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A TRULY VIRTUOUS WILL IS ALMOST OMNIPOTENT.

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Outlines of the Anatomy and Physiology of the Liver. By
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The Liver, by far the largest organ of glandular structure in
the human body, is situated in the upper part of the abdominal
cavity, and in contact with the inferior surface of the diaphragm.
It usually occupies the whole of the right hypochondriac, the
upper part of the epigastric, and a portion of the left hypochon-
driac regions. It is said by Meckel* to occupy a larger por-
tion of the left hypochondrium in the female than in the male
subject, and by Roux† to be more prominent anteriorly in the
former than in the latter sex. This difference in the position of
the liver in the two sexes, though not accounted for by other
writers, is attributed by Cruveilhier‡ and Saunders.§ to the use
of corsets, which, by compressing the ribs, must diminish the ca-

*Meckel, Man. of Anat. vol. 3, p. 298,
†Bichat, Anat. Descript. t. 5. p. 72.
‡Cruveilhier, Anat. Desc. t. 2. p. 552;
§Saunders, on the Liver, p. 21.
Capacity of the region allotted to the liver by nature. According to Cruveilhier, the liver is the principal organ affected by tight lacing. Thus exposed to circular compression, its transverse and antero-posterior diameters are diminished, and its vertical diameter increased. It then projects below the margin of the ribs, sometimes into the right iliac region, and even to the superior pelvic straight, without sustaining any organic lesion.

The diameters of the liver vary materially, not only in different individuals, but also according to age. In the adult Meckel fixes its transverse diameter at from ten to twelve inches, its antero-posterior diameter at from six to seven inches, its greatest thickness at two inches, its weight at four pounds, and its proportional weight to that of the whole body at 1-36—he also states its specific gravity to be 15.10. Its colour is of a peculiar reddish brown.

The liver is in contact superiorly with the diaphragm, inferiorly with the stomach, colon, and right kidney*, on the left with the spleen, posteriorly with the spinal column, and great blood vessels, and its anterior edge hangs slightly in front of the stomach. Its form is irregular, presenting a smooth convex surface superiorly and an uneven concavity inferiorly. The falciform duplication of the peritoneum, extending from the median line of the diaphragm to the superior surface of the liver, divides it into two unequal portions termed the right and left lobes, and its inferior surface presents a peculiar elevation designated as the lobulus spigelli; also an antero-posterior fissure giving passage to the umbilical vein, and another perpendicular to this, in which is lodged the portal sinus, the hepatic artery, and the biliary duct.

The liver is almost entirely invested by the peritoneum, whose duplications constitute the various bonds by which it is held in situ. But, independently of this envelope, it has a proper fibrous coat, covering its whole surface and sending prolongations throughout its substance, so as to isolate its granulations and to furnish sheaths to the vena portae, the hepatic artery, and the biliary ducts. The internal surface of these sheaths is connected to the vessels by very loose cellular tissue, whereas their external surface adheres intimately to the proper texture of the

*Cruveilheir, t. 2. p. 566.
liver and is continuous with the septa already stated to exist between the granulations.

The liver differs from all other glandular bodies in receiving both venous and arterial blood. Its venous blood is derived from the portal system. With the exception of that returning from the kidneys, bladder and uterus, the blood coming from all the other contents of the abdomen is carried into the liver by means of this system of vessels. The origins of the vena portae are therefore found in the spleen, the pancreas, the stomach, the intestinal tube, and the peritoneal duplications, constituting what has been called the abdominal portion of the portal system, to distinguish it from that which ramifies in the liver, and is consequently termed the hepatic portion. The trunk resulting from the union of the various branches of the abdominal portion of the portal system, plunges into the inferior surface of the liver and immediately bifurcates, sending one division to the right and the other to the left. These subdivide ad infinitum in their course, which is always in a transverse direction, until they penetrate every part of the organ.

The hepatic artery is one of the branches of the celiac artery, and follows the vena portae in its subdivisions. It is exceedingly small when compared with the dimensions of the liver and with the arteries supplying the kidneys, the muscles, and indeed any other organ.

The veins leaving the liver, unlike those of other organs, have a caliber corresponding to that of the vena portae, instead of that of the hepatic artery. They converge from all points towards the vena cava, in which they empty. Proceeding thus from the anterior to the posterior edge of the liver, they cross the divisions of the vena portae, whose course is from the centre to the lateral extremities of the organ. This circumstance, when viewed in connexion with the fact that they are not separated as are the other vessels, by loose cellular tissue, from the glandular structure, but adhere closely to it, and, consequently, remain open when a section of the liver is made, will serve to distinguish them from the portal veins.

The lymphatics of the liver are divided into superficial and deep seated, and are so numerous that they were first discovered in this organ, which was long considered the great origin of this class of vessels. They pass into the ganglions about the in-
ferior surface of the liver, and in the lumbar region, and many of them communicate freely with the thoracic duct.

The nerves of the liver are derived from the sympathetic and from the pneumo-gastric, and it is thought by some that it receives filaments from the phrenic nerve.

The pori biliari are first seen in the capsule of Glisson, accompanying the subdivisions of the vena portæ and hepatic artery, and subsequently unite after the manner of veins, until they result in a large trunk, the hepatic duct, which makes its exit at the inferior surface of the liver, where it meets the cystic duct, the united ducts then assuming the name of ductus communis choledochus, and opening into the duodenum.

The cystic duct, as its name implies, leads from a reservoir—the gall bladder—which is situated beneath the great lobe of the liver, and immediately to the right of the antero-posterior fissure. This receptacle is of an oblong shape, may contain from one to two fluid ounces, and consists of a mucous membrane, a fibrous coat, and a peritoneal investment. Amussat believes it to contain certain muscular fibres calculated to expel its contents.

The texture of the liver differs in appearance from that of all other secreting organs. The whole organ consists of granulations, identical in all its parts, and whose intimate structure it is interesting to determine. Ferrein, who lived in the earlier half of the eighteenth century, regarded these granulations as of two kinds, distinguished by their color, the one being yellow, and the other of a brownish red; hence the division of the hepatic texture into a yellow and brown portion, which is still retained by anatomists, who have also designated the latter as the medullary, and the former as the cortical substance of the liver. According to Cruveilhier, however, these distinctions are founded in error, for, in the first place, the two colors are not always perceptible, and in the second, whenever they are visible they both exist in the same granulation, which is then yellow in the centre where the bile exists, and red at the circumference in which the blood resides.

This distinguished anatomist having studied the liver of swine, in which the granulations are remarkably well developed, observes that these granulations are small ovoid or rather polyhedral bodies, with five or six faces applied to each other, in such a man-
ner as to leave no space between them; that it is perfectly manifest, that there is but one kind of granulations, that they are not, as believed by Malpighi, disposed in small lobes, but are in juxta-position, and that each is contained in a distinct cell, formed by projections of the fibrous membrane of the liver. The granulations being thus isolated, one or more of them may be diseased to the highest degree without necessarily implicating the remainder. They are, however, found to be of different sizes in different individuals, without regard to the general dimensions of the organ. Cruveilhier further observes, that in those cases in which the liver is softened by disease, as soon as the envelope is torn, a portion of the substance runs out in the form of a soft yellowish-brown pulpy matter, and that if this pulpy matter be thrown in water, myriads of small though distinct yellowish granulations may be seen, similar to small grains of dried raisins, which are appended to the ramifications of the various orders of vessels by vascular pedicles.

A granulation, when examined with a simple microscope, is distinctly seen to be porous, and to resemble the pith of the elder; and this porous or spongy tissue may be easily filled by injecting the vena portae. The granulations may, however, be penetrated by injections whether thrown into the vena portæ, the hepatic veins, the hepatic artery, or the biliary ducts, and the fluid thus injected passes with more or less readiness from one of these systems of vessels into all the others, with the exception of the lymphatics.

Each granulation consists, therefore, of one or more ramifications of the vena portæ, of the hepatic veins, of the hepatic artery, of the biliary ducts, and probably of the lymphatics and nerves, all of which vessels communicate more or less freely. The respective disposition of these integrant parts in the granulation, was determined by Cruveilhier, by successively injecting 1st, the vena cava, and consequently the hepatic veins, with blue wax; 2nd, the vena portæ with red; 3rd, the hepatic artery with red also; and 4th, the hepatic duct with yellow. The liver was that of a pig, and was placed in tepid water, whilst the injection was pushed with gradually increasing force. During the injection of the cava and portæ, the wrinkles of the liver were seen to disappear, and the central depressions of the
superficial granulations to swell out. It was evident that the granulations were filled by the injected matter.

Having been thus injected, the liver was subjected to the action of chemical agents, and presented the following appearance. 1st. The blue matter, contained in the cava, had penetrated into the central portion of the granulations, that portion usually called the yellow substance of the liver. 2nd. In the middle of this central portion was seen the yellow matter, or that thrown into the hepatic duct. 3rd. At the circumference of the blue injection, was found the red or that contained in the vena portae and hepatic artery, filling the portion usually called the red substance of the liver.

Each glandular grain then presents a vascular apparatus so disposed that a biliary duct occupies the centre, and is surrounded by ramifications of the hepatic veins, which last are in their turn encircled by the vena portae and hepatic artery. The disposition of the artery and vena portae with regard to each other, is such, that on tracing them through the liver, it is found that the former always accompanies the vena portae and biliary ducts in the common sheath, and that the arterial ramifications penetrate and are lost in the coats of the vein and duct in the same manner that the bronchial arteries are lost in the parieties of the bronchial tubes. Cruveilheir, therefore, considers the hepatic artery as constituting the vasa vasorum of the vena portae and biliary ducts.

These injections explain the cause of the yellow and red substances seen in each granulation, prove that there is a portion of each grain not susceptible of being injected, and establish their porous or spongy character, which is perfectly visible to the naked eye, when a section of the liver thus prepared is held up to the sun.

In short then, the liver is an agglomération of grains of an ovoid or rather polyhedral shape, and exactly adapted to each other, though independent. Each granulation is contained in a proper fibrous capsule, all of which are connected by prolongations of the general envelope of the liver and of the capsule of Glisson.*

The liver has, by common consent, been always classed amongst the glands, and its texture is generally considered a

* Cruveilhier, t. 2. p. 575.
perfect type of what has been denominated by Bichat the glandular tissue. The truly philosophic researches of Beclard and others, have, however, long since demonstrated the error of Bichat's views on this subject, and rejected this from the number of elementary tissues, properly so called. However convenient and expedient it may be to throw together under a common head the various organs termed glandular, it should always be borne in mind, that the intimate structure of these bodies is far from identical. Indeed, the most superficial observation will detect striking differences between the salivary, the hepatic, and the renal glands: the salivary are made up of small and apparently homogeneous bodies, held together by loose cellular tissue, from which circumstance they are styled conglomerate; the renal present two portions intimately connected, though very distinct, viz.: the cortical, and the medullary or tubular; and the hepatic differs from the two foregoing, not only with regard to aspect, but also with regard to the elements which enter into its composition, viz.: the portal veins and blood, and the spongy erectile cellular tissue by which its dimensions may be increased or diminished without affecting its integrity. The presence of this erectile tissue, so admirably demonstrated by Cruveilhier, is highly important both as a distinctive anatomical feature, and as illustrative of one of the functions of this great viscus. I say one of its functions, for I hope to establish the fact that the liver differs from all other glands in not being exclusively a secretory organ.

Let us now turn our attention to the development of the liver, one of the most interesting points of its history. This is not only one of the first organs formed* in the early product of conception, but its relative volume, to that of the foetus, is greatest the earlier it is examined.† It may be distinctly recognised as early as the first week of gestation,‡ in the midst of the gelatinous foetal mass. Walter§ represents its weight in the foetus of three

* Cruveilhier considers the liver the first organ formed, whereas Andræ (Anat. Pathol. t. 1. p. 109,) and others regard the heart as preceding the liver:
† Meckel, Man. of Anat. v. 3. p. 308.
‡ Cruveilhier, Anat. Desc. t. 2. p. 588.
§ F. A. Walter, De Structura Hepatis, &c. p. 45.
weeks, as equal to half that of the whole body. It continues thus relatively voluminous until about the fourth or fifth month when the development of the other parts of the body seems to take the ascendency, and to reduce its proportion at birth to 1.1-8th of the weight of the whole body. It however continues to grow until birth, and then to diminish during the first year following. This diminution, though generally admitted to occur principally in the left lobe, is thought by Cruveilhier to extend to the whole organ. Certain it is that prior to birth the liver occupies nearly the whole of the abdominal cavity, filling both hypochondriac regions, and extending down to the pelvis, and that it is restricted to the regions it subsequently occupies, only by its diminution of volume, and the simultaneous expansion of the abdominal cavity. The falciform ligament which originally divided it into equal portions, now leaves the greater part on the right. The left portion must either undergo diminution of volume, or remain stationary whilst the right increases. The relative dimensions of the liver gradually diminish with age, so that its volume may be said to lessen in a direct ratio with the increase of the age of the individual—it is smallest in old age.

The general configuration of the liver also varies considerably during its development, but these variations are probably not connected with its functions, and are merely such as to render it more adapted to the locality it occupies. The gall bladder, although existing in a rudimentary state at the earliest age, cannot be regarded as fully developed until the latter period of gestation.

From the foregoing hasty sketch of the anatomy of the liver, from the early appearance of this organ in foetal life, and from the fact of its existence in almost every known animal, we must concede to it a degree of importance inferior to none other in the system, save perhaps the nervous centres. Yet there still exists much difference of opinion with regard to the agency the liver exerts in the animal economy. The great majority of physiologists, however, agree in considering this organ a gland, and its office the secretion of bile. We have hinted above at some of the features which distinguish this from all other unequivocal glands.

That the liver does secrete a peculiar fluid termed bile, is well established. The fluid may be seen issuing guttatum from the
orifice of the ductus communis cholehochus in the living, and it may be collected in considerable quantities in the reservoir or gall bladder, into which it flows from the liver, though under circumstances not well understood. It is true that some have believed the cystic bile to be yielded by the peculiar action of the mucous membrane lining this sack, but the observations of others have conclusively demonstrated that it passes from the liver to the gall bladder, by a retrograde course of the fluid, after it has reached the orifice of the cystic duct.

The liver being supplied with blood from the venous as well as arterial system, has given rise to various conjectures and much argument with regard to the true source from whence the bile is derived, some believing it to be secreted from the venous blood, others from the arterial, and a few admitting that it is probably afforded in part by both fluids. We can see no valid reason for doubting that in this case the secretion is derived exclusively from the arterial blood, the known source of all other secretions.

The oldest and still most prevalent belief is, that bile is derived from the portal blood.* Let us examine the arguments in favor of this opinion. It is urged first, that from the very fact of the vena portæ being peculiar to the liver, it must be intended for the special function of this organ, which function is the secretion of bile. It is evident that this argument rests entirely on the ignorance of any function being performed by the liver other than that of secretion, and also on the apparent necessity to assign a special function to the vena portæ. If, therefore, another function can be attributed to it with as much plausibility, the argument must fall to the ground.

2nd. That the distribution of the hepatic artery to the vascular branches ramifying in the liver, shows it to be merely a nutritious artery. But the same may be said of the arteries supplying those glands that receive no venous blood, and whose secretion as well as nutrition must be derived from the same source.

3rd. That the portal blood is better adapted to the secretion of bile than arterial blood, inasmuch as it contains more carbon and

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...which enter largely into the composition of bile. This is mere supposition; but, admitting its correctness, why is it that adipose matter, marrow, &c. all of which also contain the elements alluded to in great quantity, should be formed from arterial instead of venous blood? There is certainly no more analogy between venous blood and bile, than there is between arterial blood and fat; and the act of secretion knows no regard to chemical affinity, so far as it has been studied, the new combination being formed under the influence of laws essentially vital and unknown. If we were in this manner to determine the source from whence any other secretion is derived, it would certainly very seldom if ever be traced to the arterial blood. Moreover, if the liver were to rid the portal blood of its carbon, the blood returning from the liver ought to be decarbonized, or in other words arterialized; yet no one, we believe, has ever been able to detect any difference between the blood taken from the portal vein and that found emerging from the liver. This cannot be said of the arterial blood sent to this organ; it enters with certain characters which it loses before it leaves the liver. Does it lose them all by furnishing nutritious particles alone? A conclusive reply must be found in the analogy of other glands.

4th. It is insisted that the hepatic artery is too small to supply the demand both of nutrition and secretion, and that the portal vein is more proportioned to the size of the liver. But it should be remembered that the hepatic artery is not the only source by which the liver is supplied with arterial blood. This organ receives branches from the internal mammary, the epigastric, the diaphragmatic, the gastric coronary, the emulgent, and the right spermatic arteries, all of which, though small and irregular, must furnish a quantum nearly, if not quite, equal to that sent by the hepatic artery. We should also, estimate the quantity of blood needed by the liver for nutrition, and the quantity required to meet the demands of the secretory process.

It has already been stated that in estimating the quantity of arterial blood sent to the liver, the error is very commonly committed of looking at the caliber of the hepatic artery alone, whereas it should be viewed in connexion with the united caliber of all the smaller arteries which indirectly reach this organ, and by so doing it will be perceived that the liver is by no means so scantily supplied with this kind of blood as is generally im-
agined. It certainly receives a much larger supply than lungs can possibly derive from the bronchial arteries, which are now admitted to be destined to the nutrition of these organs, and which I think probably furnish a large portion of the bronchial secretions. Again, if from the quantity of arterial blood sent to the kidneys, or even to the salivary glands, we deduct the portion consumed for the copious secretion of these glands,* it will be found that what is left for nutrition cannot be much.

If it be argued that the supply is sufficient for nutrition, but not for secretion also, it may be replied that this depends on the estimate made of the quantity of bile secreted. If this be, as has been advanced by some,† equal to several pounds per day, the argument will then be strong; but if, as is almost certain, it does not exceed a few ounces, the case must be very different. Dr. Johnson‡ estimates the quantity per day at from six to eight ounces; Faithorn§ at six ounces; Magendie, Adelon, &c. believe it very small, and justly refer to the size of its receptacle, the gall-bladder, in confirmation of their views.

Having endeavored to show that the quantity of arterial blood sent to the liver is adequate to the demands of this organ for nutrition, as well as for the elimination of bile, our position with regard to the fluid which yields bile, will still be strengthened by comparing the great quantity of portal blood with the paucity of the biliary secretion, for, if we are to infer the quantity of product from the quantity of circulation, as has been done by those who deny that there is arterial blood enough in the liver, we would be led to the conclusion, that the biliary exceeds in quantity all other secretions. Such, however, is not the case, and we must admit that the venous blood sent to the liver is thus disposed of for other uses than for merely furnishing the elements of bile.

Pathological anatomy also furnishes additional, and perhaps the strongest grounds for the belief we advocate. Abernethy met with an instance in which the trunk of the ve-

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*The secretion of saliva is very great even under ordinary circumstances, but is astonishing in the case of tobacco chewers, who not unfrequently throw off a half pint in the course of an hour.


§ Faithorn, on the Liver, p. 8.
terminated in the vena cava; yet bile was found in the ducts, which could have been derived only from the hepatic artery.* Another case, somewhat similar, is recorded by Lawrence;† and a third by Monro in his Elements of Anatomy—still other instances, though less entitled to credit, are related by Lieutaud and Huber. All these cases prove conclusively that bile may be formed from arterial blood alone, and we know that little or no bile is secreted during the very period at which the liver receives the largest quantity of venous blood, that is to say, prior to birth.

Why then is the portal blood sent to the liver, instead of being poured at once into the vena cava? We believe the collection of venous blood in the liver necessary to insure a steady and uniform supply of blood to the right side of the heart,‡ and also to prevent the too sudden admixture of foreign matters absorbed by the alimentary surface with the general mass of the circulation.§ Let us examine the arguments in favor of this belief.

One of the functions most indispensable to the continuance of life, is the action of the heart, by which the blood may be sent to the lungs for renovation, and then thrown to all parts of the body; and any deviation from the normal performance of this function is immediately attended with a corresponding impairment of health. It is therefore highly desirable, that the supply of the fluid thus acted on should be exempted, as far as possible, from contingencies, and especially from those more or less dependent on the exercise of other functions. The afflux of blood to the heart may be increased or retarded by a variety of circumstances—increased by febrile diseases, by lesions of innervation, by violent muscular contractions expelling a large quantity of blood from the muscular veins, by sudden exposure to cold, or by chills driving the cutaneous circulation to more deep seated organs; by the ingestion of food, especially fluids, which add more or less largely to the mass of blood, &c—diminished by diseases of debility, by obstruction of the veins from compression, by insufficient nutrition, hemorrhage, excessive secretions, &c.

‡ Broussais, Tr. on Physiol. p. 389.
§ Magendie, Précis de Physiol. t. 2. p. 260.
Now it is evident that unless there were provided a means to receive the blood when thus thrown from the surface and tend to flow towards the centre of circulation, and also to insure a sufficient supply to the heart under an opposite state of the system, the action of the heart would be exposed, not only to continual vicissitudes, but also frequently to fatal repletion, or want of circulating medium. The liver is this reservoir, and is constructed accordingly. The vessels bringing blood to this organ being surrounded by a peculiar cellular sheath, are well adapted to the alternate increase and diminution of their caliber consequent on the fluctuations of the circulation. The veins leaving the liver are not supplied with this sheath, because they do not participate in the repletion of the hepatic artery and vena portae, and are probably filled principally by the suction power of the heart and thorax. The case is different with regard to the spleen, an organ confessedly subject to great fluctuations of capacity. Here we find both arteries and veins surrounded by a cellular sheath, because the splenic veins, being a portion of the portal system, must become distended whenever the hepatic portion is in a state of repletion. The office of the spleen appears to be supplementary to that of the liver in regulating the circulation. The construction of the vascular system of these two organs is such, that the circulation of the one must ever influence that of the other. But besides this, the spleen undoubtedly performs the office of a diverticulum from the stomach, and perhaps the liver. The great secreting action of the stomach, and probably of the liver, being intermittent, that is to say, being suspended during the intervals of digestion, these viscera must require a larger supply of arterial blood when the gastric juice and bile are freely poured forth than at other times. The necessary consequence of this state of things must be a diminution of the quantity of arterial blood allotted to the spleen during digestion, and an increase of this quantity during the intermission of this process, for these three organs derive their arteries from a common trunk, the cæliaæ.

The study of these diverticula has not attracted sufficient attention. Their necessity, wherever there exists an intermittent secreting action, will be made apparent by examining this subject in other parts of the body. The salivary secretion, for example, is much more abundant during the mastication of food...
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At other times, and we accordingly find in the vicinity of the thyroid glands the thyroid body capable of diverting the blood when not needed by them; and we find this body proportionately much larger before birth, when no saliva is needed, than subsequently, when a portion of the blood is consumed in the production of this fluid. If we now look to organs whose secretion is uninterrupted after birth, but was not effected previously, we find them provided with a diverticulum only during fetal existence. Such is the case with regard to the kidneys, whose diverticula, the supra-renal capsules, though large prior to birth, gradually disappear as their blood is abstracted for the secretion of urine. The thymus, so largely developed in the fetus, is probably the diverticulum of the pulmonary mucous membranes, and accordingly dwindles away on the supervision of the permanent secretion of these surfaces. But it does not disappear after birth in those animals whose habits subject them to a suspension of respiration more or less lengthy. The able researchers of Meckel have shown that it continues in the hibernating mammiferæ, and in those which seek refuge under water, or in the earth, thereby requiring a temporary cessation of respiration. It is deficient in fish whose respiratory apparatus is devoid of bronchial tubes, and consequently of the secreting mucous membrane so extensively developed in other animals.* All the organs performing the office of diverticula, are proportionably larger before than after birth, and all gradually perish after birth, excepting those appended to organs whose action is intermittent, and which, consequently, still stand in need of them during the intervals of secretion.

The spongy and elastic texture of the liver readily permits it to adapt itself, by expansion or contraction, to the quantity of blood sent to it, as may be seen by alternately filling and emptying the vena portae.† From its volume and its vascularity, it contains at all times a large quantity of blood, which has free access to the heart. Under ordinary circumstances of health, it furnishes a quantity of blood proportioned to that derived from other sources; but let the equilibrium be deranged by abnormal action in some other organ or tissue, and it is at once called on to

* Carus, Anat. Comp. t. 2. p. 294, et. seq.
regulate it, as already suggested. The circulation of the
must be closely connected with that of the lungs, for if the ca-
pacity of these for blood be diminished, the supply to the right side
of the heart must be correspondingly lessened, the consequence
of which will be an accumulation in the venous system. But
the general venous system, deriving its supply from the lungs,
through the left ventricle and arteries, would not participate so
much in this accumulation as the portal system of the liver,
which is supplied, in part at least, by absorption from the al-
imentary mucous surfaces. It is in this manner we may explain
the morbid condition of the liver found in almost every case of
chronic pulmonary disease, and in many of the acute.

The intimate relation of the liver and lungs is strongly mani-
fested by the relative development of these organs prior to birth,
the volume of the liver diminishing as the capacity of the lungs
increases.* Indeed this relation is remarkable, not only in the
human species, but also in the lower animals, whose liver is al-
ways developed in an inverse ratio to the lungs.

The almost simultaneous appearance of the liver and heart in
the early product of conception, and, as has already been re-
marked, long before the secretion of bile can be necessary, would
of itself favor the idea of some connection of functions. In some
of the inferior animals, in reptiles and certain birds, the liver ac-
tually surrounds the heart like a vast sponge, and has been sup-
posed† to supply the place of the thymus and thyroid bodies
when these were missing. That the liver may supply the defi-
ciency of these diverticula is highly probable, since it is the di-
verticulum of the whole body, and before birth, specially of the
lungs. The facts that the liver is found in all animals possessing
a heart, and that it is wanting in all the cases of malformation in
which the heart is deficient,‡ tend strongly to corroborate the
belief that the liver is an essential part of the circulatory appara-
tus, independently of its secreting function.

We have stated that besides insuring a steady supply of blood
to the heart, the portal circulation by its slow passage through
the liver, would prevent the too sudden admixture of foreign

† Ibid, t. 2. p. 298.
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...brought from the alimentary canal with the general circulation. We presume it will hardly be denied at present, that the very large portion of the matters absorbed at the mucous surfaces of the digestive apparatus, is taken up, either directly or indirectly, by the veins. The experiments of Magendie and others, would seem sufficient to set this subject at rest. A very large portion of the blood sent to the organs from which the portal system takes its origin, must be consumed in nourishing these organs, and in furnishing the secretions which so abundantly flow from them. The blood of the vena portae is, therefore, derived partly from the arterial supply, and partly from the substances thrown into the digestive apparatus, especially fluids. The caliber of the thoracic duct, as well as the slow progress of its contents, should of themselves lead us to look for some other channel for the admission into the circulation of the immense quantities of fluid ingesta taken and passed off under certain circumstances in a comparatively short time. The writer has been informed, by a person of undoubted veracity, that he saw a man take in the course of a day, thirty eight glasses of beer, and six of mint juleps, at the same drinking establishment, without injury. Now as these glasses measure half a pint, the individual must have taken eleven quarts, or nearly three gallons; and perhaps, as our informant further remarks, he may have patronized, in the mean time, some other establishment, so as to make the quantity still greater. Besides all this, he took his meals as usual. Did all this fluid pass through the thoracic duct? We think not. Indeed it is not necessary to invoke in this matter any other testimony than that of the justly celebrated Magendie.

But, to return to our subject, foreign matters are taken up into the venous circulation and carried to the liver, in which they are diluted, and from whence they flow gradually to the heart, and into the general circulation. In order to prove the advantage of this channel for the ingress of deleterious matters into the circulation, Magendie made the following experiments. He injected forcibly into the crural vein of an animal, a certain quantity of atmospheric air, and death immediately ensued, whilst the same substance thrown also forcibly into the vena portae produced no bad effect. The injection, however, when made slowly into the crural vein, was harmless. The same experi-
ments made with a small quantity of bile, were attended
similar results; so that it seems that noxious substances are
introduced gradually without the bad consequences which
attend their sudden admission into the circulation; and moreover
that by passing through the liver, this gradual introduction is se-
cured, and consequently the bad effects prevented.

These facts explain why it is that substances of decided dele-
terious properties may, with impunity, be carried into the circu-
lation, through the digestive tube, in large quantities, when they
would prove fatal if introduced otherwise. We have a daily
illustration of this in the free use made of alcoholic beverages in
our country, and likewise in the difference of effect produced by
the free use of concentrated spirits and of mild wines. They
will also account for the serious injury sustained by the liver of
those who indulge in the use of ardent spirits; for, if the alcohol
be carried directly to the liver, and sojourn there, until it be gra-
dually carried off into the general circulation, it must necessari-
ly exert a stimulation of the liver, which, when kept up for a
length of time, occasions an excessive nutrition or hypertrophy
of the cellular tissue of the organ, condensation of tissue, and
finally an impairment of the wonted elasticity so necessary to
the general equilibrium of the circulation.

In recapitulating then the functions of the liver, we must dis-
tinguish those which precede from those which follow birth.
Prior to birth the liver is the great reservoir of new blood brought
from the placenta; it has an increased volume in order to retain
the blood subsequently to be lodged in the pulmonary tissue, and
it secures a ready and uniform supply to the heart. After birth
it still continues the reservoir of new blood, no longer brought
from the placenta, but from the alimentary canal; it still sup-
plies the demands of the heart, equalizes the circulation, dilutes
foreign particles brought into the blood, perhaps assimilates
them, and finally allows them to be gradually introduced into
the general circulation. But, besides all this, the liver performs
now a new office—it secretes bile—a fluid neither exclusively
excrementitious nor recrementitious, but partaking of the na-
ture of both, and the real use of which is still unknown.
Observations on an Affection of the Throat, in which a False Membrane is formed, terminating in Croup. By Thomas Y. Simons, M. D. formerly President of the Medical Society of South Carolina, and late Professor of the Theory and Practice of Medicine in the Medical College of South Carolina.

The object of this communication, is to describe a peculiar form of affection of the throat, which I would term membraneous, and which terminates in croup. I have been a practitioner of medicine in Charleston for eighteen years, yet I have not, until this year, understood its character, nor had I seen a case in the incipient stage, but I had seen a few cases in the last stage, and I confounded them with Cynanche Maligna or Putrid Sore Throat, as have most of the systematic and elementary writers. From Hossack’s Lectures, recently published, I extract the following: “In other instances again, the same peculiar inflammation and ulcer travel down the trachea, producing symptomatic croup or cynanche trachealis. (See Dr. Barde’s excellent dissertation on this disease, as it prevailed in this city many years since. Am. Phi. Trans.) Dr. Cullen refers to this dissertation in his Nosology, under the head of Cynanche Maligna, which is its proper place, the symptoms of croup being not primary but symptomatic.” And, again, in describing the treatment of the same disease, we find the following: “But, as I said before, my chief dependance is upon the yeast, borax and honey, as my local application, with a solution of the sulphate of copper or lunar caustic occasionally to touch the parts before using the yeast gargle. In children, cleanse the throat by a piece of sponge, attached to a small piece of stick or whalebone, or the common swabs of linen. This is necessary, as the children swallow this acrid matter; and it renders the disease more dangerous—the greater fatality of this disease in children is partly ascribed to this circumstance.” M. Bretonneau is the only one who has given a partial description of the disease, as I know of. I quote from Good: “More commonly, as has been shewn by Bretonneau, the inflammation commences on the tonsils or the pharynx, and from thence spreads at the same time downwards to the larynx, and upwards to the nostrils. The affection usu-
ally stops at the oesophagus, but occasionally the false membrane extends to the stomach. In children the disease almost always begins in the bronchi or larynx, and very rarely extends beyond the glottis; while in adults it more frequently originates on the tonsils or pharynx. M. Bretonneau has also shown, that what may be called plastic angina has been frequently mistaken for malignant sore throat." But here I differ with him, for in children it likewise and principally occurs, and the larynx, trachea, and bronchi, and not the oesophagus, are affected. I will now give a brief description of the symptoms and pathology of the disease, and the treatment—and here I may remark, with success, when I have had the patients in the earliest stage, and could get them to submit to the remedies. The disease generally commences with a chill, succeeded by fever, and an appearance of slight catarrh. The paroxysm of fever is about forty eight hours, of greater or less intensity, when it generally subsides, which is often a deceptive symptom, and may lead to the impression that the patient is getting better. There is generally an enlargement of the glands of the throat—in some instances this is not apparent—but upon examining the internal portion of the throat, around the tonsils will be found a white surface or coating, of a jagged appearance, which has led to the notion that it is an ulceration, which is not the case. This will extend to the posterior portion of the uvula. When this takes place the breathing through the nostrils is much impeded, and a vitiated mucus issues from the nose. There will be found no difficulty of swallowing, or any pain, even when pungent and irritating substances are taken, for reasons which will presently be given. If the disease is not arrested, the respiration becomes affected, and partially interrupted—a huskiness of voice is observed, which gradually increases, with an increased difficulty of breathing. Next follows a barking cough, which usually commences the fourth, fifth, or sixth days, shewing that the disease has extended to the trachea; then comes a heaving of the chest, and occasionally sensations of suffocation, when it is thought the patient is dying. This is an evidence of an imperfect performance of the function of respiration. The skin now becomes cool, and the capillary circulation languid and congestive. The brain becomes partially affected; a heavy drowsiness occasionally occurring, which is interrupted by difficult respira-
tion; but the mind when the patient is aroused is unimpaired. This gradually progresses; the aperture of the larynx, trachea and bronchi diminishing, and the functions of respiration becoming more and more impaired, until death ensues.

From investigation into the pathology of this disease, I found the following results. The white appearance of the throat is, I believe, an exudation of coagulable lymph forming a false membrane, which becomes extremely dense, commencing at the tonsils and bronchi, extending, if not arrested, to the trachea and bronchi, and terminating in death. Beneath the false membrane the mucus membrane has the appearance of congestion, in place of inflammation, having very little of sensibility, and not much excited by stimulating applications. It will thus be seen why no pain is felt in swallowing. An important diagnostic symptom, and the general appearance of the patient, independent of the laborious breathing, would mislead the ordinary observer. I will now succinctly give the practice I have found successful. In the first instance I have used emetics, either of the sulphate of zinc and hippo, or the tartar emetic and hippo, in doses suitable to the age of the patient; and have then used injections of a mild character, and if not sufficient, mild aperients. The next point is to attend to the local affection. I apply leeches to each side of the throat, so as to produce a large bleeding, to obviate the congestion, and the tendency to the formation of the false membrane. The next and important point, is the local application to the internal part of the throat. To depend upon gargles of any kind, I regard as useless, unless the cases are mild. A mop should be used, composed of fine and well prepared sponge, or linen, and a solution of nitrate of silver, say four grains to the ounce, or diluted muriatic acid, in which the mop should be introduced, and then rolled round the tonsils and neck of the uvula, so as to detach as much as possible of the false membrane—and gargles may be used, as diluted pyroligneous acid, say one dram to an ounce of water, after the mopping. The mop should be used at least three times a day, and persevered in until the white appearance ceases, and healthy action ensues, for it is amazing how quick the membrane will be reproduced. Mushroom like, after having thoroughly cleansed the throat, I have seen it reproduced in five hours. I regard the mopping as indispensable in the accomplishment of a cure, as I will presently
show by some cases. This plan is far from being new. The mop has been frequently used, and the lunar caustic, muriatic acid, and corrosive sublimate, with success by other physicians. But what I mean to say is, that it has not been sufficiently used, and the disease has been considered a cynanche maligna, and the white appearance round the throat, as ulcerations; and apprehensions were felt that the patient would swallow it, and produce irritation in the stomach and bowels, while, on the contrary, the whole danger is in the accumulation of this false membrane, and its extension to the trachea and bronchi, (one of which I traced to that point,) and by impeded respiration producing death.

I will now state a few cases which I have had.

The first case which I had, in the incipient stage, was that of the daughter of Mr. ———. He had been in the country with his family, and returned with a daughter having the membraneous sore throat, of four days duration. The disease had extended to the larynx and trachea. Croupy symptoms commenced, and in a few days the case proved fatal. While this case was in progress, his eldest son was attacked immediately—I gave an emetic of hippo and sulphate of zinc, which operated well. The glands being much enlarged, I applied six leeches to each side of the throat, and allowed them to bleed freely. The formation of the false membrane having commenced on the tonsils, I next made a solution of nitrate of silver iv grs. rain water \( \frac{3}{4} \) j, and with a mop of fine sponge, rubbed every portion of the throat freely, touching every surface. This was repeated three times a day regularly; and every day two leeches to each side of the throat were applied, until the swelling subsided. I found the leeches diminished the swelling and congestion of the vessels, and the solution of the nitrate of silver arrested the progress of the disease, preventing its extension beyond the pharynx, and produced a healthy action of the vessels. His other daughter was seized, and treated in the same manner, and with the same happy result. My distinguished relative and friend, Dr. B. B. Simons, was in consultation with me in this case. Independent of these, I had several cases which proved successful. Indeed every case which I have seen in the incipient stage, where the mop could be used freely, the patients recovered; and when it could not be used, proved fatal, although all the other remedial agents had been administered. In one family this was striking-
ly proved. Four of the family, the mother and three children, were successively taken with this disease. The mother and one child allowed the mop to be used freely, and they recovered—the others from constitutional timidity resisted, and all efforts to apply the mop proved unavailing, and they died. It is true, however, there was great difficulty in getting them to take medicine. I should here remark, that although I prefer the nitrate of silver solution, diluted muriatic acid, or pyroligneous acid, or a weak solution of corrosive sublimate might accomplish the same ends.

Before concluding I will condense my views.

1st. I use emetics, and as often as I find a disposition to accumulation of phlegm.

2nd. I use leeches largely the first time, and one or two every day to keep down the congestive state.

3rd. I use the solution of nitrate of silver, to remove the false membrane, and produce a healthy action.

The bowels are kept open with injections, and occasionally with castor oil—and if required, some calomel is used, and purged off with oil.

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PART II.—REVIEWS AND EXTRACTS.

A Lecture on Menorrhagia, vel Hæmorrhagia Uteria, or Uterine Hæmorrhage. By N. Chapman, M. D. Professor of the Theory and Practice of Physic in the University of Pennsylvania.

This lecture of Professor Chapman was reported for the Medical Examiner, and is contained in the thirteenth and fourteenth numbers of the second volume of that valuable periodical, in which a series of lectures are in the course of publication, from the same respectable author. These lectures of Professor C. seem to contain the substance of his general course in the University to which he is attached; and as they are from one so long and extensively conversant with professional matters, theoretical and practical, they cannot fail to contain much of constant interest to the profession. Such have, however, been the
changes in the various departments of the profession, and more especially in physiology, minute anatomy, pathology, chemistry and surgery, that, things written thirty years ago, seem to the medical reader of the present day, a century old. Such is, in some respects, the character of the lecture before us. In some respects, however, the state of medical science was better in the seventeenth than in the eighteenth century: but we will consider the lecture somewhat in detail.

As might be presupposed, on reading the caption, Professor C. commences his lecture by an examination of the nomenclature by which the disease under consideration is distinguished.

The following paragraphs contain the Professor's criticism on the term menorrhagia, and his reasons for substituting in its stead, hæmorrhagia uteri.

An opinion having been formerly entertained that the whole of the extravasations of a sanguineous aspect from the womb were of a menstrual nature, the former term, which means an undue flow of the menses, was applied pretty much in the sense in which we now employ hæmorrhagia uteri, or uterine hæmorrhage. Elsewhere,* I trust I have shown, that the catamenia, instead of blood, are a peculiar fluid, the product of a secretory action of the uterus. Nor is it true, as many suppose, that all of the periodical discharges from this source are menstrual. On the contrary, I have found, in every instance in which such were copious, pure coagulable blood to be emitted. Even where, in the commencement, the fluid seemed to be partially menstrual, it lost that character, and became blood.

Granting, then, the correctness of this view, and which I think very few can now be found to deny, the impropriety of the term menorrhagia is obvious. Convinced of this, some have proposed the substitution of metrorrhagia. But as it means only a discharge from the womb, it is vague and unsatisfactory. Nothing can more precisely express the affection than hæmorrhagia uteri, and hence it should be adopted to the exclusion of all other titles. p. 197.

It is obvious that the objections to the term menorrhagia, are founded on the physiological doctrine that the "catamenia, instead of blood, are a peculiar fluid, the product of a secretory action of the uterus." Were this proposition granted, which he takes to be the case in the second paragraph above quoted, the reasoning founded on it must lead to the conclusion, that the term menorrhagia is ill appropriated to the designation of a preternaturally copious flux of blood from the uterus, and that hæmorrhagia uteri would be a most appropriate name for the designation of this disease. Now we do not so much object to the conclusions arrived at, as we do to the unwholesome foundations from which the conclusions arise: for let the catamenial discharge be what it may, certainly a preternatural flux of blood from the uterus is uterine hæmorrhage. But instead of supposing, with the Professor, that "very few can now be found to

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* Elements of Therapeutics and Materia Medica.
deny” that the “catamenia, instead of blood, are a peculiar fluid, the product of a secretory action of the uterus,” we should rather expect to find but few at the present day, notwithstanding the very respectable authority of Professor Chapman, added to that of many others of different ages, who would have the hardihood entirely to decline the converse of the proposition, or assent with the Professor, to the complete exclusion of the possibility that the menstrual discharge is sanguineous. Literally, mæorrhagia signifies nothing more nor less than a monthly discharge or breaking out; and would be applicable, as well to monthly discharges from any other part, or of any other kind, as it would that of a monthly discharge of a sanguineous fluid from the uterus of human females, from the age of puberty to that of forty five or fifty. And certain it is, that the term “menorrhagia” has nothing in it which refers either to the quality or the location of the discharge—nothing that intimates a discharge of any kind from the uterus more than from any other part. It is therefore, as appropriately used to designate a monthly recurrence of bleeding, or any other discharge from the nose, a purulent or sanguineous, or any other eruption from the rectum, or any other part, or a leucorrhœal or purulent one from the uterus, &c. as the red monthly discharge from the uterus of the human female. But custom, which is and always has been but too much the arbiter of language, has, for no better reason, in our cognition, than that what we call menstrual discharge, is the only one which is generally, and with uniformity, monthly in its recurrence, established its meaning for centuries. Still, however, even this, we conceive, is no good reason why a correct nomenclature should not be adopted; for surely it were better to be correct late than never: or to use an old maxim, “it is never too late to do good.” Let it therefore be understood, that our objection is not so much to the proposed nomenclature of Professor Chapman, as to the ground on which it appears to us to be made; or the purpose which, unobserved, it is calculated to effect in regard to the truth of an important point in physiology—a point which is of no little importance, not only in its relation to an abstract truth in human physiology, but also in its bearing on pathology—I mean the doctrine of the very able Professor, that the catamenial discharge is not a discharge of blood, but is a peculiar secretion. On this subject the Professor seems to have adopted the physiological opinions which were prevalent many years ago, and settled down in ease and contentment, without applying the energies of his own intellect to the examination of its physiological truth. We feel assured that were Professor C. to apply his reasoning powers to the investigation of the subject, with freedom from all partiality for opinions previously adopted and long cherished, he could not fail to arrive at very different results. We have no hesitation in affirming the proposition, in
the most unequivocal terms, without the least fear of the results of rational investigation, that the menstrual discharge is truly a discharge of blood; and is not, properly, a peculiar secretion; but is, when in the usual and healthy quantity, only modified by the secretions with which it comes in contact. The present occasion does not afford us an opportunity of engaging in a rational demonstration of the proof of the bold proposition, as it may seem to some, which we have just stated; but in passing, after the statement of it, which we thought necessary for arresting the progress of error, it may be allowable to notice a few observations from the best authorities of the past and present ages for the same opinion.

Hippocrates, the most respectable authority in ancient medicine, whose close observation has been constantly before the world in all ages, the most worthy example for imitation, and which has established so many truths which have withstood changing influences of time, and the revolutions of centuries, says, “Procedit autem sanguis velut à victimâ, et cito coagulatur, si sana fuerit mulier.” The most healthy animals were chosen for the ancient sacrifices; hence this comparison. He died 361 years before Christ.

Mauriceau, when Prevost of the Company of Master Surgeon Jurors of the City of Paris, in 1672, had and embraced the opportunity of examining the body of a woman who was hung for a crime, during the menstrual epoch. All that portion of the cavity of the uterus about the fundus, was plastered over with coagulated blood; and these vessels were much larger than those of the neck. He saw those coagula connected with those vessels about the fundus, which disgorged themselves of the blood.*

Madame Boivin, whose excellent and peculiar opportunities for investigating the truth on such subjects, we have before noticed, says, she has had occasion to see the uterus of many young females who died during the menstrual epoch, in whom the inter-

* “C’est ce que j’ai remarqué plusieurs fois, et fait observer devant plusieurs de mes Confrères, le 12 Janvier, 1672, ayant l’honneur pour lors d’être Prevost de la Célébre Compagnie des Maîtres Chirurgiens Jurez de cette ville de Paris. Ce fut en la dissection d’une femme qui avait aussi esté pendu pour pareil crime, dans le temps qu’elle avoit actuellement ses menstruës, sur le cadavre de laquelle M. Deveaux le fils faisait son chef-d’œuvre anatomiue. On voyoit manifestement en cette femme, le contraire de ce que disent Primrose au 1. livre des maladies des femmes, et COLUMBUS au 6. liv. de son anat., car toute la cavité du fond de sa Matrice estoit enduite de petits greméaux de sang caillé; et ses vaisseaux estoient beaucoup plus gros que ceux du col, et mesme, tout pleins de sang caillé, vers les orifices qui se dégorgent dans le fond de la Matrice.” OEuvre de Mauriceau. Traité des Maladies des Femmes Grosses, &c. P. 47.
nal face of the uterus was "couverte d'une couche de sang d'un rouge vif," and this fluid she caused to pass out of the vessels which afforded it in small drops, by simple compression, or by plunging it into warm water.

With these facts and authorities then, without calling to our aid the fact, that the phenomena of the menstrual fluid are perfectly explicable without the idea of a peculiar monthly secretion we must be so far at issue with the learned Professor, as to set it down as a physiological truth, established, beyond the reach of fair controversy, that the menstrual discharge as it emanates from the vessels of the uterus, into its cavity, is verily, as pure blood as that which circulates in the general sanguiferous system—that immediately on being poured into the great tricorn cavity of the uterus, it comes in contact and is incorporated with the mucous secretion which lines and lubricates the mucous membrane of this cavity; and that, as it escapes through the fusiform canal or cavity of the cervix, into the vagina, it partakes still further of the other secretions with which it meets in its passage outward, which mucous and odorous secretions have the power of changing a certain proportion of such pure blood, in such a manner as to give it all the qualities fairly claimed for menstrual discharge. This blood is coagulable when it enters into the uterine cavity, and does coagulate in death, but not ordinary in life, at this part; nor does it, when in natural proportion to the mucus, any where in its passage, or afterwards; but whenever, from any cause, the sanguine flux exceeds the natural proportion to the mucus which the parts afford, whether by an increase of the flux of blood, or decrease of mucous secretion of the parts through which it passes, the discharge becomes more or less coagulable, in just ratio with the disproportion which exists. The difference then between the menstrual discharge and uterine hæmorrhage, is not that one is a peculiar secretion, and the other a discharge of pure blood; but that

1st. The former is pure blood mixed with a great proportion of mucus, whilst the latter is pure blood mixed with a small proportion of mucus.

2nd. The law of nature during health is, that the parts through which this monthly discharge of blood takes place, are supplied with a copious mucous secretion, and that, monthly, from some cause, a discharge of blood is gradually emitted from a certain order of vessels of the uterus, in a quantity not exceeding that which is capable of being rendered non-coagulable by the proportion of mucous discharge; whilst the latter, or what we call uterine hæmorrhage consists in a greater proportion of blood than the natural mucous secretion of the parts can render non-coagulable. The former, therefore, is a normal discharge of blood from the uterus, in obedience to a physiological law of the hu-
man female economy, and the latter an abnormal or morbid phenomenon, in which this physiological law is transcended.

After this explanation of the physiology and pathology concerned in this nomenclature, we are perfectly willing, as we intimated at the onset, that the latter or abnormal phenomenon should be distinguished from the former, or healthy one, by a name, differing more essentially from that of the former, than menorrhagia does from menstruation—that uterine hæmorrhage be adopted as a cognomen for those discharges of blood from the uterus which are too great to be altered in quantities by the nucleus of the parts through which they pass, in contradistinction to menstres and catamenia, which are in universal use to mean those monthly discharges of blood which are thus altered in their passage outward.

Here we gladly leave this part of the lecture before us, on which we have expended much more time than we intended, and come to the consideration of the next topic for discussion.

This hæmorrhage may take place in the unimpregnated or impregnated state of the organ, and precede or succeed delivery. The latter is occasioned in a mode, namely, by a rupture of vessels, which removes it from my consideration, and will be resigned to the department of midwifery. To me it belongs to treat only of the former, as properly vital, or spontaneous hæmorrhage. This may recur monthly, with considerable exactness, or more irregularity, at shorter or longer intervals, or continue almost uninterrupted. But the law of periodicity is observed by it with greater uniformity than by any of its kindred affections. p. 197.

In this paragraph we find a very proper distinction made between those uterine hæmorrhages which take place in the vacant, and those which occur in the pregnant state of the uterus. The latter, the Professor very correctly observes, are occasioned by the rupture of vessels, and assigns them to the obstetric department. The former, by way of distinction, he calls "vital, or spontaneous hæmorrhages," by which, we presume, he means that they occur in a manner consistent with the integrity of the vessels of the uterus. This is as it should be, and brings fairly under consideration a pathological inquiry of the greatest interest and of very frequent occurrence. It is highly interesting in its philosophy abstractly considered; but its interest is greatly enhanced by the fact, that its true philosophy alone can dictate correct and radical curative indications.

An attack of an active uterine hæmorrhage may be ushered in without any, or a very slight premonition, though generally by a train of precursory symptoms, lassitude and weariness of the limbs especially—sometimes chilliness, followed by fever, or, at least, by increased force or acceleration of pulse, headache, flushed face, embarrassed respiration, a sense of fulness in the uterus, pain, acute or dull, in the lumbar region, or groins, with sensations of dragging or bearing down, attended by a frequent desire to urinate, and occasionally by tenesmus. These phenomena are often connected with
much of that sort of feeling, expressed by the vague term nervousness. The discharge appearing, not a little relief is afforded, unless it be very profuse, when the antecedent suffering is exchanged for the wretchedness of exhaustion, sometimes with nausea and vomiting, coldness and shivering, disposition to syncope, &c. &c. p. 197.

In the paragraph just extracted, we have a very good account of the phenomena which accompany those uterine haemorrhages which are not the result of rupture of vessels, as well as many of those which are; but these are given as symptoms of uterine haemorrhage, as a primary disease. Here lies the great pathological error, to guard against which was our purpose in giving the time we have to the first paragraphs of this lecture. Radically wrong and injurious as it is to transpose cause and effect, when we come to the details of the practice founded on the reasoning process concerned in the pathology, but little is required to change the aspect of the present view to that which is right and salutary. We only need to add haemorrhage to the list of symptoms or phenomena above adduced, as a mere phenomenon with the others, all combining to prove the existence of some derangement of the uterus and its vessels and nerves, and consider them as evincing the existence of such derangement as the primary disease whereof they are only the symptoms, and we shall be not only correct in truth, but will, with this truth established, be on fair ground for arriving at radical curative indications. Symptoms, and the morbid condition of the system, or of a part, which they indicate, are very different things. The crying error of the present age has been, to treat symptoms alone, instead of using them to determine the true pathology of the case, which should always include the whole previous part of the chain of cause and effect, on which alone, or rather without which, radical indications and radical treatment cannot be adopted; and if, under the neglect of this previous part of the train of phenomena, a cure is arrived at, which certainly is sometimes the case, this happy result is rather attributable to accident, or the unknown resources of nature, than to sound pathology which is founded only on good and true reasoning.

Now we are well aware of the fact, that those symptoms themselves do in many instances require treatment, and are removable, for a time, at least, by it; as the haemorrhage under consideration, for example, without radical reasoning on the cause. The haemorrhage, for instance, may be stauched for a time, and it should be, when necessary, by cold applications, by acetate of lead, by ergot, &c. &c. which have nothing to do with the cause of these symptoms, except to fulfil the latter part of the great, general indication: which is to obviate the effects of the cause. The same may be said of the pain attending many cases, &c. But the most important part of investigation is, to determine definitely what the causes are, and whether they are abid-
ing or have passed away. If the latter be the case, then they need no indication; the effects only requiring our curative efforts. But if the former, the great precept, remove the cause, lays the strongest claims to our consideration and efficient efforts. Here are we called on for those operations which alone may be depended on, not only for facilitating the relief of distressing symptoms or effects of the primary disease, but for giving permanence to the cure, and even for correcting those effects without other means and efforts directed to them individually; for unless there be disorganization, the morbid effects of noxious causes will generally cease when these causes are obviated. Proper research into the nature of their causes, will satisfy the close and unbiassed observer, that the symptoms above detailed are the effects of uterine displacement in a very large majority of cases. Certainly they may exist from other causes; but at least eighty or ninety per cent. of chronic uterine derangements, and a still greater proportion of uterine hæmorrhages, are the results or effects of uterine displacements in some way. This truth is not only consistent with the anatomy and physiology of the parts concerned, but is determined also by the fact that this (uterine displacement) will generally be found present in such cases, and its causation is fairly established by the cessation of the effects, in very exact proportion to the correction of this as a cause.

We rarely find a better description of the external symptoms of uterine displacement, than is detailed by Professor Chapman in his description of the phenomena attending uterine hæmorrhage; and should we take their pointings to satisfy us of the existence of this cause, and act on this view, we shall be favored with a degree of prompt, as well as permanent success to which we will otherwise remain strangers; and we shall find uterine hæmorrhage, instead of being that cause of alarm which it proves to many, a mere trifle, never calculated to alarm us as to its final consequences, provided its cause be promptly attended to.

In the next paragraph Professor C. gives us, as the most conspicuous remote cause of hæmorrhage from the vacant uterus, the period of life. If by this, he means what is commonly called the critical period of woman's life, the idea is very obscurely expressed, as will be seen by the following:

Among the remote causes of uterine hæmorrhage, the most conspicuous is the period of life. It is seldom met with previously to the season of puberty— is very apt to occur slightly, in anticipation of the complete establishment of the menses—again, when they are about to cease, and, sometimes, very copiously. No period, however, between these extreme points, is exempt from attacks. p. 197.

It is no novelty that we learn when we are told that “it is seldom met with previously to the season of puberty,” nor has our observation taught us that it “is very apt to occur slightly
in anticipation of the complete establishment of the menses." The remark is, however, true, that when the menses are about to cease, these uterine hæmorrhages are more common and severe; but its more frequent occurrence at this time is not so much attributable to "the period of life," abstractly, as a cause, as it is to that species of genital prolapse or displacement in the female, which is so much favored by the relaxation of the female genitals and their attachments, common in this period of life. The proof of this position is found in the treatment of those cases, in which relief is most certainly effected by the proper treatment of this prolapse, which, on examination, is found to exist; and from the existence and the neglect of which, and not from other causes, this period of life has obtained the character of being peculiarly critical. The seventh septenniad is, therefore, rather to be considered an age of peculiar predisposition to uterine hæmorrhage, by being a predisposing state to that prolapse which is its cause.

Predisposition to active uterine hæmorrhage is, according to Professor C. also found in the "sanguineous, florid, and robust; and to passive, in the enervated, relaxed, and phlegmatic." The following particulars are next named as peculiarly determining blood to the uterus, and therefore promoting uterine hæmorrhage:—Habits of sitting, or luxurious indulgence, such employments and amusements as spinning, dancing, equitation, walking rapidly, excess of venery, or abstinence from it, when the desire is urgent, numerous labours, repeated abortions, leucorrhœa, constipation, frequent purging with articles operating mainly on the rectum and through it, on the uterus; certain emmenagogues, as undue use of warm bath, of foot-stoves, &c. In this enumeration we have an extensive assemblage of direct and indirect causes of hæmorrhage—that is, of some which operate directly in the production of hæmorrhage by determining blood to the uterus, and others which operate indirectly, by producing obstructions to the free circulation of blood in the various uterine vessels, through the intervention of prolapsus; amongst which latter, we will particularize dancing, especially under the use of corsets, riding on horseback, walking rapidly, excess of venery, all hard labors, and abortions. But we may add that, some of these things enumerated as causes of hæmorrhage, should be considered merely as concomitants of hæmorrhage—as effects of prolapse. Of these we particularize, most of the abortions, whether repeated or not. These, occurring from any cause, are very liable to produce uterine prolapse; whilst this is by far the most common cause of abortions.

We pass over the next paragraph, as referring to hæmorrhage from the uterus in consequence of cancer, fungi, &c. &c., which belong to another department. We next come, however, to a very correct observation of the lecturer, by the knowledge of
which we are surprised that the confidence of the Professor in his physiology was not impaired.

"No difficulty can exist in distinguishing the uterine from the other haemorrhages. Menorrhagia is most apt to be confounded with it." Here we find things, made the same in the nomenclature, put in opposition. "An inspection of the discharge will, however, at once remove all doubts; it being in the one, pure coagulated blood, and in the other, a thin dark fluid of a peculiar odour. Between the blood, in some of the less active haemorrhages, and the menses, there is a close resemblance, and greater attention will be required in the discrimination."

We confess we are at a loss to know what is meant by the first clause of this quotation, unless it be to hint to us, what every man's common sense would teach him, or rather, the self-evident proposition, that haemorrhages from the uterus may be easily ascertained not to be from some other part, and that haemorrhages from some other part are not from the uterus. But in the latter part of this paragraph, we are told that between some of the less active haemorrhages, and the menses, the discrimination is not so easy. It is strange, we say, that on making this observation, the Professor did not perceive that instead of the non-coagulability of the discharge from the uterus being attributable to its being a peculiar secretion, that it was owing to its proportionate admixture with mucus; and more especially when he observed that, what he called uterine hemorrhage approached nearer to the character of menses, the less the proportion of blood to the mucus of the parts; as in those haemorrhages which are less active.

With the next paragraph, we fully accord, as our observation long since led us to the same conclusion; that is to say, little immediate danger is to be apprehended from active spontaneous hemorrhage—death, at least, rarely, or perhaps never suddenly ensuing from it; whilst much is to be apprehended in the ulterior consequences, &c.; but it is otherwise in the less active or passive states of the disease; the loss of blood being here sometimes most copious, and the effects truly alarming. The concluding sentence in this paragraph, is, we suppose, the observation of every experienced and judicious physician: "Yet it would seem, that from no part of the body is excessive hemorrhage better borne than in the uterus, or the preservation of life more frequent, under, apparently, desperate circumstances."

"The rareness of a fatal termination in either state of this affection, has prevented the acquisition of any precise knowledge of its anatomical characters. No doubt, however, they are the same as in haemorrhages of other mucous surfaces."

Certainly, this is the case with regard to those haemorrhages from the uterus, which are without organic lesion or structural disorder: the only cases properly under consideration in this
place. But when the mind is set on investigation in one way, it is too apt to neglect all the other means of arriving at truth. Such appears to have been the case, to no small extent, with regard to the hemorrhages under consideration. A little more attention on the part of pathologists would have enabled them to arrive at clear views, by reasoning from effect to cause; a process which would have developed a truth of the first order, because it would have pointed directly to curative ends by the removal of cause. We do not, therefore, "confess the peculiar obscurity in which the pathology of the uterine hemorrhages (under consideration) are said to be involved." To us, as to Professor C. "it is as plain as any of its affiliated affections," but the simplicity of the pathology of these cases is so indeed, when divested of the miserable error of "secretion," which we find constantly brought up to the great confusion of the pathologist and obscuration of the simple truth of nature. This we find abundantly the case in the following:

"Lined, as the uterus is, with a mucous membrane, why (says Professor C.) should it not be subject to hemorrhage?" Now we acknowledge ourselves of too obtuse intellect to see, in this fact of anatomical structure, the slightest shadow of reason, or means of accounting for the fact in question. If this were any reason why uterine hemorrhage should occur, we ask, why does not every man's nose bleed, and that excessively, and frequently, without the help of visceral obstructions: for this organ too, is lined with a mucous membrane, and blood, when discharged from it in a quantity, proportioned to the mucus secretion of the part, as the blood discharged in menstruation is to the mucus of the parts through which it has to pass, it is alike uncoagulable, and really needs nothing more than the set of glandulce odoriforae of the genital organs, to endow it with the peculiar odor of the discharge of females, called menses.

"But the chief difficulty complained of," says the Professor, "seems to relate to those cases where pure blood periodically escapes, instead of menses, or in which the two fluids are mixed." Here is, we acknowledge, the perplexity; and it arises, as we stated in the beginning of this notice, in the error of physiology, which has ever, like a will o' the wisp, haunted some of the profession, and decoyed them into quagmires and amongst brambles. We believe we have before explained the difference between blood and menses, in a way which removes all this perplexity, and which is, at the same time, so perfectly consistent with truth, that we defy any anatomist or physiologist to account for the phenomena of menstruation otherwise, except by a departure from anatomical truth, for the adoption of sheer hypothesis, which is never admissible in philosophy, when there is no reasonable impeachment of what appears to be a plain and rational demonstration of truth. But we will say again that the
menstrual discharge is blood and mucus, and uterine hemorrhage is blood and mucus; but in the former, the mucus bears such a proportion to the blood as to impair its coagulability; whilst in hemorrhage it is in too small a proportion to effect this end; and coagulability of the discharge exists. Again, there is a reason why, in regular menstruation, it is generally the case that the proportions of blood and mucus are such as to give the peculiarity of the discharge in this respect; and it is to be found far back in the original design of female construction, in view of the peculiar purpose of being the mother of mankind, for which she was designed. Here will be found, as definitely as the difference of her corporeal construction, a peculiarity in the rate of her repletion, for a certain period of her life, whereby a surplusage is provided. This is at the rate calculated to afford growth to the foetus in utero, and to the new born infant until its organs are sufficiently developed to derive support from other means. This surplusage is, therefore, definite—always, in perfect health and nutrition, about the same, in the same individual; although not exactly so in different ones; but in none, in perfect health, in too great a proportion for the mucus with which it is to be incorporated in its passage outwardly. Now in this state of things, purely physiological, we have nothing to do, in order to have a hemorrhage, but so to increase the sanguineous discharge as to overrule the non-coagulating powers of the mucus of the part; nor is it important, except in relation to therapeutics, whether it is with or without disorganization. To talk then about a _secretory office, periodically_ exercised, is perfectly Utopian. Would the learned Professor say, when the nose, the lungs, the rectum, or an ulcer performs the menstrual function, occasionally by a discharge of blood, or the tonsils, by a monthly enlargement, that these are secreting? If so, where is the structure? Where also is the cause of periodicity? It is always bad reasoning, when causes and facts are claimed, of the existence of which there is no evidence. Causes must be known to be present, and they must bear a proportionate relation to the effect produced, as the weights in different scales to produce or to destroy the balance. One error begets many, and these afterwards multiply and increase, in the progress of the reasoning process, as an error in the beginning of an arithmetical process. In addition, therefore, to the want of nature's truth in physiology, and the bearing of this on pathology and therapeutics, we find the distinction made by the Professor, and others of the same physiology, between _hemorrhage_ and _menstruation_, leading to another hypothesis relative to anatomical structure, which would be as hard to demonstrate, as the vessels which were once supposed to transmit semen from the vagina to the ovaria, without its passing the route of the uterus; or the _sympathy_ whereby the ova were believed to be impregnated, or the fallopian tubes
brought into action without the agency of the semen, nearer than the vagina, which, we think, would do as well to remain in the vesiculae seminales. It is seriously asked, and the question referred to by Professor C. whether different sets of vessels are not engaged in these operations, (i.e.) hemorrhage and menstruation? Although the question was obliged to be answered correctly as to the anatomical fact, the doctrine of secretion, being lugged along with this truth, so cloggs it as to make it almost a falsehood, because the modus operandi of these vessels is necessarily erroneous. And this is the explanation of the fact, that the same vessels do both agencies—"The secretory vessels of a part may be so differently influenced at the time, that while one portion of them is adequately performing its duty, another shall allow blood to pass through them, little or not at all affected."

The next topic discussed, is the local pathological condition of the uterus, which is found to be more or less engorged, and needing depletion. But surely the Professor will not contend that this is the case with general repletion. If not, from what is it we ask, but local derangement of circulation from some cause? And under this circumstance, how can the almost universal rule of general depletion in these cases, be a good one; and that to the exclusion of the correction of the cause? Certain it is, that topical congestion or engorgement, and sometimes actual inflammation does exist; and when this is the case, the indication is to correct this unwholesome effect of the cause of this disease. And various are the medicinal means brought under review for this purpose in the sequel of this lecture, without once referring, at least, intelligibly, to the correction of the true cause—the vascular obstructions occasioned by uterine displacements. Yet, it is said, "all is well that ends well," and this is applicable to some of the remedial means recommended for the correction or prevention of uterine hemorrhage: these are chiefly the superior efficacy of the tampon in correcting hemorrhage; and of long confinement to a horizontal position, for curing or preventing its recurrence. But so clearly is the source of true causation overlooked, or hidden by the glare of false physiology, that after fairly advancing the real fact, that such things are valuable, their modus operandi is referred to another direction, instead of that in which it is in truth found; and the tampon is declared to operate by causing coagula to form, and thus mechanically staunch the hemorrhage.

Various astringents and other medicinal powers are next arrayed in review, which are calculated to act on the disordered condition of the part concerned, by closing the patulous mouths of vessels, and correcting the engorged state of the uterus, under the pressure of its cause, which is left operating: and many of these are sometimes, though rarely, necessary; for it is not always the case that the effects of a cause cease to exist on its suspen-
sion. But if, in the onset, the real cause be corrected, then the most of these articles will be found left on our shelves. Yet as these are sometimes found necessary, and as the preference amongst them should be always at the command of the practitioner, we may take time briefly to refer to them.

In the first place the Professor holds it more or less desirable, that the hemorrhage should continue, for the purpose of correcting the topical engorgement which he finds existing, instead of venesection, which appears to be almost universally necessary. Digitalis, as recommended by Currie, Farriar and Drake, as a substitute for depletion. But Professor C. cautions against its use, except when the pulse is "without force or volume," and the hemorrhage not copious. The article of lead stands prominent in the rank of astringents; although the Professor's experience does not enable him to place the same implicit reliance on it as Heberden, Barton, and others; he even charges the accounts of these respectable gentlemen with exaggeration, relative to its efficacy. We regret to be compelled to differ with the Professor on this point in practice, but we have rarely, if ever, used this astringent, in cases in which the action of any astringent could be expected, without benefit more or less prompt and complete—our only motive for avoiding its use being, to avoid the internal use of a preparation of lead. This motive has inclined us to the use of alum, pulvis stypticus made of alum and kino, or alum or catechu, the ergot, &c.; all of which we have found as uniform in their efficacy as we could expect to find any medicines in their operation.

The topical applications usually resorted to, are given and approbated; but, says the Professor, "more, however, to be trusted than any of the means I have suggested, is plugging up the vagina, so as to allow a coagulum of blood to form; and the best substance for this purpose is sponge; though tow, flax, cotton, or even soft rag, may be substituted." We would not assert that coagulation of blood does not in some instances, alone, arrest uterine hemorrhage; but we have not found it alone to be generally depended on for arresting hemorrhage from the uterus, whether pregnant or not; and we have long since found it far more serviceable, and to be trusted to for certainty, to disregard those coagula, so far as it may be necessary for determining the position of the uterus, in view of, and effecting its adjustment, than to neglect this, and depend on coagula. These check hemorrhage momentarily; but as the cause is generally continuous, the hemorrhage is very apt to recur; and if it do not, the horrible affliction of displacement continues, and becomes a constant trouble to the patient, instead of being, as it should be, timely corrected. Now, the observation of Professor C. on the efficacy of the tampon is correct; and the reason of this efficacy is simply, that the tampon is nothing more nor less than a pessary of soft
material, by which the uterus is replaced and retained at its proper site, and its regular circulation established, to the prevention of those obstructions and engorgements which demand topical depletion for their relief, or terminate in some other of the horrible catalogue of uterine diseases, as permanent engorgement, ulceration, &c. &c. The sponge, we are aware, is a favorite tampon, or, as we should call it, prop, or pessary, because it is of easy introduction, easily cleansed, and effectual in retaining the uterus in its proper site, and may be generally applied by the patient herself; a consideration of no trivial importance; nor have we ever been able to find but one objection to its use, and that only obtains in those cases of uterine prolapse, in which the treatment is, not palliative, but intended for permanent cure; and this objection is its tendency to swell and distend on imbibing moisture. When it is remembered that the lateral dimensions of the vagina are of the utmost importance in the treatment of prolapse of the uterus, and that this organ cannot be expected to be retained in situ, without securing and preserving a certain narrowness of the vulvo-uterine canal, it cannot fail to be perceived, that any thing which tends constantly to swell laterally, and thereby widen the canal, must tend in the same degree to prevent the support which the uterus needs. Observation on this point, for more than twenty years, has led us to the use of some soft article not possessing the spring or elasticity of the sponge, but which, when wetted, is more easily compressible; and even in the use of such substance, we have twined it around with small pack thread, in such a manner as to prevent its lateral distension in the least; and at the same time preserve the permanence of their length, as a support to the uterus at its proper height. This gives and retains to these props an hour-glass or bilboquet shape, just suited to effect the pressure needed, and prevent all other. The sponge is, itself, a good material, if very fine, and sufficiently secured, by wrapping or stitching around, to prevent its lateral distension. It is only in this way that it should be used; for the very good reason, that otherwise it tends to dilate the vagina laterally.

After what we have said, there will be little use in repeatedly calling up instances of the erroneous application of improper physiology, and the doctrines of excitement to the therapeutic department of this disease. After starting wrong, these things must be. The physiological error at the beginning, must extend its ramifications through the subsequent process, to a greater or less extent. It must make effects causes, and vice versa, and must make the symptoms of one thing, the symptoms of another, as well as effects of one cause the effects of another. We pass over, therefore, a train of phenomena arrayed in order as symptoms of uterine hemorrhage, which, instead of being a generation of events arising mainly out of this one, (hemorrhage,)
are collateral effects with it, and arise out of the same causation. We allude to various symptoms of impaired health, or "feeble, quick pulse, respiration hurried on the slightest exertion, skin damp and cold, pallid and sallow"—with edema and other symptoms evinced in the lower extremities, pain in the lumbar region, sense of weariness in the back, &c. Now we do not mean to say that most if not all of these symptoms may be produced by hemorrhage; but that they are generally, only its accompaniments, and produced by the cause of the hemorrhage very often, without being accompanied therewith, and curable without any of the remedies properly directed to idiopathic hemorrhage. It is strange to us, that any man should be engaged, even for a few years, in the care of female health, without being familiar with the facts just stated.

The next class of remedies, in the treatment of what Professor C. calls inactive hemorrhage of the uterus is, that of emetics; because, as he says, "the practice is not without claims to originality." Of the emetics, ipecacuanha is his favorite. These remedies are given "to reinvest the uterus with the faculty of secretion, when suspended or perverted." This secretion must be a very curious thing: when it comes on, hemorrhage must cease, so must amenorrhoea of course, and fluor albus too. "It struck" the learned Professor, with great force, "that, by the revulsion of vomiting, distinct from the secondary effects of the process, the flow of blood might be checked, and that, in the interval of its recurrence, by occasional repetitions of the remedy, the uterus reinstated in its secretory functions."

Now, this done, who will say that the flooding can possibly continue? But "emetics," he was "aware, are among the most active and certain of the emmenagouses, by which I (he) mean, an immediate power to arouse the energies, or otherwise to reinvest the uterus with the faculty of secretion," &c. On this ground then, "having seen their salutary agency in this respect, &c. I (he) indulged the hope that, if in these cases they can revive a natural action, or rectify a depraved one, so they might be serviceable in the same way in hemorrhage;" Q. E. D. !

Certainly, emetic medicines in under doses, are not without their beneficial effects, occasionally in checking active hemorrhage, and removing the phlogosis of the part, when the cause is not abiding; but we have too often seen the very disease, the remedy for which the Professor finds in emetics, produced by these very powers, not to look for far more injury from their propulsive, than benefit from their revulsive power; whatever may have been the experience of the Paris and Dublin practitioners. (Coffin and Osborne.) But we will leave it for the present, to others, to determine the merits of the doctrine of similia similibus curantur.
We intended here to have closed this notice; but Professor C's. originality has gone a little further in the use of emetics; and that is, to continue them as preventive of recurrence, "or in other words, to effect a thorough cure," and "as to the applicability of the practice, he (Dr. Osborne), perceived no difference, whether the hemorrhage was decidedly active or the reverse, it being alike successful. Thus "the emetic (ipecac.) repeated once or twice, never failed to complete the cure." This is charming indeed!

Of the utility of cathartics in perfecting the permanence of the cure, we are next informed.

"Cathartics which act on the lower portion of the bowels, and indirectly on the uterus, have also been employed. The aloetic preparations are of this description, and among the very best of them are hiera picra and elixir proprietatis. These articles are designed to operate, not so much as evacuants, as by an impression on the vessels of the uterus, supposed to be promotive of the menstrual function" (secretion). "Governed" continues the Professor, "by the same principle, emmenagogues of a more decisive character have been directed," but of the merit of them he is "exceedingly distrustful;"

It is well to contemplate in these suggestions—the use of hiera picra, elixir proprietatis, &c., some of the most powerful and successful emmenagogues we have at command, the contradictory extremes to which one may be led by the glare of false doctrine. Secretion, instead of vascular action without secretory process, forces to indications calculated precisely for the production of the very event, for the correction of which its use is suggested.

By reverting to a former part of this lecture, now under observation, the reader's memory will be refreshed with the singular fact, that, then, the lecturer introduced just such purgatives and emmenagogues, as aloes is believed to be, (that is, frequent purging with articles operating mainly on the rectum, and through it, on the uterus; certain emmenagogues, &c.) as causes of uterine hemorrhage. Now, we find them introduced to the reader as curative means—now they will produce secretion—not hemorrhage; now they will determine secretory action and not blood to the uterus.

If mercury cures salivation, or if belladonna produces, prevents, and cures scarlatina, then we admit that hiera picra, &c. are appropriate remedies for uterine hemorrhage, and that too, on the principle that similia similibus curantur.
Remarks on Cynanche Tonsillaris, and on its Treatment—By R. Gerardin, D. M. Cynanche Tonsillaris is at present treated of in works on surgery, as well as in those of medicine. It ought, therefore, to have been sufficiently studied to leave nothing new to say on the subject. In endeavoring to trace its double relation to medicine and surgery, I have been led to conclude that its imperfect treatment, during the stage in which it properly belongs to the other department, most frequently permits it to pass into the domain of the latter, by the formation of abscesses and indurations, requiring surgical aid. Some of the modern authors, and especially M. Andral, have made known the changes produced by inflammation, whether in the interfollicular cellular tissue, or in the parietes of the follicles themselves. But I know of none but M. Velpeau, who, in his Surgical Anatomy, distinguishes two kinds of inflammation of the tonsils; the one seated in the mucous membrane; the other in the interfollicular and sub-mucous cellular tissue.

The distinction of these two seats of tonsillar inflammation, is very important in a practical point of view, and should, therefore, lead us to regard them as distinct affections. I would call this one mucous or superficial tonsillitis,* and the other parenchymatous or deep seated tonsillitis.† The mere inspection of the throat will suffice to distinguish them. I need not, therefore, dwell on their diagnosis; it is sufficient that I have pointed out their difference, and proposed the necessity of designations founded on pathological anatomy. This distinction is indispensable in practice, for those means which may be successful in the treatment of the superficial form, increase the intensity of the deep seated. Is it not to the confusion of these forms that may be attributed the failure, in the hands of some, of remedies lauded by other practitioners? The local application of powdered alum, for example, so highly recommended, may be resorted to with advantage in mucous tonsillitis, especially when the inflammation is not disposed to extend, and when the tonsils are covered with white exudations; but in parenchymatous tonsillitis, attended with much inflammation and swelling of the tonsils, the use of alum has always, in my hands, increased the inflammation, and, consequently, the pain. Should we not criticise the various remedies proposed for tonsillitis? Is it not strange that an inflammatory affection, that may be seen and touched, should still be treated by indirect means? The ancients, at least, attacked the ranine and sublingual veins, doubtless inferring that relief might be most effectually obtained by approaching the seat of disease.

My attention having, for the last ten years, been directed to this point of pathology, and continually called to it in seminaries of both sexes, I feel it a duty to make known the prompt and immediate effects of scarifications made at the seat of inflammation. In every case, whether superficial or deep seated, I examine the pulse. If the patient's constitution, his age, or the immediate cause of the phlegmasia, impart to the general circulation much power, I abstract blood from the arm, and, a few moments afterwards, I scarify the inflamed parts; and it is rare that this has to be done more than twice. In the most intense parenchymatous forms, the disease has yielded to scarifications twice performed at intervals of twelve or twenty four hours. The congestion is instantly relieved, and the patient very soon acknowledges that he feels more comfortable. I regard poultices to the neck, fumigations, and pediluvia, as of doubtful benefit, and only allow their use when requested to do so.

The scarifications should be more or less deep, according to the nature of the case. If the inflammation be in the mucous membrane, I scarify slightly all the reddened region, even though it extend from the tonsils to the soft

* Esquinancie muqueuse ou superficielle.
† Esquinancie parenchymateuse ou profonde.
palate and uvula. If, on the contrary, the inflammation be parenchymatous, I penetrate more deeply into the tonsils, and scarify them freely. I continue the scarifications until the surface be masked by the blood, and complete them after this has been thrown off, as the operation is not painful, and the patient has then become reconciled to it. The number of scarifications, of course, cannot be specified, and must be proportioned to the extent of the disease, and to the flow of blood. In the deep seated tonsillitis, twelve or fifteen expectorations well charged with blood, indicate a sufficient local depletion. Under the influence of scarifications, resolution is prompt and invariable, and is usually obtained on the day following the operation. Some time afterwards, small white lines may be seen, produced by cicatrization.

With me, the scarifications constitute a general remedy, and the only exception to them is the difficulty of reaching the seat of the disease, when called in late, or when the intensity of the disease prevents the opening of the mouth. An author whom every practitioner likes to consult, Boyer, speaks of scarifications in this disease, but insists, on them only in certain cases. It is surprising that he does not extend its use, after saying that "by scarifications the alarming symptoms are arrested, and the anxiety of the patient promptly relieved."

I scarify at whatever period of the disease I am called to see it. If suppuration has commenced, the lancet will give issue to the pus. If there be a tendency to gangrene, scarifications will prevent it, by diminishing the intensity of the inflammation, and by lessening the tension of the tissues. For scarifications produce two effects, they relieve constriction, and give issue to blood. By scarifications, hypertrophy of the tonsils is rendered impossible, and, when their use will become more general, the necessity to excise these glands will cease.

I also resort to scarifications in guttural and pharyngeal inflammations, and always with the most signal success. They are certainly preferable to cups applied to the neck. Moreover, by scarifications, we avoid the cicatrices left by leeches applied to the neck, a matter of some importance to females. It is to the refusal of a young lady to submit to the application of leeches to her neck, that M. Monge was compelled to resort to scarifications. This fine case, though long since published, does not appear to have led practitioners to follow his example. The application of leeches to the sub-maxillary regions is also injurious, by occasioning a sub-cutaneous congestion in the neighborhood of the diseased tonsil, and which increases as the leeching is repeated, without any benefit to the patient. Messrs. de la Berge and Monneret, authors of the Compendium, have named, in the article on Amygdalite, the distinguished practitioners who have, like myself, remarked the injurious effects of leeches to the neck in cases of tonsillitis. It is to be regretted that this practice should have become so common that the physician is rarely called in until the friends have made one or more applications of leeches.

According to M. Bouillaud, (Gazette des Hopitaux, Avril, 1838,) the inflammation of the tonsils may extend to the veins, and reach the heart, producing coagula and death. But although this disease is not always so serious, it is frequently allowed to pass from the acute to the chronic state; articulation is then impeded, the delicacy of hearing sometimes impaired, and the consequences are occasionally such as to incapacitate the patient for the bar or the pulpit, to suspend the musical studies of youthful talent, and to compel artists to retire, prematurely, from the lyric stage.

Besides, there is no region better adapted to scarifications than the interior of the mouth. By the rapid removal of congestion, effected by scarifications, the cure is promptly obtained in cases of tonsillitis, of guttural and pharyngeal inflammations, in phlegmonous affections of the palate, gums, &c. These regions are pervaded by no vessel, the puncture of which should
be apprehended, for it would require much violence, if not awkwardness, to endanger, as is feared by Professor Beclard, the internal carotid artery.

With regard to the instrument, I have but little to say. A lancet, whose blade may be partly wrapped with linen, is always at hand. Yet when the operation has to be performed on timid persons, on young females, or on children, the preparation of the lancet will, not unfrequently, occasion alarm difficult to overcome. In order to avoid this inconvenience, I requested M. Charriere to make a scarificator, concealed in the manner of a pencil in its case, and which could, therefore, be projected after its introduction into the mouth, without the knowledge of the patient.—*Journal des Connaissances Médico-Chirurgicales*, No. 5, 1838.

**Effects of Tobacco on the Voice of Public Speakers.** In the last number of this Journal we gave an extract from the Boston Medical and Surgical Journal, with some additional remarks and facts, on the same subject with the following communications. The subject is an important one, and highly worthy of the consideration of the profession. We are happy to find that it is now under discussion. As our object is useful truth in medicine, we give the following articles from the same source, in order that the reader may have materials, as far as they are furnished, for his own judgment on the subject. Meanwhile, we will state that, a few days past, we accidentally met with an intelligent medical gentleman of considerable experience in the profession, from the low country, who, on the suggestion of the subject, stated that a gentleman of the city in which he resided, had been a free indulger in the use of tobacco—that after becoming a pious man he abandoned it, perhaps from moral impressions relative to its use, and became, what is termed "an exhorter," to some extent. In the course of four or five years he found himself seriously injured in his vocal organs. The use of tobacco was resumed—not, that we understand, as a remedy. Subsequently to the re-adoption of its use, however, the symptoms of the throat complaint disappeared, and he has remained to the present time, now several years, exempt from all the distresses, privations, and threatenings of this hitherto intractable disease.

The claims of humanity are high; and in no instance more so than when preferred by the suffering clergy; but in all cases they are sufficient, to overrule, if necessary, the formalities of fashionable etiquette, or the unpleasantness of a remedy. These cannot, therefore, we conceive, be advanced in argument on the subject, which is indeed of vital importance. and one which should rest on statistical facts alone. We hope, therefore, that intelligent citizens generally, as well as physicians, will feel themselves duly impressed with the duty of reporting any fact which may be calculated to determine the true influence of tobacco in regard to the cases alluded to: and we hope further, that both physicians and patients will examine well the authentic facts
which have been, and may be, offered, and yield to the cause of truth as developed by facts alone.

To the Editor of the Boston Medical and Surgical Journal.

Sir—I find I am not alone in being surprised at the opinion expressed by Dr. Mau ran, and apparently endorsed by yourself, of the necessity of tobacco for public speakers, to prevent the occurrence of the disease that has recently affected clergymen so extensively. I apprehend, my dear sir, that these opinions have been given upon few data, and without the reflection which is desirable for those whose views on this subject may have an extensive influence upon the habits of mankind.

If it is indeed true, that one qualification for preaching the gospel should be the practice of a most disgusting and vicious habit—the use of a narcotic which is second only to alcohol in its deleterious effects upon health and morals—then, indeed, a new era of knowledge has commenced. The facts that have been presented to me in a practice of more than thirty years lead me to very different conclusions. The first clergyman that consulted me, many years ago, for this difficulty, had arrived at the age of fifty when the disease commenced. He had used tobacco from his youth upwards; he used it then, and afterw ards, and I believe continues to use it till this time.

He left the desk long ago, in consequence of loss of voice.

Another clergyman, with talents of the first order, was obliged, at the age of thirty, to leave a people greatly devoted to him, in consequence of this affection of the voice. He was an inveterate chewer of tobacco, and I believe smoked the cigar also.

I am not confident what were the habits, in this particular, of the numerous patients who have applied to me for advice, or whose cases have come to my knowledge; but the impression is strong upon my mind that quite a large proportion used tobacco in some form. The effect of snuff upon the voice is proverbial, so much so that many are able to detect the habit by the voice alone:

The influence of tobacco upon health is certainly deleterious. There is no mistake in this matter. It deranges the nervous system, and diminishes the tone of the stomach in innumerable instances. A narcotic of such power as tobacco, which cannot be used in the minutest quantity, by the uninitiated, without the most disagreeable and often dangerous effects, the habit of using which cannot be established without difficulty and great caution, and when established, cannot be abandoned without severe suffering, great prostration, loss of appetite, gastric sinking and distress, which shows how nearly allied are its effects to those of alcohol, should never be prescribed without great caution. Indeed, I have supposed that it was the most ready and common stepping stone to that use of spirituous liquor which leads to intemperance. Those who chew or smoke tobacco are rarely satisfied with water, or other insipid or tasteless drinks, else why should the bar-room and the grog-shop be the resort of the smoker? I would not insinuate that all who use tobacco are lovers of strong drink, nor prescribe alcohol or tobacco as remedies in some forms of disease; but I would be very cautious how I recommend either as preventives of disease. How many thousands have found an untimely grave by the use of brandy, wine, and other narcotics, used to guard against sickness, or as remedies for chronic diseases!

Fully believing that the tendency of the use of tobacco is to promote, rather than prevent, the disease in question, I could not forbear to state my views on this one point, and may, at a time of more leisure, give you more at large the results of my observation on this active and dangerous narcotic.

One word with respect to the disease. I have been led to suppose that the modern practice of preaching in vestries, and thickly crowded, close and warm rooms, and afterwards inhaling cold air while heated, had much to do
in producing the new disease. Vestries are of modern origin, as places of religious worship; the rooms are small and low, and when filled with people, the air becomes exceedingly bad. The speaker, elevated above the audience, and often near the wall above, inhales none but contaminated air, unfit for the lungs, and highly stimulating to the organs of speech. In such an atmosphere, tending to paralyze his efforts, he is obliged to redouble his exertions. How often do candles burn dim in such rooms; and how often, in spite of all effort, do both speaker and hearer become dull and languid! This effect is doubtless the consequence of the inhalation of an atmosphere rendered delirious by the exhaustion of the principle which supports life. I believe the disease in question often arises from the frequent repetition of this cause, by a preacher whose health is not firm, and whose constitution is not vigorous. Yours, truly,

S. B. WOODWARD.

April 15th, 1839.

To the Editor of the Boston Medical and Surgical Journal.

Sir,—I received this day, your valuable Journal, and noticed the communication upon the subject which forms the caption to this article; and not aspiring to be, as has been elsewhere said, the "apologist for the filthiest of all fashionable vices," must be permitted to enter a partial disclaimer to some of the sentiments advanced.

My "opinions" may "have been given upon few data, and without the reflection which is desirable for those whose views on this subject may have an extensive influence upon the habits of mankind;" but should the suggestions offered lead to just and profitable results, however their tendency, the ends of the writer will have been happily accomplished.

Little did I dream, my dear sir, when conversing with you incidentally at my office, on the subject of the throat affection of clergymen, and the use of the "noxious weed," that I was to be arraigned at the bar of public opinion for my remarks; but as the object was then, and is now, simply to elicit truth, I do not hesitate to "take the responsibility," and entrench myself behind such facts as are at hand, however imperfect may seem the catalogue, hoping that others will present theirs of an opposite character, that the legitimate inferences and deductions therefrom may be secured. For mere theory and cant I care not a straw; and therefore offer no reply to suggestions drawn from such sources; and I am happy that a gentleman has noticed your article so truly competent to discuss its merits or demerits upon facts alone.

As to what would, or would not, have been, had circumstances been thus, or so—whether we should have lived to the good old age of Methuselah upon a diet exclusively vegetable, or died, as we now do, at the very limited period of three or four score and ten, upon the mixed yankee diet of vegetable and animal food; or, what would be the probable consequences of rigid abstinence in all things from the commencement of time, or of habits such as our community now presents, I will not pretend to discuss, but shall be satisfied to examine things as they at present really exist, and discuss them solely upon their intrinsic merits, or, if you please, demerits. That errors prevailed, and do still prevail, it is not doubted, both in our eating and drinking, and the "wherewithal that we are clothed;" but that our health statistics and bills of mortality exhibit so marked and favourable a character, as might have been anticipated from the—I had almost said diarrhœa of matter which has been dispersed broad cast, as it were, over the community by our modern book-making and lecturing hygienists, et id omne genus, I doubt exceedingly. There is evidently a fault somewhere, which can only be detected and developed by attending rigidly to facts as they present, eschewing altogether speculative theory, unless based upon something more substantial and tangible than moonshine, mere moonshine.
What, then, are the prominent circumstances upon which the original conversation with you was predicted? 1st, That the disease in question is comparatively of recent origin. 2d, That it occurs, or has been developed only, or rather most frequently, among those who either in fact or by common courtesy the most strictly temperate in all things. 3d, That its pathology is but little known or appreciated, and therefore demands a more rigid and severe investigation, albeit the effort may cause to be suspected for lack of consistency a valuable public journal devoted to "the scientific preservation of health and cure of disease, or seem to conflict with the principles, or with our ultraists' Procrustean dogmas, of the prevailing reformation from indulgences hurtful or apparently unnecessary. Not that I would say or do ought to arrest the onward progress of a temperate temperance reform—believing, as I most sincerely do, that much, and it is hoped substantial good has been, and is being accomplished through its potent agency; but only in favor to check the wholesale denunciation, under all circumstances, of peculiar articles, because, forsooth, they happen to belong to the same class, conventionally, with other known noxious agents. A fourth reason offered for my remarks, was, that the affection in question is not the result of occupation merely, or much, or loud, or long speaking, nor is it attributable to the noxious influences of a confined and vitiated atmosphere alone, judging from the well-known fact that the lawyer, quo ad hoc proverbially healthy, outtalks the divine immeasurably; frequently addressing a Jury en haut voix, some three, six, and even eight hours consecutively (the clergyman rarely more than an hour at one time, and that at intervals, and with a low and measured intonation), and in the vitiated, rum-and-tobacco atmosphere of a low, ill ventilated, crowded court room, and this not merely once, twice or thrice a week, but daily, for weeks, aye months together, as not infrequently occurs with many of our popular advocates at the bar during protracted sittings of county and general courts.

But to recur to our first position, that the disease is of recent origin, and was therefore wholly unknown to, or unappreciated by the clergymen of olden time. True, the labors of the closet (clerical), then, were not infrequently, and I doubt not advantageously, connected, more or less, with that of the plough and the wood axe, and it cannot be denied were less severe than at present. But what, in other respects, were the then habits of the clergy? So far as tobacco is concerned—that is the present question—they almost to a man indulged in the use of "the weed," ad libitum; nor am I aware of the fact, notwithstanding their incessant professional exertions (their style of preaching being mostly of a hortatory character, very earnest and enthusiastic, and often accompanied for hours with a stentorian utterance), that their average early mortality, as a class, was greater than that in our own day and generation.

But to the facts. In this city, wherein I have been in constant professional practice for nearly a quarter of a century, and where, from the incessant changes of pastors (a habit, by the way, much to be deplored), the aggregate number has been not few, I have never known personally, or through my professional brethren, of a single case of the throat affection, so-called, among those of "the order" who used tobacco habitually either by chewing or smoking! but, on the other hand, of several cases among those unaccustomed to it use, or, if you please, abuse. Now whether this is the happy result of the tobacco, or its "tap-room concomitants and tendencies," as suggested by your correspondent, Dr. Woodward, I confess myself wholly unable to say. I will in justice add, however, that in the cases to which we have alluded, so far as our observation extends, the habit has not formed the "stepping-stone to that use of spirituous liquor which leads to intemperance," nor have the individuals been found lingering about the "bar room and the grog shop;" all having even "been satisfied," as a beverage, with "drinks as insipid and tasteless as water, and also considered by the community in
which they live as respectable, and in all respects excellent, nay, worthy members of society!

Of Snuff, and its effects, alluded to by Dr. W., I conceive the altered voice to be purely mechanical, the reverberatory passages being actually blocked up by this vile species of vegetable plaster.

But permit me to recapitulate very briefly, for my remarks have already occupied more space than I had intended, a few of the circumstances which led to the suggestions hinted to you. Being in conversation, a year or two since, with two most eminent divines of the Harvard school, upon the subject in question, they (both semi-martyrs to the disease) were in turn suggesting the probable causes of the malady, such as close application, long and loud speaking with the head in the uplifted posture, confined, vitiated air, &c. &c., when I interrupted by saying, that there was evidently something wrong, or far from healthfulness, in the habits of the clergy of the present day; that the circumstances by them cited did not obtain as the exclusive causes of the disease, being amply refuted by the undeniable facts above alluded to in relation to the gentlemen of the bar and clergy of olden time; that the frequent recent occurrence of the disease among them could only be accounted for by the difference in the habits of living between the two professions, and those of their own order who were even exempted from its influences—further, that I had ever known an individual clergyman thus affected, who was in the habitual use of tobacco. I then inquired what had been their experience and observation in this respect, among their immediate friends; although their professional acquaintance was extensive, neither could recollect a single case of the affection where the individual was addicted to the, if you will, "vile practice."

About a year since, being most happily present at a very interesting "Wednesday-evening Club meeting," in your city, with the celebrated Dr. Mussey, of tobacco lecturing memory, this subject was again under discussion (and very naturally so, for, from the delicious fumes of the Vuelta Abajo which ever and anon greeted the olfactories, I judged that every member must, or ought to have been, to be eligible, a smoker), my remarks, as above, were there repeated, but were most promptly, though very courteously, met by Professor M with the statement that the most inveterate case of the disease ever prescribed for by him, was in a gentleman, I think of Brunswick, largely addicted to the use of tobacco. The inquiry then was, what other cases of a similar character do you recollect? And my impression now is that he did, or could, not name one in particular, but thought, as does your correspondent, that there were many such. Dr. Mussey, to whom, as a ready writer, the medical public is much indebted, was very urgently requested, as he had already posted up the subject largely, and, as I conceive, very happily and justly thus far, to give the hint expressed a second thought, and say something about it to the public ear. Having never heard from him, either directly or indirectly which is exceedingly to be regretted, the subject being vital in its consequences, he will pardon me for supposing him to have yielded a tacit assent to the statement expressed, viz., that "the throat affection," strictly so called, and understood by the faculty, does not, as a general remark, develop itself in the habitually tobacco-using subject—that is, by chewing and smoking; To the use of snuff, my observations have never been extended, the practice of "snuffing" being too apparently injurious from its general stupefying effects upon the system, and mechanical effects upon the voice, ever to be tolerated in a public speaker.

But granting that tobacco is a preventive, will it also act as a curative? Of this, I must confess I have doubts, and such, (knowing the vile and captivating nature of the habit) as have ever precluded its prescription theretofor in my practice. Indeed, I am fully convinced, (as is, or ought to be, every medical man of experience) of its noxious tendencies in certain habits, and have many a time most advantageously proscribed its use, as I do inva-
riably to the healthy man, that of every species of narcotics and stimulants in general vogue.

Now, my dear sir, as I rejoice in having all mooted questions of importance rigidly tested, I am truly happy that this has been brulted; and if my notions are wrong, which, being a decided, though not ultra, temperance man in all things, I truly hope may so prove to be, no one will sooner yield than myself a hearty assent to the conviction; but if, through rigid investigation, it shall be found that the investing membranes of the vocal organs call for some peculiar stimulus to exalt their secretions, and give a more healthy tone to the function, and that tobacco is that agent, let us know the fact, maugre all expressions of "disgusting and vicious habit," "narcotic indulgencies," "new era of knowledge," tendency to swell the number of inmates of the "tap room," &c. &c.

Your correspondent, after reading a homily in which I, nay all, fully coincide, "that thousands have found an untimely grave through the use of brandy, wine, and other narcotics, used to guard against sickness, &c." attaches a universally like agency to the cigar, finding fault with a recommendation of tobacco as a preventive, notwithstanding the old adage, that an ounce is worth a pound of cure, but admits that he "does not hesitate to prescribe it as a remedy in some forms of disease." Now I would as soon prevent as cure disease, especially such an one as this, an opprobrium medico-rum, which annually numbers its scores of victims, thus depriving the community of their highest and most ennobling teachings, could it be effected by so morally harmless a remedy as tobacco.

Although, peradventure, I do, with the ultraist or the honestly sensitive, subject myself, through these remarks and confessions, to the imputation of

"Compounding for sins one is inclined to,
By damning those we have no mind to;"

still I am constrained to offer this "testimony" of my individual observations and experience, submitting with pleasure to whatever judgment their investigation in the premises may declare, respectfully subscribing myself.

Your servant, &c.

J. MAURAN.

Providence, April 26, 1839.

Occasional existence of Animalculæ in the Human Blood. The occasional existence of animalculæ in the human blood has been admitted, for a long time, by some of the best authorities in physiology.

Brera and Treutler were the first to discover and announce the presence of the polistoma (one species of these entozoa) in venous blood. M. della Chiaje, who has long devoted himself to microscopic researches on this subject, has confirmed the accuracy of these gentlemen's statements, and he has also minutely prosecuted his enquiries respecting the physical characters of the animalculæ, and the mode of their generation.

He is inclined to regard the polistoma as a result or product of a pathological condition, and, therefore, of a spontaneous development or generation—as well indeed as all other entozoa. The morbid products, he says, may become organized and live at first at the expense of the tissue, in which they arise; they may then detach themselves from these, and in this state enjoy an independent existence—as for example the Acephalocystæ or Hydatids. The most simple Acephalocystæ, (those of which the animal character was so long called in question,) are now admitted to be genuine animalculæ, provided with a head, and also with special suckers, according to the researches of M. della Chiaje.
With respect to the Polistoma, M. Chiaje informs us that he has discovered worms of this genus in two classes only hitherto. Both patients were laboring under phthisical disease.

In one, the blood rejected during the first attack of hæmoptysis, exhibited half an hour afterwards, several small flat worms, somewhat similar to minute leeches, and either floating in the serum, or adhering to the sides of the vessel—which had been perfectly clean, before the blood was received into it.

The two physicians in attendance showed them to M. della Chiaje, who at once recognized them to be the Polistoma Sanguinea. He examined them minutely with the aid of a microscope, and quite satisfied himself of their real character. The same phenomena were observable in the subsequent hæmoptoic attacks of this patient.

The second case was very similar to the one now mentioned. A young man was laboring under hæmoptysis; the rejected blood, on several occasions, presented a considerable number of these worms to sight.

M. Chiaje alludes to the case detailed by Mr. Bushman, of Dumfries, and recorded in the number of the " Medico Chirurgical Review," for January, 1834. It may be interesting to reproduce a brief account of this case here.

The patient, a young boy, was laboring under influenza, for which he was bled. In the blood, after it had remained at rest for an hour, Mr. B. discovered numerous worms, some floating in the serum, and others imbedded in the crassamentum.

Mr. Rhine, of Edinburgh, an able naturalists, drew up an accurate report of these animalcule. They were from one half to two thirds of an inch long; they consisted of an articulated body, a head with rudiments of antennæ and palpi, and a tail terminating in two tubular bodies or stigmata. The colour of the animals was bright red. In structure, color, and size they correspond, says Mr. Rhine, exactly to the larvæ of the Tipula olaracea fly, which in summer is so abundantly found in ditch and river water.

Various other causes are also mentioned. Thus Notorianni has informed us that he discovered thirteen worms of the genus Polistoma in one of the sinuses of the aorta; and Borelli, Redi, Vallisneri, and Lucareli have recorded similar instances.

M. Chiaje has extended his enquiries to the blood of the lower animals; and he has discovered that animalcule are often present in the circulating fluids, not only in the higher Vertebrata, but also of many of the Invertebrata. Thus, in the blood of several Sepiæ and also of the Sea-mouse, he has succeeded in detecting occasionally a species of round or ovular animalcule. The mesenteric vessels of the Rana pipa, and the cranial veins of the porpoise have been found to contain worms similar to the Polistoma. We also know that the aneurismal sacs of the meseraic blood vessels in the horse frequently contain the Strongylus Armatus; and that M. Andral has met with Acphilacystis in the pulmonary veins of man. —(Clinique Medic. t. iii.) Annali Universali di Medicina. Med. Chi. Rev.
consequence of the absence of all pulsation and from the distinct sense of fluctuation, which was perceptible in it. The haemorrhage had been very abundant, and could not be restrained by pressure on the radial and ulnar arteries, but only by firm pressure on the wound itself. Whenever the compresses were removed, it returned; and M. Roux, therefore, determined at once to tie the arteries of the fore-arm. The radial one was first secured; and, as the bleeding still continued, the ulnar also was tied. The haemorrhage seemed to be arrested for the time; but, in less than an hour, all the bandages were found soaked with blood, which had oozed not only from the palm of the hand, but also from the two incisions in the fore-arm, which had been made during the operations. Suspecting that the blood might continue to flow through the interosseous arteries, the dresser applied a tourniquet above the elbow-joint; but even this failed, and the patient died in the course of the evening.

The dissection was performed with great care. Almost all the viscera of the three great cavities were pale and exsanguine; some fluid blood was found in the right, but none in the left, cavities of the heart. The blood vessels of the affected limb were minutely injected; but irregularity, either as to distribution or visible formation of their branches, were anywhere discoverable. The radial and ulnar arteries had been fairly tied; there were, however, no traces of any coagulum either above or below the seats of the ligatures. The deep palmer arterial arch was intact—in other words, was not involved in the aneurismatic tumor. The anastomosing branch, which passes between the superficial and deep arches, appeared to be the only one which was lost in the aneurismatic sac. The soft parts surrounding and forming this sac were reduced to a state of a blackish bouillie, in which no distinction of tissues could be discovered.

The reporter of the preceding case is inclined to attribute the diseased action—which, we may suppose, gave rise to the very remarkable disposition to haemorrhage,—rather to an extreme fluidity of the blood itself, than to any change of structure in the blood-vessels, or in any other of the solid parts.—That the blood was, indeed, remarkably fluid, and uncoagulable, cannot be disputed; but as to the cause of this change we are quite in the dark.

Case. 2. A man, forty-one years of age, who had frequently suffered from profuse epistaxis and hematuria, and also from rheumatic pains, accidentally struck his side against the edge of a door: the consequences of this was an enormous ecchymosed swelling, accompanied with extreme general languor and tendency to syncope.

On a former occasion, the mere pressure of another person's arm on the patient's elbow had caused a most extensive extravasation of blood from that part up to the shoulder.

It is worthy of notice that two uncles of this man had died, when young, from accidental haemorrhages; one of them from the bleeding after the extraction of a tooth.

His only sister too died in her infancy from a hemorrhage from the vulva; and his two brothers, after having been subject for many years to violent epistaxis, perished; the one in consequence of a blow on the head, which had caused an enormous sanguineous infiltration of the scalp, and the other from secondary haemorrhage after ligature of the crural artery, rendered necessary by the profuse bleeding from an accidental wound in the calf of the leg. (Resume Medicale, October, 1835)

The Hemorrhagic Diathesis, or Constitution seems to have been very remarkable in this family.

Case. 3. In the number of the Archives Generales for October 1833, there is the detailed history of a case of hemorrhagic diathesis, in which, as in the preceding one, the patient, a young boy, was afflicted at the same time with rheumatic pains. Dr. Hugues had made diligent enquiry as to the health of the other members of his family, and had learned the following par-
ticulars. All the males were subject to occasional spitting and vomiting of blood; also to exhaustion, constipation, and to troublesome hemorrhage from any part, which chance to be wounded. All of them suffered from troublesome rheumatic pains, whenever they were affected with any form of hemorrhage. Several had died in their youth; and in those who survived to more mature years the hemorrhagic disposition seemed to become less decided. It had been frequently remarked that, if any of them chance to be blistered, the discharge from the vesicles' surface was generally bloody.

Several of the females of this family, although they have exhibited the hemorrhagic diathesis in their own case, had transmitted it, sans exception! to their offspring.

If the preceding observations are quite accurate and to be depended upon, they present a very remarkable instance of a peculiarity of constitution in the male of a family, while the females were exempt from it. The co-existence of the hemorrhagic attacks and of rheumatic pains,—the former always preceding the latter—merits also to be noticed.

In the Archives for July 1835, we find some particulars of a family, the males of which exhibited a similar disposition to troublesome hemorrhages. One, a boy nine years of age, perished from excessive bleeding after the application of cupping-glasses to the knee; another, three years younger, died from a wound on one of his temples from which there had been a most profuse hemorrhage; a third, thirteen years of age, nearly lost his life from the obstinate bleeding from leech bites upon his forehead.

Two of the children had long suffered from rheumatic pangs.

Case 4. A man forty years of age, and of a soft lymphatic constitution, was subject to most troublesome hemorrhage from very slight wounds. On two occasions the bleeding after the extraction of a tooth had required, for its arrest, continued compression for several days. At another time it was necessary to use the actual cautery to stop the bleeding from leech-bites; and the same means were, on one occasion, requisite to stop the bleeding from a simple wound of a finger. Several times large ecchymoses had formed after very slight bruises.

It was for a swelling of this sort on the inner side of the thigh, that he had consulted Dr. Marjolin. This eminent surgeon was inclined to attribute the singular tenacity to hemorrhage, which existed in such a case as the present, rather to an atony of the capillary vessels, than to any marked fluidity of the blood itself, although he was not disposed to deny some influence to this latter cause.

It deserves to be noticed, in reference to this subject, that wounds of the larger blood vessels, such as the main in venesection, are usually found to heal as readily in hemophylae individuals as in any other set of patients.—This, however, is not always the case. Dr. O'Flan of Philadelphia, has recorded the history of a woman, all of whose sons had a remarkable tendency to troublesome hemorrhages from the slightest wounds. On, if not two, of these occasions, Mr. Kliingi{a}1\textsuperscript{a} of Berlin had observed hemorrhage from ordinary venesection. A curious circumstance is mentioned of the extraordinary power of the subject of altering the venous current from some of these venous. It was found that if this artery were taken, for several days successively, in doses large enough to purge the bowels, the bleeding ceased, and the wound speedily began to cicatrize. (See note at the end of this article.)

Klem also alludes to the efficacy of this remedy in such cases. He adds particularly to the history of this family, of which all the male descendants for four generations, had been most strikingly subject to hemorrhagic accidents.

M. Sisson in his Concourse thesis for 1837, mentions the case of a man, who died from a urethral hemorrhage; six of his children had suffered from the bleeding from casual wounds.
Blagden has given us the particulars of a man, who nearly perished from hemorrhage after the extraction of a tooth: it was not completely checked for nearly three weeks.

This patient subsequently had an alarming hemorrhage from a trifling wound of the scalp; and on a future occasion, the bleeding which followed the extraction of a tooth proved so obstinate as to require the ligation of the carotid artery, before it was arrested! The particulars of this case are reported in Samuel Cooper's "Dictionary of Surgery."

Including these remarks on Constitutional hemorrhage, we may once more state that the cause of this most serious condition may be either an atony of contractility in the minute blood vessels of the part, or a dissolved and unusually thin state of the blood itself, which is thus but little disposed to coagulation. Probably both of these agencies are present in most cases.—(See the following note.)

Finally, in the treatment of such cases, the use of internal astringents has, perhaps, been hitherto too much neglected. The use of the preparations of lead and of some other mineral astringents may probably contribute very materially to promote the utility of local styptic applications. We have found it stated in the report of one of the preceding cases that the administration of large doses of sulphate of soda had a marked effect in arresting the hemorrhage. Was this owing at all to the rapid discharge of serum by copious watery stools?

When we have reason to suspect any scorbutic tendency in the patient's constitution, the use of lemon-juice and of other vegetable and mineral acids, should, as a matter of course, be adopted.—Archives Générales.

NOTES.—The efficacy of sulph. of soda, in these cases, as proved by Dr. Otto, is a very important fact in a pathological point of view. It seems to us calculated to confirm the truth of two propositions, which, by the habit of exclusive and practical views, greatly to be complained of in the present age, appear to be arranged in opposition to each other—that is to say, when we consider the physiological action of salines, this fact confirms the truth that, not to a marked fluidity of the blood, nor an atony of the capillaries alone, may these hemorrhages be attributed; but, to both of these causes. Thus is the truth of Dr. Steven's saline doctrine proved, so far as this one fact will go; and the opinion of M. Marjolin's opinion of atony of the capillaries. M. Marjolin is, however, "not disposed to deny some influence to the humoral doctrine in these cases." There is no greater or more general error in medical reasoning, than the omission of some of the causes of the phenomena. This has been the great error, at the starting point, of both humoralists and solidists.—Ed.

Vicarious Menstruation. A very interesting case of this kind occurred recently in Sir P. Dunn's Hospital, Dublin, under the observations of Dr. Law. The following notice of it is given in the Edinburgh Medical and Surgical Journal. This case, with the cases of constitutional hemorrhage above given, demonstrate plainly, we think, the great importance of attending with much care, to the state of the great circulating fluid, and of regarding it as a proper subject of consideration in patho-
On the Cure of Hernia by Acupuncture.

M. Bonnet, one of the surgeons of the Hôtel-Dieu at Lyons, has contributed a very valuable paper to the Gazette Médicale on the above subject. He has been prosecuting his enquiries for several years past, and in that time he has met with so many cases, which fully warrant him in recommending the practice alluded to, that he is now anxious to communicate his experience to the profession at large.

The method, which he employs, is to insert several needles near to the inguinal aperture and fairly through the hernial envelopes, and then, after arranging them so that the opposite parietes of the sac are brought and kept in contact, to leave them in this situation until adhesive inflammation has been established.

Before detailing particular cases to illustrate the effects of this practice, M. Bonnet alludes to several applications of this form of acupuncture in surgery. M.M. Velpeau and Caron du Villards have, for example, used it for the purpose of inducing obliteration of arteries; M. Duvat in the treatment of varicose veins, and several other surgeons in cases of hydrocele, of encysted watery tumours, and non, or aneurisms by anastomosis.

But it is unnecessary to do more than simply to call the attention of our readers to these particulars, without entering upon any of their details. The object in all these cases is to excite the effusion of lymph, and thus to induce an agglutination of parts previously apart.

The method, which M. Bonnet adopts in the treatment of hernia, is as follows.

Having reduced the protruded bowel, he lays hold of the sac close up to the ring, keeping the spermatic cord fairly and firmly to the outside of the forefinger and thumb of his left hand: he then passes a long needle quite through the entire thickness of the par, guarding the head and point of the instrument, when it is fairly through, with pieces of cork, so as to prevent its displacement. Sometimes he twists or curves the two ends of the needle as a further security against its slipping out.

Having passed several other needles, with similar precautions, on the inside of this one, and sometimes also one or two on the outside of the spermatic cord. The number of needles that he employs is from six to eight. It is well to pass a thread through one of the pieces of cork affixed
to each needle, for the purpose of aiding its withdrawal, in case it be imbedded in the swollen part.

The needles are to be withdrawn on from the sixth to the twelfth day; and then a poultice or a compress, wetted with some spirituous wash, should be applied. As soon as the tenderness of the part abates, a compressive bandage is to be used.

The following is the catalogue of cases treated in this manner by M. Bonnet.

Case 1. A man 66 years of age, had been afflicted with an inguinal hernia on the right side for seven years. The inguinal canal was so wide that two fingers might readily be passed along it; and hence the protruded mass was as large and bulky, as two fists when closed together.

Six needles were introduced in two rows, one above or nearer to the inguinal aperture than the other.

The inflammatory action in old people being tardy, the first needle was not removed till the eighth day after insertion; a second on the thirteenth, and the rest on the following two days. The patient kept his bed for ten days; after this time he rose; and it was then found that the cough, which always caused the rupture to descend quickly before the operation, had no effect upon it.

A fortnight later he was dismissed, apparently cured, but wearing a truss.

It seems, however, that the old man's cough continued afterwards to be as troublesome as ever, and that, in consequence of the continual succession thus kept up, the rupture came down again three months after he left the hospital.

Remarks. It is to be noticed that everything was unfavourable to a cure in this case—the age of the patient, the size of the hernia, and the constant cough.

Case 2. An idiot, 45 years of age, had been ruptured for twelve years in the left groin. When M. Bonnet saw him, he would not wear a truss; so that every now and then the hernia became exceedingly large, descending as low as the middle of the thigh, very painful, and almost irreducible; the inguinal aperture was so wide that three closed fingers might be passed through it.

Nine needles were introduced, four in one row, and five in the other.

For the first six days, there was but little pain or irritation. After this period, however, the sac began to swell, and a blush of redness surrounded the seat of the punctures.

By the twelfth day, the punctures were found to be ulcerated; the needles, therefore, were withdrawn on this and on the following day. On the 17th day, the hernial sac was felt to be empty; but the inguinal aperture was still perceptible, although it was much less open than before.

Unfortunately, at this period, an attack of erysipelas came on, accompanied with a troublesome cough. The result of this was the renewal of the hernial protrusion.

3. The following case was more successful.

A locksmith, 35 years of age, had been afflicted with an inguinal rupture for 13 years; it was as large as the closed fist. M. Bonnet passed four needles through the sac, as near to its neck as possible. For the first four days, the patient experienced but little inconvenience; but then the seat of the punctures became red and painful; and by the sixth day the punctures were more or less deeply ulcerated. The needles were removed on the following day.

When the tenderness, &c. had subsided, the patient renewed the use of a truss; but every now and then he laid it aside: yet it was found that even when a fit of coughing came on, there was no return of hernial swelling. M. Bonnet saw him at various intervals during the next twelve months, and
satisfied himself repeatedly that the inguinal aperture had become nearly, if not quite, impervious.

The fourth case occurred in a young man, 24 years of age: the hernia was not larger than a hen's egg, and it did not protrude, except after exertion or coughing. He had been recommended to wear a truss, but finding the use of it to be very inconvenient while engaged at work, he had laid it aside.

This therefore was a favourable case; and the result of the acupuncture corresponded with the hopes of M. Bonnet. Three needles only were introduced: on the eighth day they were withdrawn. He remained in the hospital for another fortnight, and was then discharged.

M. Bonnet saw him repeatedly during the next fifteen months, and satisfied himself of the permanence of the cure.

In the fifth case, the hernia was of seven years' standing: the patient was 23 years of age, and the tumor was as large as the fist. Five needles were passed: they were removed on the seventh and eighth days.

It is only necessary to add, that there was never any threatening of the protrusion afterwards. The patient however continued the use of a truss, every now and then, with the view of consolidating the cure.

M. Bonnet alludes to two or three other cases, and also to an instance of umbilical rupture in a dog cured by his method; but our space prevents us from giving their details. It is important however to add, that he has had two opportunities of examining the state of the parts after the operation—in one case 21 days after the withdrawal of the needles; and, in the other, a year and a half after the date of the operation.

In the first of these examples, the patient died from an apparently aggravated form of suppurative or rheumatic fever. A large abscess in the psoas muscle was found on the dissection, and several of the abdominal viscera exhibited marks of the disease.

The subcutaneous cellular substance at the seat of the acupuncture was thickened and infiltrated. The fibrous membrane enveloping the hernial sac, and contiguous with the aponeurosis of the obliquus externus muscle, did not exhibit any appearance of change. One only of the five needles had passed fairly through this envelope; the other four avaient passé en dehors de sa cavité.

On slititng open the peritoneal sac, its anterior and posterior surfaces did not adhere, except at one point only, where a fibrous stratum, two lines in length and as thick as a writing-quill, connected these surfaces together; thus dividing the peritoneal sac into an inner and an outer canal.

Remark. The unsuccessful issue of the preceding case was unquestionably attributable to the visceral and other disease, which was existing at the date of the operation; it cannot therefore be fairly deemed as urging against the propriety of the practice.

The other case, in which M. Bonnet had an opportunity of examining the state of the hernial tumor after the operation by dissection, occurred in an idiot 40 years of age. He had been affected with rupture from his infancy. The tumor was so large that it hung down to the middle of the thigh, and the inguinal canal was wide enough to allow the passage of four closed fingers.

M. Bonnet passed eight needles; but there was great difficulty experienced in retaining them in their situation. Considerable swelling and tenderness of the sac supervened, and a considerable effusion of fluid into its cavity took place. This however subsided by rest and the use of discursive applications. By the end of the fourth week, the patient was permitted to rise from bed; and it was found that even on coughing the hernial tumour did not protrude. It seems however that, two or three months after his discharge from the hospital, the rupture re-appeared. He returned to the hospital about a twelvemonth afterwards, in consequence of a thoracic affection, which ultimately proved fatal.
Amaurosis. [June,

On the dissection of the herniary tumor, M. Bonnet found three small fibrous cords, each of about the size of a writing quill, which bound closely together the peritoneal sac and its outer fibrous envelope.

M. Bonnet supposes that there were similar connecting cords, connecting the anterior, and posterior surfaces of the sac itself; and that these were probably ruptured, when the bowels protruded two or three months after the operation.

It is worthy of notice that, before dissecting the parts, M. Bonnet passed eight needles through the neck of the hernial sac, in order to ascertain what immediate effects were produced by the operation. It was found on examination, that three only had traversed the sac. There is therefore, it would seem, considerable uncertainty attending the use of acupuncture, as described above.—Gazette Medicale.

Amaurosis. A late number of the Gazette Medicale de Paris, contains some interesting cases and observations on this distressing affection, by M. Petrequin, of the Hôpital Dieu of Lyons, who has established an ophthalmic clinique in that institution. Did our limits permit we would gladly lay before the profession, the cases and remarks of M. Petrequin entire, as they furnish rational views and successful treatment of a disease, which has long been one of the opprobria medicorum. We must content ourselves, for the present, with a brief synopsis.

M. Petrequin objects to a uniform treatment of amaurosis, as all cases are not identical; and the disease is most frequently found complicated with anemia, sanguine congestion, chronic sub inflammation of the retina, or other morbid conditions, which render any uniform mode of treatment necessarily unsuccessful. His plan is, in the first place, to treat these morbid states with appropriate remedies, and when they have been subdued, to resort to the preparations of nux vomica. The first case which is presented, is that of a worker of silk, 17 years of age, and of sanguine temperament, who labored under amaurosis of the right eye, preceded by congestive amблиопия. The catamenia were regular, and she had never suffered with any affection of the eyes, except once, the preceding year, from bathing her feet in the cold waters of the Rhine. For some time previous she had perceived a weakness in the sight of the right eye, mists floating before her eyes, orbital pains, and an unusual sensibility to light—her eye was clear, the ground of the pupil very black, pupil dilated, but little mobile, and of an irregular form; from an old wound of the cornea followed by adhesions of the iris—she had pains in the orbit, the temple, and forehead, but no other traces of inflammation or fever. The sight was lost, and the patient could neither walk alone, nor see the hand or fingers of her attendant. She was bled from the arm to the extent of 3 x, and a collyrium of rose water and extract of opium applied to the eyes. These were followed by a saline purgative, ten leeches to the right temple, and light diet. On the third day there was some amelioration—ten new leeches were applied, and a laxative physic administered. Under this treatment the pains were removed, and the obscurity of vision so far relieved, that the patient could distinguish M. P.'s hand. In proportion as the sight improved, a little photophobia returned. Ten more new leeches were re-applied to the temple. On the seventh day a blister was applied to the nape of the neck. There was no pain, but the dilatation of the pupil remained, and the pupil was quite black. Her sight, however, continued to improve, and she could distinguish characters of half an inch in length. Beyond this point, however, no improvement could be effected, and in this state she remained some days, during which time the treatment was suspended. M. Petrequin now used frictions with the tincture of nux vomica on the temples, forehead and eyebrows. In two days the sight had become more clear and extended, and she improved rapidly. This treatment was continued for
five days, at the expiration of which time her eye was perfectly restored, and she left the hospital.

In this case, so soon as the congestion with which the anaemia of the retina was complicated was removed, by appropriate means, the progress of the case was astonishingly rapid.

The next case presented by M. Petrequin, was complicated with anaemia, and ascites, and anasarca, consequent upon intermittent fever, and consequently required an entirely different treatment. The patient was a sadler, aged 27 years, of a lymphatic but not sanguinolent temperament. He had tertian fever in August, 1837. The disease lasted three weeks, during which time he was bled, and took pills—alum soon manifested itself in his feet and legs, and gradually extended itself to his thighs and trunk, and with it a voluminous ascites was developed. This state of things was partially removed by purgatives, but as soon as the abdominal swelling began to subside, the sight became feeble and obscured, and the patient was affected with an amblyopia which augmented in intensity as the ascites and anasarca disappeared. He was bled from the arm, and vesicatones and a seton applied to his neck; but the amaurosis continued to increase, and he left the hospital. On the first of January he re-entered the hospital in a miserable state. His skin was pale, his limbs oedematous, and his abdomen swollen, but without pain, his digestion feeble, and appetite but small. He cannot walk, and can scarcely rise from his bed. There was no appreciable alteration in the eyes. The pupil was clear, and moderately dilated—the iris of a brown color and mobile—the paralysis of the retina is general, and he sees no better on one side than the other—but there was neither pain nor photophobia. He could see his hands indistinctly, but could not distinguish his fingers, and he had the characteristic physiognomy of the blind M. Petrequin before he began the treatment of the amaurosis, placed the patient upon a suitable restorative course under which his general health improved, but his eyes remained in the same state. Vesication on the forehead over the right eye was procured, and a quarter of a grain of strychnine and three grains of nux vomica were applied to the abraded surface. This was repeated a few days. In a few hours after the first application, there was an evident improvement in the vision of the right eye but the left remained unaltered. A similar treatment was now adapted for the left eye, and two pills of calomel given daily. The vision of the left eye now began to improve. As an auxiliary the tincture of nux vomica was applied to the forehead. Soon after the sixth vesication, which had been repeated every five days, his vision became clear and extended—he read small characters oculi currens, and saw equally well with either eye. The whole treatment only occupied twenty-six days, and when it is considered that the disease had lasted four months, that the ordinary means had failed, and that it was complicated with a radically depraved state of the general health, we must admit that the endemic method of applying the strychnine is one of great power, and that M. Petrequin is entitled to high credit for his successful treatment. In his remarks upon this case, M. P. gives his opinion that in analogous cases the seton in the neck has the effect of increasing the visual asthenia. He also condemns the use of bandages in similar cases, as he believes the light is then a very useful excitant.

We have a room for a more extended synopsis of M. Petrequin's interesting paper, and will only add some of M. P.'s concluding observations.

"Without method we shall arrive at nothing. It is with this view that I have endeavored to point out the necessity of preparing the patient properly, and of thoroughly analyzing the different elements of the disease, as the only course which will enable us to combat it with appropriate means. Without that, this method though so efficacious, may prove dangerous, if, for example, there exist ramollissement of the brain, a varicose state of the
On the Catoptric Examination of the Eye. [June,

vessels of the retina, a latent ocular phlegmatism, an inflammatory, congestive or apoplectic idiosyncrasy, &c. Mercurials exert a powerful influence, though in general but little understood. Cataract, which produces such remarkable antiphlogistic effects in pteronitis, in simple or phlegmonic cys-
epelas, and which produces such an important antiphlogistic action in iritis, and in many ocular affections, constitutes an efficacious remedy, which has not been sufficiently tested in analogous cases. It promotes the absorption of ob-
structions of the retina, and a removal of the irritations which are developed there, and contributes to a favorable issue of the disease, but every thing de-

pends upon their being administered apropos.

On the Catoptric Examination of the Eye. By the Editor—in our num-
ber for August, 1838, we gave an account of a new means of diagnosis be-
tween amaurosis and cataract, discovered by M. Sisson. The surgeon ob-
served that, when a lighted candle was held before an eye, the pupil of which was dilated, and in which there was no obscurity of the transparent tissues, three distinct images of the flame were visible; two upright and one inver-
ed. Experiments made to determine the causes of these reflected images, and the changes which occur in their number, position, &c., have shown, that if a light be placed before the convex face of a single watch glass, or of several arranged one behind the other, one or more upright images of the flame will be seen, according to the number of glasses used.* Now, in the eye there are two superimposed convex surfaces, viz.: 1. the cornea, 2. the an-
terior capsule of the crystalline lens. Thus the formation of two upright images is explained.

Again, if a light be placed before the concave surface of a watch glass an invered image is seen. Such a surface exists in the eye, in the posterior capsule of the lens; and thus the third image is accounted for.

We have been led, by the statement of M. Sisson, to examine the eye ca-
toptrically in a number of cases with the last ten months, and the results of our investigations are entirely confirmatory of the representations of that distinguished surgeon. But it is not merely as a means of diagnosis between cataract and amaurosis, that this method of examining the eye is useful. The color, size, distinctness, &c. of the reflected images, enables us to dis-
tinguish many conditions of the transparent tissues of the eyes, which could not, by any other means, be diagnosticated. Dr. Mackenzie, of Glasgow, has recently employed it to determine the seat of the different varieties of glaucoma, and it is capable of further application. In fact, we are persuaded that the catoptric examination of the eye will prove as useful a means of di-
agnosis in various alterations of that organ, as auscultation and percussion are for those of the chest.

It should be borne in mind that very careful examination is usually re-
quired before those who are uncustomed to observe them are able to detect the reflected images—once noticed, however, they are afterwards readily seen.

Dr. John Neil, the intelligent resident surgeon at Wills Hospital, has con-
structed some models which serve to illustrate these catoptric phe-

omena, and to assist the student in detecting the reflected images. These mod-
els are formed of three watch glasses. Two of them are of the same size and smaller than the third. The former are attached together with their concave surfaces opposed, so as to represent the capsule of the lens, and are

* At least so it is stated. But in truth, each image is double—one being reflected from each surface of the glass; and these images are the more distinct the thicker the glass is.
inserted in a hole made in a circular piece of pasteboard. This diaphragm
thus constructed, is placed in a pasteboard cylinder or circular box near one
end, and this end is covered with a larger glass, to represent the cornea.
The other end of the box is closed, and the parts described are kept together
by strips of paper and paste. We have thus a good representation of a
natural eye. To represent the opacity of the capsule, other models are
made with paper pasted on one or the other of the reflecting surfaces.
With a little ingenuity models may thus be made to exhibit sufficiently
well most of the different conditions of loss of transparency of the tissues of
the eye.

Our investigations are not sufficiently matured to authorize us to lay them
at present before the public, but we hope in due time to communicate the

On the Efficacy of Extension, Shampooing, and Percussion, in Muscular
Contractions. By Dr. Recamier, of the Hôtel Dieu. The peculiar func-
tions of all the organs of the body may be disturbed, either directly or indirec-
tly—the deviations from health being in many cases dependent upon the
state of an organ at a distance from the one, which exhibits the morbid phe-
nomena.

The contractile functions of the muscles, involuntary as well as voluntary,
not unfrequently exhibit the truth of this remark. My object in adducing
the following cases is to point out the great efficacy of simple mechanical means
in rectifying many muscular ailments.

1. About eighteen years ago, I was consulted by a middle-aged gentle-
man, who had for upwards of four years been regularly nailed to his bed by a
pain in the right side of his neck, shoulder, and arm, which was so agonizing
on the slightest movement that often he could not refrain from screaming
out.
All sort of anodynes and emollients had been ineffectually tried. I advis-
ed the use of regulated and, as it were, elastic percussion, with the hand
on the affected part. At the first it was to be administered in gentle taps,
and gradually with more and more forcible beats. By the aid of this simple
means alone, the patient was speedily relieved from all his suffering, and
was soon enabled to resume his duties as a judge of the peace.

2. A young girl, 13 years of age, was admitted, in 1836, into the Hôtel Dieu
under the care of M. Racamier, for pleurisy. At the beginning of the follow-
ning year, the catamenia, which for some time back had been scanty, were
suddenly arrested by exposure to wet and cold. Dyspepsia and general ma-
laise were the consequence. She was re-admitted into the Hôtel Dieu,
Lecches were applied repeatedly to the vulva; but then the left arm, fore-
arm, thigh and leg, became affected with extreme rigidity, and these symp-
toms were accompanied with retention of urine, and with a most painful dif-
ficulty in evacuating the bowels.

Bedding, anodynes, in enemata, as well as given by the mouth, &c.,
&c., were freely employed, but with no avail: and this poor creature remained
for two entire months in the most distressful situation of stiffness of the
left limbs and retention of (or rather, we presume, of dulthood in passing) the
urine and the feces.

On examining the rectum it was found to be quite empty; but the sphincter
ani was exceedingly contracted.

I dilated the stricture; the pain, although severe at the time, ceased almost
immediately, and the evacuation of the bowels became at once much
dependent.
The result of this first trial induced me to treat the urinary affection in
a similar manner; and with this view I began to work or knead (masser) the neck of the bladder against the pubes, by means of a finger introduced into the rectum; the strangury ceased as quickly as the constipation had done.

I then resolved to apply a similar mode of treatment to the contracted muscles of the limbs, acting as in cases of ordinary cramp.

I commenced with the arm; and it was not without great difficulty that I overcame, little by little, sometimes by continued efforts and at other times by efforts en cadence, the resistance of the extensor muscles of the fore-arm, the flexor of the hand, and, also of the deltoid and other muscles of the shoulder-joint.

By dint of patience, however, the arm was bent, the hand opened, and the arm was gently removed from the side; then laying hold of the hand, I kept swinging it about.

After this rather violent, and moreover painful, manipulation had been continued for some time, it was found that the patient was able to move her arm about herself.

My attention was then directed to the affected lower extremity; but here it required the strength of three people to bend first the knee and then the thigh on the pelvis. We may readily suppose that these efforts were attended with great suffering to the patient. When the pliability was once restored, the limb was swung about from side to side for some time. This did not require to be continued long, till the girl was able to use the limb herself, so as to walk about the ward.

Gradually she recovered the use of all the contracted parts, so that she soon left the hospital nearly quite well.

The third and fourth cases were of wry neck; in both, the disease was cured by the gradual but forcible extension of the contracted muscles.

The eleventh case which M. Recamier relates, was one of permanent and painful rigidity of the muscles on the back of the neck, in an elderly lady, who was, in consequence of the affection, confined constantly to her sofa. A variety of means had been ineffectually tried for a length of time, when, on the suggestion of our author, shampooing and compression speedily effected a cure.

5. Five and twenty years ago, I was consulted by a lady, who had long severely suffered from fissure of the rectum, for which the late Baron Boyer had divided the sphincter.

The operation, however, did not prevent a relapse of the disease, and the patient continued to suffer dreadful pain in the rectum, especially on going to stool.

Dilatation of the sphincter and of the lower end of the rectum, by means of houbies, gradually increased in size, ultimately succeeded in effecting a perfect cure.

It is to be remarked in this, and in many other similar cases, the dilatation was attended with excruciating pain.

Dr. Recamier mentions several other instances of painful constriction of the anus, either simple or complicated with hemorrhoids, fissures of the rectum, &c. in which the use of gradual but forcible distension of the gut was speedily followed by great relief, and ultimately by complete recovery.

He adds that the surgical operation of dividing the sphincter may be dispensed with in the majority of cases.

6. Several years ago I was sent for to a middle aged lady, who was suffering dreadful torture from une colique nerveuse et azygétique.

Without delay I placed my extended palms on her belly, and commenced a gradual and firm compression—this had not been continued long before the severity of the suffering quite ceased.

In a future paroxysm I made her waiting maid asseoir sur le ventre de sa matresse; and this mode of compression was speedily effectual. (!)
In another case of a like nature, I have used with success a binder drawn very tightly round the abdomen; adding, if necessary, a pad or cushion over the seat of the pain at the same time.

When in severe colic the intestines are felt through the abdominal parieties, like hard cords or serpents, I have repeatedly relieved the patient's sufferings by kneading them, as it were, with my hands, so as to overcome their unnatural state of constriction.

7. A lady, thirty two years of age, long suffered from exacerbating pains in the hypogastrium, unattended, however, with fever. On examination per vaginam, the uterus was felt to be quite healthy; but, on examination by the rectum, the posterior surface of the uterus was found to present several inequalities to the finger. This case I regarded to be one of a purely nervous, or muscular, character, and likely therefore to be benefitted by compression.

Grasping the uterus in the hypogastrium with my hand, I pressed upon, with two fingers of my right hand in the rectum, the inequalities just now mentioned; I was surprised to find them gradually disappear; while at the same time the patient, who at the beginning of the experiment suffered most severe pain, declared that she was now comparatively quite easy.

These bosseslures having been in this manner dissipated, on three or four occasions, the pains ceased to return.

The cure was rendered permanent by the use of a bandage, tightly laced round the pelvis and hypogastrium.

What relation is there, says M. Recamier, between the cause of these uterine pains and the partial spasms of the womb—an organ which we know to be muscular and eminently contractile?

The next two cases, which our author records, are instances of violent intestinal spasms, which were speedily relieved by the employment of forcible compression, and of enemeta of warm water administered at the same time.

10. A lady, thirty years of age, had for several months been affected with a permanent and apyretic hiccup, the seecousses of which were so violent, as quite to lift up and shake every part of the body. Various remedies of an anodyne, antispasmodic, &c., nature had been employed but without decided benefit. I suggested the use of a firm belt, provided with a pad or cushion placed over the pit of the stomach. By this simple means alone, the patient got entirely rid of her annoying ailment.

12. A young lady was, in 1834, affected with various chlorotic symptoms, for which steel, active exercise in the open air, &c., &c., were recommended by Dr. Colson of Beavais. In 1835, after exposure to wet and cold, she began to be affected with an incurvation of the spine to the left side, so that the trunk formed at length an angle of 45 degrees with the vertical axis of the pelvis; and at the same time, the right fore-arm was immovable contracted upon the arm. Such was the condition of this poor invalid, when she was sent to Paris to be seen by MM. Andral and Marjolin and by myself.

Leeches, cupping over the spine, baths, &c., had been repeatedly tried; but without any effect. The result of the metropolitan consolation was to recommend the use of gymnastic treatment, of fumigations, of leeching and cupping, of embrocations, &c,—but these means were used with no better results than heretofore.

She was then put under the care of M. Guerin, and subsequently of M. Humbert at Morlaix; and, although nearly two years were spent in trying various remedies the condition of the patient was little, if at all, improved.

Upon her return from Morlaix, she once more consulted M. Recamier, who, remembering the striking results obtained in the second case, suggested to M. Colson to try a similar mode of treatment.

Severe pain was caused by the forcible extension of the forearm, combin-
ed with the shampooing of the biceps muscle. This might have been expected, seeing that the muscle had been permanently contracted for upwards of three years.

The gradual extension and kneading of the muscles of the affected shoulder and of the trunk were attended with much less pain; indeed the manipulation, although very irksome, was almost immediately followed by a feeling of great relief. The improvement of the state of the shoulder and of the affected side of the neck was speedily, most remarkable; the condition of the arm and forearm was not so promising.

By continuing, however, steadily the same plan of treatment, this young lady gradually recovered the use of the contracted limbs, and was enabled to resume ses anciennes habitudes; whereas, during the preceding three years, she had been quite shut out from society, and an object of great helplessness.

13. Last December I was sent for to meet MM. Lisfranc and Chevcreux in consultation upon the case of a middle-aged lady, who had been affected some months previously with hysterical ailments; on the cessation of which there supervened a violent pain, first in the coccygeal and then in the cerebral and occipital regions, recurring in fits of the most excruciating agony.

During the continuance of these most severe sufferings, there were also, now and then, symptoms of subacute inflammations of the uterus and its appendages present.

The patient had been visited by MM. Andral and Chomel. A host of medicines, antiphlogistic, anodyne, epispastic, derivative, &c., had been tried; but without any decided benefit. The quantity of opium, which she had taken without producing even narcotism, was immense. What had procured perhaps more relief than anything else was the application of four grains of the extract of stramonium to a blistered spot on the scalp; but the symptoms of poisoning from it were so alarming that the physician was unwilling to repeat the remedy.

M. Recamier, having attentively studied all the phenomena of this very aggravated case, suggested the following means to be tried:—a firm belt round the hypogastrium, provided with a strap and cushion to compress the os coccyx and the fundament; enemata of assofetida, camphor, castor, opium, and sometimes of quinine, when the return of the paroxysm appeared to be at all periodic; the internal use of pills of musk, camphor, and assofetida; electro puncturation; and lastly the extension and shampooing of all the muscles, which were at any time affected with cramp.

Before leaving the house of the patient, M. Recamier had an opportunity of witnessing one of her dreadful paroxysms of pain, which had, hitherto, usually lasted for three or four hours; the head was thrown backwards, and her features were distorted by convulsions. Having satisfied himself that the muscles on the back of the neck and shoulder were violently contracted, he requested MM. Lisfranc and Chevreux to fix the two shoulders, while with one hand he (M. Recamier) forcibly drew the head forward, and with the other he kneaded and remuddled the affected muscles.

The patient all this time was screaming out with pain; but no sooner was the head fairly bent forward than she began to smile, and confessed that she was quite easy. M. Recamier advised that the head should be removed from side to side for some time, in order to prevent the speedy return of the cramp.

The future relapses of the disease were always treated in the same simple manner, and with equally gratifying success.

(The report stops here.)

M. Recamier closes his interesting and instructive paper by the enunciation of the following conclusions:

a. It is necessary to discriminate those spasms or contractions, which are
not dependent upon or proceed from, an affection of the nervous system, but which constitute a direct loss of the contractile functions of the affected muscles themselves.

b. In idiopathic muscular contractions, in wry-neck, in spasmodic colic, in permanent spasms of the sphincters, &c., the use of extension, compression, and shooing, and the application of the cupping-glasses, seem to be by far the most efficacious means of treatment.

c. Hence it is rarely necessary to have recourse to section of the contracted muscles in such cases. Where we know, or have reason to suspect, that there is an actual degeneration or morbid change of structure in the part, such an operation will probably be necessary.—*Revue Medicale.*

Remarks.—We quite agree with the Editor of the French Journal, in which M. Recamier's paper appears, that it is one of the most practically valuable which has been communicated to the profession for a great length of time.

The character of M. Recamier stands very high among the ablest physicians of the French metropolis: from our own experience of the French medicale literature, we should be inclined to award the palm of pre-eminence to him and to M. Andral, as the two men of the largest and most comprehensive minds, and the best imbued with the genuine spirit of true philosophy.

Their views on medical questions are always clear and sagacious, and their practice seems to be invariably simple and natural.

They are the very antipodes of such men, (able though these are) as MM. Bouillaud, Velpeau, &c., who too often allow themselves to adopt certain notions of disease, and strive to confine nature within definite and arithmetical calculations.—*Ed. Med. Chair. Rev.*

**Urea in the Blood in Cholera.**—In a recent Number of *Poggendorf's Annals,* it is stated that Marchand detected slight indication of the presence of *urea* in the blood of a patient who was affected with cholera, and who had not passed urine for three days. Still more recently Dr. Harry Rainey, of Glasgow, has distinctly detected urea in the blood of a patient who had died with all the symptoms of Asiatic cholera. The patient, a female, was ill eleven days, during which only 33 ounces of urine was secreted, including a small quantity found in the bladder after death. The blood analyzed was taken from the larger vessels and heart. There was detected rather more than one grain of urea in each ounce measure of blood.—*London Medical Gazette,* 1839.

**Analysis of the liquor Amnii.**—Dr. G. O. Rees has made a chemicale examination of the liquor amnii in four cases obtained, at the 7 1/2 month of uteroestation. The results show that this fluid varies greatly in proportional constitution in different, individuals, at the same period of utero-gestation, so that, like all the secretions of the body, it is agitated by the temperament and diathesis of the mother. The specific gravity of the secretions, however, varied but little in the specimens examined by Dr. Rees, (1007. to 1008.6) a precaution, he thinks, on the part of nature, to preserve a medium of fixed power to oppose the motions of the foetus in utero.

The experiments of Dr. Vogt, of Berne, (see this Journal for Nov. 1837, p. 219,) would lead us to suppose that there is a great variation in the density of the fluid at different periods. Dr. Rees does not regard those experiments as conclusive, as there is a want of proper relation between the solid contents and specific gravity of the fluids, as given by the Swiss chemist.—*Guy's Hospital Reports,* Oct. 1838.
PART III. MONTHLY PERISCOPE.

Hooping Cough treated with Carbonate of Iron. We are informed by the Med. Chi. Rev. from the Medicinishes Corresp. blatt, that “Dr. Steymann, a correspondent of one of the German Journals, very strongly recommends the use of chalybeate medicines, in the cold or chronic stage of hooping cough.

He gives it, at first, in minute doses, frequently repeated, alone, or in combination with sugar. He always premises the use of an emetic.

The following cases illustrate his practice:

“Case 1. Henry Schraeder, 11 years of age, had been suffering from severe hooping cough for upwards of two months, when Dr. S. visited him. He prescribed,

Carbonate of iron, twenty five grains.
White sugar, twenty grains,
divided into ten powders, and one given every three or four hours.

In the course of a very few days there was a marked mitigation of the cough. The quantity of the carbonate in the powders was gradually increased; the hooping ceased, and the patient quickly recovered his strength and plumpness.

Case 2. Jules Etier, five years of age, had just recovered from the small pox, when he was seized with hooping cough. He had been suffering from most violent paroxysms of it for upwards of three weeks, when Dr. S. ordered him the use of the carbonate of iron. At the expiry of four days, the child was completely relieved from the cough.

N. B. The suggestions in the preceding communication appear to us to merit the attention of medical men.”

Closure and Obliteration of the os uteri, during pregnancy. We give the following extract from the American Journal, as it is curious and novel. But since we have found accoucheurs disposed to cut the presenting part of the uterus, in cases of this anteversion of the uterus which carries the os uteri too high up on the sacrum, we feel unwilling that it should go the public without a caution for ensuring a correct diagnosis between such cases and real obliteration.

Dr. Samuel Webber, of Charleston, N. H. says—Early one morning I was called upon to attend Mrs. O——, aged 28, in labor with her first child. The pains were said to have been regular and of moderate strength at night. Upon examination I found a large rounded tumor pressing well down into
Neuralgia of the Testicle. This, with the two following articles, have been extracted from the Doublin Journal, by the American Journal of Medical Sciences.

This is fortunately a rare disease, for it is one of the most painful ones to which man is subject, and often a very intractable one. Dr. Graves, in the Doublin Journal for January last, mentions two cases. The first occurred in a young gentleman of highly irritable nerves, who had studied hard and dissipated much. The paroxysms of pain did not observe any marked period, but returned daily at uncertain intervals, which grew shorter and shorter, until at last he had scarcely any respite day or night. There was no fever, and not the slightest appearance of local congestion or inflammation. This case yielded to large doses of carbonate of iron freshly prepared, and frequent injection of the testicle and cord with belladonna ointment.

The second case occurred in a gentleman who labored under neuralgic pains decidedly of a gouty nature. In him the pain of the cord and testicles used to come on every afternoon about four o'clock, and continued for several hours. The pain was at times very severe. The neuralgia of the testis disappeared after a few days, and was replaced by a violent gouty pain in the loins and right hypochondrium. The latter yielded to the usual local treatment and the use of colchicum internally.

Method of preparing Sinapisms for the purpose of withdrawing Gout from the vital organs to the extremities. Dr. Graves says that the sinapisms usually employed for inviting gout from vital organs to the extremities, act too quickly to be long borne; and of course only give rise to very superficial inflammation, and that of very brief duration. To fix gout in a part, e.g., the foot, he adds, our application must act much more gradually, and must excite the deeper seated tissues. These objects may be obtained, he states, by mixing one part of strong and fresh ground mustard powder with three of flour, and adding as much treacle as will convert them into a viscid paste,
which may be spread like a plaster on linen, and applied to the part. This will be borne for four or six hours, and will cause a reduction which will last a whole day. The proportion of flour may vary according to circumstances.

**Treatment of Permanent Hypertrophy of the Tonsils.** Dr. Graves considers the best remedy for this affection, to be the nitrate of silver, and he prefers Mr. Cusack's method of applying it which is as follows: "The solid stick of lunar caustic, or some of the latter in powder, and placed in a proper instrument, must be kept steadily pressed against a particular spot of the enlarged gland; two, three or five seconds will suffice to secure the formation of a small eschar, which falling out, will leave in the part, when healed, a slight depression like the largest pit formed by a small pox pustule. When this has been effected, which is usually in about five days, a similar proceeding must take place with the other amygdalae; and so on in each turn, until the desired reduction of size has been accomplished." Dr. Graves prefers this method, to the use of the ligature or to excision. When the glands are large, he says, this process usually requires about six months; it is slow but sure, and must be intermitted when any accident gives rise to temporary sore throat or catarrh.

**Division of the Prostrate in Lithotomy.** H M. Phillips, Esq. Assistant surgeon to the Royal Cornwall Infirmary, strenuously recommends the following modification of the above operation, as diminishing the risk of life usually attending the lateral operation of lithotomy; viz. — hemorrhage, puncture of the rectum, peritoneal inflammation, with purulent deposit about the neck of the bladder; and infiltration with its consequences.

"Having introduced a straight grooved staff into the bladder, and having reached the membranous portion of the urethra by the usual incisions on the left side of the perineum, I cut into the groove of the staff. The staff being still firmly held by an assistant, I introduce the nail of the fore finger of the left hand into the groove, then insert the point of the knife, also into the groove in advance of the finger, i.e. flat surface resting on and parallel to the plaine of the nail; both are then carried steadily onward until the knife enters the bladder; indicated by the gush of water; it is then withdrawn, and the finger used in pushing firmly and fairly into the bladder. The forceps is then introduced upon the finger (the best director in all operations), and the stone is embraced.

"It will be seen that the principle acted upon here is the same as that which proved successful in the hands of Cheseldon, and was so warmly commended by Sir Astley Cooper; namely, the partial separation of the lower portion of the prostate gland with the knife completing the separation to the necessary extent without a cutting instrument. Cheseldon used for this purpose the blunt curved gorget, I use the finger. And I do declare, having tried this method on the adult, I have found no difficulty whatever in enlarging the opening sufficiently, by simply protruding the finger into the bladder, which is accompanied with the sensation of a slight tearing.

"The advantages of this mode of operating are — the certainly of avoiding hemorrhage, or of puncturing the rectum, and the equal certainty of being able to make the opening into the bladder large enough, to extract the stone, and no larger. I may add, that I never yet found any perineum too deep to prevent my enlarging the section of the prostrate with the finger; and I am quite satisfied that any lithotomist who may adopt this method will not readily abandon it.—*London Med. Gaz.* 15. Dec. 1838.