, was diseased by deleterious diet and deformed by unnatural modes of dress; in other words, she was civilized so greatly in disobedience to nature's laws, that it seemed to me impossible to bring about the necessary conditions within the short space of time left, to even expect and much less to have a perfectly painless childbirth. Little indeed was the encouragement I could give her. Yet she was so anxious that something might be done that simply to satisfy her mind, I desired her to take half an ounce of the oleum recini every other day, and continue the use of it until the time of parturition, and that she should eat nothing whatever but *fruits, vegetables and rice,* and drink absolutely nothing but water, lemonade, and occasionally a little milk. During the six weeks she made use of twelve ounces of oil. On the 10th day of August, 1876, I was sent for, but before I arrived at the house, she had parted with her child. The information which I received, was, that she had sent for me on the approach of the first pain; that before that pain had left her the membranes were ruptured; that it was quickly succeeded by another which expelled the child, and that the pain she experienced was so trifling, that she could not say she had suffered any.

But as practitioners are seldom consulted respecting the regimen to be observed during gestation, and frequently are not called until the moment when their assistance becomes necessary, they are precluded from advising the measures recommended for the prevention of the causes of pain and difficulty.

We therefore meet with these causes, and must attempt their removal at the commencement of parturition.

We now proceed to the consideration of the means mentioned under our second general head, viz: Such remedies as may be employed at the time of parturition, for the purpose of effecting a relaxation of the os uteri and adjacent soft parts, and restoring the uterus to its natural and healthy action. They are, first, blood-letting. This of itself is fully adequate to the purpose, and is the best remedy we can employ; it not only produces present effects in lessening the pains of labor, but extends its beneficial

influence to the prevention of subsequent dangers. In case where blood-letting is objected to, perhaps some advantage might be derived from, secondly, nauseating doses of emetics, and thirdly, from the use of anæsthetics.

First: Blood-letting for the express purpose of lessening the pains of parturition, was first recommended by Dr. Rush. (Medical Repository, vol. 6, p. 26) It was adopted by several practitioners of medicine with the happiest effects. Prof. William P. Dewees was the strongest advocate of this doctrine, and the one accoucheur who made use of it more frequently with the happiest effects, of any one practitioner, recorded in the history of medical science. Dr. Hodge says: "Dr. Dewees of this city (Philadelphia, Pa.,) in whose judgment and discretion the greatest reliance was placed, was a great advocate of free bleeding, in all the congestive complaints of the parturient woman. He would frequently bleed his patients about fifty or sixty ounces, or even more in the course of a few hours. Such evacuations proved very universally advantageous, and were not followed by any deleterious effects; on the contrary, the patient was less liable to inflammatory affections, and her 'getting up' was more favorable."—[*Hodge's Obstetrics, p.* 92.

Of its efficacy we can speak from experience. The following cases, which we have selected from a number of others, will show in the most striking manner the great utility derived from the use of the lancet.

Case VI.—In May, 1875, I was desired by Dr. Livingood to visit a woman who had been in labor nearly two days; on arriving at my patient's home, I received the following account from the midwife in attendance: The woman, she said, was large and fat, in labor with her first child, and thirty-three years of age; that she had been in labor forty-six hours, at the commencement of which everything appeared to do well; that the labor, though slow, gradually progressed until the head of the child had passed the mouth of the womb, after which, notwithstanding the pains were strong and frequent, no further progress was made. In this situation she had passed the twenty-four hours previous to my arrival. On making an examination I found the head firmly wedged in the vagina, the external parts very firm and rigid, and it was with difficulty that I could introduce two fingers into the os externum.

Here it was evident, that the rigidity of the external parts was the sole cause that retarded the birth of the child. I therefore immediately determined to bleed my patient, in order to effect a relaxation of the parts. My intention was to bleed *ad deliquium animi;* but after drawing off forty-eight ounces of blood and finding there was no tendency to syncope, I stopped the bleeding to examine the state of the parts. I now found that they were very much relaxed, and that the head was slowly advancing; yet so perfectly easy was the patient, that it could not be ascertained from external appearance that the uterus was contracting. I then requested the midwife to take the seat that I might tie up the arm, and before this was effected my patient was delivered of a large, healthy child, and declared that she did not experience the least degree of pain during the expulsion.

This was at that time to me a very interesting case, and from it may be deducted the following inference:

First: That a large quantity of blood may be drawn, without injury to the patient:

Second: That it is not necessary to bleed until fainting is induced, in order to effect a relaxation of the parts, or to restore the uterus to its natural or healthy action.

Third: That after the resistance from the rigidity of the soft parts is removed, the permanent contraction of the uterus is sufficient to expel the child.

Fourth: That when a relaxation of the soft parts is effected, and the uterus restored to its healthy action, parturition will take place with very little or no pain.

Case VII.—In August, 1875, I was requested by E. S. to visit his wife, who was then, he said, in labor; on my arrival I was informed, that she had had several very severe pains, but that they had left her, and she was now easy. On making an examination per vaginam, I found the os uteri very little dilated, and its edges extremely hard. I proposed bleeding, which was readily assented to. She had heard, she said, of its good effects, from several of her acquaintances whom I had attended, and wished to try the experiment. I accordingly took from her some twenty-four ounces of blood. Having another case to attend to at the same time, I was under the necessity of leaving her, but desired she would send for me immediately on the return of her pains. I heard no more of this patient until the next day, when on meeting her husband, and inquiring after his wife, he informed me, that about one hour after I had left her, she had a return of very slight pain, that she requested him to go for me, but that before he could leave the room the child was born. On visiting this patient afterwards, I learned that the pain she experienced during the expulsion of the child, was very much less than that she had suffered previous to her being bled.

Case VIII.—Miss C. O., aged 28 years, was admitted into the almshouse on the third day of January, 1876. A few hours after her admission she complained of slight labor pains, which gradually became weaker, and at length entirely subsided, A digital examination per vaginam elicited a hard undilated os uteri, and the rectum filled with hardened feces. An injection per rectum was given to remove the accumulated scybala, and at ten o'clock, P. M., I took from her arm twenty ounces of blood, and left her, with directions to have me called as soon as her pains should return. About two o'clock A. M., of the 4th, I was called by the nurse, but before I could reach the room, although not more than ten minutes had elapsed, I was informed that the child was born.

This patient declared that she sent for me the moment she experienced the least degree of pain; that she had felt but two or three slight pains before the child was born; and also, that she had suffered much more in a former labor from one pain, than she had in this, during its whole continuance.

Case IX.—Mrs. M. C., aged 30 years, became in labor on the morning of the 27th of November, 1876. During the whole of this day her pains were strong and frequent, yet had so little effect in dilating the os uteri, that on the morning of the 28th it was only sufficiently dilated to ascertain that the vertex presented. From this time to twelve o'clock she suffered considerably, from the violent contractions of the uterus; but not withstanding this strong action, the os uteri remained inflexibly hard and tense, and was not dilated to more than the size of a half eagle. She now lost by venesection twelve ounces of blood; this, however, produced no effect; at one o'clock the os uteri still retained its pristine rigidity. I now drew off twenty ounces more of blood. So immediate was the dilatation, that in ten minutes she was safely delivered of a large sized male child.

From the foregoing cases we may infer, that blood-letting at the time of parturition is a safe, easy, and an effectual means of lessening the pains of labor. This inference is confirmed by a number of other cases, in which we have employed that remedy for this purpose; in no instance did any ill consequences arise from the use of it, and in every case the patient had a speedy and happy recovery. Cases fourth and fifth will show the impropriety of leaving our patients after a large bleeding.

Blood-letting to be effectual must be copious. We have not observed, in any instance, that a less quantity than twenty ounces, has produced any great effect upon the os uteri; but in those cases where the patient lost from twenty to forty ounces, it frequently acted as a charm in producing an immediate dilation of the os uteri and adjacent soft parts. We should, therefore, repeat the operation, when we find that no effect is produced by the first bleeding.

There are, however, exceptions to this as a general rule; from those "who have been debilitated by previous diseases, or by accidental evacuations of any kind." Such cases wherein the loss of blood being contraindicated—we propose to benefit in mitigating their sufferings by the other two remedies mentioned under our general head, viz: Nauseating doses of emetics, and the use of anæsthetics, of which we shall presently speak—it would not be necessary to take so large a quantity; in fact, in most of these cases it would not be safe to take any blood; the patient already having become too anaemic to insure a good recovery and secreting a sufficient quantity and quality of milk for the sustenance of the child; the parts being disposed to dilate, easily yield to the slightest impulse. Hence we find so often that parturition in the last stage of chronic diseases, are generally attended with but little pain.

It may be objected to this practice, that copious blood-letting would occasion syncope, whereby the uterus might lose its power of contraction, and consequently there would be an inability to expel the fœtus. Such an accident, we believe, would not occur, unless considerably more blood than necessary was taken.

We have used blood-letting for the purpose of lessening pain, in a number of cases, and in no instance was a faintness induced. The system, during pregnancy, and at the time of parturition, will bear the loss of blood

in larger quantities without its producing faintness, than at any other time. From a mere disposition to faint we would apprehend no danger. "Blood-letting lessens sensibility but not irritability." (Professor Penrose's Didactic Lectures.) And the uterus "acts, or makes its efforts to act, in sleep, during faintness, and sometimes even after death."—[*Denman's Midwifery, vol* 2, *p*. 332.

In this state of the system, such a complete relaxation takes place, that the permanent contraction of the uterus would be sufficient to expel the child.

In those cases in which blood-letting was employed at the commencement of labor, it generally suspended the action of the uterus for some time; during this suspension of action, the parts assume their disposition to dilate, and on the return of the uterine contractions, the delivery was accomplished in a short time, and attended with very little pain. But in cases where it was not employed until twenty-four or forty-six hours after labor, its effects were immediate.

Nor is, lessening the pains of parturition the only advantage we derive from blood-letting. By the use of this remedy we prevent all those accidents which have been enumerated as arising from the rigidity of the soft parts, and the irregular action of the uterus. By blood-letting we prevent the premature rupture of the membranes, and thereby have the assistance of the waters in dilating the parts. It facilitates the delivery of the placenta by preventing spasmodic contractions of the uterus. It prevents after-pains, puerpural fever and mania.

Secondly: Nauseating doses of emetics. Of this remedy we can say nothing from experience, but from observing the relaxation that has frequently followed nausea and vomiting in difficult cases, and from the common observation of the old women. "that a sick labor is an easy one," we have been led to suppose that much benefit might be obtained from adopting a mode of relief pointed out by nature. So great a degree of relaxation is produced by nauseating medicines, that they have been recommended by Dr. Physick, (Medical Repository, vol. 6, p. 26,) when blood-letting is objected to, in cases of luxations, where the reduction of the bone is prevented by muscular contraction.

Thirdly: The use use of anæsthetics of this remedy we can speak of experience only in two cases, which we selected for its use; blood-letting being contraindicated, this remedy was selected. In view of the wonderful results obtained by the use of chloroform and ether in surgical practice it was altogether natural to a philanthropic heart, to enquire whether so efficient a means of avoiding pains of operations, might not be employed with advantage against the physiological pain which accompanies parturition.

Case X.—Mrs. R. W., aged thirty-two years, being in an advanced stage of tuberculosis—the diathesis being hereditary, as the father and mother both having died from consumption—and a very nervous woman, had always suffered very much and long during all of her previous six confinements. This woman was taken in labor with her seventh child on the

morning of June 2nd, 1876, continued in great misery till the following day, when I was sent for. At six o'clock, P. M., when I reached the lying-in chamber, I found her suffering excruciatingly, the pains returning about every five minutes, and were violent in their character. Upon making an examination the os uteri was dilated about the size of a gold dollar, the edges very thin and wiry, the perineum very hard and the rectum filled with scybala. A warm water clyster unloaded the rectum, warm lard was freely applied to the perineum and vulva, and chloroform inhalations followed. A cone formred with a newspaper, into which was placed a cone formed with a handkerchief into which I poured about two drachms of chloroform and placed it near the nostrils, a little above the opening of the nostrils, for the weight of the chloroform being rather greater than that of the air, it would otherwise fall below these openings and thus be wasted without obtaining its effects upon the system, and the patient was ordered to breath as full as convenient, in order to obtain the effects as rapidly as possible.

The patient was almost immediately relieved from the extreme suffering, while the uterine contractions seemed to come on more gradual and continue longer, and more powerful. There was none of that excited character in the contractions, which distinguished those prior to the inhalations. Immediately after each subsidance of the contractions the chloroform was withdrawn—the interval of repose between the contraction becoming longer and more restful—and immediately upon their return was it again placed to the nostril as before. This was continued during the entire delivery. After a few contractions had taken place, after the chloroform inhalations were begun, I made an examination and to my surprise the os uteri was fully dilated, the bag of waters bulging the perineum, and the soft parts were fully disposed to dilate. I now ordered the midwife to place the chloroform—after I poured the two drachms in the cone—immediately upon the return of the next contractions, which I would announce to her. This being done, I carefully watched the effects of the contractions, which were powerful, as they broke the waters and expulsed the child, in this one permanent contraction. The patient declaring herself to have experienced almost no pain. The time occupied in the full dilation of the os uteri, perineum and adjacent soft parts and the delivery of the child, from the first inhalation of the chloroform was about forty minutes. There was no evil after effects to either the child or the mother. The child in every respect was uninfluenced by the anæsthetic, as its cries were as vigorous and strong as in the majority of new-born babes. The mother, however, soon after being made comfortable in bed, the room darkened and quieted, fell into a deep sleep rather unnatural to the majority of lying-in women; resembling more or less the coma of inebriation, but after sleeping about ten hours woke up refreshed and thenceforth all was natural and well with her. She made a good recovery and the child did likewise.

Case XI.—Mrs. A. S., aged twenty-three years, wife of a wealthy merchant, leading a sedentary life, and being of a rather delicate physique, and consumptively inclined—both of her parents having died of consump-

tion at an early age—was taken in labor on the night of August 20th, 1876, with her first child, and after suffering considerable pains in the afternoon of the following day sent for the nearest physician, about three miles distant, who arrived at the place about ten o'clock, P. M., and remained with the suffering woman patiently waiting on nature relieving herself, till the evening of the 22nd, when I was sent for, being about eight miles distant, I did not arrive at the house until eleven o'clock, P. M. I was informed by the attending physician that the patient's sufferings had gradually increased since his arrival, and although he had repeatedly resorted to hot water fomentations and made efforts with his fingers to dilate the os uteri, it continued the same in spite of the severe pains the woman was suffering. I made an examination and found the os uteri dilated about the size of a half eagle, the edges thin and wiry, the child presenting with its vertex, the perineum exceedingly rigid, and the contractions which caused so much suffering, were decidedly spasmodic irregular and convulsive in character, and without any perceivable effect upon the os uteri. I advised chloroform inhalations, which was readily assented to, and after following the same mode of administration as in case ten, in less than half an hour the patient experienced but very little suffering, the contractions changing in character—from spasmodic to permanent contractions—the patient not being allowed fully under the effects of the anæsthetics, by request was now able to hold her breath and bear down with the permanent contractions—warm lard being liberally applied to the perineum during the intervals of contraction—the os dilating fully in less than half an hour from the time of the commencement of the permanent contractions, and in three more contractions the child was born, the perineum relaxing so completely that not even the fourchette being lacerated. This woman likewise fell into a deep sleep for about four hours when she awoke, feeling refreshed and made a good recovery. The child progressed in every respect as common to the average new-born.

My experience with the use of anæsthetics in mitigating the pains of parturition being too limited to enable me at this time, to judge, or express an opinion, as to its general influence on the uterine contractions, and the resistance of the perineum; or on its effects upon the mother's health, and the life and health of the fœtus. In the two cases in which I have used it the chloroform had the most happy influence upon the uterine contractions, subduing as by magic the spasmodic, irregular and convulsive contractions (false pains of the old midwives,) and stimulating the permanent contractions while the patients suffered scarce any pain. In both these cases the effects of chloroform inhalation upon the rigid perineum was simply marvelous in producing relaxation.

In making research, among all the authors, at my command, who have written upon the use of anæsthetics in obstetric practice, I find that accoucheurs entertain various opinions, as regards the influence and effects of anæsthetics in the parturient process. A careful reading of all the observations will show that, with the exception of Paul Dubois, almost all

authors are unanimous in the recognition of important changes impressed by the inhalation upon the contractions.

Prof, Cazeaux (Cazeaux's Midwifery, part 7, chap. 1,) after carefully and impartially delineating the experience and opinions of all the leading obstetricians of the world on this subjects, and after systematically noting the good, and the bad, effects of the inhalation of ether and chloroform, concludes as follows:

"1. In the majority of instances, the contractions are unaffected by the inhalation of chloroform.

"2 When the anæsthesia is pushed too far, the labor is often suspended.

"3. In certain individuals the same result may be produced by moderate doses of the agent, and that before the loss of sensibility and consciousness.

"4. When properly administered and in moderate doses, anæsthetic agents do not interfere with the regular course of the uterine contractions; and that whenever the administration is followed by the cessation or weakening of the efforts, the effect ought not to be attributed to the agent, but to the abuse which has been made of it.

"5. That it is not yet sufficiently shown that during the anæsthetic slumber, the abdominal muscles continue to aid, by their contraction, the expulsive efforts of the womb.

"6. That fresh observations are necessary to settle definitely the influence of chloroform upon the resistance of the perineum. As a justification of the use of anæsthetics in ordinary labors, it has been said that they favor the dilatation of the mouth of the womb, and by lessening the resistance of the perineum also shorten the period of expulsion. Diminution of the resistance of the perineum is not sufficiently proved; and the same may be said, I believe, of the rapidity with which the dilation of the orifice is effected. * * * * * * * * * * * *

"However it may be, upon consulting the published observations, it is not discoverable that, in the cases in which chloroform has been employed, the duration of the labors, as compared with preceding ones, has been sensibly shortened. * * * * * * * * * *

"The case is different when some unfortunate complication disturbs or interferes with the course of nature. It will have been seen, on reading this work, that we very often have spoken in favor of the use of chloroform and we shall now proceed to recapitulate the different cases in which we feel justified in recommending it. It may be especially useful:

"1. In calming the extreme agitation and mental excitement which labor often produces in very nervous women.

"2. In those cases in which labor appears to be suspended or much retarded by the pain occasioned by previous disease; or such as may supervene during labor (vomiting, cramps, colic, compression of the sciatic nerve). Dr. Montgomery, who certainly is no enthusiast, states that he witnessed a case, in which he certainly would have used chloroform had he

been acquainted with it at the time; the sphincter ani muscle was affected with so violent a spasmodic pain as almost to deprive the patient of reason.

"3. It seems to us particularly indicated by those irregular or partial contractions which, notwithstanding the intense and almost constant pain which they occasion, have no effect to advance the labor.

"4 Spasmodic contraction and rigidity of the cervix uteri have sometimes been favorably affected by inhalation."

Thus I have sought in nature the phenomena of my doctrine. In my own estimation, facts responded to theory, and the inferences of my experiments to speculation. When I first contemplated this subject, I was not particularly attached to any opinion respecting it; and, from this circumstance, I gained the advantage of an impartial and unprejudiced examination of facts, from which I drew my conclusions with a deference to reason. If, in the event, I shall have contributed to advance the interests of medicine, and furnished any principles to aid the labors of practice—to lessen the sufferings of parturition—and to arrest, for a moment, the dreadful arm of death, I shall be more than compensated for performing my duty, and paying this tribute to humanity.

Conscious of the imperfect manner, in which I have treated this truly important and interesting subject, I must do it the justice to conclude in the words of Mr. Pope:

> "If vain our toil,
> We ought to blame the culture, not the soil."

But before I take a final adieu of you illustrious professors, permit me in this humble manner to return you my most sincere thanks, for the inestimable principles which I have received from each and all of you, in the science of medicine. To some of you I am indebted, not only for public instruction, but for numerous private acts of friendship and politeness. To depart from these, without tendering my acknowledgement and most sincere thanks, would be highly unjust and ungrateful. I cannot depart from this University, without expressing a strong sense of the advantages it offers, in the prosecution of the study of medicine. For it is from the most impressive evidence, I add, that it is in this University, that new avenues to medical knowledge have been unfolded, and the just importance of former ones established; in which University, the genuine principles of medicine have received a development, and a kind of demonstration hitherto unknown. And lastly in which its students enjoy that profound liberality, and indulgence in sentiment which banishes superstition, and its concomitants blind veneration and credulity.

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