blood, has been so far reaching as that of the existence of pathogenic organisms. It has caused a radical change in our doctrines of the causation of a large class of diseases. It has revolutionized the practice of surgery. It has made new operations possible, and has saved thousands of lives. It has reestablished the practice of quarantine on a scientific basis. It has wonderfully stimulated the study of hygiene in all its departments, and destroyed the fear of epidemics, provided only that scope be given for the free practice of the preventive measures demonstrated to be necessary.

Biological study is not only one of the highest practical utility, but it has beauty and boundless interest. When the student begins to study cell formation, the geometric arrangement, and the wonderfully beautiful colorings and kaleidoscopic chemical changes sometimes developed under his vision, he soon feels with the poet that

“The meanest floweret of the vale,
   The simplest note that swells the gale,
The common sun, the air, the skies.
   To him are opening paradise.”

With the construction of the biological department we shall be enabled to relieve, to a certain extent, the overcrowded building now occupied, and for some years at least, we shall be able to keep abreast of the more favored institutions.

It is not asserted that we have yet reached our ideal—far from it. There is no endorsement for the chair of the new director, nor indeed for a single chair in the institution, and the interior equipment of the new laboratory might well be the object of large expenditures.

Chicago, although enterprising and generous, is still young. Her industrious citizens have had so many worthy objects of their attention that the needs of this college have escaped their notice. Boston, New York, Philadelphia, Baltimore, San Francisco, and even Cleveland have been more fortunate, for in each of these places gentlemen have come to the front to place their medical colleges in the first rank.

The ability of Brainard, the brilliancy of Gunn, the Herculean labors of Parkes and their colleagues, have made the past of Rush Medical College a glorious memory.

Notwithstanding the adage, that “an acre of performance is worth the whole land of promise,” we may fairly express the hope that the new department, the genius of Senn, the devotion of the faculty, and mayhap the wisdom of some as yet undiscovered local philanthropist, may give the school an even more glorious future. A school to which will cling lasting and pleasant memories of days well spent, and one which the alumni of the future may, with true filial devotion, seek to revisit at each annual reunion.

THE ATMOSPHERIC TRACTOR IN OBSTETRICS.

Read before the Iowa Union Medical Society at Cedar Rapids, June 14, 1892.

BY T. J. SHUELL, M. D.,
OF PARSLL, I A.

There was a time, not many decades ago, when the regular profession was probably too conservative. There was a time when anything new whether in therapeutics or surgical appliances, was looked upon as savoring of quackery. But I believe that now we have reached the opposite oscillation of the pendulum, and that we are too prone to give credence to the claims of every new drug, and to try every new appliance, surgical, obstetrical or gynecological. Leading drug houses have enriched themselves by reason of our credulity; leading instrument makers have amassed shekels upon the “fads” termed “the recent inventions in surgical appliances.”

When put into the crucible of clinical experience some of the drugs put forward in the last quarter of a century have come to stay, whilst the great majority have fallen into deserved desuetude. Some surgical, obstetrical and gynecological instruments and appliances founded upon strict anatomical knowledge, and in accordance with the physical laws of Nature have been welcomed by the profession, while the majority live only by their number in the patent office.

As one of the inventions of late years destined to stay and to assist nature during the throes of childbirth, and thus prevent pathological conditions too frequently a sequel of parturition, I regard the atmospheric tractor. As this instrument has not been upon the market much longer than a year, it is possible that some of you may not have seen it. This instrument consists of a rubber disc intended for application to the presenting part of the child, and maintains its hold on the principle of atmospheric pressure.

We all remember that lesson taught us in our early readers, “How a fly walks on the ceiling.” In that we learned that the pressure of our atmosphere, or air, is about fifteen pounds to the square inch. This pressure is equally in all directions. If through any means we can exhaust the air from any definite area, the outside air will press in the proportion of fifteen pounds to the square inch to fill the vacuum thus formed. This is the principle observed every day in our syringes and in our respirators. This is the principle referred to above by the fly walking on the ceiling. This is the principle illustrated by various cephalopods and cuttle fishes clinging to the rock and seizing upon their prey.

Over forty years ago, Sir John Y. Simpson referred to this principle and believed it could be made of practical use in obstetrics. He employed it successfully, though in a rude form, using a metallic speculum fitted with a piston.

The instrument I will show you to-day has five square inches of surface. If we could create a perfect vacuum the traction force of this instrument would be seventy-five pounds. But such a result is impossible, even with our finest air pumps. Taking in view these difficulties in apposition and exhaustion, we may safely say that the atmospheric tractor will exert a force equal to half of seventy-five pounds.

Such a force is amply sufficient to deliver any child, unless the head be abnormally large, the maternal passages unnaturally narrowed, or the bones of the pelvis distorted. But our obstetric forces will fail in these cases. Because when we use the forces we add, at the least estimate, about one-fourth of an inch to the width of the head, and the dreaded options are given us of craniotomy or Cesarean section.

I will not claim for the atmospheric tractor that it will effect delivery in every case in which the for-
ceps will deliver; because I believe there are cases in which the compressive power of the forceps will more than counterbalance the additional width that they add to the head. I do, however, believe that the atmospheric tractor will in the future, be the instrument to accelerate labors in that great class that are found between easy labors and dystocia.

I believe that I am no exception to the average class of physicians when I say that I dread the so-called “dry labors;” that I dread high forceps delivery; that I am reluctant to insist upon the use of forceps against the expressed opposition of relatives; that I am sometimes fearful that they may produce rupture of the perineum in primipare. How often do we see in our medical journals the statements of reputable physicians to the effect that they had attended a thousand or more cases of labor, and never had to resort to the forceps, and who tell you that labor is a physiological process, and advise you “to let nature alone.”

On the other hand how often do we meet physicians who want to use the forceps in every second or third case in order to hurry up things and “show off!” Between these extremes we should draw the golden mean.

The majority of our best obstetricians nowadays, use the forceps twenty to fifty times in every 1,000 deliveries; and are candid enough to admit that there is an immediate or remote danger to mother or child in every case in which they are used.

I don’t believe in the indiscriminate use of the forceps—its has contributed as much as any other cause to the specialty of the gynecologist. I don’t believe in the “do nothing” plan; because I know that we can assist in parturient cases without doing injury to mother or child. I don’t believe in heroic doses of ergot in the first and second stages of labor; nor in pushing chloroform for somnolency, or to a very opposite effect—wild intoxication.

Yet, I do believe in assisting labor. I believe that every second or third case of labor needs assistance, and I believe that such assistance can be given, without injury to mother or child, by the use of the atmospheric tractor.

I have used the atmospheric tractor for about a year, and have employed it in about twenty cases. It will do away with the tedious waiting of “dry labors”; it can be applied at the superior strait very readily when the first stage has been completed, and thus obviate the necessity of high forceps delivery. It will revive the pains when they have grown feeble or altogether disappeared. It will prevent rupture of the perineum by assisting in enucleating the head during the interval between the pains. It does not act on the principle of an adhesive plaster applied to the scalp; the vacuum formed by the resiliency of the rubber, and by traction, holds it in close apposition to the bones of the cranium. Strange as it may appear its application, even without traction, will cause the head to descend. This point was illustrated in several of my cases; the head descending rapidly upon the application of the tractor without traction. I can explain it only on the principle that the atmospheric pressure was relieved from a part of the head, and the partial vacuum thus formed caused the head to move in the direction of the tractor.

The tractor can be used in breach presentations as well as in head presentations; I made a trial of it in two such cases where it materially assisted. It can do no harm. It will not mark the child; it will not tear off the scalp; it will not suck out the child’s brains.

Strict antiseptic precautions may be used with it as well as with any other surgical instrument. The only difficulty I have ever experienced was in its application; the traction force, if care be taken to secure apposition at the beginning of a pain and traction during the rest of the pain, was all that I could desire. Where the external passages are narrowed (as in the case of primipara), or where the os is only partially dilated, it is difficult of application. Care must be taken not to attach it to the anterior lip of the uterus during incomplete dilatation.

By doubling the disc between the forefinger and thumb these difficulties may be overcome.

There are two patents of this instrument by a physician in Philadelphia; in one, apposition is maintained by the resiliency of the rubber; in the other, by an exhaustive air pump. I prefer the former. There is still probably considerable room for improvement. The only object in presenting this paper is the good of humanity and of the medical profession at large, and to maintain that the principle of the atmospheric tractor is in accordance with the physical laws of Nature.

TWO CASES OF STERILITY AND IMPOTENCE FOLLOWING THE LEFT LATERAL OPERATION FOR STONE.

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Two cases of impotence and sterility coming under the care of the writer were produced by the performance of the left lateral operation for stone, and it is presumed that their histories would not be uninteresting to the profession, and possibly prove an additional reason for resorting by preference to the super pubic operation.

Case I—G. L., clerk, age 29. Married. First seen November, 1891. States that he was in perfect health as far as his sexual functions were concerned, up to the spring of 1890, when suffering from stone in the bladder, he was operated upon by one of the prominent surgeons of the city, who performed on him the lateral operation for lithotomy.

He states that the stone was very large and that it required a good deal of force and trouble to remove it. After the operation he remained an invalid for the space of six weeks; a fistulous opening remaining, which continued for three months, discharging a few drops of urine, whenever he was called upon to micturate. The opening finally closed without surgical aid.

After he had become convalescent he found that his virile powers were much impaired. His erections were weak and flabby; frequently subsiding before intro-emission, and when he succeeded in having an erection sufficiently vigorous to permit the sexual act, no emission followed. His desire for sexual intercourse was impaired. As time went on his erections became more and more feeble, until, at the time of his first visit to the writer he had altogether lost sexual power; although desire was still strong, he had not made an attempt at cohabitation, nor had