

CLASS II

CATHARTICS.

CATHARTICS are those agents which, by increasing the peristaltic action of the bowels, cause alvine evacuations. They embrace a very extensive class of remedial agents, and one, too, which is probably in greater use than all others taken together. In relation to the extensive, and we might say almost unlimited use, as well as paramount importance of this class, they are deservedly the most popular class of remedial agents in the materia medica. No disease afflicts frail mortality in which either the milder or more active agents are not thought to be either highly important curative or palliative means during most periods of its continuance.

Their employment is by no means confined to the practitioner of medicine; on the contrary, they are resorted to in domestic practice, in some of the infinite varieties of pills in common use, powders, salts, sulphur, magnesia, extracts, bitters, infusions, sirups, decoctions, etc., etc., either as active cathartics or as laxatives, more frequently, we presume, than all other remedial agents. They have been introduced into such general use from the fact that they are easy of administration, and so readily suggest themselves to the minds of the ignorant, and that their employment is so rarely followed by any immediate injurious consequences. They afford temporary relief in so many diseases, that they are considered as an universal panacea for every ailment. Every variety of cathartic agents have been employed in manufacturing cathartic pills, and colossal fortunes have been made by their preparation and sale. It may be said that the Americans are a drag-taking people —“*pills*” being considered by a majority almost as essential to well-being as bread, and more so than water applied externally, exercise, fresh air, etc. That great injury results from this indiscriminate use of cathartics is obvious, and it should be the duty of every conscientious physician to instruct the public mind on these and other subjects pertaining to health.

When used, however, with a definite object in view, and with a correct knowledge of the pathology of the disease for which they are given, they may be made to serve a useful purpose in medicine.

Action of Cathartics.—Cathartics may exert their influence in three different ways: 1st. By their irritant effect upon the intestinal tube; 2d. By absorption they are conveyed into the blood, and having a special affinity for the intestinal canal, they are excreted through it, and stimulate it to increased action; 3d. By causing an endosmosis from the capillaries to the alimentary canal, causing distention, irritation and evacuation.

Irritant cathartics are those agents which, being insoluble, are not absorbed after being taken into the stomach. They produce a topical irritation of the mucous membrane of the intestinal tube; this irritation is extended to the muscular coat (either directly or through the reflex action of the nerves), and the peristaltic action is quickened, their propulsive power is increased, and defecation accomplished. This action may in some cases only remove the contents of the bowels; but in others the stimulation is extended to the glands of the intestines, and they prove eliminative. They may also cause an endosmosis of the blood-serum, and prove hydragogue.

Specific cathartics are those agents which will produce catharsis, whether introduced into the stomach, thrown into the serous cavities, injected into the veins, or absorbed through the skin. They are soluble in the fluids of the alimentary canal, and hence are absorbed and act from the blood; having a special affinity for this portion of the system, they pass to it, and are excreted by the intestines. Why these agents have an affinity for the intestines, it is useless for us to speculate; we know the fact that certain agents pass to the bowels, others to the kidneys, to the skin, and other organs, and are excreted by them, but the cause of this will always remain a mystery.

This class of cathartics are always eliminative, stimulating the part through which they are excreted to increased action. What is the value of this *elimination*? It has been shown by Mekel that the mucous surface of the intestinal canal consists of about 1400 square inches, covered with a closely packed glandular apparatus; and from this large surface secretion and excretion is constantly going on. Of the function of these numerous glands, but little is positively known, yet it has been clearly proved by physiologists that the larger part of the feces is excreted from the blood through some part of it; that instead of this excretion being composed of undigested food, it is formed of the nitrogenized tissues of the body, which being worn out, are eliminated from the system in this manner. The advantage to be derived from this class of cathartics is, then, very apparent: they stimulate this immense glandular apparatus to increased action, and eliminate from the blood the products of disintegration and decay; they may also act as depletives, if this action is maintained, lessening the quantity of the blood.

The cathartic salts are supposed by many eminent authors to act by causing an endosmosis from the blood (the lighter fluid) to the solution (the heavier fluid), and by thus increasing the contents of the intestines their natural action is called into play, and their contents are excreted. It is also maintained that when the solution contains less than five per cent, of the salt it does not prove purgative, but diuretic, and is excreted by the kidneys. We do not feel willing to admit the entire physical action of this class of agents, and we think that a little consideration will convince any

one that this is not a faithful description of their operation. For instance, an ounce of some purgative salt is placed in the stomach in a saturated solution; it will first cause an endosmosis of the blood-serum to the salt, but as the dense fluid has an affinity for the membrane, and passes to it, the part next the membrane becomes diluted, and is absorbed by the blood; we have thus an exosmose of the blood-serum to the salt, and an endosmosis of the solution to the vessels. Some portion, then, of the purgative agent is absorbed, and as the solution passes through the length of the intestinal canal, we might reasonably suppose that a considerable portion of it would be absorbed. This, then, acts specifically from the blood, and might be the cause of the purgative action, but most probably acts in conjunction with a portion which remains in the bowels.

This class of agents may be divided with much propriety into *laxatives* or *aperients*, and *cathartics* proper, according to their mildness or efficient mode of action.

Laxatives are but a subdivision of cathartics, and embrace agents which act but feebly or very gently upon the bowels, simply evacuating their contents without materially increasing any of the secretions. Among this class of agents we may name the manna, rhubarb, castor-oil, sweet-oil, sulphur, magnesia, etc.

Cathartics are those agents which act briskly and efficiently upon the bowels, not only evacuating their contents, but causing an increased secretion from them. Their influence extends to surrounding parts; they arouse the neighboring glands to increased action, stimulate the intestinal exhalants to increased secretion, and produce a very decided impression upon the general system. To this division of cathartics belong the podophyllum, jalap, iris versicolor, gamboge, croton oil, elaterium, etc.

This division is again subdivided according to the different effects which specific articles produce upon the system, and hence the terms *purgative*, *drastic*, *hydragogue* and *chola-gogue*.

By **purgatives** is meant the mildest of the cathartics, as senna, castor-oil, rhubarb, etc.; the two last being purgative as well as laxative, if administered in suitable doses.

Drastics are those cathartics which are exceedingly harsh in their action, operating violently, and not unfrequently producing nausea, vomiting, tormiua and tenesmus, and even gastro-enteric inflammation. Gamboge, scammony, podophyllin, and most of the resinous cathartics, are examples of this division.

Hydragogues are such cathartics as greatly augment the exhalation of fluid into the intestinal canal, and cause copious liquid evacuations. Jalap, elaterium, and some purgative salts belong to this division.

Cholagogues are such as exert a specific action on the liver, by removing obstructions and arousing it to action, thus causing copious bilious discharges. Podophyllum, podophyllin its active principle, and colocynth, are examples of this class.

These subdivisions are quite arbitrary, and might with much propriety be rejected; for the same article often possesses two or more of these particular properties, as the gamboge, colocynth, etc.

The same article often acts very differently on the same person at different times. At one time a particular agent may act as a mild *purgative*, and at another it may operate as a powerful and even *drastic* cathartic; depending upon the acute or diminished sensibility of the nervous system, or morbid irritability of the bowels.

Cathartics are also said to be *refrigerant*, when they greatly lessen the heat of the body, as the sulphate of soda, sulphate of magnesia, and supertartrate of potassa.

Those which determine the vascular afflux to the pelvic viscera, and act either directly or indirectly upon the uterus, promoting the menstrual secretion, are called *emmenagogue* cathartics. The aloes, black hellebore, etc., are examples of this class.

Cathartics vary much in regard to the part of the intestinal tube upon which they tend to act. Some act mostly upon the stomach and upper intestines, producing nausea, and not unfrequently bilious vomiting, or as *emeto-cathartics*. This effect arises from their influence being mostly exerted upon the superior part of the alimentary canal, as is the case with the podophyllum, gamboge, colocynth, etc. Others exert their principal influence upon the lower portion of this canal—the colon and rectum—as the aloes; while others act upon each and every portion of the intestinal tube, as the jalap, elaterium, colchicum, etc.

The reason why different cathartics seek out and act upon different portions of the intestinal canal, is involved in much obscurity. Some have attempted to account for it on the ground of the difference in solubility of the different agents; those most soluble being supposed to act most readily, and consequently upon the upper part of the canal; while those of difficult solubility act principally upon the lower portion of the canal, because they pass the upper portion without absorption. These explanations are by no means satisfactory; for the cathartic principle of the aloes is very soluble, and yet it acts upon the colon and rectum. It will likewise, as will other *specific* cathartics, affect the same portions of the intestinal tube, when absorbed from a serous cavity, from the skin, or when injected into the veins. We can only account for these different effects in the same manner that we account for the action of a specific cathartic. They have a special affinity for certain portions of the mucous membrane or glands, and are excreted by this part, thus stimulating it to increased action.

From what has already been said relative to the *modus operandi* of the different varieties of cathartics, it will readily be seen that the proper selection and adaptation of certain ones to the multiplied and ever-varying forms of diseases, is a matter of the first importance to the practitioner of medicine. Thus, if the patient be of a plethoric habit, if a high grade of febrile or inflammatory excitement exists, if the bowels are torpid, or there is an undue determination to the brain, or a dropsical effusion exists, a very different class of cathartics will be indicated, from those required where there is great exhaustion, as in the advanced stages of fever, in chronic diseases attended with great debility, in diarrhea and dysentery, and especially in cases of irritation or gastro-enteric inflammation.

Therapeutic Indications

In treating of the therapeutic application of cathartics, we shall speak of the different states of the system to which particular ones are adapted, and at the same time advert to the solid objections resting against others in the same or similar cases. As when describing emetics, we shall notice a few of the particular diseases in which cathartics are employed with advantage.

1. ***Action in Torpor of the Bowels.***—In cases of torpor and inactivity of the bowels these agents are of primary importance. In this condition digestion is imperfectly performed, and frequently food is retained in an imperfectly digested condition much longer than the laws of health will tolerate, while retained it is mingled with the various products of secretion eliminated from the blood through the walls of the canal. This heterogeneous mass becomes more acrid and irritating, and we may add, disease-creating, in proportion to the time it is retained in the bowels. The more liquid portions are reabsorbed into the blood, contaminating that fluid, causing sick-headache, pain in the back and limbs, fever, loss of appetite, etc. We may have the same results produced by the non-elimination of effete matters from the blood, owing to the torpid condition of the bowels; and in either case, if this condition continues, it may be the cause of many of the acute diseases; it also aggravates the symptoms in many chronic affections.

Thus, in this condition of the bowels, cathartics mitigate the symptoms in many inveterate chronic diseases; and in the milder acute diseases, such as colds, headache, jaundice, foul-stomach, slight attacks of a febrile and inflammatory character, they are often found entirely adequate to the relief of the patient without any, or with but very little other medicine.

ii. *Action in Fevers.*—Too much importance can not be attached to the judicious use of cathartics in every variety, of either idiopathic or symptomatic fever. Thus in *intermittent, bilious remittent, continued, typhus, typhoid*, and in every variety of the *exanthemata*, as *measles, scarlatina, variola*, etc., either cathartics or laxatives are of great utility, and we might say almost indispensable.

In febrile and inflammatory diseases the bowels are usually constipated, and a continual accumulation is taking place in them. The great extent of surface, and the innumerable number of glands that are continually pouring out large quantities of excrementitious matter into it, renders it the common sewer of the system, the great receptacle into which most of those materials which have been worn out, or degenerated in the body are thrown. It is as one writer not inaptly remarks, “The great storehouse of disease;” in it all the redundant portions of our food are lodged, and into it most of the decayed particles of our organs, after they can no longer prove subservient to the purposes of the animal economy,— but if retained must necessarily act as foreign and disease-creating agents,—are thrown by the action of the intestinal exhalants.

While this vitiated mass is retained in the bowels, the fluid parts of it are constantly absorbed and conveyed back into the circulation, where it adds fuel to the excitement already existing. It not only vitiates the blood by its own presence, but by increasing the chemical changes that are taking place in that fluid, it thus predisposes to febrile and inflammatory diseases and often produces them. Cathartics very effectually counteract these morbid conditions by thoroughly evacuating the bowels.

An active cathartic is said to reduce the amount of circulating fluid from one to three pounds; in this way they act as powerful depletives. They serve to depress the vascular and nervous excitement, and moderate the intensity of febrile and inflammatory disease. These effects seem to arise in part from throwing off the vitiated accumulations in the bowels, and thus removing a source of irritation; and in part from stimulating the intestinal exhalants, and thus causing an abstraction of large quantities of serum; in this way they act as depletives and indirectly as sedatives.

Inasmuch as we are opposed to depletion by the lancet in the class of diseases termed sthenic, it may be said, If cathartics are such powerful depletives and carry off such large quantities of serum, they are quite as debilitating and therefore as objectionable agents as the lancet. The comparative physiological importance of the two constituents of the blood, viz.: the crassamentum and serum, readily unmasks the error, and enables us to answer the question satisfactorily. While the crassamentum or solids of the blood furnish all the materials for

nutrition and secretion, supplying the waste of the body, stimulating the entire system to normal action, it is evident that the removal of any portion of it would produce a lasting and pernicious influence upon the system. On the contrary the serum serves rather as a medium or vehicle to transmit the crassamentum through the system to supply its wants, and is therefore comparatively unimportant. Not only so, but if largely diminished it may be speedily replenished by the free use of diluents. But this is not the case with the fibrine, albumen, and red corpuscles of the blood, highly elaborated and vitalized parts; if they are abstracted they are restored only by a very slow, vital process.

In depletion by the lancet, the entire blood is removed, both solid and fluid; by cathartics, the watery portions only are abstracted. In the one case the great restorative principle has been needlessly removed; in the other, an aqueous and less essential part, one which furnishes none of the materials of nutrition or reparation. The speedy recovery which follows from the loss of the serum, and the tardy recovery supervening upon the loss of the albumen, fibrine and globules, fully sustains us in the position we have taken. In one case, a few hours, or at most a few days are sufficient to restore the lost energies of the system; while in the other as many weeks, or even months may be required to accomplish the same desirable object.

If there is torpor, or congestion of the liver, and consequently congestion of the spleen and the entire portal system of veins, we have a class of cathartics that act directly upon this viscus. Almost any cathartic, however, will act indirectly upon the liver; this they do by causing an irritation of the duodenum, which is conveyed to the liver; and increased action is generally the result. Cholagogues are supposed to act directly upon this organ; thus podophyllin, leptandrin, etc., we suppose have a special affinity for it, and are probably partially excreted by it.

Cathartics exert a very powerful influence over the secretions of the glandular system, and also over the various secreting surfaces. In short, they act as depletives, and indirectly as sedatives; while at the same time they increase, and often effectually and speedily restore all the secretions.

Another important influence exerted by cathartics is their revulsive effects. In cases of inflammation, congestion, or any undue excitement in the brain, the strong impression which an active cathartic makes upon the bowels, renders them powerfully derivative, as well as depletive agents; and hence they often afford prompt relief. In such cases an active hydragogue cathartic should be prescribed.

In cases of congestion of any of the abdominal, or thoracic viscera, occurring during the progress of febrile disease, their influence is transmitted from the bowels to the neighboring organs, by contiguous sympathy, and relief obtained. They act as revulsives, and as direct topical depletives.

If the nervous system is oppressed, or overpowered by the presence of vitiated material in the blood, or by any morbid accumulation in the bowels, or by congestion of any organ; or if the vascular and nervous energies are concentrated upon any particular part, cathartics are exceedingly valuable in removing the oppression, and equalizing nervous and vascular excitement.

In the treatment of febrile and inflammatory diseases, the constitution and habit of the patient, or state of the system at the time, will enable the judicious physician to select the proper cathartic to meet the indications that may be present. In an attack of bilious remittent, or a synochal grade of continued fever, if the constitution is vigorous, and the patient plethoric, very active and powerful hydragogue cathartics, if administered early, will be found most effectual in arresting the progress of the disease. An emeto-cathartic will fulfill more indications than those of an opposite character; they do this by acting more efficiently on the various secretory organs, and by the shock which they impart to the nervous system. They often break the chain of morbid associations, and arrest the disease when milder agents would fail.

In the early stages of fevers, active cathartics may be repeated every second or third day, if required; but as the disease advances less active agents, as the mild purgatives, and if there is much prostration, laxatives, will be found the most appropriate evacnants.

If the constitution of the patient is naturally feeble, or has become enfeebled by a protracted disease, or gastro-intestinal inflammation exists, the active, drastic hydragogue, or cholagogue cathartics would be inadmissible; none but aperients, or the milder purgatives should then be administered.

It may be proper to state, that this class of agents were at one time regarded as objectionable in the treatment of typhus and typhoid fevers, from the debility which they were supposed to produce, in addition to that already existing. Experience, however, has long since decided in favor of their employment in these diseases. Dr. Hamilton, in his remarks on their use in typhus fever, says: They cleanse the tongue, mitigate thirst, restlessness and heat, by removing vitiated matters from the intestines, which would morbidly impress the nerves, and produce debility if retained. They render recovery more certain and speedy, and instead of debilitating, actually increase the strength. The new excitement in the nervous system weakens the train of morbid sympathies, and hastens convalescence, independent of their evacuant effect.

In the early stage of yellow fever, cholagogue cathartics are employed with advantage; in the advanced stages, mild laxatives only should be used.

In the exanthematous fevers, as variola, rubeola, scarlatina, etc., active cathartics can not be employed without great danger of increasing the severity and danger of the disease. If they are

employed during the stage of eruption they determine the circulation to the intestines; and if they do not produce a retrocession of the disease, they produce a similar eruption on the mucous membrane to that which exists in the skin. In the early stages, however, the bowels should be evacuated; but this should be accomplished by using such agents as produce the least irritation. After this the bowels should be kept in a soluble condition by the use of the mildest laxatives. These diseases are self-limited, and by no mode of medication that we can adopt can we expect to arrest their progress. They run a specific course, and by the administration of medicines our sole object should be to moderate the intensity of the symptoms, prevent congestions, retrocessions, etc., and not with a view of cutting short its course, as is our aim in other varieties of fever.

iii. **Action in Dropsy.**—Cathartics are by no means an unimportant class of remedial agents in hydropic affections. Perhaps there is no class of therapeutic agents which so effectually arouse the absorbent system as the one under consideration. We think we hazard nothing when we say they occupy the front rank in the treatment of these complaints. If it is said that diuretics should have the preference, we must determine this question by referring to the salutary effects following the independent administration of each. Their relative importance can be ascertained by administering them separately, and comparing the effects resulting from the use of each respectively. The utility of diuretics in dropsy is greatly increased by being preceded by the use of proper cathartics. Cathartics stimulate the secretions of the entire alimentary canal; they remove congestions, determine the circulation to the large mucous surface of the intestinal tube, and cause an endosmosis from the capillaries to the intestines, by which it is removed from the body. This irritation and determination of the blood to the bowels gives increased motion to the circulation, and by the removal of large quantities of fluid from the vessels, the mass of the circulating fluids is decreased. As soon as there exists a depletion of the sanguiferous system, there is an immediate absorption by the veins, to restore the lacking fluid; this absorption, if there is not large quantities of fluid ingested, will be taken from the dropsical effusion. A sluggish circulation of the blood always predisposes to dropsy, and without the circulation is stimulated, absorption does not take place. Here we have a marked difference between the two classes of agents: diuretics will remove the watery parts of the circulating fluid, but they do not stimulate the circulation, and consequent absorption; while cathartics not only remove the fluid, but stimulate the circulation and produce rapid absorption. After cathartics have produced the effects just referred to, diuretics will exert their full influence in removing the fluid.

The most useful cathartics in these diseases are such as not only produce watery discharges, but stimulate or irritate the intestinal surface. These agents are termed *hydragogues*, from producing large fluid discharges. These, with the exception of the purgative salts, are all *acrids*. When the purgative salts are employed for their *hydragogue* properties, they are generally combined with some irritant cathartic, as jalap, colocynth, etc. *Elaterium* may be referred to as the type of *hydragogue* cathartics.

Dropsy is a morbid, serous effusion, or accumulation of serum in any of the cavities of the body, or in the cellular tissues—following as the sequel of many chronic diseases, particularly those of the kidneys, and not infrequently from a sub-inflammatory action of some of the serous membranes. It is in many cases dependent either upon local or general debility.

It seems to be a physiological law that the relative proportions between the solids and fluids, and also between the different constituents of the fluids, should be maintained. If blood be abstracted by the lancet, or by hemorrhage, or if the serous portion alone be removed by the action of a cathartic, or by any other cause, increased absorption from internal cavities immediately follows, to replenish the loss, and restore the equilibrium. If no dropsical effusion exists, and fluids be taken into the stomach, or injected into any of the cavities, they are rapidly absorbed to supply the place of that removed, and to maintain the relative proportions between the different constituents of the blood. It may be proper to state that, in cases of ascites, for instance, where the effusion is great, causing a deficiency of serum in the blood, this deficiency is counterbalanced by the diminished action of the kidneys and cutaneous exhalants.

Pathological observation and direct experiment both confirm the position that absorption is tardy when there is vascular repletion; and that it is accelerated in proportion to the extent to which depletion is carried.

Cathartics stimulate the intestinal mucous exhalants, and cause them to pour into the bowels large quantities of serum, and consequently a deficiency of fluid must exist in the blood vessels. The constant efforts of the system to maintain the due amount of serum in the blood by absorption, and the increased activity of this process, in proportion to the reduction of the serous fluid, enables us to explain satisfactorily the *modus operandi* of cathartics in dropsies. They destroy the balance existing between the different constituents of the blood, by removing the serum, and at the same time greatly diminish the amount in circulation; and in proportion to these effects will be the activity of absorption of effused serum from the cavities in which it is deposited. The serum, after being reabsorbed, often stimulates the kidneys to

increased activity, and in this way they act indirectly as diuretics. Cathartics, if given in conjunction with diuretics, often greatly increase their diuretic powers; absorption continues more active for several days after the action of the cathartic has ceased—increased diuresis being the result.

The derivative power of cathartics also renders them important agents in diminishing dropsical effusions. The part from which effusion takes place necessarily becomes the center of fluxion; but by the action of a cathartic upon the bowels, the point of fluxion is changed; at least a new, though temporary one is established. The action of a cathartic upon the intestinal exhalants exerts a powerful derivative influence, and while the bowels are the seat of derivation as well as exhalation, the dropsical effusion and local determination must necessarily be reduced; the materials to supply exhalation and the morbid action being diverted from the point of original excitement. In this way, an opportunity is afforded for the enfeebled organ or part to recover its tone, and for its functions to become improved. In all cases a fixed irritation or point of excitement is attended with accompanying loss of action in other parts of the system—abnormal or redundant secretion of one organ or tissue is accompanied with a diminution of the secretory action of other organs; or if one organ becomes diseased, and its normal secretion is arrested or reduced in quantity, it is compensated by the vicarious action or corresponding activity of some other organ, to supply its place.

iv. **Action in Diseases of the Brain.**—In all cases attended with an undue determination to the brain, as in apoplexy, phrenitis, cerebral congestions, etc., they are preeminently important. In these cases, the most powerful drastic hydragogue cathartics should be employed, if no symptoms are present to contraindicate their use.

Their salutary effects are dependent upon their depletive and revulsive powers. In most cases of oppression of the brain arising from a congestion of the cerebral vessels, large quantities of the most active class of cathartics will often be required to produce even moderate purgation. The nervous sensibilities are so deadened that all medicines fail to produce their ordinary effects upon the patient; hence the necessity of administering cathartics without regard to their usual doses; the only criterion to determine the quantity to be used, being the results which follow from their employment.

The same remarks apply in cases where the narcotic poisons have been taken in over-doses. Derivation and depletion are the most important indications fulfilled by the employment of cathartic in these diseases.

v. **Action in Diseases of the Liver.** ----- In chronic hepatic diseases their importance is fully established. When the liver is torpid, or when it fails to furnish the proper quantity of the biliary secretion, or when there is jaundice, or congestion of the portal veins, and consequently of the abdominal viscera (all of which are of frequent occurrence), cathartics are of unquestionable utility. For restoring the biliary secretion, and removing the hepatic and portal congestion, the materia medica furnishes no agents equal to *cholagogue* cathartics. They act directly upon this organ, in addition to their cathartic effect, stimulate its secretion, and thus facilitate the passage of the portal blood through it. Their derivative action on the mucous membrane of the bowels, likewise assists to increase this secretion, by causing a determination of blood to this part; they increase the quantity which has to pass through the liver, and thus indirectly cause a determination to the liver.

The beneficial action of those agents which, while they act directly upon the liver, do not produce any irritation of the bowels, is very marked in many diseases. Thus, in chronic inflammation of the stomach, small intestines, etc., accompanied by torpor of the liver, such an agent as the *Leptandra virginica* or leptandrin, which will stimulate the liver to increased action, increase the flow of blood through it, and thus remove the venous congestion of the inflamed organs, without increasing the inflammation by direct irritation, can not but be considered as meeting most of the indications to be fulfilled. As an example of such a condition, we may refer to the diarrhea or cholera-infantum of children: in this disease we have a low form of inflammation of the small intestines, which in nearly every instance is accompanied by hepatic torpor. The agents just referred to remove this torpor without irritating the bowels, and by thus removing the congestion, a cure often results. This same class of agents prove very beneficial in hemorrhoids for the same reason: they increase the flow of blood through the portal veins, and thus the congestion of the hemorrhoidal, which is the lowest part of the portal circulation, is removed.

In acute or chronic inflammation of the liver, cathartics that produce an irritation of the bowels are contraindicated. They prove injurious by causing an increased determination of blood to the mucous membrane of the bowels, which blood has no means of returning into the general circulation but by passing through the liver in the portal veins; the action of such a cathartic then, is to cause a venous congestion of the liver, thus directly increasing the disease. Instead of such cathartics, those only which exert a very mild action should be employed—the purgative salts with some slightly stimulating, vegetable agent, being the most useful. Such a combination evacuates the bowels without producing irritation, and at the same time causes an endosmosis of

the blood-serum to the canal; and thus proves directly depletive to the liver, by removing that which would otherwise pass through it.

vi. **Action in Chronic Disease.**—In chronic diseases, as in marasmus, scorbutic affections, scrofulous and cancerous habit⁶, herpetic disorders, in all the various forms of inveterate and protracted cutaneous diseases, in obstinate and ill conditioned ulcers, syphilitic and mercurial cachexy, in short in all the varied forms of disease manifested by a vitiated or depraved condition of either fluids or solids, cathartics are valuable auxiliary medicines. They act as depuratives, cleansing the stomach and bowels of any morbid materials lodged or generated in them, they excite the glands to increased action and thus eliminate morbid material from the circulating fluid. They are thus important depuratives, and with propriety might be called alteratives—at all events they prepare the way and act as auxiliaries to the proper alterative agents.

vii. **Action in Amenorrhœa.**—This is another disease in which cathartics may be prescribed with advantage. Emmenagogue cathartics are preferable in some cases, while in others, the refrigerant, deobstruent and hydragogue classes are those to which experience points as being best calculated to fulfill the desired indications. If the patient becomes languid or phlegmatic, and a chlorotic state supervenes, tonic and emmenagogue cathartics are proper. In this state of the system there is evident inactivity of the uterine vessels, evincing the want of a due concentration of the vital and vascular afflux to the pelvic viscera; such agents, therefore, as the aloes, black hellebore, etc., by causing a determination to the pelvis will prove the most efficient. It must be remembered, however, that the system is in such a condition that it can not bear depletion, and therefore these agents must be combined with chalybeates, tonics and stimulants, nutritious food and exercise.

On the contrary if a sudden suppression arises from cold, from an attack of some other disease, or from sudden and strong mental emotions, as grief, fear, anger, etc., in a patient of a plethoric habit and a vigorous constitution, then some of the hydragogue and refrigerant cathartics should be employed, aided by nauseating diaphoretics, perhaps emetics, warm fomentations to the pubic region, hipbaths, etc. In such cases depletion and relaxation are indicated. The object is to subdue exalted organic action, and remove the spasm of the extreme uterine vessels, when the arrest is dependent upon cold and torpor of these vessels; and when it results from some strong mental impression, the object is to restore the vascular and nervous afflux to the uterine system from which it has been withdrawn.

viii. **Action in Dysentery.**—Cathartics are important therapeutic agents in the treatment of dysentery. Generally, the upper portion of the alimentary canal is in an obstinate state of

constipation, while some portion of the large intestines is in a state of high inflammatory excitement. The morbid secretions mingled with the imperfectly digested aliment, constitute a vitiated and highly irritating mass, which if retained in the bowels would augment the intensity of the disease. There is, likewise, in a majority of cases, torpor of the liver, and consequently congestion of the portal veins; the veins of the lower bowel being the most dependent of these, we have a constant venous congestion at the seat of the inflammation. The bowels become tumid and painful, and a high grade of arterial excitement follows. To remove this vitiated accumulation, stimulate the liver to action, and thus remove the venous congestion, and moderate vascular excitement, we have no substitutes for cathartics. Violent dysenteric tenesmus is likewise often speedily relieved by their action. They make a new impression upon the bowels, which is substituted for the original and morbid one.

In the early stages of dysentery, active, but not drastic cathartics are indicated—such as act principally upon the upper portion of the intestinal canal, and specifically on the liver. Subsequently the milder ones, or the proper laxatives—as rhubarb, magnesia, castor-oil, etc.—should be substituted.

ix. **Action in Puerperal Fever.**—In puerperal peritonitis active and even powerful purgatives are of immense importance. If administered early they not unfrequently arrest the disease with the aid of but very little other medicine. The evacuant, and consequently the depletive and sedative powers of refrigerant hydragogue cathartics, in lessening vascular excitement, and reducing the inflammatory action attendant upon this disease, render them one of the most, if not the most important class of medicinal agents.

x. **Action in Rheumatism and Gout.**—Arthritic and rheumatic affections demand the use of this class of agents—at least they are valuable auxiliaries to other remedies. Gout is generally connected with torpor of the liver and portal circle, together with functional derangement of the digestive organs; consequently suitable cathartics are of much utility in that affection. In arthritic and rheumatic complaints, the antiphlogistic power of cathartics tends much to the reduction of the inflammation. Their revulsive as well as cathartic and depletive properties, may aid in satisfactorily explaining their *modus operandi* in these affections.

xi. **Action in Pneumonia.**— In pneumonia, during the early stages of the disease, cathartics are a valuable class of auxiliary medicinal agents in reducing the inflammation. In the advanced stages of pulmonic inflammation, after free expectoration is established, there is strong objection to active purging, from its debilitating effects. In the early stages of the disease, they prove

advantageous, principally from their derivative effect, and from lessening the amount of the circulating fluids. The irritation which they produce causes an increased flow of blood to the mucous membrane of the bowel, and hence the lungs are more or less relieved. As the disease progresses, however, nothing but the mildest purgatives should be employed, and these only to keep the bowels in a soluble condition; and when given they should always be combined with a sufficient stimulant, to counteract their debilitating effects.

XII. *Action in Hypochondriasis.*—In this disordered condition of the system, cathartics which act freely, without causing irritation of the bowels, have been found useful. In these diseases there seems to be a disordered state of the nervous system, arising probably, in most cases, from a dyspeptic and depraved condition of the stomach, functional derangement of the liver and torpor of the portal circulation, a costive state of the bowels, and disordered functional condition of the entire chylopoietic system. All of these symptoms will frequently yield to a persevering course of cathartics. Much advantage may be derived by combining them with antispasmodics—particularly with the fetid gums.

There are numerous other diseases in which cathartics prove very advantageous; but having pointed out, and as we trust, clearly illustrated the most prominent therapeutic indications which they fulfill in arresting disease, we shall leave the practitioner to apply them, as his judgment may direct, in the many various conditions of the system in which they may be indicated—but recollecting that as they are powerful agents for good when rightly applied, they produce much injury when improperly used.

RECAPITULATION.

The importance of this class of agents, and the great length of this chapter, may render a synopsis of the indications which they are supposed to fulfill, not only interesting to the student, but highly instructive.

1st. They remove the vitiated accumulations in the primae viae, and thus free the system from a frequent source of irritation and fever.

2d. They stimulate the glands of the bowels to increased action, and thus cause the elimination of morbid material from the blood.

3d. Some of them, termed cholagogues, act specifically upon the liver, stimulating it to increased action ; they thus increase the secretion of bile, and by permitting the free flow of blood

through this organ, remove congestion of the portal system of veins.

4th. They reduce the quantity of the circulating fluids; acting as depletives they reduce the momentum of the circulation. If there is congestion or inflammation of any of the abdominal viscera, they act as topical or local depletives. For these reasons they are of great importance in febrile and inflammatory diseases.

5th. They act as revulsives. Hence their great value in apoplexy, phrenitis, cerebral congestions, and thoracic and abdominal engorgements.

6th. They promote absorption: first, they lessen vascular repletion, and absorption is active in proportion to the reduction of the circulating fluids; second, they remove the serous portion of the blood exclusively, and thus destroy the balance between the different constituents of the blood. The laws of physiology require the maintenance of each of its constituents in due proportion, and for this reason the activity of the absorbents is increased, to restore the lost balance between the constituents of this fluid, as well as between it and the solids.

7th. They equalize the circulation, and thereby counteract local congestion and inflammation.

8th. They are deobstruent and depurative, tending to remove any obstructions in the glandular or lymphatic systems, and promote all the secretions.

9th. They promote nutrition by a direct, and also a sympathetic action, which they exert upon the entire digestive apparatus; they cleanse, energize, newly impress and restore its functions.

10th. In diseases of a general character, either acute or chronic, they newly impress the nerves, arrest existing morbid impressions, break up abnormal sympathies between different organs of the body, or so weaken them as to greatly assist the action of other remedies.

JALAPA.

THE ROOT OF IPOMÆA JALAPA.—MEXICO.

PREPARATIONS.—The powdered root. A tincture. The resin. Compound powder of Jalap.

DOSE.—Of the powder, grs. 10 to 30 Of the tincture, 10 gtt. to 15ml. Of the resin, gr. j. to grs. 10. Of the compound powder, 5ss- to 3ij*

THERAPEUTIC ACTION.—Jalap, in powder and in its resin, acts efficiently upon the bowels, causing nausea, sometimes vomiting and copious alvine evacuations, and if the dose is large, violent hypercatharsis and after-gripping. Dr. Christison says, that severe and even dangerous effects have followed its use. If it ever acts dangerously, when administered in ordinary doses, it must be in rare cases, and when other agents of this class, though usually mild in their effects, would produce like results. It is a very safe and convenient cathartic.

Jalap is an active hydragogue cathartic, operating to some extent upon every portion of the alimentary canal, but its influence is mostly expended upon the small intestines. It stimulates the intestinal mucous exhalants, and causes copious watery discharges. As a cathartic, we have but few agents that act so briskly, so kindly, and yet so certainly, safely, and thoroughly.

As a detergent, deobstruent, and hydragogue cathartic, it is prescribed with great advantage in febrile and inflammatory diseases. As a derivative, it is among the best of this class of agents, and is, therefore, employed in encephalitis, and other diseases in which this derivative action is desirable.

It is very effectual in cleansing the alimentary canal, removing torpor, congestions, relieving vascular repletion, equalizing the circulation, and subduing organic excitement. If given in combination with the bitartrate of potash, it forms a very effectual refrigerant and antiphlogistic cathartic. The same combination is very valuable in dropsy. It removes large portions of the serum of the blood, which causes a rapid absorption of the effused fluid to replenish the waste. It may also be combined with the podophyllum or podophyllin, or small portions of the Elaterium in the same disease. Two or three grains of Ipecacuanha added to fifteen or twenty grains of Jalap, enhances its cathartic powers, and causes it to operate much more efficiently than a much larger portion of the Jalap alone.

RHEUM.

THE ROOT OF RHEUM PALMATUM.-AMA.

PREPARATIONS.—The powdered root. A tincture. Compound powder and compound syrup.

DOSE.—Of the powder, gr. j. to grs. xxx. Of the tincture, gtt. j. to 5ss. Of the compound powder (an infusion of ℥ss. to Siv), one teaspoonful. Of the compound syrup, from gtt. x. to a tablespoonful.

THERAPEUTIC ACTION.—Rhubarb is cathartic, astringent, tonic, and stomachic, In small doses it acts as an astringent tonic upon the digestive organs, promoting the appetite, and aiding digestion. It checks diarrhoea, and improves the condition of the alvine evacuations. It acts slowly and mildly as a purge, seldom causing any griping, and is often followed by constipation. It is said by some authors to aggravate febrile and inflammatory action in some cases. It renders the milk of the nurse purgative, and imparts to the secretions its yellow tinge. It may be said to occupy an intermediate position between tonics and drastic cathartics, in its mode of action.

As a cathartic, it is peculiar and highly important. Its peculiarity arises from its singular combination of properties; it is both cathartic and astringent, its cathartic action not seeming to be affected by its astringent influence. In addition to these properties, it is mildly tonic and stomachic.

As a cathartic, the rhubarb is not an active or efficient one, and yet it is of great value, and one for which we may search the materia medica in vain for a substitute. It is not important, nor is it a proper cathartic to be prescribed in the early stages of fever, or during high grades of febrile and inflammatory excitement; neither is it suitable for the treatment of dropsy. It does not deplete, but simply evacuates the bowels, without reducing the volume of circulating fluids by stimulating the intestinal exhalants; neither does it arouse the glandular system, restore the secretions generally, or equalize the circulation; hence it is unimportant in the early stages of the diseases to which reference is made. It is, however, of the first importance in another class of diseases, and even in the advanced stages of these mentioned. Its peculiar efficacy is conspicuous in dysentery, diarrhoea, cholera infantum, and in atonic states of the bowels—wherever the intestinal canal is in a relaxed or atonic state. In fevers of a typhoid type, in the advanced stages of all febrile and inflammatory diseases, after active purgation would be no longer admissible, this is an appropriate cathartic. It is also very useful in chronic disease, when there is debility of the system, and in those forms of dyspepsia attended with diarrhoea. In short, in all cases of general debility where cathartics are indicated, and in feeble and relaxed

states of the bowels, this is one of our most valuable medicinal agents. It does not exhaust the energies of the general system, but invigorates them, while at the same time it evacuates the bowels by its action on the muscular coat, upon which writers suppose it to exert its principal influence.

It is often combined with prepared chalk and cinnamon, and administered in diarrhoea, especially in the treatment of children. In large doses it acts first as a cathartic, and secondly as a tonic and astringent. In small doses it acts as a laxative or aperient, and as a tonic or stomachic, and astringent.

PODOPHYLLUM

THE ROOT OF PODOPHYLLUM PELTATUM.—U. S.

PREPARATIONS.—The powdered root. A tincture. Podophyllin.

DOSE.—The dose of the powdered root is from gr. j. to grs. xxx. Of the tincture, from the fraction of a drop to gtt. xx. Of podophyllin, from 1-100 of a grain to gr. j.

THERAPEUTIC ACTION.—Podophyllum is cathartic and alterative, and exercises a specific action on the liver. It produces irritation and suppuration when continually applied to the skin, and irritation when applied to mucous membranes. Taken in small doses it acts slowly as a cathartic, producing but little if any nausea; but when administered in large doses it produces violent emeto-catharsis. Though we have no well authenticated instances of death being produced by its administration, yet we have seen severe and long-continued gastrointestinal irritation follow its injudicious use.

As a cathartic it is one of our most valuable indigenous remedies; and indeed one of the most important in the materia medica. It is a safe, certain, tolerably active deobstruent, and hydragogue cathartic, operating very efficiently, though not so promptly as jalap (which in its action it resembles), and some other agents of this class; yet when it commences operating, its action is continued for a longer time. Considering the thoroughness of its action, it produces but little tormina; though in full doses it often operates as an emeto-cathartic, causing great nausea, and protracted vomiting. It leaves the bowels in a lax or soluble condition for a long time.

During the early stages of many febrile diseases, particularly intermittent and bilious remittent fevers, Podophyllum is an agent of superior efficacy. A single dose often arrests the severest attacks of fever. The nausea and vomiting, the depletion, its derivative powers, the general relaxation, the active and protracted influence upon the bowels, together with its

powerful action upon the glandular apparatus, particularly upon the liver and portal circle, render it an article of great importance in these cases.

During the early stages of all fevers, and even after the disease is somewhat advanced, if there is not a state of prostration contra-indicating the use of any active cathartic, this article will prove one of our most valuable curative agents. It is also valuable in most inflammatory diseases. One of the principal sanative uses of this agent arises from its protracted action, thus preventing a recurrence or subsequent exacerbation of the fever; another is its powerful derivative and deobstruent influence upon the system.

In torpor or congestion of the liver, in jaundice, in any derangement of the hepatic functions, mercury, that *Samson* of the materia medica, dwindles into insignificance when compared with this simple and common plant.

In chronic or mercurial rheumatism, in scrofulas, in enlargements or indurations of the glandular system, and in torpor of any of the secretory organs of the body, the podophyllum, as an alterative discutient and revulsive cathartic, stands, we believe, altogether unrivaled in the list of remedial agents. In syphilis, during its primary, secondary, or tertiary stages, as an excitant and alterative, as well as a cathartic or aperient, it is of unquestionable importance. In short, in all these chronic diseases, the podophyllum is so searching in its influence, leaving not a single organ, tissue, gland, or secreting surface untouched, as to command an enviable pre-eminence, compared with other agents in common use. The continued or occasional use of it, either as a cathartic or as an aperient, throughout the whole course of medication, is strongly recommended in the chronic diseases named, from the sanative influence secured by the administration of it, during many years, and in a large number of inveterate cases.

It is beneficial in cases of dyspepsia, especially when attended with a torpid state of the liver and bowels; it restores the secretion of the liver, and promotes intestinal secretion, and most effectually counteracts constipation.

As a hydragogue cathartic, it proves highly antiphlogistic in synochal grades of fever, and in high grades of inflammatory action; and this influence is materially increased by combining it with the bitartrate of potash. The same combination is one of great utility in dropsy: one-drachm of podophyllin combined with five drachms of bitartrate of potash, and given in drachm doses, and repeated five or six times per day, will produce profuse watery evacuations, and rapidly remove dropsical effusions. In those forms of dropsy arising from visceral obstruction the same combination will be found very useful as a deobstruent and hydragogue cathartic. In amenorrhœa

dependent on cold, or arising from torpor of the uterus, a single dose of this agent will often speedily restore the uterine secretion, even when the obstruction has continued for several months. It is recommended to be administered on going to bed, as it is less apt to produce nausea and unpleasant effects.

SPECIFIC INDICATIONS.—Full tissues, full veins, full abdomen, full tongue dirty from base to tip, heavy headache, giddiness.

SPECIFIC USES.—Following the indications as above, the reader can not go astray in the use of this remedy, whether he gives it in large or small dose. It does not make any difference what the name of the disease may be, or where it is located, if indicated, Podophyllum will aid the cure. I wish to call especial attention to the remedy in diseases of the brain, especially those marked by dizziness and weight in the head, and imperfect command of the muscles. In these cases it stands first among remedies, iodide of ammonium holding the second place. In small dose, podophyllin is a stimulant to the sympathetic nervous system. Whilst its action is especially upon parts supplied from the solar plexus, it influences the respiratory nerves in a marked manner, and in a less degree the hypogastric. As a remedy in atonic dyspepsia, it holds a prominent place. I find in practice that the small dose is quite as good as the large one in the majority of cases. Even if I wished to influence the liver, I should give a single dose daily of podophyllin gr. 1-20, hydrastia gr. 1/4 rather than the old-fashioned dose. The same is the case in disease of the brain, and in many other cases. I usually carry the remedy in the form of small sugar-coated pills, each containing podophyllin gr. 1-20, hydrastia gr. 1/4. A second decimal trituration is an excellent form in which to administer the remedy, especially to children.

JUGLANS.

THE INNER BARK OF THE ROOT OF JUGLANS CINEREA.—U. S.

PREPARATIONS.—A decoction of the bark. A tincture. A hydro-alcoholic extract.

DOSE.—Of a decoction, from 5ʒs. to 5j. Of the tincture, 5ss. to 5j. Of the extract, gr. v. to grs. xx.

THERAPEUTIC ACTION.—Juglans is a mild but pretty active cathartic, producing but little if any pain, and not debilitating the bowels. In this respect it resembles rhubarb. In combination with podophyllum or podophyllin it is very valuable in remittent and intermittent fevers, particularly in those cases attended with hepatic torpor and visceral congestion.

In small doses, combined with demulcents and aromatics, we find it useful in dysentery; it does not irritate, nor does it debilitate the bowels, but acts as a gentle laxative. In habitual constipation we know of no article superior to it. It operates kindly, restores the intestinal secretions, quickens the peristaltic action of the bowels, and leaves them in a lax and soluble state longer than any article with which we are acquainted.

A strong decoction of the bark has long been used in some parts of the country as a popular remedy for intermittent fever. It is given during the intermission, so that the patient will be under its influence at the time for the next paroxysm. It is given in wineglassful doses, and, according to report, operates so briskly that if the patient wished to, he would not have time to *shake*. It forms an effectual cure, if reports are to be believed.

The inner bark, scraped and moistened, and applied to the surface, acts as a vesicant.

A syrup may be made by boiling the bark until a strong decoction is obtained, then adding loaf sugar, ginger, and one-fourth as much brandy as there is of the liquid. This syrup is useful in dysentery, diarrhoea, bowel complaints of children, and in any case in which a mild and agreeable cathartic and laxative are required.

The *Juglans nigra*, or *Black* is sometimes used for medicinal purposes. The rind of the unripe fruit is applied to ring-worm and tetter, which it is said to remove, while the decoction has been used as a vermifuge.

The *Juglans regia*, or *English Walnut*, is also used. The rind of the fruit is anthelmintic, and the expressed oil of the kernel laxative and destructive to the tapeworm; while the expressed juice or extract of the leaves has been found highly efficacious in scrofula. It has, indeed, of late attained much celebrity in the treatment of scrofulous affections; and, from reports, it merits still further investigation.

CONVOLVULUS.

THE ROOT OF CONVOLVULUS PANDURATUS.—U. S.

PREPARATIONS.—The powdered root. A tincture. A hydro-alcoholic extract.

DOSE.—Of the powder, grs. xx. to 5ss. Of the tincture, gtt. v. to gtt. xx. Of the extract, gr. j. to grs. v.

THERAPEUTIC ACTION.—The Convolvulus Pauduratus is a mild and very feeble cathartic, said by some to resemble Jalap, scaramony, or rhubarb in its action, and to be used as substitute for those agents. It is, however, too feeble as a cathartic to permit such a comparison. It may be used as a gentle cathartic, or rather laxative, with some advantage. The root loses much of its medicinal activity by drying. The extract of the fresh root is said, by those who have used it, to be a very pleasant and effective agent.

It is also diuretic and pectoral. As a diuretic it is found useful in dropsy, calculous affections, in irritation of the urinary organs, strangury, etc. Dr. Harris, of New Jersey, found it beneficial in calculus of his own person. Others speak favorably of it in the same, and also in other diseases of the urinary organs. It is spoken of as a “pectoral” in coughs, colds, pains in the chest, asthma, consumption, etc. It may be administered in substance, extract, decoction, or syrup. In coughs it may be combined with skunk-cabbage.

LEPTANDRA.

THE ROOT OF LEPTANDRA VIRGINICA.—U. S.

PREPARATIONS.—Extract of Leptandra. Tincture of Lep- tandra. Leptandrin.

DOSE.—The dose of the extract will be from gr. j. to gr. v. Of a tincture, gtt. v. to gtt. x. Of Leptandrin, gr. ℥ to gr. v.

THERAPEUTIC ACTION.—The Leptandra is a mild and pretty efficient cathartic, if administered in large doses; in smaller doses, a valuable aperient and tonic. It is exceedingly valuable in atonic states of the bowels. Whenever there is a weak and debilitated state of the general system, or when the bowels are enfeebled by repeated purgation, no article in the materia medica (if we except rhubarb) surpasses, if indeed equals, it as a cathartic. It is mild and unirritating in its action, and at the same time that it cleanses them it restores their tone.

As a cathartic, it is recommended during the early stages of dysentery as one of our most efficient agents. It removes the constipated state of the small intestines, acts specifically upon the liver, increasing its secretion, and gives tone to the entire alimentary canal. In dyspepsia, attended with a torpid state of the bowels, the Leptandra is an appropriate article. It is

exceedingly valuable in these cases administered occasionally as a cathartic, and in the intervals in small doses as an aperient and tonic; it promotes the appetite and facilitates digestion. It is a very valuable addition to the vegetable bitters in such cases; when combined with them they will prove laxative without the use of other purgative medicine.

It is very useful during the forming stages of various types of fever; if administered at an early stage of the disease, in large doses, so as to purge briskly, it cleanses the stomach and bowels, restores the biliary secretion, and indeed promotes the secretions generally, thereby lessening the fever, and often arresting it. It is the principal cathartic upon which reliance is placed by certain "irregular physicians," in the treatment of febrile and inflammatory diseases. It is especially recommended in fevers of a typhoid type; also in the advanced stages of bilious, and during the convalescent stages of all forms of fever.

Some have spoken of it as almost a specific in dropsy. It seems to promote the secretions, thereby favoring absorption, and gives tone to the system. We have used it with marked advantage in some very obstinate cases of dropsy, particularly in hydrocephalus, combined with spearmint and cream of tartar, in such quantities as to produce ten or twelve watery stools in the course of twenty-four hours.

SENN A .

THE LEAVES OF CASSIA OFFICINALIS.—EGYPT.

PREPARATIONS.—The powdered leaves. Tincture of Senna.

DOSE.—Of the powder, 5ss. to 5ij- Tincture of Senna in colic, gtt. j. to gtt. v.

THERAPEUTIC ACTION.—Senna is a safe, prompt, and very efficient cathartic, and may be employed in all cases where an agent of this kind is required. It does not, however, act so efficiently on the secretions as many others, yet it produces copious alvine evacuations. It not unfrequently produces tormina, but this is readily counteracted by combining it with saccharine matter, as sugar, manna, etc.; or by the addition of

bitartrate or bicarbonate of potash, or aromatics, as dill, fennel, peppermint, etc. The tendency which this agent has to irritate the gastro-intestinal mucous membrane, renders it objectionable in all cases where a predisposition to that state exists.

It is found to be beneficial in febrile and inflammatory diseases, but in these cases its beneficial effects are increased by combining it with more efficient hydragogues, as jalap, cream of tartar, etc. In bilious colic it often gives prompt and speedy relief, acting according to homoeopaths upon the principle of *similia*. It is recommended in cases of apoplexy,

hemiplegia, coma, etc., owing to the strong impression which it makes upon the intestinal nerves, arousing their sensibility and exerting a derivative influence.

The purgative powers of Senna are said to be augmented by combining it with bitters; authors generally concur in this statement.

The *Cassia Marylandica*, or American Senna, is sometimes employed as a substitute for the imported article. It acts only when administered in large doses, and then not very efficiently. It may be used when a gentle cathartic is required. Dose of the powder, ʒj* to ʒiij.

OLEUM RICINI.

THE EXPRESSED OIL OF THE SEEDS OF RICINUS COMMUNIS.—U. S.

DOSE.—The oil may be given in doses of to ʒj.

THERAPEUTIC ACTION.—Castor oil is a mild, safe, and speedy cathartic. It rarely produces griping, or any irritation of the bowels, and when it operates it simply removes accumulations in them, without materially increasing the intestinal secretions. Its mild and unirritating qualities will readily point the practitioner of medicine to the class of diseases in which it will be found most important, and to the cure of which it seems to be most appropriate. It may be used in any case where a mild and unirritating, and not a revulsive and hydragogue cathartic is indicated.

The cases in which it seems most to be indicated are those in which there is gastro-intestinal irritation, or a debilitated state of the bowels, or general debility, as during the advanced stages of fever, during pregnancy and the puerperal state, in constipation where a simple evacuant is required, in cases where acrid agents have been taken into the stomach, or wherever acrid secretions or accumulations are present in the intestinal canal, and also in many diseases peculiar to children.

In mucous enteritis, castor oil is regarded as a most valuable agent; it is extensively employed in this disease, owing to its mild and unirritating character. It is often combined with the oil of turpentine and laudanum in dysentery, and used with much advantage. The castor oil and turpentine answer a very valuable purpose in typhoid fever attended with tympanitis; the same combination is also very useful in the tympanitis of puerperal peritonitis.

In constipation arising from hardened feces, castor oil lubricates the bowels, and causes their evacuation. It may be combined with harsh and acrid medicines to lessen their irritating properties.

It is considered a mild and useful cathartic for children, and when there is an irritable condition of the bowels, and a simple agent is required, perhaps there is no cathartic which answers a better purpose. It is combined with many anthelmintics, as worm-seed oil, to assist their action. Infants require relatively larger doses than adults. A peculiarity with regard to this agent as a cathartic is, that reduced quantities are required to produce purging after it has been frequently administered to a patient.

The seeds of the castor oil plant are powerfully cathartic and emetic. Two or three of them will purge, and seven or eight will act violently, producing emesis and hyper-catharsis.

As a means of disguising the taste of this article, the *Electuary of Septimus Piesse* will probably be found the most efficient. Castor Oil ʒij white soft soap ʒj., simple syrup ʒj., oil of cinnamon, gtt. vj. Rub the soap with the simple syrup in a mortar, and then add gradually the castor oil, with constant trituration, until it is thoroughly incorporated with the above ingredients. Finally, mix with the electuary thus formed, the oil of cinnamon, or any other essential oil that may be preferred. By this means a gelatinous electuary will be formed, which is rather palatable than otherwise, and nearly equals, bulk for bulk, castor oil in strength.

A L O E S .

THE INSPISSATED JUICE OF THE LEAVES OF ALOE SPICATA.-SoCOTBA.

DOSE.—From the fraction of a grain to grs. v. or grs. x. Of a tincture, gtt. j. to gtt. xx.

THERAPEUTIC ACTION.—Aloes is cathartic, stimulant, tonic, stomachic, emmenagogue, and anthelmintic.

As a cathartic, it is slow to operate, owing to its action being principally upon the lower portions of the intestines. It does not act upon the intestinal mucous membrane, producing depletion, but mostly upon the muscular coat, stimulating it to increased activity, thus quickening the peristaltic action of the bowels, causing alvine evacuations. The discharges caused by taking aloes are not thin and watery. It seems also to augment the biliary secretion. In small doses it acts as a tonic, excitant and aperient; it promotes digestion, and gives tone to the stomach, and is therefore found useful in dyspepsia. As a tonic and stomachic, it is used with much advantage in genera] debility, attended with loss of appetite and a torpid state of the bowels. It quickens the circulation, and causes an increased warmth of body, clearly demonstrating its excitant powers.

From what has been said, it will readily be seen that aloes is not a suitable cathartic in habits that are of a sthenic character. If there should be any irritation of the bowels, its harshness would render it inadmissible; and should there exist a febrile or inflammatory habit, it would be too

excitant and tonic, and not sufficiently depletive. But in torpid or debilitated states of the system, it is not only proper, but in many cases a highly important medicine. Accordingly it is recommended in chlorotic states of the system, scrofula, hypochondriasis, indigestion, habitual constipation, etc., combined with alkaline agents, as castile soap and aromatics, to counteract any irritating effects which it might produce.

Aloes is said to be possessed of emmenagogue properties, and as such is extensively employed in amenorrhoea. Whether it exerts any influence over the uterine secretion, by a direct action upon that viscus, is not determined ; the probability is that it acts indirectly or sympathetically by producing a determination to the lower bowels and pelvis, thus producing or accelerating the menstrual flux. The strong influence of aloes manifested upon the rectum has caused it to be used for the removal of ascarides, or small worms, that have their habitat in this portion of the intestines.

A singular fact in relation to the modus operandi of this agent is, that small and large doses produce very nearly the same amount of purgation. It may be used in cerebral congestions as a derivative, but is not admissible in hemorrhoids, owing to its strong action upon the rectum, aggravating them when they exist, and often producing them; for the same reason it is not admissible in advanced pregnancy, or in menorrhagia.

SCAMMONIUM.

THE GUM RESIN OF CONVULVULUS SCAMMONIUM.—SYRIA.

DOSE.—The dose of Scammony will vary from gr. j. to gr. x., according to the action desired.

THERAPEUTIC ACTION.—Scammony is very active, harsh and drastic, and for this reason the cases in which it is admissible as an independent cathartic, are by no means numerous. Its highly drastic properties would preclude the propriety of its employment in all cases where an irritation of the mucous membrane of the bowels exists. Its disagreeable taste also renders it an objectionable agent.

The Scammony may be combined with other active and equally harsh or drastic cathartics with advantage, their drastic action being modified and rendered comparatively mild by combining two or more of them together. So with this article, it may be added to other cathartics and aid in forming a purgative compound decidedly superior to either article alone.

It is appropriate in torpid states of the bowels, obstinate constipation, coma, apoplexy, cerebral congestions or inflammations, etc., cases in which a powerful derivative impression is desirable. It

is sometimes employed as a vermifuge; it frequently destroys worms, and causes their evacuation, probably on account of the violence of its action.

GAMBOGIA.

A GUM-RESIN OBTAINED FROM GARCINIA HANBURI. —INDIA.

DOSE.—From one-half grain to five grains. It is better to give it in small doses, frequently repeated.

THERAPEUTIC ACTION.—Gamboge is one of our most powerful drastic, hydragogue cathartics ; it often produces nausea and vomiting, violent tormina, and frequently irritation, or even dangerous inflammation of the gastro-intestinal mucous membrane. Its harsh and drastic properties may be lessened by combining it with other cathartics less harsh, and its beneficial effects still secured; or it may be united with demulcents which counteract the violence of its action, still securing its active operation upon the system. It should rarely or never be given alone as a cathartic, though it is extensively used variously combined, forming the base of many of the popular pills of the day.

The cases in which Gamboge is mostly used are, obstinate constipation of the bowels, hepatic torpor, dropsy, coma, phrenitis, apoplexy, cerebral congestions, etc., whenever a strong revulsive impression is desirable. The remarks made upon Colocynth in the same or similar cases, are applicable to Gamboge, though this is still more efficient than that agent. In torpor of the liver it may be combined with Sanguinaria and Podophyllin with great advantage ; the compound extract of Colocynth is also a valuable addition. These articles made into pills, qualified by the addition of aromatics and stimulants, will be found very useful in all cases where active cathartics are desirable, and where a deobstruant is indicated.

COLOCYNTHIS.

THE FRUIT OF CITRULLUS COLOCYNTHIS.—JAPAN, SPAIN.

PREPARATIONS.—Tincture of Colocynth. Extract of Colocynth.

DOSE.—For its specific use the dose is very small. R Tinc. Colocynth gtt. j. to gtt. v., water 5iv.; a teaspoonful every hour or two. Of the crude article or of the extract, as a cathartic, grs. v. to grs. x.

THERAPEUTIC ACTION.— Colocynth, when administered incautiously, acts violently upon the bowels, and in some cases produces dangerous and even fatal inflammation of the bowels. It is justly termed a powerful drastic hydragogue cathartic. From the violence of its action it sometimes causes tormina, inflammation of the mucous membrane, and bloody discharges. It sometimes produces nausea, vomiting, and long-continued hypercatharsis.

It will readily be seen from what has already been said, respecting the action of this agent, that it would be highly improper to administer it in the advanced stages of most diseases, or in any case of great debility; as also in all cases attended with or predisposed to irritation or inflammation of the bowels.

As a powerful deobstruent and hydragogue cathartic, it is recommended in the early stages of fevers, and in dropsy, particularly in passive dropsies, or those arising from visceral obstructions; it removes large quantities of serum, and is therefore powerfully depletive; and an additional reason for its use in dropsies is its supposed diuretic powers. It is also employed in torpor of the liver, and obstinate constipation, though we have more effectual agents. It is also used in amenorrhoea: as a deobstruent in this case it often proves beneficial. In cerebral congestion or inflammation, in apoplexy or coma, when a very powerful derivative influence is desirable, this agent constitutes one of our most efficient cathartics; it is also highly recommended in paralysis, especially in paraplegia. Though extremely harsh and drastic in its action, yet if properly qualified by combining it with other cathartics, or if united with demulcents and aromatics, it is rendered mild and perfectly safe, and constitutes one of our most valuable purgatives.

SPECIFIC INDICATIONS.—Pains resembling colic in the iliac and hypogastric region ; tense rheumatic pain, with muscular contractions; painful diarrhoea with tenesmus and mucoid discharges ; dysenteric evacuations with pain resembling colic.

SPECIFIC USES.—Following the indications as above, we find a most important field for this remedy. In colic affecting the lower abdomen, and especially if there is a desire for stool, there is no more certain remedy than Colocynth. In dysentery where the pain is in the right iliac region, or when the dysenteric tormina involves the entire abdomen, Colocynth may be administered. Persistent diarrhoea with tormina and mucoid discharges calls for Colocynth.

It is also a valuable remedy in rheumatism, in lumbago and sciatica, and in some cases of neuralgia. The reader will be governed by the indications as named, in these cases.

ELATERIUM.

DEPOSIT FROM THE JUICE OF MOMORDICA ELATERIUM.—GRRECE.

DOSE.—The dose of Elaterium runs from one-tenth to one-fourth grain.

THERAPEUTIC ACTION.—Elaterium is a drastic hydragogue cathartic, and said to be diuretic. As a powerful hydragogue cathartic, in minute doses, this article is unequalled by any other agent in the materia medica. If too freely employed, the violence of its action admonishes the physician of the necessity of prescribing it cautiously, not always, however, until it is too late to repair the injury. If administered in large doses it causes excessive nausea and vomiting, irritation of the mucous membrane, or even an inflammation that may prove fatal. The violence of its action and the high price of the article, probably prevent the frequent and too free use of this agent.

Cautiously administered, Elaterium may be used with great propriety in cases where we wish to produce a powerful derivative and depletive effect upon the system; particularly when the patient is of a plethoric habit, and has a strong and vigorous constitution. In debilitated states of the system it is inadmissible, as well as when there is any irritation of the intestinal mucous membrane.

It is principally used in the treatment of dropsy, to which it appears to be especially adapted, often proving successful in the most obstinate cases, and after a variety of other measures have proven abortive. It has proved a highly important hydragogue, promoting absorption, and at the same time lessening effusion by diverting the increased vital action from the point of effusion to the intestinal mucous membrane.

RHAMNUS.

THE BARK OF RHAMNUS CATHARTICUS, R. FRANGULA, R. CAROLINIANUS.

R. PURSIANA.—U. S.

PREPARATION.—A tincture of the recent bark.

DOSE.—The dose of Rhamnus will vary from gtt. x. to ʒj according to the action desired.

THERAPEUTIC ACTION.—All the species of Rhamnus are cathartic, differing only in their activity. In the olden time, only the berries of the *Rhamnus catharticus* were employed; but from their activity and the danger of gastro-intestinal irritation, they were but little used. Still, I am satisfied that in proper dilution and in small dose, the tincture of the seed would prove quite as good as the so much advertised *Cascara sagrada*. The bark is much milder, and may be employed for the ordinary purposes of a cathartic.

The *Rhamnus purshiana*, the species obtained on our western coast, has recently been quite extensively employed, and is a fairly good remedy if used with care. It is extremely nasty, and few persons will care to take it in preference to more pleasant drugs. Still it has this virtue, that there is less danger of constipation following its action, and in some cases it may break up habitual constipation.

The *Rhamnus carolinensis*, our southern species, is now being used in place of the Purshiana, and it is said with equally good results.

OLEUM TIGLII.

THE EXPRESSED OIL OF THE SEEDS OF CROTON TIGLIUM.—EAST INDIES.

DOSE.—Croton oil is administered in doses of one or two drops; in cases of coma and where there is great torpor or insensibility, from five to ten drops will produce but a feeble impression upon the patient. It is better to administer it in pill or emulsion, and half a drop at a dose, repeated sufficiently often to obtain its effects.

THERAPEUTIC ACTION.—Croton oil is a speedy and powerful hydragogue cathartic. If we except elaterium, it is more energetic, and produces more effect upon the system in minute doses than any other cathartic agent. The activity of the oil, the certainty and efficacy with which it acts, and the smallness

of the dose required to produce these powerful impressions upon the system, together with the facility with which it may be taken, and the comparative mildness of its action, render it an agent worthy of notice. It may, however, be so administered as to produce vomiting, hypercatharsis, violent tormina, gastro intestinal irritation or inflammation, or even fatal results.

It is evident that an agent of such powers should be administered cautiously, and so combined with demulcents and aromatics, and so timed, as to render its operation as mild as possible. If administered in cases of great debility, it should be so combined with demulcents and stimulants as to prevent its irritant and exhausting effects. It acts rapidly, often in one hour, and frequently produces a disagreeable burning in the fauces and throat.

In cases of mania or furious delirium, the facility with which it can be administered gives it a superiority over all other cathartics. If the patient will not take medicine, he may be deceived by giving the oil in wine, milk, etc., and thus its full advantages are secured. In spasm of the

glottis, epilepsy, and neuralgia, it is supposed to prove valuable, independent of its purgative property.

The seeds have been used in India for their cathartic powers, in doses of one or two grains; they are not used in this country. Four drops of the oil, applied to the umbilicus, often purges.

Applied externally it acts as a suppurant revellant, producing rubefaction, and finally vesicular and pustular eruptions, and proves a valuable derivative. It has been employed for this purpose in chronic bronchial affections, phthisis, chronic laryngitis, rheumatism, neuralgia, glandular enlargement, spinal diseases, etc.; it is sometimes used in its pure state, but more frequently diluted with olive oil, turpentine, alcohol, etc.

COLCHICUM.

THE BULB OF COLCHICUM AUTUMNALE.—EUROPE.

PREPARATIONS.—Tincture of Colchicum. Wine of Colchicum.

DOSE.—The dose of either of these preparations will vary from one to thirty drops.

THERAPEUTIC ACTION.— Colchicum is cathartic, emetic, diaphoretic, diuretic, expectorant, sedative, anodyne, and acronarcotic. In small doses it promotes the secretions, especially that from the mucous membrane of the bowels. If the doses are larger, nausea, vomiting and purging, with a reduction of the pulse, are the ordinary effects; a sense of debility with headache, also follows its use. These effects are not invariable, and not dependent upon the degree of purgation; copious perspiration, increasing the biliary secretion, or an augmented flow of urine, are common effects following its use; salivation sometimes results. In gout and rheumatism, it is said in some cases to strikingly increase the amount of uric acid in the urine. In over-doses it acts as a violent poison, causing severe pain in the bowels, vomiting, acute tenesmus, small, slow and feeble pulse, cold feet, and weakness of the limbs.

The Colchicum is a peculiar and very interesting remedial agent. Its peculiarity arises from the number of properties which it possesses, and from the diversity of impressions which it makes upon the system. Operating as it does, sometimes violently as a hydragogue cathartic, perhaps as an emetic; sometimes as a diaphoretic or diuretic, at others as an expectorant; now as a stimulant to all the secretions, then upon one secretion only, or upon a part of them; and again, as a sedative, diminishing the momentum of the circulation, while at another time it acts in small doses as an anodyne, lessening the nervous sensibility.

In large doses it almost invariably produces purging, attended with nausea and vomiting, a burning sensation in the stomach, tenesmus, and sometimes strangury.

Colchicum has been regarded as a specific curative agent, in the treatment of *gout*, but at this time it is considered merely as giving temporary relief. The similarity existing between gouty and rheumatic affections, suggested the employment of this agent in the latter disease, also. But the high estimate placed upon it in gout as a curative agent, is not fully realized in the treatment of rheumatism. As a hydragogue cathartic and depletive agent, as a sedative and anodyne, and as a diuretic and diaphoretic, it can not fail, as a general rule, to lessen the pain and inflammatory excitement, and thus prove a valuable palliative, if not a curative agent.

In other painful inflammatory diseases, it reduces the pulse, renders it softer, and allays the general irritation and pain. It also stimulates the intestinal exhalants, and causes copious watery stools. "The influence which it exerts over the pulse, supersedes the use of the lancet," say those who deplete with that instrument. "Its most frequent operation," says a distinguished author, "I believe when fairly tried, has been to allay pain, reduce the pulse, and diminish symptomatic fever."

HELLEBORUS.

THE ROOT OF HELLEBORUS NIGER.—EUROPE.

PREPARATIONS.—The powdered root. Tincture of Hellebore.

DOSE.—Of the powder, from grs. j. to grs. xx. Of the tincture, gtt. j. to gtt. x.

THERAPEUTIC ACTION.—The black hellebore is cathartic, emetic, emmenagogue, and in over doses acro-narcotic. In its recent, state it is a very drastic, hydragogue cathartic. That met with in the shops in this country, is not so active and powerful as when first dug, owing to loss of strength, by long keeping. If it is taken in over-dose, it may cause hyperemesis and hypercatharsis, and dangerous gastro-intestinal inflammation, terminating in vertigo, cramp, burning pain in the stomach, cold sweat, paralysis, violent convulsions, and even death. There can be no doubt of its acro-narcotic properties.

It was employed by the ancients mostly in diseases of the nervous system, as in mania, epilepsy, melancholia, etc., and often it is said with great success. It is supposed to have given relief by virtue of its powerful derivative action. It was also employed as an alterative, in some inveterate cutaneous diseases, and as a hydragogue cathartic in dropsy. At the present time it is not often used in any of these affections, though occasionally employed in chronic rheumatism with gum guaiacum, and other agents valuable in that disease.

It is mostly used at the present time as an emmenagogue. Whether it acts specifically on the uterus, is a question not yet decided; the major part of the profession incline to the negative, believing that the uterus in case of its administration, is indirectly and sympathetically acted upon, through the bowels.

IRIS .

THE ROOT OF IRIS VERSICOLOR.—U. S.

PREPARATION.—Tincture of Iris.

DOSE.—The dose of Iris will vary from the fraction of a drop to 5ss. For its specific use I add gtt. x. to gtt. xx., water ℥iv.; dose one teaspoonful.

THERAPEUTIC ACTION.—The Iris is cathartic, emetic, diuretic, alterative, sialagogue, stimulant and astringent. As a cathartic, the recent root is active, and has been much used, especially in the South. Dr. Bigelow found it efficacious as a purgative, but the distressing nausea and prostration attending its operation, render it very unpleasant, unless combined with other agents to modify its action. Dr. Smith generally made use of the powder, giving it in twenty-grain doses, repeating if necessary. He reports its operation, as powerful, certain and quick, sometimes taking effect in half an hour; he has also seen it move the bowels when Jalap, Gamboge, and other strong purgatives, had no effect; he also used it alone in cases of tape-worm with success. Thacker states that the expressed juice of the recent root, given in quantities of sixty or eighty drops every hour or two, and occasionally increased, has produced copious evacuations after Jalap, Gamboge, and other strong purgatives had proved ineffectual.

The Iris is an important alterative, and its superior value for this purpose is far from being duly appreciated by the great body of the medical profession. In chronic hepatic affections, cachectic states of the system, mercurial cachexy, disordered states of the glandular system, syphilitic affections, etc., it is a favorite remedy. In the secondary or tertiary form of syphilis, after mercury in all its forms of administration had proven abortive, this agent has restored patients to perfect health.

SPECIFIC INDICATIONS.—Fullness of the thyroid gland is probably the most direct indication. Enlargement of the spleen, enlargement of the lymphatic glands, they being soft and yielding to pressure, are indications.

SPECIFIC USES.— It is the most certain remedy we have for enlargement of the thyroid, goitre, exophthalmia, and fullness of the thyroid body associated with wrong of menstruation. It is also a very valuable remedy in chronic disease of the pancreas with sodden lead colored tongue, and in scrofula and syphilis, with the condition of lymphatic glands named above.

M A N N A .

EXUDATION FROM ORNUS EUROPEA-EUROPE.

DOSE.—Of Manna for an adult, from ʒj. to ʒij., dissolved in aromatic water; for children, ʒj* to ʒiv., in warm milk.

THERAPEUTIC ACTION.—Manna is a gentle laxative, sometimes causing flatulence and pain, and not used when active purgatives are indicated. It is adapted to persons of delicate habit, to debilitated states of the system, and when we do not wish to act on the glandular system, or promote the secretions. It is suitable for females during pregnancy, and in the puerperal state if active purging is deemed improper; it may also be administered in hemorrhoids, in cases of constipation, and in the treatment of various diseases of children. It is mild and pleasant, and in these respects it is preferable to many other agents of this class.

TRIOSTEUM.

THE BARK OF THE ROOT OF TRIOSTEUM PERFOLIATUM.—U. S.

PREPARATIONS.—The powdered bark. Tincture of Triosteura.

DOSE.—The dose of the powdered root, as a cathartic, grs. xx. to oss. Of the tincture, gtt. x. to xx.

THERAPEUTIC ACTION.—The Triosteum is cathartic, emetic, tonic, diuretic, anti-rheumatic, and alterative. When administered in suitable doses, it acts pretty efficiently as a cathartic; in larger doses, as an emetic; in smaller doses, it is tonic and diuretic.

As a cathartic it is sometimes prescribed in the early stages of intermittent and remittent fevers, but it is not sufficiently active to command any particular attention in these diseases. It may be combined with the podophyllin or jalap in these cases, and answers a very good purpose. It may be used in atonic states of the system as a cathartic, as a laxative, or tonic, as it is not debilitating like most cathartics. The Triosteum is spoken of as a diuretic, but rarely used for this purpose.

P R U N A .

THE POWDERED FRUIT OF PRUNUS DOMESTICA.-EUROPE.

THERAPEUTIC ACTION.—Prunes are laxative and nutritious. Boiled in water they constitute a pleasant laxative diet, and as such may be used in habitual torpor of the bowels, and during the convalescent stage of fevers. The saccharine and mucilaginous matters which they contain render them nutritious. If too freely employed in debilitated states of the system, they not unfrequently occasion flatulence, pain in the bowels, and moderate diarrhoea.

C A S S I A .

THE PULP OF THE FRUIT OF CASSIA FISTULA.—EAST INDIES.

DOSE.—As a laxative it may be administered in doses of ʒj. to ʒj ; as a cathartic, to ʒij.

THERAPEUTIC ACTION.—Cassia pulp is laxative in small doses, and purgative in large. It often causes nausea, flatulence, and griping. Rarely administered alone, but mostly combined with other and less pleasant cathartic agents. Its pleasant taste renders it a convenient cathartic for children.