than is needed to cause the appearance of the sulphureted hydrogen spectrum in their blood.

The respiratory centre in the medulla may be the seat of various pathological alterations: there may be some gross injury, or a hemorrhage may have taken place, either of traumatic origin or the result of disease; or the medulla may be compressed by a new growth, or it may be directly affected by the action of drugs capable of causing a paralysis of respiration.

When respiration has been suddenly interfered with by any of the foregoing causes, ecchymotic spots, varying in size from 1 mm. to 1 cm. in diameter, are usually found in the visceral and parietal pleura, the mediastinal pleura, the visceral pericardium, sometimes the parietal pericardium, the endocardium, the meninges, and more rarely the peritoneum. This sign is a valuable one, although not in itself absolutely diagnostic of asphyxia. In cases of slow asphyxiation no ecchymoses may be found.

Again, ecchymoses may be found in these sites in conditions other than asphyxia, namely, in septicæmia, purpura hæmorrhagica, nephritis, hemorrhagic pleuritis, pericarditis and peritonitis, in many infectious diseases, and in poisoning by phosphorus, arsenic, and other poisons. When, however, these conditions can be excluded the presence of ecchymoses indicates asphyxia; their absence does not exclude asphyxia, if other conditions are present upon which the diagnosis can be based. In some cases of sudden occlusion of the larynx by a foreign body, as a piece of meat, or by a laryngeal tumor, death occurs very suddenly, apparently by reflex paralysis of respiration. The same condition is sometimes met with in infants with very large thymus glands, yet in these cases, in spite of the sudden cessation of respiration, ecchymoses may be entirely absent.

When death is due to occlusion by a foreign body, by aspiration of vomit, or by the other conditions described above, these will be apparent at the autopsy and in most cases the ecchymotic spots will be present also. The blood is usually fluid, very dark, from reduced hæmoglobin, and distends the right auricle and ventricle, pulmonary artery and vena cava. The lips and the skin of the face and neck may be cyanotic.

In deaths from smothering or overlying, the ecchymoses are almost invariably found. The lungs and the bronchial mucosa are usually intensely congested; there may be vesicular emphysema, more especially of the anterior edges and external margins at the base of the lung; in some places an actual rupture of vesicles takes place, with suffusion of air beneath the pleura, probably from spasmodic expiratory efforts. The brain is intensely congested, the face is usually markedly cyanotic, the lips almost black. The internal organs are engorged with dark fluid blood; the pulmonary artery, right auricle and ventricle are distended with dark blood, mostly fluid, rarely and then poorly clotted.

When death is due to strangulation by garroting or to compression by the hands, scratch marks are usually found over the neck and sometimes upon the chin and cheeks. The hyoid bone and base of the tongue with the epiglottis may be found pressed over and occluding the aditus laryngis. There is usually contusion of muscles and fascia and effusion of blood into the loose areolar tissue. There may be fracture of the hyoid bone, of the thyroid cartilage, or of tracheal rings.

In asphyxia due to strangulation by hanging, the mark of the cord or band is usually found about the neck forming a single or double furrow whose depth is pale, and whose margins are deeply congested, and under which in the connective tissue and muscle the effects of contusion, laceration, and hemorrhage are found. Laceration of the intima of the arteries at the site of compression may occur. The course of this furrow may vary, and according to the position of the knot or loop of the noose a convergence behind one or the other ear, under the angle of the jaw on either side, under the chin, or under the occiput may be apparent. The trachea may be compressed and some of its rings broken, the thyroid cartilage or the hyoid bone may be fractured, or most commonly the hyoid bone with the base of the tongue and the epiglottis is pressed backward, occluding the opening of the larynx.

The tongue may be pressed forward and clenched between the teeth. Cyanosis of the head and neck above the furrow may be present. Fluidity and dark color of the blood, ecchymoses, and general passive hyperæmia, especially of the lungs and brain, may all be present.

It is possible that death may be caused by compression of the vagi, with sudden paralysis of respiration and heart action, in which case cyanosis, excessive hyperæmia, and ecchymoses may be absent or poorly marked.

In some cases of hanging, with the loop or knot placed behind the ear, and with sudden tension of the body weight upon the noose, fracture or dislocation of the atlas upon the axis, with crushing of the medulla by the odontoid process, occurs, and death is instantaneous. The signs mentioned above might then be absent.

In asphyxia by submersion, as in drowning, or where mouth and nose are alone submerged, the lungs are increased in size and weight, and congested, the bronchi are filled with a frothy fluid, and on section a considerable amount of fluid escapes. The condition is quite different from an ordinary œdema, even though very excessive. It is not possible to diagnose submersion with certainty, from chemical examination of the fluid in the lung, as one might at first think. If specific substances are contained in the fluid, for instance such as portions of vegetable matter, liquor amnii and its contents, such a diagnosis might be positively made by microscopical examination. In addition to the water in the lungs, which is very probably aspirated in the last moments of life, there is usually in the stomach a considerable amount of fluid that has been swallowed. The question may arise as to whether or not in a given case in which a body has been removed from the water, death was due to drowning. If the above signs are present the cause of death would be asphyxia by submersion, since if life is extinct water cannot gain access to the lungs or stomach. On the other hand, if these signs are absent it might not be safe to reason that life was extinct before the body entered the water, since it is conceivable that in an unconscious condition there might be no struggle, no dyspnœa, and consequently no swallowing or aspiration of water.

Infanticide.—The following points should be determined:

1. The viability of the fœtus; that is, whether it can be assumed that the fœtus was capable of sustaining life.
2. Was the child born alive, or in a state of suspended animation?
3. The immediate cause of death.

The accepted period of utero-gestation, upon the termination of which the fœtus is viable and capable of sustaining life under favorable conditions, is reckoned as thirty weeks. Some cases have been reported in which the infant was born alive at twenty weeks, and some even at twenty-five weeks have been capable of sustaining life for a longer or shorter time. At thirty weeks the fœtus is 40 cm. in length. Its weight varies from 1,500 to 2,000 gm. The skin is covered with fine hair, the finger nails reach the tips of the fingers, the pupillary membrane is either absent or only a vestige remains, the testicles have descended or at least are in the canal, the centre of ossification in the os calcis is 5 mm. in diameter, that in the astragalus half that size. There are no centres of ossification in the epiphyses at the knee.

The presence of air in pulmonary vesicles, provided decomposition or direct mechanical inflation can be excluded, is plain evidence that the child has breathed, although it is not necessarily evidence that complete birth alive has occurred. Inspiratory movements and aspiration of air may even occur in utero during obstetrical manipulations or operations, and it is conceivable that after birth of the head inspiration may occur and through delay asphyxia may take place. Again, it is well known that a child may be born in a condition of apnœa, and even after it has remained for hours in a condition almost resembling death, with an occasional heart beat, it may finally

be resuscitated by artificial respiration. In such cases, although the child is born alive, it may never have breathed, and consequently the lungs will be found in a condition of fetal atelectasis. In some of these cases the presence of air in the stomach or intestine, provided decomposition can be excluded, may be the only sign of this condition. In other cases aëration of the lungs of the fœtus may be interfered with by the presence of some pathological condition of the lungs, namely hepatization, due to desquamation and fatty degeneration of respiratory epithelium (forming whitish areas), by the presence of an interstitial pneumonia, or by compression of the lungs by the abdominal organs (either from partial absence of the diaphragm or from a large cystic kidney). Again, by the aspiration of liquor amnii or blood, or by the membranes being unruptured, or, though ruptured, by a portion thereof occluding mouth and nose, the lungs may fail to become aërated although the child was born alive.

The differential diagnosis between atelectasis and aëration of the lung from inspiration is practically and readily made even from a gross examination, provided decomposition is not excessive; in fact, it can be made even though decomposition be considerably advanced. The atelectatic lung is smaller, and therefore the vault of the diaphragm is higher (at the third rib or intercostal space). When inspiration has occurred the lung is increased in volume, and the vault of the diaphragm is found at the level of the sixth rib. Atelectatic lung is denser and darker in color, its edges are sharper, it does not crepitate, and it cuts like liver, differing from hepatization due to inflammation in the absence of a granular surface on section, and in the absence of pleuritis. The consistence of aërated lung is softer, it crepitates on pressure, is light red in color, and presents on the surface and on section a characteristic mottled appearance due to the occurrence of aërated vesicles between areas of blood-vessels. Magnified by an ordinary hand lens the aëration is seen to be distributed throughout all the vesicles in the area. In this it differs from the appearance presented by vesicles which are filled with gas due to decomposition, for this gas is never distributed in such a regular manner. Aërated lung may become dark from congestion, and often enough post mortem the posterior portions are found congested and dark, while the anterior or upper portions are quite light. Such hypostatic congestion is not at all a marked feature in atelectatic lungs when respiration has not taken place. Moreover, in the aërated lung, on scraping the section frothy blood is found; while in the atelectatic lung, from which air is absent, blood if present in any amount is fluid.

The specific gravity of the lung tissue itself being rather low, when any air is present in its meshes it readily floats. This is called the hydrostatic test, and is quite reliable under certain limitations. It must be remembered that if a lung or portion of a lung floats, it simply means that it contains air or gas, which may be the air of inspiration or the gas of decomposition. Therefore, if decomposition can be excluded and the lung floats, it is a positive evidence of aëration. Even though decomposition be present, it may still be possible to determine the fact that the lung is aërated; for the gas is never as finely distributed throughout the air vesicles as is the air in an aërated lung, but occurs in larger bubbles throughout the tissue. If after these are pricked and the piece of lung is squeezed, it still floats, it is highly probable that the lung is aërated, since it is difficult entirely to squeeze out all the air from aërated lung tissue. Another point in regard to decomposition depends upon the fact that this process develops earlier in the liver and spleen than in the lung. If portions of spleen or liver float, and the lung does not, it is positive evidence of atelectasis.

All the other tests are not as reliable as the examination of the lung and the demonstration, under the restrictions given above, that air is or is not present in the stomach and intestines. In uncommon cases a child may breathe for a number of hours, or even days, and then die with atelectasis, usually partial and only rarely complete.

It may be necessary to determine, if possible, the length of time that the child lived. The appearance of the umbilical cord with attached placenta, or of only a portion of the cord, in a moist and white condition, is a very reliable sign of a recently born infant. The same may be said of the presence, in abundance, of the vernix caseosa. If, however, the umbilical cord is dry and mummified, this does not necessarily mean that the child has lived a number of days, since the same drying may occur post mortem. A better criterion is found in the retrogressive changes of atrophy in the umbilical arteries, and later in the umbilical vein. The appearance of the umbilicus, if the cord has come away, may not be a reliable criterion, inasmuch as it may have been torn out in the fresh state, or may have dried off, or have been torn off post mortem. If, however, some granulation tissue is present, this might be of help in approximately determining the age—for the cord usually separates after the lapse of from four to seven days. The so-called fetal vessels, besides the umbilical arteries,—namely, the umbilical vein, the ductus arterio-venosus, and the foramen ovale—may remain patent for a week or two, so that this does not help us in absolutely determining the age within the first week. The presence of food in the stomach is of course a valuable sign that the child has lived. The caput succedaneum is a reliable sign of a recently born child, and should not be mistaken for an ordinary hæmatoma.

In determining the immediate cause of death special care is necessary to avoid mistaking normal fissures and divisions of the cranial bones for fractures, and also not to misinterpret the peculiar rachitic growth of bone both in the skull and in the long bones for fractures. In cases of passive hyperæmia with patent ductus arterio-venosus, a hæmatoma may form in the medulla of the suprarenal gland and may even rupture into the peritoneal cavity, thus simulating a traumatism. In cases of melæna neonatorum an effusion of blood may occur in the stomach or in the intestine, or in the loose areolar tissue about the kidney and behind the peritoneum.

Special care should be used to avoid the production of artifacts in the removal of the tongue, fauces, soft palate, pharynx, larynx, etc., together, as already described, and a careful search should be made for evidences of injury or lodgment of foreign particles, or lacerations which may have been produced by the finger having been passed into the pharynx to cut off respiration. What has been said about other causes of death, both traumatism and poisons, applies of course to infants as well.

Death from Electric Shock.—The medico-legal importance of death from lightning stroke is slight. Post-mortem appearances may be negative or the cadaver may present peculiar arborescent markings of the skin, probably due to vaso-motor paralysis and subsequent decomposition. Internally, lacerations of various organs have been described and even fractures, but the conditions are not constant.

Death from currents of high electro-motive force (fifteen hundred to two thousand volts).—The skin and subcutaneous tissues may be burned even down to the bone, in parts that have come in contact with the wire or other charged object, or, as has sometimes been observed, the cadaver may show no external signs whatever. The post-mortem conditions are not sufficiently characteristic, unless such burns are present, to base a diagnosis of death from electric current upon them. They are practically the signs that are seen in other conditions producing asphyxia. The blood is fluid, the right side of the heart being filled and dilated. The left ventricle may be contracted. There may be ecchymoses in the endocardium, in the pericardium, in the pleura, and rarely in the peritoneum. There may be minute hemorrhages in the floor of the fourth ventricle. The blood is dark in color.

Death from Burns and Scalds.—Deaths in conflagrations are, more commonly than is generally believed,

due to asphyxia from inhalation of smoke, or to actual burns of the respiratory passages and acute œdema of the glottis from the inhalation of hot air or flame. Post-mortem appearances in such conditions are discussed under *Asphyxia*. When death occurs from actual burns,—as may happen, for example, as a result of a conflagration,—it will be found that the extent of cutaneous surface burned is a more serious factor than the mere depth of the burn. Although cases have recovered in which a greater area has been involved, if one-third of the surface of the cutis is burned the individual usually dies. The cause of death in these cases may be shock, or it may be due, judging from post-mortem appearances, to the action of some poisonous substance either absorbed from the wound surface (namely, some ptomaïne-like product), or from the invasion of bacteria, or from an auto-intoxication due to suspension of function of the skin involved. The heart muscle and the epithelial cells of the liver and kidney present the appearances of parenchymatous degeneration, or, if death occurs somewhat later, of fatty degeneration. It has been reported that round ulcer of the duodenum is a frequent accompaniment of extensive burns. It is supposed to be due to ecchymosis of the mucous membrane and subsequent erosion. In many cases of fatal burns, however, such ulcers are not found.

The external appearances of the burns vary with the degree. A burn that during life has merely produced erythema may, by reason of the post-mortem distribution of the blood, escape attention after death. If the burn is intense the spot may remain, and forms good evidence of the burn having been produced during life. Even though redness may have vanished, the epidermis may show some change. In burns of the second degree vesicles are produced, serum exuding in the lower layers of the epidermis, and lifting up the horny layer. These vesicles may be small or large, and after death they may remain unbroken, and may be surrounded by an area of hyperæmia, or the latter appearance may be absent. If the vesicle has been broken, and if this has recently occurred, the denuded corium underneath is moist and light in color, and the shrivelled epidermis may still be partly attached. If, however, the part has been exposed to air for a longer time the denuded corium becomes dry, hard, yellowish or yellowish brown, or dark brown in color, and like leather or parchment in consistence. In burns of the third degree involving the corium down to the subcutaneous tissue, if recently produced by scalding, the tissue may be white or grayish white, as if cooked, from coagulation necrosis, or, if produced by a burn, may present the appearance of having been roasted. The vesicle filled with serum is a fairly good indication of a burn having occurred during life. Although some have claimed to have been able to produce such vesicles post mortem, in most of the experiments performed on the cadaver such vesicles contain gas but not serum. When burns of the third degree have occurred during life, the blood in the vessels is immediately coagulated. If a burn is produced post mortem, unless possibly in a dependent portion of the cadaver, the coagulated blood will be found only in the veins and capillaries, and not in the arteries as well. Histological examination of such tissue may, under these circumstances, prove of value. It is said that the network presented post mortem by leathery, dried-out burns, is due to the coagulation of blood in the vessels, and if the burn has been produced during life such a network is very much finer than if the burn is produced after death.

Where complete charring of the skin has been produced in conflagrations spontaneous rupture may occur, its usual site being the flexor aspects of joints and the perineum. Such spontaneous lacerations have been mistaken for wounds. They present, however, no reaction, no hemorrhage, and through the adipose tissue from one surface of the laceration to the other, vessels and nerves may pass. With the charring of the skin, rupture not having as yet occurred, a contracture and shrivelling of the tissue beneath may take place. The charred skin protects the underlying parts from further charring. On this account complete incineration at conflagrations does not usually occur. Besides a bursting of the scalp, fracture of the bone or the formation of holes in the bone with exfoliation of burned bone after charring, or in addition a diastasis of the sutures or an actual fracture of the skull, produced by the vapor from the tissues within the cranium being subjected to a high degree of heat, may occur. Such conditions may be mistaken for the results of inflicted violence. If injury has been sustained during life hemorrhage occurs, or the tissues may become infiltrated with blood as already discussed. If evidence of such reaction is found the injury must have occurred during life. Another valuable criterion is the examination for carbon monoxide hæmoglobin in the blood that has not been exposed externally. The demonstration of carbon monoxide in the blood in internal parts that could not have come in contact with carbon monoxide after death clearly proves that carbon monoxide was inhaled. This test may be of value in determining whether life was extinct or not when the individual was exposed to the smoke.

The question may arise as to the time which must have elapsed before the effects found in charring of the body could have been produced. It has been found that an hour's exposure to flame will cause a complete charring of the soft tissues, and a further hour's exposure to the heat of glowing embers will cause calcining of the bones of a newly born child. At conflagrations the result is probably produced after a much longer exposure. The exact time might be very difficult to determine.

The identification of charred bodies or portions thereof may present great difficulties. The marked shrinkage of the tissues (with the exception of bone), due to prolonged exposure to heat, should be remembered. A case is reported in which a part found consisted of a pelvis, clearly that of a male adult, which was embedded in a mass about the size of a man's head. In it were also found the heart, liver, coils of intestine, and the external genitalia which were very small. The organs presented an appearance that would have led one to estimate the age of the subject as between four and six years. The bones, although completely charred, may still sufficiently sustain their form to be a valuable guide in determining probable age, or, at least, height of the subject, and the pelvis may aid in determining the sex after puberty.

Death from Exposure to Cold.—Appearances due to frost bite may or may not be present. Light red spots of post-mortem decomposition are supposed to be characteristic by some and are denied by others. The heart and central veins have been described as abnormally filled with blood, this being supposed to be due to contracture of the peripheral part of the vascular system. The diagnosis must be made by exclusion, and from the circumstances of the case.

Death from Starvation.—The proof of this may be of medico-legal importance, more especially in cases of children who have been subjected to cruel and inhuman treatment. The blood is markedly anæmic and clotted, and may be quite thick in cases in which the subject has in addition been deprived of water. The heart may be small, soft, and flabby. The liver, spleen, and kidneys may be smaller than is natural, from atrophy. Stomach and small intestine may be empty, and there is a marked diminution of subcutaneous fat and also of internal fat, namely, in the omentum, mesentery, perinephritic tissue, and subpericardial tissue. Fat, however, is never entirely absent. The external appearance of the cadaver presents the characteristic appearance of marked emaciation.

Otto H. Schultze.

AVA. See *Kava*.

AVENS.—Under this name are known various species of the genus *Geum* L. (Fam. *Rosaceæ*), of which there are some thirty or forty, distributed through both temperate zones, especially the northern. By Avens is generally understood the rhizome and root of *G. urbanum* L., while that of *G. rivale* L. is known as Purple Avens, in allusion to the purple flowers of the plant. *G. Virginianum* L. and some others are known as White Avens. None of them is much used at present, but they were formerly largely employed, both in domestic and in professional practice, as astringents and tonics. They contain volatile oils, amaroids, and much tannin. The oil quickly disappears from them in and after drying. The combination of tannin and volatile oil (when fresh or recently dried) gives them a much better control of summer diarrhœas than do drugs which are astringent merely, and this is their proper field of usefulness. They are given in doses of 1 to 4 gm. (ʒ ¼ to 1).

H. H. Rusby.

AVON SULPHUR SPRINGS.—Livingston County, New York.

Post-Office.—Avon. Hotel.

Access.—Branches of the Erie system extend in four directions from Avon, forming direct communication with New York, 367 miles distant, Rochester 18 miles, and Buffalo, 66 miles. The village has a surpassingly beautiful location, nestled as it is in the charming and picturesque valley of the Genesee. The springs are on a somewhat lower level, about three-quarters of a mile from the village. The surrounding country is delightfully interspersed with fine drives, charming lakes, streams, etc. The use of the Avon Springs for medicinal purposes dates from 1792. Those found to possess the greatest efficacy are known as the "Upper" and the "Lower" spring. The "Congress" and the "Magnesia" springs are also used to some extent, the latter being the favorite for drinking. The following analyses show the chemical ingredients in one United States gallon of three of the springs:

Solids.	Upper Spring, J. Hadley, analyst. Grains.	Lower Spring, J. R. Chilton, analyst. Grains.	Congress Hall Spring, H. M. Baker, analyst. Grains.
Calcium carbonate	8.00	29.33	9.25
Sodium sulphate	16.00	13.73	21.02
Calcium sulphate	84.00	57.44	27.61
Magnesium sulphate	10.00	49.61	19.07
Sodium chloride	18.40	....	29.11
Calcium chloride	....	8.41	
Sodium iodide	....	Trace.	
Sodium sulphide, Calcium sulphide	....	....	99.55
Total	136.40	158.52	205.61
Gases.	**Cubic inches.**	**Cubic inches.**	**Cubic inches.**
Sulphureted hydrogen	12.00	10.02	27.63
Carbonic acid	5.60	3.92	22.04
Oxygen	....	0.56	0.97
Nitrogen	....	5.42	3.88
Total	17.60	19.92	54.52

These waters are of the saline-calcic, sulpho-carbonated variety. The chemical constituents of the magnesia spring are believed to be quite similar to those of the lower spring, with, however, a greater proportion of sulphate of magnesia. In consequence of the considerable proportion of this ingredient the two latter springs have valuable laxative and purgative properties. They thus become useful in disorders of the gastro-intestinal tract accompanied by torpor of the liver and constipation. The water also produces an increased activity of the functions of the skin, and free diaphoresis often ensues. The water also possesses antacid properties and has been found of special benefit in cases of dyspepsia attended by flatulence, heart-burn, and gastric catarrh. Both internally and in the form of baths, these waters have been found beneficial in cases of obstinate rheumatism, diseases of the urinary tract, and in various skin disorders. Facilities for all kinds of hot, cold and electric baths are supplied.

James K. Crook.

AXILLA. See *Shoulder*.

AXOCOPAN.—Municipality of Axocopan, State of Puebla, Mexico.

These springs are located in a romantic region surrounded by beautiful and picturesque scenery, about 5 km. east of the city of Atlexco. To the east of the location of the springs is the famous hill of San Miguel, noted for its religious associations. The view to the west is cut off by a succession of hills of volcanic origin, while on the north loom up the magnificent volcanoes of Popocatapetl and Ixtaccihuatl. To the northeast is the volcano of Malintzin, while the blue dome of the tropical sky surmounts the whole. Luxuriant vegetation embracing many varieties of trees and flowers surrounds the location of the springs. The waters of these springs resemble those of Vichy in France. They are naturally cold, perfectly transparent, and have a snappy and piquant sparkle from the presence of carbonic acid gas in great abundance. According to an analysis by Carrasco, the waters contain the bicarbonates of sodium, calcium, magnesium, potassium, and iron, sulphate of sodium, chloride of sodium, silicate of alumina, silicic acid, and a small percentage of organic matter. These waters are said to be exceedingly agreeable to the palate. They stand transportation well and will no doubt eventually find their way into the markets. The location of the springs offers an unusual combination of attractions for the establishment of a popular health resort. Bathing in the open air may here be indulged in throughout the year. The waters are said to be useful in diabetes, lithiasis, gastric disorders, and especially in diseases of the skin.

N. J. Ponce de Léon.

AYAPANA. See *Thoroughwort*.

AYER'S AMHERST MINERAL SPRINGS.—Erie County, New York.

Post-Office.—Williamsville. Hotel.

Access.—The Buffalo and Williamsville trolley line is a mile and a half distant. The springs are four miles, two miles, and four miles respectively from the following railroad stations: the West Shore, the Lehigh Valley, and the New York Central (branch). The springs (two in number) are owned by Mr. A. D. Ayer, and are located in the town of Amherst, two miles northeast of Williamsville and six miles from Buffalo. The principal spring (artesian) was bored about ten years ago. According to a partial qualitative analysis by Herbert M. Hill, Ph.D., Professor of Chemistry and Toxicology at the University of Buffalo, it contains the following ingredients: Calcium sulphate, iron bicarbonate, calcium bicarbonate, magnesium sulphate, sodium chloride.

It is not possible to classify the water from this analysis, but it would appear to be a calcic chalybeate, with sufficient Epsom salts to give it laxative properties. A complete quantitative analysis is desirable.

The water is highly recommended for chronic constipation, sick headache, dyspepsia and gastric catarrh, hemorrhoids, and other conditions due to a disordered state of the gastro-intestinal tract. The building of a sanitarium at the springs is under contemplation.

J. K. Crook.

AZEDARACH.—*Pride of China* (*or of India*). *Chinaberry Tree.* The bark of the root of *Melia Azedarach* L. (fam. *Meliaceæ*). This is a fine, medium-sized, ornamental tree from India, but long cultivated in all the warmer parts of the world. It has delicate, twice pinnated leaves, fragrant clusters of lilac-colored flowers, and yellow globose fruits of the size of small grapes. Azedarach has been occasionally used for one or another purpose in various countries where it grows, and, in deference to a slight reputation in the Southern States was some time ago admitted to the Pharmacopœia. It is now, however, excepting as an extemporary country medicine, nearly obsolete. The bark of the root is thus described: "In curved pieces or quills, varying in size and thickness; outer surface red brown, with irregular, blackish, longitudinal ridges; inner surface whitish or