for floral decoration. Many species, especially of the narcissus group, are known to be poisonous. They are almost unknown to medical literature, but the agave or century plant is an important source of fermented and distilled liquor in Mexico. The family may be expected to yield important additions to the materia medica.

H. H. Rusby.

AMBER.—Succinum. (Preparation: *Oleum Succini*, U. S. P.).

A fossil resin produced by *Pityoxylon succiniferum* Kr. (*Picea succinifera* Conventz), and other tertiary and long ago extinct *Coniferæ*. The range of these trees must have been a considerable one, as amber has been found in many widely separated places—Siberia, Alaska, Greenland, Maryland, in the United States, and in nearly all quarters of Europe. But the tract now covered by the Baltic Sea must have produced these trees in the greatest abundance, for from its southern borders nearly all the amber of commerce is, and for many centuries has been, obtained. The west coast of Denmark, and nearly the whole north coast of Prussia is included in this amberiferous region. It is continually found cast upon the shores by the waves, especially after heavy storms, either loose or entangled in the "roots" of *fuci* and other marine algæ; it is also fished up from the bottom; and finally, large quantities are dug out of a stratum of glauconitic sand, "blue earth," underlying layers of peat and marl, and extending often far beneath the bed of the sea. It is assorted into numerous grades, according to its purity and size. The finest pieces are cut and polished for articles of ornament, the small and unsightly ones, with the chips and cuttings, are made into varnishes and various compositions, or distilled for the oil.

Amber is found in hard, brittle tears and lumps of more or less rounded but often irregular shape. They are usually small, rarely exceed a few grams in weight, and vary very much in clearness and transparency. They often contain coarse impurities, vegetable remains, and dirt. Occasionally entire insects are beautifully preserved in them. The color of amber is generally yellow or brownish, but varies from almost white to nearly black; it is rarely greenish. The external or natural surface is usually rough or irregular, the interior often beautifully transparent. It is harder than most resins, has no odor or taste, break with a conchoidal fracture, and is capable of receiving a high polish.

It is insoluble in water and cold alcohol, but may be dissolved in boiling alcohol, benzol, etc. It softens at a moderately high temperature, but does not melt until 29° C., when it begins also to decompose. Composition, $C_{10}H_{16}O$, and hydrocarbons.

The use of amber itself in medicine is long past. It is sometimes an ingredient of fumigating powders or pastilles; directions also for making an ethereal tincture are in pharmaceutical works. The oil of amber (*Oleum Succini*, U. S. P.) is an empyreumatic liquid, obtained by dry distillation and purified by distillation from water. The crude oil is a mixture of hydrocarbons and acids; a thick, dark-red, offensive-smelling liquid. The redistilled is pale or white, "a colorless or pale yellow, thin liquid, becoming darker and thicker by age and exposure to air; having an empyreumatic balsamic odor, a warm, acrid taste, and a neutral or faintly acid reaction. Specific gravity about 0.920. It is readily soluble in alcohol," etc. (U. S. P.). It is extensively adulterated. Internally used—*dose*, 2 to 5 dgm. (0.2 to 0.5 gm. = ℥ iij. ad viij. = gtt. 5 to 15)—it is said to be stimulant and antispasmodic. Externally it is rubefacient, and is occasionally used as an ingredient of liniments. The residual pitch, "amber resin," left after the distillation of the oil, is dissolved to make a slowly drying, but very hard and durable varnish. Succinic acid is also one of the products of the disintegration of amber.

Allied Plants.—For other *Coniferæ* see *Turpentine*.

Allied Drugs.—Oil of tar is chemically and therapeutically analogous to oil of amber. Copal, kauri, and other fossil resins are strictly analogous products.

W. P. Bolles.

AMBERGRIS.—(*Ambre gris*, Codex Med.; *Ambra grisea*, *i.e.*, gray amber.) A peculiar fatty material, found in lumps, generally on the surface of tropical seas; occasionally in the intestines of the sperm-whale, *Physeter macrocephalus* Shaw, where it is supposed to be a pathological formation. The balls are often of concentric structure, and in appearance and position are analogous to concretions found in other animals. Pieces vary in size from small fragments to great masses of 50 kgm. (100 lbs.) or more. It is a waxy, tasteless substance, crumbling, but also softening in the hand, having about the consistency of some gall stones, its color usually grayish or brownish, streaked or spotted with white. Odor slight, peculiar, not nauseous. At the temperature of boiling water it melts, and at a higher one is dissipated, leaving but little residue. Soluble in alcohol, ether, fixed and essential oils, etc.

Ambergris consists to the extent of about eighty-five per cent. of a peculiar non-saponifiable, crystallizable fat, *ambrein*, besides small amounts of extractive, benzoic acid, etc.

Ambergris has been used as an antispasmodic of the musk type, but is probably weaker than that. Its medical use is nowadays not worth serious thought. In perfumery, like musk, it has the property of holding and developing the vegetable odors.

The dose may be accepted as from 0.25 to 1 gm. (= gr. iv. ad xvi.). A tincture would be a suitable form.

W. P. Bolles.

AMBLER SPRINGS.—(Formerly Griffin's Springs.) Pickens County, South Carolina.

Post-Office.—Pickens Court House. Hotel.

These springs are two in number, and are located seven miles from Pickens Court House, at a level of 2,000 feet above the sea. They are used to some extent as a resort, and the water is bottled and sold. The Ambler House is one mile from the springs. It is kept open for the reception of guests during the summer months. The water was analyzed in 1895 by M. B. Hardin, chief chemist of the Clemson Agricultural College, as follows:

One United States Gallon Contains:

Solids.	Grains.
Sodium carbonate	0.80
Calcium carbonate	2.15
Magnesium carbonate	0.65
Potassium sulphate	0.51
Sodium sulphate	0.18
Sodium chloride	0.37
Iron sesquioxide and alumina	0.02
Silica	1.78
Total	6.46

This water is of the light alkaline-calcic class. It is not heavily mineralized, but nevertheless it has been used with much apparent advantage in dyspepsia, and in skin disorders of the eczematous variety. *J. K. Crook.*

AMBULANCES, CIVIL.—An ambulance is a vehicle specially designed for the transportation of sick or wounded. It owes its origin and general characteristics to the needs of civilized warfare. The growth of humane practices in the wars of the eighteenth century produced an increasing demand for some method of carrying wounded both effective and merciful, and the French wars following the Revolution of 1789 brought the ambulance service along with all their other military innovations.

An organized system for the transportation of wounded was first introduced by Baron Larrey, the French military surgeon, in the Army of the Rhine in 1792. Only slight improvement upon his system was made during the wars of the first half of the nineteenth century, and it was not until the latter part of the Civil War that the ambulance obtained proper recognition and development

in the introduction of a uniform system by act of Congress in March, 1864.

The need for civil ambulances, though increasingly felt, was, of course, in these earlier days less urgent, but shortly after the close of the war a modified system adapted for use in cities was recognized to be an important requirement of a well-organized hospital system; its adoption was repeatedly discussed in several of the hospitals of New York City, and in December, 1869, the first service was established by the Commissioners of Charities and Corrections in Bellevue Hospital. Though crude and limited at first, the Bellevue service was rapidly improved and extended, and was soon copied by the other hospitals of New York.

Important modifications in the army type were, of course, required in the adaptation of the ambulance to

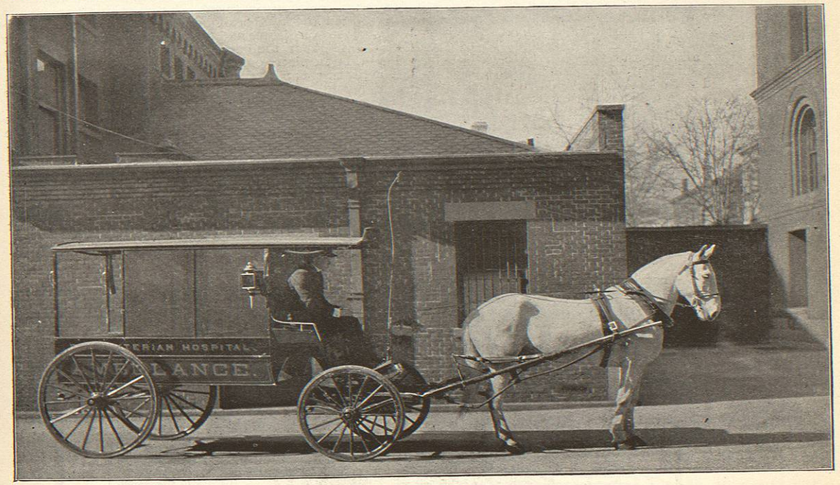

Fig. 91.—Horse Ambulance.

civil hospital work. The necessary changes were apparent and were quickly made; the civil could be lighter, and therefore faster, than the army vehicle on account of better thoroughfares; it would not be required to carry so many people, but for use in narrow and crowded streets it must be able to turn in the arc of a small circle. Since the differentiation in the types of the two wagons in the more fundamental particulars referred to, the evolution of the civil ambulance has been along lines chiefly of mechanical construction, which do not require our attention here. The only radical improvement made in the last fifteen years has been in the introduction of rubber tires, and ambulances wherever established are now practically similar in point of construction and arrangement; nor is it likely that further changes will be made except those common to every kind of light transporting vehicle, such as the recent adoption of rubber tires and the pending changes of mechanical for horse power.

The advantages of an ambulance system commended themselves to the hospital authorities of every city of consequence in the United States, and ambulances were introduced as fast as means permitted or the conditions of each case required. The New York system was, of course, the most extensive and elaborate. In some of the smaller cities, such for instance as New Haven, where the number of hospitals is small, ambulances are few and are used chiefly for sick cases; their emergency use is restricted to a small area surrounding the hospital. Accident cases in other parts of the city are attended to by the police patrol, which still performs in a rudimentary way the functions of an ambulance service proper. It is not so easy to understand why this use of patrols should survive in large cities, such as Philadelphia and Cincinnati, where it still continues, although there are unquestionably abuses of the ambulance system (hereafter touched upon) which are avoided when the duty is performed by the police. The New York service is the most elaborate and enterprising, and will probably remain as the standard for this country.

The eagerness of foreign medical authorities to accept American innovations effecting improved conditions of service, especially of a mechanical character, has never been marked, and, in the case of the ambulance system, amounts almost to disinclination. For one thing, the foreigner does not feel the constantly expressed desire of the American for rapidity of transit of all kinds. The hurry call for fire and for accident relief does not seem to him so urgent, and the ambulance is not to be found in his medical traditions. On the Continent ambulances are so rare as almost to be non-existent, and litters, delivery wagons requisitioned for the exigency, and police patrols are commonly used. No ambulance system worthy of the name can be found. In London it is to be expected that they are somewhat more commonly used than on the Continent, though the service seems in a crude state of development. The ambulances are few and far apart, and, therefore, totally inadequate to the needs of the service. Reliance is still placed, to a large extent, especially in the matter of accident calls, upon

those expedients which have been in use from time immemorial.

The type of ambulance in active operation everywhere is at present the horse ambulance. Bicycle ambulances have been tried, but with little success. It cannot be questioned, however, that before long automobile ambulances will to a great extent supersede all other kinds. The rapid introduction of electric delivery wagons, trucks, and cabs is an indication of what may shortly be expected in ambulances, and there are at present in process of construction several with electric motive power.

All horse ambulances are so nearly alike that one general description will cover all their salient features. The enclosed body of the vehicle is from eight to nine feet long and from three to three and one half-feet wide. As lightness is an important element, it is built of as light material as is compatible with thorough strength. The roof is supported by uprights, a hood projecting over the driver's seat, and only a short distance is boarded in on the sides, the front and rear being open. In cold or stormy weather all but the rear can be closed in by leather or rubber curtains. The patient lies on a movable bed covered with leather, and this runs on a track, and is so held by inverted clamps that it will still remain horizontal when drawn out to its full length. A stretcher lies on this bed. The surgeon sits at the rear on a transverse seat, just over the tail-piece, so arranged that it can be raised perpendicularly and clasped out of the way when the tail-piece is let down for the entrance or exit of the patient. A step behind assists the surgeon to his seat, and there are straps to which he may hold. Under the driver's seat, in front, is room for splints and other appliances, and the longer splints are suspended by straps from the roof. A lantern is clamped inside, and two red lights on the side indicate to other drivers the ambulance's right of way. The fore wheels can be cramped under the fore part of the vehicle, which can thus turn in the shortest possible space. Usually drawn by one horse, it may of course be changed to a double rig whenever circumstances or the conditions of the streets require. The average weight of such a vehicle is from twelve hundred to fourteen hundred pounds. The wheels are made with solid rubber tires, which are as satisfactory and far more durable than the pneumatic tires that were in vogue for a short time. A large foot gong in front of the dashboard, or under it, can be operated by the driver.

The most satisfactory situation for the stable is within the limits of the hospital, but in a separate building. By this adjustment the inevitable noise and odor are minimized, and the ambulance is still within close call. The interior arrangement of the stable need not differ from that of any private one. There should be one more horse than the number of ambulances in service, in case of accident or disease and to meet any emergency. One stall is kept for the horse on call, where he stands with his bridle in place, only the bit requiring to be inserted. The harness is patterned after that used by fire departments, and hangs suspended over the shafts ready to be lowered; then the collar is clasped, one or two straps are buckled, and in a moment or two the trained horse is under way. Calls are sent to the stable from the office by telephone or gong. There must be one more ambulance than the number running, in order that repairs required by accidents and wear and tear may be made without a disabling of the service. So, also, an extra man is needed to take care of the stable, horses, and ambulances, and to act as a relief driver and stable watchman. His extra time may be employed in the doing of other necessary work around the institution.

A conventional assortment of medical and surgical instruments, appliances, and supplies is always kept in each ambulance, and others are carried by the surgeon in a hand satchel. Among the former are the long thigh and body splints that are suspended under the roof, and the shorter splints that are kept under the driver's seat, together with one or two pairs of handcuffs. In an iron rack, in the enclosed part, just back of the driver's seat, is kept an assortment of bandages and cotton, and in other racks variously situated are found stomach pump, antidotes for poisons, bottles of carron oil, etc. In the satchel the surgeon carries sterilized dressings and bandages, the ordinary instruments of a pocket surgical set, catheters, hypodermic syringes and needles, cardiac stimulants, tourniquets, and chloroform. This enumeration includes the standard articles carried, and hospitals differ as to the selection only in minor details.

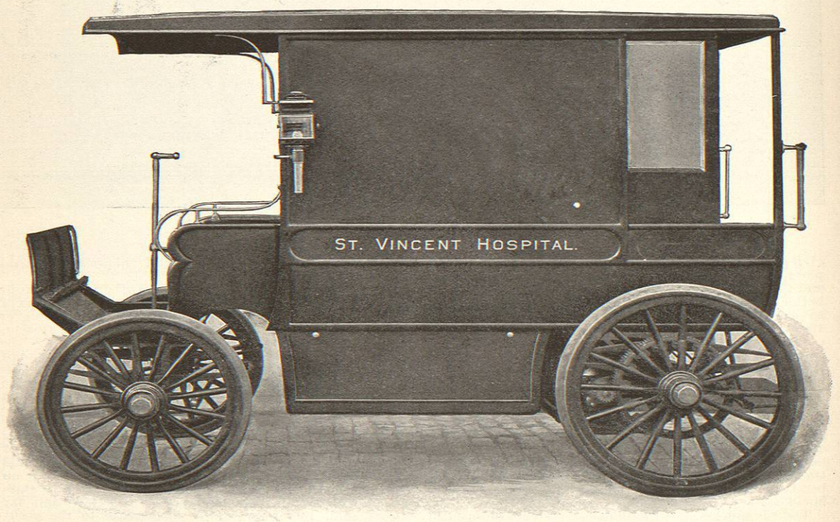

FIG. 92.—Automobile Ambulance.

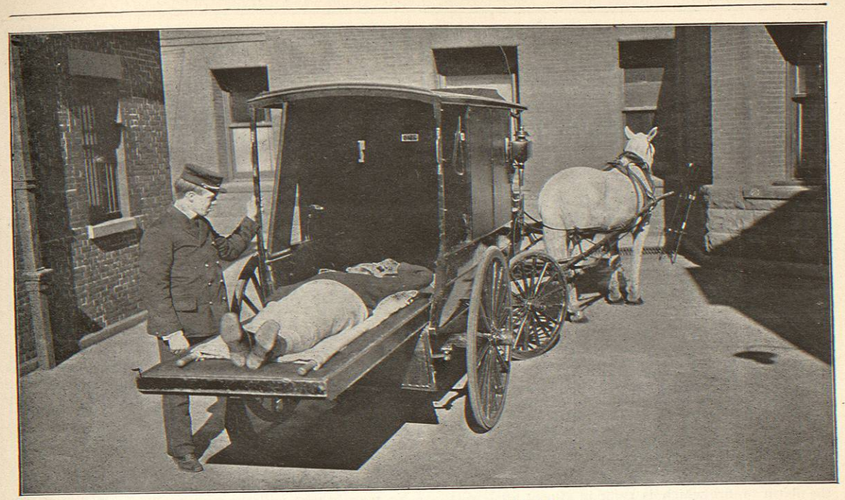

FIG. 93.—Ambulance Showing Movable Bed.

The cost of a horse ambulance complete with rubber tires, etc., varies between $550 and $700. The cost of equipping an entire service must include the stable with its furnishings, horses, the ambulances and harness, and demands a large initial outlay. The expense of maintenance, however, is less than would appear at first glance, and becomes proportionately cheaper as the number of ambulances is increased. Items to be considered are: Running repairs on ambulances (annually about $50 to $100 each), feed and shoeing of horses, wages of men and their board and incidentals, cost of medical and surgical equipment, etc. In New York the annual expense, computed from the figures of a number of different hospitals, of running an ambulance service on the basis of two ambulances constantly in use and one for extreme emergencies, is between $2,100 and $2,800. In other localities the cost varies with price of feed and of wages.

The first automobile ambulance has very recently been put in operation at St. Vincent's Hospital in New York City. Although the first of its kind, and therefore undoubtedly to be modified in the future, it shows the fundamental changes from the horse vehicle. Weight being here not incompatible with speed, it is a far larger, heavier, and more elaborate conveyance than the horse ambulance. The covered portion is ten feet nine inches long, and four feet two inches wide, and the weight is forty-five hundred pounds. The sides of the vehicle are completely covered with hardwood, except for two sliding glass windows at the rear on either side. The front of the body is protected by glass windows that can be raised or lowered at pleasure, and the rear is closed by two glass doors that can be readily removed if desired. The surgeon's seat at the rear is so arranged as to let down with the tail-piece. The interior is similar to that of a horse ambulance, but is large, and on the bed two patients can comfortably lie side by side. Two electric lights are on the sides, and a globe light hung from the roof illuminates the interior. The wheels are shod with three-inch solid rubber tires. The motive power, which is electricity, is furnished by a chloride battery of forty-four cells, each cell having a capacity of two and three-tenths volts. There are two Westinghouse motors that can generate for exceptional circumstances eight-horse power, but usually run four-horse power. This ambulance can run fourteen miles per hour for twenty-five miles without recharging, at an estimated cost of two cents per mile. To recharge the batteries takes from two and a half to three hours. The volt-ampere register, the controller, and the steering gear in front can readily be operated by the driver. As with other automobile vehicles, it has a pivoted steering gear, there being no fifth wheel; it requires, therefore, slightly more room in which to turn than the horse ambulance. The batteries are placed under the body of the vehicle to allow of more room within. The cost of this ambulance was $3,000, and the repairs are estimated at something less than $500 a year; this relatively large amount being necessary to renew the plates ($150 to $200), and to provide new tires ($200) required by the great weight of the ambulance. Estimates as low as $2,300 have been made on automobile ambulances, but they do not contemplate such a thoroughly equipped vehicle. This ambulance runs with remarkably little noise and with very slight motion over rough pavements, and can be

easily controlled. The advantages of such a vehicle over a horse ambulance are obvious. It does not take up so much stable room, it does away with the noise and odors of a stable, it is always ready when charged, and no harnessing is necessary, and it is less expensive when in actual operation. Its disadvantages are its great price and large cost for repairs, that it needs more skilled and therefore more expensive labor to take care of and run it, that its position at present is rather uncertain owing to the rapid improvement in these vehicles, and that on slippery pavements and in deep snow it is unreliable. Though at present no institution would attempt to run automobile ambulances exclusively, it is highly probable that in a short time they alone will be used.

In New York City the hospitals maintaining a regular ambulance service are the following, the figures indicating the number of ambulances regularly in service in each case: Hudson Street, 2; Gouverneur, 3 or 4; New York, 2; Flower, 2; Presbyterian, 2; J. Hood Wright, 2; St. Vincent's, 2; Bellevue, 4; Roosevelt, 2; Harlem, 2; Fordham, 2. (Each of the hospitals named has one or more ambulances reserved for emergency use.)

Before the general introduction of telephones, calls were usually sent to hospitals by the ringing of a gong, as is now done by the Fire Department. It was also customary at one time for an ambulance to go to every fire call. Since telephones have become so universal they alone are generally used. The ambulance work is under the supervision of the Police Department, and every call is theoretically supposed to be sent by an officer. Practically, however, every reasonable call sent by a civilian is answered. The Fire Department becomes an element in calling ambulances only when there is a large fire with much loss of life. In such case, following the alarm of fire which is rung in almost all hospitals having an ambulance service, a call of three fours is rung to summon all available ambulances in the city; immediate response is made to the call.

Cities differ considerably in the way in which their accident service is done. Sick cases are everywhere handled in much the same way; patients who are too ill or too poor to be taken in carriages are conveyed by ambulances. The accident work in certain cities is done entirely by police patrols. This system has some peculiar advantages; it is not imposed on ignorantly by civilians, or wilfully abused by the police themselves; slight scalp wounds received by "drunk and disorderly" unfortunates do not so often occupy the time of a hospital staff, and cases of pretended illness are more carefully investigated, to the relief of the temper of the hospital authorities, while calls in outlying sections far from a hospital can be answered more readily and promptly. On the other hand, the patients are not handled so carefully or so skilfully, and ignorance does in exceptional cases produce very serious consequences. On the balance of advantage, the individual benefits by the hospital service; the police system is undoubtedly more economical. In some cities public hospitals do all the accident work, the private hospitals only running ambulances for sick cases. Sometimes there are ambulance stables distributed about the city without trained surgical attendants; these carry patients directly to the nearest public hospital; in other cases all calls are sent in to the hospital. The value of prompt transportation without skilful assistance on the one hand offsets the intelligent skill coupled with delay on the other.

The most perfect but most extravagant method is the establishment of an ambulance service in private as well as in public hospitals, and the assignment to each hospital of a limited area, so that all parts of a city can be rapidly covered by intelligent workers. This entails much expense on private institutions, even if laboring under financial difficulties, but is another refinement in the method in which many of our cities look after the welfare of their inhabitants. This is the case in the city of New York, where the Board of Charities divides the city into districts and allots to each district a certain number of police prisons. The districts are so divided as each to contain a hospital maintaining an ambulance service, and the jurisdiction of each hospital within the limits of its own district is complete.

In all cities cases of contagious disease are transferred to reception and contagious hospitals; this is generally done by special vehicles, old city ambulances altered into closed vehicles. There are in many of the cities ambulances operated by private individuals for the purpose of transferring patients in as inconspicuous a way as possible; these are built to represent an ordinary vehicle externally, with a stretcher arrangement within like that of the ordinary ambulances. The varieties are numerous, and that one is best which least attracts attention.

That ambulance services are imposed upon there can be no doubt; unfortunately there seems to be no remedy for the evil. The imposition is sometimes effected through ignorance, sometimes through design. The convenient and efficient practice of calling ambulances by telephone increases the opportunity for mischief. To the hysterical layman every attack of syncope means apoplexy, and every abrasion of the scalp a fractured skull. When these or kindred things come to his attention, he immediately sends in a "hurry call" by the nearest telephone, often without the knowledge or desire of the patient; when it is answered with all possible speed, the surgeon finds that the patient has gone home or refuses treatment. By ambulances, also, ready means is afforded to the policeman to dispose of his obstreperous and slightly battered alcoholic charges, and when no evidence of injury is apparent the surgeon is solemnly told that the patient was comatose when the call was sent. A hospital that does not leave anything to the discretion of the surgeon, but insists on all cases being brought in unless refused, of course suffers most in this way. No remedy that will throw out all improper calls and answer all the worthy ones can be devised, and, as in the fire service, much time and money are sacrificed in order that no single case requiring attention shall be neglected.

The position of ambulance surgeon is usually filled by internes or by physicians specially appointed for the purpose, or by students nearing the completion of their medical school course. There can be no doubt of the inadvisability of allowing medical students to occupy so important a position. Most cases require simple treatment, but exceptional circumstances arise, and one untrained to meet them is little better than a layman. Such training as a service requires can be readily and thoroughly acquired in an emergency ward, under competent supervision, and as either of the first two methods brings every benefit to the patient, the choice must fall upon the one which better meets the requirements of the service without affecting the administration of the hospital as a whole. A very active ambulance service is too much of a drain upon the strength of a man busy with additional work; on the other hand, such a service is but a slight inducement to a capable man, unless, as is seldom the case, it offers chance of future advancement. The question is open, and is decided in each case by existing conditions.

The following statistics may be of interest as showing the development of the ambulance system in some of the leading hospitals of New York City:

Hospital.	Year of establishment.	Number of calls in first year.	Number of calls in 1899.
Harlem	1884	....	3,608
Gouverneur	1885	....	4,835
New York	1877	480	2,028
Presbyterian	1880	276	2,152
J. Hood Wright	1885	....	1,988
St. Vincent	1879	823	2,551
Bellevue	1869	1,466	6,835
Roosevelt	1877	273	4,041
Fordham	1882	272	1,300

John Howland.

AMENORRHŒA.—Disregarding refinements of nomenclature, we may define amenorrhœa as a suspension or cessation of the menstrual function in a woman who is not pregnant and who has not reached the "change of life," or the period at which menstruation naturally ceases. The term should not be employed to include cases in which menstrual blood really exudes from the uterine mucous membrane (or from that of the oviducts, if we accept the doctrine that the Fallopian tubes take part in the function), but is prevented from making its appearance externally by some malformation, such as an imperforate hymen. It should be borne in mind that amenorrhœa is not in itself a disease, but simply a result of some morbid condition affecting either the system at large or some part of the genital apparatus.

Causes.—There is scarcely any derangement of the general health, especially if of a serious nature and chronic in its course, that is not prone to prove at least the predisposing cause of amenorrhœa. Usually, however, these deviations from health affect either the function of hæmatosis, the general nutrition of the body, or the normal action of the nervous system, and any two, or all three, of these disturbances may be combined. Moreover, it may be said that defective hæmatosis is itself a nutritive disorder, and that all irregularities of nutrition may take their origin in impaired nervous action. All this is true, but the practical utility of these distinctions remains, nevertheless. Of the particular diseases that give rise to amenorrhœa, the most noticeable are pulmonary consumption and chlorosis. In both instances, the suspension of menstruation seems to be a conservative effort on the part of nature to spare the system every unnecessary tax, and this consideration alone ought to be enough to teach us that it is not the re-establishment of the menstrual flow that we should aim at, but rather the restoration of the general health.

It has been doubted by good observers whether it is possible for a woman in perfect health to suffer from amenorrhœa, and there is much to sustain this position; but it is certain, nevertheless, that in many cases the impairment of the general health goes on for a long period without producing amenorrhœa, until, finally, some additional factor comes into play, and may truly be looked upon as the exciting cause of the disorder. Among these exciting causes we may reckon almost all pelvic diseases, the functional perturbation consequent on exposure to cold during a menstrual period, emotional shocks, and traumatic injuries. It will be seen that these factors must vary widely in their mode of action.

Varieties.—Doubt has been cast upon the doctrine that the menstrual function is dominated by the ovaries, but it cannot be said that the doctrine has been overthrown, and we have, therefore, to distinguish, for purposes both of diagnosis and of prognosis, between amenorrhœa which is and that which is not due to failure on the part of the ovaries. In other words, concerning ourselves only with the mechanism, and leaving ultimate causes out of account for the time being, we have to distinguish between uterine and ovarian amenorrhœa. Practically, the only guide we have to a failure of that ovarian action which should serve to stimulate the menstrual flow, is the absence of the menstrual "molimen"—the *ensemble* of symptoms usually attendant upon the flow, including a sense of weight and pain in the pelvis, and in some cases pain, tenderness, and swelling of the breasts, with or without the various reflex disturbances that sometimes attend the menstrual effort.

The uterine variety is to be recognized by the state of the uterus, which will commonly be found to be one of atrophy (including the so-called "superinvolution") or of impeded circulation due to the contraction of old inflammatory exudates.

Diagnosis.—Amenorrhœa, as it is here defined, requires to be disagnosticated only from retention of the menses and from the physiological suspension due to pregnancy. The diagnosis will necessarily rest upon a physical examination, and for the details the reader is referred to the articles on *Pregnancy* and on *Menses, Retension of*.

Prognosis.—The question of our ability to restore the menstrual function is to be answered wholly in the light of the causes on which its suspension is found to depend. Grave constitutional diseases, such as phthisis pulmonalis, render the treatment in that direction not very promising, while the cure of any less serious fundamental disorder may, on the other hand, be reasonably expected to be followed by the re-establishment of menstruation. As regards the local conditions, atrophy of the uterus and functional inactivity of the ovaries must give rise to an unfavorable prognosis, although temporary benefit may be produced by treatment in some instances. The prospect is better in the case of old inflammatory disease within the pelvis, for such affections are often amenable to treatment. In general, the causes will be found to be remediable, and, therefore, the prognosis favorable.

Treatment.—In the first place, the practitioner should avoid taking the patient's view of the matter—that she would "feel better if her courses would only come on." Women very commonly express themselves in some such phrase, and they apply to a physician under the idea that his art will bring on the menstrual flow promptly, and thus restore them to health. From what has been said of the causes of amenorrhœa, the reader will have inferred that any such expectation on the patient's part is likely to bring disappointment to her, and, if he allows it to go on, discredit upon himself, for, in all probability, he will not be able to meet the demand made upon him. It is better to give the patient to understand, at the outset, that her condition might be expressed more truly by a change in the phrase alluded to, namely, that her courses will come on when her health has been re-established.

Another caution needs to be given. Women who know or suspect themselves to be pregnant, frequently consult a physician in the hope that, in the attempt to bring on menstruation, he will really succeed in causing abortion. Whoever, under such circumstances, prescribes any measure, no matter how innocent, with the understood purpose of inducing the menstrual flow, is liable to have unpleasant charges brought against him in case abortion actually does take place, even as the result of some interference with which he had no connection. When called upon to undertake the treatment of a case of suppressed menstruation, it is prudent, therefore, for the practitioner to satisfy himself that pregnancy does not exist, and, in case of doubt, to decline the management of the case unless he can protect himself in some way, as by insisting that some trustworthy person be made acquainted with the facts at the start.

Having undertaken the management of a case in which treatment is sought for on account of amenorrhœa, the physician should make a systematic inquiry into the patient's state of health, and whatever deviation from the normal standard is found should be made the subject of treatment. For the details of such treatment, the reader is referred to the articles devoted to the various diseases that may be found. But, while insisting upon the general futility of measures addressed to the organs concerned in the menstrual function, without first attending to the general health, I must admit, nevertheless, that stimulation of those organs may be resorted to with some chance of success when no other indication can be made out; and, moreover, that, in cases in which there are other indications at first, there often comes a time when the result aimed at may be hastened by measures that operate directly upon the pelvic organs.

There are but few therapeutic procedures that have a direct and unequivocal influence upon the function of menstruation, and, in so far as they tend to relieve amenorrhœa, those few act as local stimulants. The so-called emmenagogues are not much to be depended upon, although we may admit that aloetics and chalybeates tend to produce a pelvic congestion favorable to heightened functional activity of the sexual organs. Their use, however, in the absence of other indications than the mere failure of the menstrual flow, is not to be recommended, although, if employed in conformity with such indications, they undoubtedly exert a certain influence.