

excretion of urea resulting from decomposition of azotic substances, very likely by exerting a special action upon the nervous system.

6. It is a powerful tonic, through the principles which it contains, and its employment is indicated in cases of anæmia, in chronic affections associated with debility, and in convalescence from acute disorders.

7. It favors digestion, either by augmenting the secretion of the gastric juice (eupeptic), or by acting on the fibres of the stomach, which it would render less atonic in cases of dyspepsia. Under its influence, rebellious anorexia disappears and the digestive functions become more regular.

8. Finally, it is an excellent anti-diarrhoea remedy, and has rendered great service in chronic diarrhoea or sporadic cholera, although its action could not be explained physiologically.

It is to be noted that the above results were doubtless reached by the use of the dried kernels, in which the kolanin compound is in decreased amount. The question of the relative action of free caffeine, and of the same amount taken into the system in a combined state like kolanin, is an important one. It appears reasonable to suppose that there would be an important advantage in degree, if not in kind, if the latter method were employed; and reports must be judged differently, according to which of the two forms was employed.

Surgeon R. H. Firth publishes (*Practitioner*, July, 1889) some very practical observations made upon British troops and natives under his control, and concludes that kola is in no sense a food, and that its physiological action is explained by the contained alkaloids; when pure and not too old, it has a peculiar stimulant action upon the nervous system, temporarily strengthening the heart beat, and increases the arterial tension; taken continuously during times of exertion and fasting, it possesses some power of warding off the sense of mental and physical exhaustion. This power, however, is not so marked as some observers have reported; in the convalescence from long sickness, its value is not apparent, and its alleged antagonistic action to alcoholic sequelæ is not capable of proof.

The use of kola among pedestrians and athletes has gained some popularity and repute.

As a therapeutic remedy, it is of benefit in strengthening the weak heart, augmenting the general flow of blood and vascular tension, and promoting diuresis. Its tonic effect has also proved of benefit in disturbances of the nervous system and debility of the cerebro-spinal centres, and in the prostration accompanying and following severe fevers and protracted illness. As a remedy for diarrhoea, particularly of an atonic character, it has proved of decided value. The combination of the tannic acid and its tonic principles makes it of great service in this disorder. The preparations advised are the alcoholic tincture, the elixir, and the wine. The tincture is made by exhausting fresh kola with five parts of alcohol, and the wine by macerating the same proportions of kola in wine for a fortnight. The dose is from one to two or three teaspoonfuls three times a day. The elixir is prepared by diluting the alcoholic preparations with equal proportions of syrup. Henry H. Rusby.

KOOSSO.—CUSO. BRAYERA. "The dried female inflorescence of *Hagenia abyssinica* (Bruce) Gmelin. (fam. Rosaceæ)." U. S. P.

This is a large and handsome, very leafy tree, with downy twigs and very silky buds and young leaves.

DESCRIPTION.—Mass red-brown, hairy and minutely glandular, consisting of panicles varying from 25 to 40 cm. (10 to 16 in.) long, a sheathing bract at the base of each branch, and two rounded bracts near the base of each flower; calyx having a cup-shaped, hairy tube and bearing on its back a circle, resembling an outer calyx, of five thickish and rigid, spreading, obovate, purple-veined bracts, which are larger than the five thinish, usually shrivelled and incurved, oval calyx lobes; petals five, delicate, whitish, oblong, much shorter than the

sepals, caducous, hence often wanting in the drug; stamens aborted; pistils two, the one-ovuled, ovoid ovaries concealed in the calyx tube, shorter than the styles, which are exerted; stigmas broad, hairy; odor slight, agreeable; taste bitter, acrid, and nauseous.

Cusso in the form of loose flowers, usually largely staminate, should be rejected.

This tree is a native of Abyssinia, where it grows abundantly wild, and is also cultivated about villages and roadsides for ornament. Its medical use was also

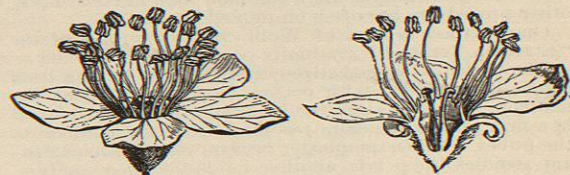


FIG. 3094.—Koosso; Staminate Flowers Enlarged. (Ballou.)

introduced about 1850 from that country, where every third person is said to have tapeworm, and where it has been used for a century or more. The detailed description of the flowers and panicles given above covers its description as a drug. The whole inflorescence is taken at about the time of flowering and simply dried and packed. Sometimes it comes in bales or large cakes, but more generally it is tied in rolls somewhat smaller and shorter than the arm. The pistillate panicles are easily distinguished by their large epicalices and their reddish-brown color, and are known as "red koosso." The odor is slight, fragrant, and tea-like; taste bitter and disagreeable.

COMPOSITION.—By distillation with water, koosso yields a small amount of essential oil, to which its fragrance is owing. It also contains nearly one-fourth its weight of tannic acid and considerable wax, resin, and other common vegetable products. Its peculiar active principle, however, is a yellow crystalline substance, *kosin* (of Merck). It is tasteless, insoluble in water, nearly so in alcohol, readily soluble in chloroform and ether, as well as in alkalies, from which latter it may be precipitated by acids. Kosin is permanent in the air, and is unquestionably the principal tannic acid agent of koosso.

USE.—Koosso has long been a popular anthelmintic in its native land, and since its introduction here has ranked among the best with us. Its action appears to be directly toxic to the worm, and, until the introduction of the pelletierine from pomegranate bark, was not only one of the most sure to bring the bulk of it away dead, but the



FIG. 3095.—Koosso; Pistillate Flower and Section Slightly Enlarged. (Ballou.)

most certain also to disengage and remove the "head." In order to obtain the best result from this, as well as from any other anthelmintic, the intestinal canal should be well emptied of its contents by a moderate laxative—say twenty-four hours before administering the koosso;—then, for at least twelve hours previously, no food whatever, excepting a glass or two of milk, should be taken. The koosso may then be given, when the patient should be kept quiet for one or two hours after, in order to overcome the nausea or vomiting that may result. Two or three hours after the tannic acid has been taken, milk or beef-tea may be allowed, and five or six hours later a solid meal. If the drug be given in substance or infusion

it usually acts as its own cathartic, in spite of the large amount of tannin, but if it fails to do so in six or eight hours a saline should be given. Koosso is especially to be recommended for the different varieties of tapeworm; for the round and seat worms there are better medicines. The dejections should be carefully examined for the body of the parasite; from two to five, or more, metres of its larger joints are always found; they mean nothing as to cure, since any brisk cathartic might bring them away, and unless its attachment or "head" is killed, it will certainly grow again. If this is found, the cure is effected, excepting in those cases, exceedingly rare in this country, where two contemporaries exist in the same bowel. As a general rule, if 10 or 20 cm. of the long, thread-like "neck" not more than a millimetre in diameter and without distinct joints, are seen, the "head" is destroyed and has probably escaped observation; such cases are generally cured. But it is not safe, unless the "head" has been actually seen, to make a positive assurance to that effect until eight or ten weeks have elapsed without any segments appearing in the feces.

ADMINISTRATION.—A common and efficient method is to give a six-per-cent. infusion made without straining from the powdered drug, the patient being expected to stir up and swallow the dregs with the tea. A tumberful of this may be taken and repeated in an hour. The fluid extract (*Extractum Koosso Fluidum*) is another and less disagreeable preparation, but more infrequently used; dose from 15 to 30 c.c. (15 to 30 c.c. = ̄ss. ad ̄i.). Kosin may be given in doses of from 1 to 2 gm. with the same preparatory treatment. In England it is preferred to give ̄ss.-i. of the powdered drug suspended in mucilage. W. P. Bolles.

KRESAMINE.—See *Ethylene-Diamine* and *Triresol*.

KRYOFINE—methoxy-acet-para-phenetidin, methyl glycolic phenetidin (C₆H₄.OC₂H₅.NH.CO.CH₂.OCH₃)—is obtained by heating phenetidin with methoxyacetic acid to 120°–130° C. It occurs in white crystals, soluble in 600 parts of cold water, in 52 parts of boiling water, and in alcohol, ether, chloroform, and oils. It is odorless and ordinarily tasteless, though its concentrated solutions are bitter.

This drug, which is a modification of phenacetin (acet-para-phenetidin), has been recommended by Eichhorst, Hass, G. F. Butler, Fasano, and others as a very efficient analgesic and antipyretic in neuralgia, rheumatism, influenza, etc. Claims are made that its action is less rapid than that of many drugs of the class, and that it has less tendency to produce depression and profuse sweating. However, excessive diaphoresis and even cyanosis have been observed, and there is no evidence that kryofine is any better or safer than acetanilid or phenacetin. It has been found by Ebstein in the urine in fifteen or twenty minutes after ingestion, disappearing in from six to eight hours. The dose is 0.15–1.0 gm. (gr. iiss.-xv.). Sixty grains have been given in twenty-four hours without bad results. W. A. Bastedo.

KUMYSS. See *Milk*.

KYPHOSIS.—The term "kyphosis" is derived from the Greek *κνῆσις* meaning humpbacked, bent forward, and signifies of course, only a symptom, but one which is present in a number of conditions both of disease and of injury. It always refers to the spine, and, inasmuch as tuberculosis of the spine is the disease which almost invariably presents this symptom as its most conspicuous clinical feature, the term kyphosis is perhaps most generally supposed to refer to this disease. It always signifies an antero-posterior curvature.

We will consider the spinal column a moment from an anatomical point of view before taking up the pathological changes causing kyphosis. The column above the sacrum is composed of vertebrae which diminish in size as one approaches the atlas; these are separated by fibro-cartilaginous discs which equal one-fifth of the whole bony column in height and are more or less elastic and

compressible. The vertebrae are kept in place by ligaments outside the vertebral canal as well as within the canal itself. These have some elasticity and allow motion of the vertebrae on their articular facets. In addition to the support afforded by the ligaments the column is maintained erect by the powerful spinal muscles, and in the lumbar region by a fibrous aponeurosis as well. When these anatomical features are present in a normal condition, under normal relations one to the other, then the column in the erect position presents certain normal physiologico-anatomical curves dependent chiefly upon where the centre of gravity passes through the column. In a normal individual this is as follows: A perpendicular line should pass through the odontoid process, and then through the body of the second dorsal vertebra; thence it should intersect the column at the tenth and eleventh dorsal vertebrae and then pass on down through the sacrum. It is important to remember this because a lack of familiarity with the normal curves of the spine and the variations which may take place in it within normal limits is the source of much confusion and oftentimes of positive wrong, particularly in medico-legal work. Certain vertebrae at the junction of the cervical and dorsal portions of the spine are invariably more prominent than elsewhere. Again, in the lower dorsal and upper lumbar regions there are also two or three spinous processes which are more conspicuous than their fellows, particularly in flexion of the column. Posture, occupation, etc., readily aggravate such conditions, when once they are present, as does also the lack of subcutaneous fat. There are also congenital defects in the spine which give rise to a bending forward of the column, or at least an apparent bending of it. The defects are most commonly in the cervical region and in the lower dorsal or the lumbar region. In the latter region occur the spinæ bifidae; in the former, the meningo-encephalocèles.

1. To distinguish normal curves from pathological ones is not commonly difficult. The meningo-encephalocèles are the result of a failure of the posterior neural arches to unite, and a protrusion of the coverings of the cord ensues, either complete or partial. Many of these cases do not live longer than through the period of infancy, but occasionally, when the bony arch has not failed completely to unite, the patients survive and have a very short neck with high standing shoulders and considerable deformity. The spinæ bifidae, which commonly occur in the lower dorsal or the lumbar region, are readily recognized by the soft and fluctuant character of the swelling, which is in the median line, and is accompanied usually by more or less paralysis of the lower extremities, both sensory and motor. The kyphosis is not due to alterations in the bone.

2. Trauma may cause kyphosis, and frequently does. Under this head come the fractures of the spine which are commonly accompanied by considerable deformity and by more or less paralysis below the deformity, both motor and sensory, involving the sphincters also. The bend is sharp, and involves as a rule only two or three vertebrae at the most. Dislocations of the spine cause kyphosis frequently. They are more common in the cervical region. They are not apt to cause as complete paralysis as do the fractures, and they are amenable to treatment. Another sort are the so-called "torsions," or ruptures of spinal ligaments in which there is more or less motor and sensory disturbance below the seat of injury; a kyphosis is present on flexing the trunk, with an aggravation of the above-mentioned symptoms, which disappear, as does also the kyphosis, when the trunk is hyperextended. This kyphosis manifests itself in the form of a sharp bend involving two or three vertebrae.

3. In young children with acute rickets a kyphosis is very common. This curve is a long sweeping one, involving pretty much the entire dorsal portion of the column, but is not accompanied by muscular spasm; the curve disappears entirely on hyperextension of the trunk, and the child commonly presents the other evidences of acute rickets; viz., pain on handling; enlarged epiphyses; rosary; prominent abdomen, etc.

4. Osteo-arthritis frequently attacks the spine and causes antero-posterior deformity. This occurs most often in adults, usually men. The forward and backward motions of the spine are restricted; the kyphosis involves several of the vertebrae and is produced by the lipping of the cartilages about the vertebral bodies, and this lipping is so situated on the anterior portions of the vertebral bodies that the complete flexion and extension of the spine is limited. These deposits are analogous to Heberden's nodes in the terminal phalanges of the fingers.

5. Rheumatoid arthritis seldom attacks the spine, but when it does it causes an atrophy of the intervertebral discs, as a result of which the spine manifests a long sweeping curve, which cannot usually be corrected without pain and spasm. Other joints invariably manifest the characteristic lesions. It is a disease of young adult life, and, so far as it involves the spine, is apparently more common in men.

6. Osteitis deformans, or Paget's disease of bone, is a disease of late adult life, occurring in men usually and resulting in an antero-posterior flexion of the whole spinal column together with considerable thickening and bowing of the long bones. The column becomes usually completely ankylosed. The kyphosis shows itself in these cases in the form of a long sweeping curve.

7. Osteomalacia, most often seen in women in adult life and during the parturient state, causes occasionally a kyphosis. As a result of the slow softening which takes place in the bony structures of the spinal column in this disease the latter gradually assumes a moderately pronounced degree of curvature—one quite different from the sharp bend that follows the inflammatory type of bone disease. At the same time evidences of the same morbid process will be observed in other bones of the body.

8. By far the greater number of antero-posterior curves in the spine are caused by tuberculosis (Pott's disease). In these cases the spine becomes sharply bent, during the active stage of the disease, at some one point, owing to the fact that at this time only one or two vertebrae are involved. The disease is most common in childhood, and is about equally distributed as to sex. It may involve any part of the spinal column, but is most common in the dorsal, somewhat less so in the lumbar, and least common in the cervical region. It cannot be obliterated by hyperextension, and is accompanied by muscular spasm in the spinal muscles at the seat of the disease. It is by no means uncommon in adults, either as an acute or as a chronic process, as late as middle life. It is usually slow in development.

9. Acute osteomyelitis attacks the spine not infrequently. It is acute in onset and may follow some septic process such as tonsillitis or other infectious disease. It causes some kyphosis, though not the acute bending of the spine that is observed in Pott's disease. There is much pain, chiefly local in character, and considerable fever is present. In most cases suppuration takes place and sequestra are formed. The whole course is much shorter than in Pott's disease, and the deformity is much less and is due more to muscle spasm than to destruction of vertebral substance.

10. Malignant disease, both carcinoma and sarcoma, is said to occur primarily in bone, but is much more commonly secondary to malignancy elsewhere—usually the breast or the intestine. The bend in the spine is generally of small size, and is due to the destruction of the bone trabeculae by the cancerous infiltration. The most striking feature is the great pain of which these patients complain. The disease develops slowly and is characterized by marked cachexia, and the peripheral sensory disturbances predominate over the peripheral motor disturbances, the reverse of the condition seen in Pott's disease. Malignant disease occurs in adults and rather more frequently in women than in men.

Sarcomatous kyphoses may be both primary or secondary, the latter usually following sarcoma in the liver. They occur in childhood most commonly, and are more rapid in development than those due to carcinoma.

11. Occasionally the muscular dystrophies, by causing a sharply limited muscular atrophy, give rise to an apparent kyphosis where the atrophy of the spinal muscles stops and the normal muscle commences. This ought to cause no difficulty in diagnosis, as the atrophy which could possibly cause any such confusion is usually confined to the scapular group of muscles and the spinal muscles in the immediate vicinity, and the atrophy and loss of power in the scapular groups would show clearly the diagnosis, aside from the absence of other spinal symptoms.

12. In this same category we have infantile paralysis, involving the trunk muscles and causing a long sweeping curve in the spine with prominence of several spinous processes. The patients are unable to sit erect, and, besides the history of infantile paralysis and the usual presence of paralysis elsewhere—e.g., in the extremities, the muscles being flaccid,—there is abnormal mobility in the spinal column in all directions, with entire absence of muscle spasm.

13. Certain functional conditions in the region of the spine may also cause a kyphosis. They are associated, as a rule, with the neurasthenic state, but sometimes they are simply the result of the loss of muscular tone in rapidly growing children, particularly girls, or in patients who are convalescing from pregnancy or from some acute disease. Finally, they are also observed in the blind as a result of an habitually faulty posture. The curve observed in such cases is of the long, sweeping character, and may easily be corrected by suitable manipulations. It is not accompanied by spasm, but in the neurasthenic it is frequently associated with hyperaesthesia along the spinous processes.

Under this functional head should be included the hysterical curvatures.

14. Syphilis. The tertiary manifestations of this disease are occasionally seen to cause an antero-posterior curvature of the spine. The character of the bend in the spine and the symptoms which occur differ but little, if at all, from those seen in Pott's disease, and the history must be chiefly relied upon for establishing the diagnosis. These cases will respond to antisyphilitic treatment, and they are less apt to be accompanied by a cold abscess.

15. Typhoidal, Gonococcal, and Post-Scarlatinal Kyphosis. In the kyphoses which are due to these diseases the absence of any protrusion along the course of the spine or of any suggestive symptoms, prior to the onset of the acute disease, must first of all be established. The deformity in these cases develops much more rapidly than it does in other forms of the disease; furthermore, the first evidences of the change are usually observed during the acute stage or at least early in that of convalescence. The entire course of the disease is of much shorter duration than it is in any of the other forms of kyphosis. The results obtainable from treatment are also apt to be better.

16. Mollities Ossium, Hydatids, Actinomycosis, and Aneurisms.

A very rare cause for kyphosis is the process of bone softening known as mollities ossium. This occurs more commonly in children than in adults, and the spinal column is just as liable to be affected as are any other parts of the bony framework. The fact that the softening rarely if ever affects any one part of this framework alone should aid one materially in making the differential diagnosis.

The presence of hydatids, forming cysts in the vertebral bodies, is extremely rare, but has occurred. A correct diagnosis can of course be made only after the discovery of the hooklets in the contents of the opened cyst.

Of about equal rarity is the occurrence of actinomycosis as a cause for kyphosis; this also could be demonstrated as the cause only by finding the fungus in any pus coming from the spine of a patient thus affected.

The pressure made by an adjoining aneurism may cause erosion of one of the vertebral bodies and thus lead

to a kyphosis having an antero-posterior curve. The pain, while this process is going on, is very severe. Such cases occur almost always in middle adult life, and careful examination at repeated and short intervals may clear the diagnosis.

The foregoing, in brief, are the principal causes for kyphosis.

The nature of the process that gives rise to a bony kyphosis must be determined through a consideration of (a) the history, (b) the duration, (c) the onset, (d) the presence or absence of muscular spasm, or of bony ankylosis, (e) the presence, either immediate or remote, of diseases elsewhere in the body which, if present in the spine, would cause a kyphosis, and lastly (f) the presence or absence of paralytic conditions in the spinal muscles.

Charles F. Painter.

LABIATÆ.—(*The Mint Family.*) A very large family of more than one hundred and fifty genera and about three thousand species, growing in almost all parts of the world. The constituents and properties of these plants are so uniform, and so important, that their recognition is highly desirable. They have square stems, opposite, almost always aromatic, but not punctate leaves, the corolla usually, and the calyx frequently, bilabiate, the stamens two, or four, and didynamous, the ovary two-carpelled and maturing in the form of four one-seeded nutlets. The last character distinguishes them from the closely related Scrophulariaceae, which are frequently poisonous, while the Labiatæ never are. These plants are often exceedingly showy. Their only other value resides in their almost invariably aromatic properties, due to the presence in them of volatile oils. The mints, lavender, rosemary, pennyroyal, thyme, and various others of the class are treated in this work in their proper order. A host of others, some treated in the previous edition of this work, might be enumerated. Some of those more commonly used are the sweet marjoram (*Origanum Majorana* L.), summer savory (*Satureja hortensis* L.), dittany (*Cunila Mariana* L.), hyssop (*Hyssopus officinalis* L.), Ajuga, *Cedronella*, various species of *Monarda*, *Kaellia* (*Pycnanthemum*), *Calamintha*, and *Orthosiphon*. Others contain a bitter substance also, and are used as aromatic bitters. Representatives of this class, treated in this work, are horehound and sage. Those of minor importance, of the same class, deserving of mention, are wild origanum (*O. vulgare* L.), glechoma or ground ivy (*Glechoma hederacea* L.), germander (*Teucrium Chamædryas* L. and various other species of *Teucrium*), motherwort (*Leonurus Cardiaea* L. and other species of *Leonurus*), many species of *Mesosphærum* (*Hypitis*) and *Ocimum*, and several of *Lamium*, heal-all or *Prunella* (*Brunella*), *Lycopus*, or bitter bugle and *Scutellaria* or skull-cap. Occasionally these plants, as in the case of salvia, combine a considerable amount of tannin with their volatile oil and amaroid, and have distinctly astringent properties.

Henry H. Rusby.

LABOR, NORMAL, MANAGEMENT OF.—The ability properly to manage a normal case of labor is one of the most essential features in the armamentarium of the practising physician, and occasions for showing this ability will confront every medical man before he has been long in the field. To the student or young practitioner in attendance upon his first case of labor there is much that is embarrassing and calculated to disturb his equanimity. The intimate relation in which he is thrown in contact with the patient, the necessity for making examinations that are revolting to every woman, his painful consciousness of his own lack of experience, and the fact that there are present bystanders who possess the very thing that he lacks, namely, practical experience, all conspire to make his position an embarrassing one. Some consolation may be found in remembering that labor is a physiological process, which, if left absolutely alone, will result in a large percentage of the women being safely delivered. And unless certain definite indications manifest themselves, an attitude of watchful inaction is

better than one of meddling interference. On the other hand, it must be borne in mind that, although a physiological process, there are many emergencies which may arise, in the course of a seemingly normal labor, the proper recognition and treatment of which will either save the life of the child or mother, or forestall years of chronic invalidism on the part of the latter.

The most important complication arising from the improper management of a case of labor is infection, and it may be said here that the principal directions given as to the method of conducting a case will be for the purpose of avoiding this unfortunate result. Before the time of Listerism the mortality of childbed was from two to ten per cent., and in certain epidemics very much higher (Jewett, "American Text-book of Obstetrics," first edition). In some of the lying-in hospitals in those days the mortality was frightful, and according to Williams ("Practice of Obstetrics by American Authors," Jewett, second edition) the frightful mortality occurring in such institutions attracted the attention of the public at large, and steps were being instituted to abolish them as a menace to public health. In 1880, when Pasteur (*Bull. de l'Acad. de Méd.*, 1879) discovered that streptococci were present in large numbers in the bodies of women who had succumbed to puerperal fever, observers began to realize that this disease was analogous to a surgical infection and, in a great measure, preventable.

In no branch of medicine have the results of antiseptic surgery been so markedly shown as in obstetrics, and the mortality which before 1880, as has been said, was from two to ten per cent., at once dropped, so that at present a septic death in a well-organized lying-in hospital is an exception, and various authors have cited statistics based on many thousand cases in which the septic mortality was only 0.25 per cent. A graphic example of this kind came to the notice of the writer only a short time ago, while looking over the records of the Maryland Lying-in Asylum in Baltimore. Of 100 cases that were delivered in 1879, 42 of them had a temperature above 102° F. during the puerperium; while in the past three years, 1899, 1900, and 1901, there has been only 1 septic death in about 400 cases.

Although the large clinics have profited by the advent of antiseptic surgery, the same cannot be said of the results of the general man. This is unfortunate, but it is nevertheless true, and can be explained by the simple statement that the average practitioner in medicine either does not know how to, or will not, practise an aseptic technique. The truth of the statement just made is evidenced by an article which was published a few years ago by Reynolds, of Boston (*Boston Med. and Surg. Journal*, cxxxi.), who in 1893 attempted to write an article upon the prevalence of puerperal fever in that city. On looking over the records furnished by the health office he found, if such records were diagnostically correct, that in his own practice he had seen more than one-fourth of all cases of puerperal fever that occurred in Boston in that year; a thing obviously ridiculous, but probably due to the fact that the laity, knowing the nature of puerperal infection, were wont to put the blame on the physician in charge, who to avoid this reproach reported such cases as typhoid fever, pneumonia, and such like. Bacon (*American Gynecol. and Obstetrical Journal*, 1896), in an article based upon the health records of Chicago, says that puerperal infection still played a very prominent part in the death list, and, according to Boxall (*The Lancet*, 1893), the lessened mortality of childbirth since 1880 is not so much due to the lack of puerperal infection as to better and prompter application of operative procedures, and he makes the statement that in the rank and file of the profession outside of lying-in hospitals the results are as bad to-day as they were twenty or even forty-five years ago. Garrigues ("American Text-book of Obstetrics," first edition) makes the following statement: "The hospital is now the safe place for a woman to be delivered in; it is in private dwellings that danger lurks. The poorest, the dirtiest, the most dissolute women are safely confined in a hospital; the richest, the youngest,