

given without any effect, and as the forceps were strenuously objected to he was obliged to do nothing. After an interval of four weeks labor came on naturally and a living child was delivered. The unaccountable facts in this case are the widely dilated os, the escape of the waters, and a living child four weeks later.

DR. W. S. STEWART said that sodium bromide is good to prevent premature labor; five drachms may be divided into ten doses and one given every three hours. He has observed in one patient an apparent rupture of the membranes at five months, the fluid coming away with a constant drip; later the flow was greatest at night; this condition lasted for six weeks, when it terminated in premature labor; the fœtus was living. The fluid which came away was examined and seemed to be amniotic. He also has observed retardation of labor from falling forward of the fœtus in relaxed abdomen; when such a patient is placed on her back labor goes on rapidly.

DR. CHAS. M. WILSON remarked that hydrorrhœa gravidarum is more frequent than is supposed, and is mistaken for premature discharge of the amniotic fluid. Rigidity of the os uteri is most quickly relieved by inhalations of chloroform. He has found its action more satisfactory than that of chloral and sodium bromide or ether, and safer than morphia. Postural treatment of early stages of labor is of the greatest importance; he would place the patient on the floor on her knees or haunches, holding by the back of a chair or post is often useful, as it assists in fixing the respiratory muscles. He has not had good results from the local use of belladonna.

DR. KEATING spoke of some experiments he had been making. The patient was first to practice Dr. Bonwill's method of inducing partial anæsthesia by rapid long breathing for a time, and then to hold the breath as long as possible. This method was found to bring on rapid and efficient pains in the multiparæ with pendulous abdomen.

DR. BAER remarked that take it all in all, morphia hypodermically is the most valuable remedy we possess for the relief of pain and rigidity of the cervix during the first stage of labor. Of course it must be used within proper limits.

DR. RICHARDSON, in closing the discussion, said that his paper was not intended to be comprehensive. His use of morphia extended only to doses of one-sixth of a grain every four hours, by the mouth, and not hypodermically. In the patient whose history he had given, intermittent fever was developed later on, and he has not the slightest doubt of malarial poisoning being the cause of the untoward symptoms during and after labor; there was no fever, no rise of temperature, and therefore septiciæmia is excluded. There can be no question as to the retraction of the cervix when the head is already in the pelvis, but when the head fits tightly into the superior strait and the cervix is jammed by it, the pressure upon the upper sac is greater than upon the lower, cut off from it by the head. Chloroform is more efficient than any other agent he had used, but it was not always to be preferred.

(To be concluded.)

## CHICAGO GYNAECOLOGICAL SOCIETY.

*Stated Meeting, Friday Evening, Nov. 27, 1885.*

THE PRESIDENT, DANIEL T. NELSON, M.D.,  
IN THE CHAIR.

DR. JOHN BARTLETT read a paper entitled

REMARKS ON THE TOXIC PROPERTIES OF SASSAFRAS.

Sassafras was discovered in Florida by the Spaniards and named by the French in 1562. It was used by them in association with other native herbs as a remedy for malarial diseases. Though occasionally prescribed in combination in rheumatism and syphilis, and regarded as possessing diuretic, diaphoretic and tonic properties, it has fallen into disuse. So that by referring to such books as were within my reach, namely, Motherby, 1785, Parr, 1809, Eberle, Trouseau, Mitchell, Warring, Stillé, Ringer, Bartholow, Phillips, Wood, Pluckeger, Farquharson, Brunton, Wormly and Blyth, and the U. S. Dispensatory, National Dispensatory, Christison's and King's Dispensatories, I can find no mention of the possession by sassafras of any decided therapeutical or noxious power.

More than twenty years ago Dr. Thomas, of Tennessee, stated that sassafras was an antidote to henbane and tobacco; and later, in 1870, Dr. Lyle, of Indiana, declared that he had used the oil of sassafras in a case of stramonium poisoning with the happiest results. Dr. Lyle affirmed that sassafras had power to destroy all insect life, and was an effectual antidote to the venom of the copperhead snake. In 1883 we find that Dr. Hinton claimed that sassafras tea was almost a specific for the rash produced by poison oak. Recently paragraphs have appeared in the medical journals, in which it is stated that sassafras is not the innocent agent that it has been supposed to be, but that in reality it has violent toxic properties. This statement is made upon the authority of Dr. Charles L. Hill, from whose paper read before the 86th session of the Medical and Chirurgical Faculty of the State of Maryland, in April, 1884, the following report is extracted:

"A case of poisoning by the oil of sassafras, that once came within my knowledge, proved that it possesses far more active properties than is generally supposed, and I have been able to demonstrate by experiment on the lower animals that, instead of being a harmless, inert drug, it is a strong nervous sedative, anodyne and soporific, and in over-doses, a dangerous narcotic poison. A policeman, attracted by the sound of a falling window and other suspicious noises proceeding from a gentleman's office, entered the room to ascertain the cause. He found no one present but a boy, who was lying unconscious on the floor. He took him at once to the station-house, where I saw him shortly afterward. The officers had already diagnosed his case as one of opium-poisoning, and were vigorously striving to keep him awake by walking, flogging and such other means as are usually resorted to in these emergencies. His stupor was profound and he no longer made an attempt to walk, but was literally dragged about in their efforts to

revive him. He spoke occasionally, but only to beg them to allow him to sleep. He was in a condition of great relaxation; skin covered with a profuse perspiration; countenance pallid; pulse rapid, but weak and thready. His pupils were *normal*, and there was a strong odor of sassafras in his breath. As quickly as possible an emetic was administered, which produced a copious emesis, redolent with the odor of sassafras, with drops of the undissolved oil floating in the liquid. This was followed by free draughts of warm water, until only a faint odor of sassafras was discoverable. The vomiting relieved him and he was soon restored to consciousness. He felt no discomfort except a sense of weakness and exhaustion, and was soon able to give the following account of himself: His employer having gone home, he was preparing to close up the office, when he espied a bottle of the oil of sassafras which had been left on the desk. Remembering that sassafras had been recommended for the removal of an eruption that disfigured his face, he thought this a good opportunity for giving it a trial, and turning up the bottle—to use his own language—he took two large swallows of its contents. In a few minutes he began to feel very *stiff*, as he expressed it, but proceeded to close up the shutters preparatory to leaving for home. He raised the window for this purpose, but had not strength to hold it in this position, and it dropped from his grasp, and at the same time he fell to the floor unconscious. This suggestive case led me to make numerous experiments on the lower animals with very interesting results. Ten drops of the oil were injected hypodermically under the skin of a mouse. The animal quickly succumbed and died convulsed. By repeated experiments I was able so to regulate the dose as to get the characteristic effects of the drug without causing the speedy death of the mouse. A glass rod was dipped into the oil and held in front of the mouse, and he seized it with his mouth. This was repeated at intervals of a few minutes, until a sufficient quantity was taken to produce the desired effect. The first symptoms observed when a small quantity was thus taken, was a slight convulsive movement, which was repeated at intervals of a few seconds, and agitated the animal's body very much like a severe hiccough. This gradually increased in severity, the movements became more unsteady, the body more arched, and the limbs so stiff that the mouse stood on tip-toe. It was noted that the one idea of escaping from the trap still predominated over all else, as he continued to climb up on the bars of the cage, only to fall on his side or back at each convulsion, until no longer able to rise. I have repeated these experiments many times with great uniformity of result. Sometimes they would dance about for half an hour, with a peculiar convulsive movement that would jerk the head and front feet from the table. Again they would fall on their side with each convulsion and regain their feet immediately, only to repeat the same movement. With cats and dogs the result was somewhat different. A drachm under the skin of a cat caused ~~much~~ profound insensibility that she was supposed to be dead, and thrown away, but it seems that only one of the fel-

puted nine lives of the animal had been reached, as the next day she turned up none the worse for the experiment. A full-grown dog was paralyzed in his hind legs by a similar dose hypodermically over the loins, but it recovered. Many other experiments might be adduced, but I will not trespass on your time. There is one other property possessed by this drug that is worthy of mention—it is a germicide and anti-ferment of no mean quality. In some clumsy experiments made by myself I have estimated its potency in this field as about one-half the strength of carbolic acid. It has long been used as a domestic remedy for the destruction of lice and other vermin.

For some years past I have had an intention of bringing before the profession reasons, rather feeble it must be admitted, for the supposition that the medicine under consideration has marked potency in a direction, so far as I know, not suspected by medical men. Up to this time the declaration on the part of standard writers that sassafras is a remedy of questionable power, and the fact that it is hawked about the streets and used freely as a tea all over the country, have caused me to refrain from bringing before a scientific body my limited experience presently to be detailed. But the recent declaration that this drug possesses toxic properties may justify me in making the following statement: Years ago I was called to a woman among the poorer classes, of good intelligence and education, who was having a miscarriage. Upon my inquiring as to the cause of the mishap, with a prefatory reference to her poverty and already large family, she stated that she had induced the abortion herself—that she had done so on previous occasions. She had employed, she said, “what other women used,” sassafras tea. She was surprised that I did not know of the property of sassafras as an oxytoxic. She spoke as if all her friends knew how to use it as an ecbotic, and she evidently looked upon it as a specific. Tea, she said, made from four or five pieces of the root, as large as the thumb and twice as long, would produce abortive effect.

A year or two later I was called to a woman two months pregnant. For several days she had had symptoms of miscarriage of so pronounced a character that arrest of the process was doubtful. I found the patient very anxious to have a child; she disclaimed the intention of inducing abortion, and to all my inquiries as to a possible cause of the hæmorrhage, she gave answers which left me no further question except this: “Have you been drinking sassafras tea?” Surprised, she replied that for a week past she had used it at breakfast and supper. The proper remedies for her condition were prescribed, the possibly offending tea left off, and in twenty-four hours all was quiet *in utero*.

Farther than this my experience with sassafras as a possible abortifacient does not extend; possibly some one present can supplement my remarks with knowledge or experience of his own. A study of the toxic effects of sassafras as reported by Dr. Hill, and here suggested, would seem to show a triple resemblance to three familiar articles, opium, strychnine

and ergot. In its action as a narcotic and sudorific it resembles opium. In its property of inducing tetanic and clonic spasms, followed by paralysis, it is similar to strychnine. In its power hinted at of exciting the uterus, it may be linked to ergot. It may be of interest here to call attention to the fact that the first reference to the use of ergot as an ecboic was made by Stearns in 1807, whereas it had been used by midwives certainly as early as 1688, and probably very much earlier.

DR. JAMES H. ETHERIDGE, referred to the action of the oil of sassafras on the motor centres in the spinal cord, supplying the uterus.

DR. EDWARD WARREN SAWYER said in New England sassafras was a popular emmenagogue. Mothers were in the habit of giving decoctions of sassafras and tansy to their daughters in case of delayed or suppressed menstruation. Many of the essential oils produced the effects ascribed to sassafras by Dr. Bartlett. In the South, oil of sassafras was a popular remedy for uterine disease.

THE PRESIDENT inquired as to the chemical constitution of the volatile oils?

DR. H. P. MERRIMAN replied that many of the volatile oils were identical in chemical relations, but differed in physical properties. Such oils were *isomerides*. The essential oil of lemons, of bergamot, neroli, lavender, pepper, camomile, caraway, clover, etc., are isomerides of the oil of turpentine.

Oil of sassafras was an isomeride; whether or no of the turpentine group, he could not say. Oil of turpentine was a hydrocarbon, possessing the formula  $C_{10}H_{16}$ .

DR. H. T. BYFORD was of the opinion that the oil of sassafras exerted its influence locally upon the alimentary canal and pelvic viscera, through which it was excreted, rather than upon the uterine nervous centres, as in the case of ergot. This would account for its popularity as an emmenagogue, mentioned by Dr. Sawyer. He had recently given one drop, combined with one-half grain of piperin, every three hours, for two weeks, in case of typhoid diarrhoea. Slight strangury, disappearing with the discontinuance of the drugs, was produced.

(To be concluded.)

## FOREIGN CORRESPONDENCE.

### LETTER FROM LONDON.

(FROM OUR OWN CORRESPONDENT.)

*Mortality from Zymotic Diseases in England—Overcrowding among Workmen—Nitrite of Amyl in Opium Poisoning—An Attack on Pasteur—A New Lead Battery.*

During the past ten years in England, there appears, from the decennial report just issued by Dr. William Ogle, of the statistical department of the General Registry Office, to have been a most satisfactory falling off of the mortality due to the various zymotic diseases, with the exception that whooping-cough has remained stationary, and that from small-

pox a large increase of from 163 per million living to 236 per million. This increase is due to the very serious outbreak which marked the two first years of the decennium, 1871 and 1872, and which led to the appointment of compulsory vaccination officers by boards of guardians, and consequently to a more stringent enforcement of infant vaccination. If, however, the statistics of small-pox are given by what Dr. Ogle calls natural periods, that is, by periods which coincide with successive improvements in the enforcement of the vaccination acts, it becomes manifest that there has been a gradual and notable decline in the mortality from the disease. It may be further shown that this decline is due to diminished mortality amongst children of tender age, while the mortality at later periods of life has actually increased, and has increased in proportion to the age attained. The explanation seems to be that when regarded by the light of long experience, vaccination confers an immunity from small-pox which is as real as, but less permanent than, that conferred by small-pox itself; so that the protective influence of the former requires to be renewed from time to time. This precisely coincides with the results which have been recently set forth by the German Commission appointed to inquire into the subject.

Taking the other principal zymotic diseases, it appears that the annual deaths per million living, from scarlet fever, have fallen from 972 to 716; those from fever, including typhus, enteric and ill-defined forms of continued fever, from 885 to 484; those from diarrhoea, from 1076 to 935; those from phthisis, from 2475 to 2116; and those from diphtheria, from 185 to 121. Under the two last headings, however, there is some uncertainty as to how far the improvement may be only apparent and due to more exact statement of the causes of death upon the medical certificates. Diphtheria is probably less liable than formerly to be confounded with other forms of fatal croupous affections; and phthisis is less liable to be confounded with other forms of diseases of the respiratory organs, under which latter heading the fatality has increased. The report contains much valuable information with regard to the mortality produced by many other diseases. It may be mentioned that the deaths of women in childbirth have remained practically stationary for the last thirty years, and that they amount to something less than five for every thousand children born living.

The total death-rate during the ten years, 1871 to 1880, is 21.27 per thousand, varying in different localities from 14.13 and 33.57 per thousand. Among the 647 districts into which England and Wales are divided, there were eight in which the mean annual rate was under 15 per 1000, 31 more in which it was under 16, and again, 62 others in which it did not exceed 17. These 101 districts are described as the "selected healthy districts," and form a useful standard for comparison. In 326 other districts, the mean annual death rate was between 17 and 20, in 190 it was from 20 to 25; in 23 from 25 to 30, and in the remaining two it exceeded this high figure. Dr. Ogle attributed these differences partly to difference in the quality of the sanitary administration, partly to the