recorded, viz., that the opacity has a great tendency to cure itself, if left alone.

St Catherine's, Upper Canada,
March 1845.

PART SECOND.

REVIEWS.

Psychopathia Sexualis. Auctore Henrico Kaan, Medico Ruthenico et Doctore Medicinae Vindobonensi, &c. 8vo.; pp. 124. Lipsiae: 1844.

(Mental Sexual Disease. By Henry Kaan, M.D., &c.)

This work, notwithstanding the extraneous matter which it contains, is, upon the whole, creditable to the author; and this can be said of few of the many books, pamphlets, and papers which have been printed on the revolting subjects of which it treats.

It consists of two Parts. The First Part contains much that is quite irrelevant to therapeutics, though they are professedly the great aim of the author's investigations. The first twenty-eight pages are occupied with a description of the sexual system in plants, animals, and the human species; and the next fourteen are devoted to a description of puberty and its attendant phenomena, mental and physical. After this follow observations on the sexual instinct and its perversions. The remarks upon the latter are as curious as they are unsuitable for translation. We quote them, therefore, in the original Latin.

"Nisus sexualis (Geschlechtstrieb) ut ad quantitatem mutationes numerosas offert, ita et ad qualitatem ab norma aberrat, et diversae rationes exstant nisi sexuali satisfaciendi et coitum supplendi. Species harum aberrationum sunt sat numerosae, ast vulgatissimae sunt: onania sive masturbatio; puerorum amor (παιδεραστία); amor lesbicus; violatio cadaverum; concubitus cum animalibus; expletio libidinis cum statu.

"Onania sive masturbatio est impletio nisus sexualis ope manus; in animalibus obviam venit, ut in elephanti mare, qui comprimit penem inter crura postica et evacuationem spermatis sollicitat; M. Geoffroy observavit (Ann. mus. tom. vii., p. 227) pteropum (de Brisson) lambere penem ob hanc rationem; simiae magnopere huius vitio deditae sunt, inprimis illae species, quae manibus, mammis et pene libero gaudent (Virey, p. 41.)

"Onania jam occurrit in vetere testamento (II. Mosis, c. 38, v. 6, 7, 8, 9), et ejus vestigia in tota historia deteguntur; cum cultu humano civilique celeriorem progressum celebravit; tamen etiam inter populos feros obviam venit, inprimis Americae.1

1 Lopez de Gamora, Hist., liv. ii., ch. i., et liv. iii., ch. xiii. Steller Kamtch.: p. 287. Garcillaso de Vega, Hist. des incas, liv. ii. Lamotraie, t. ii., ch. iii. Char-evoix, Nouv. Fr., liv. ii., p. 4. Dumont: Louisiana; apud Graecos et Romanos, Philippus Camerarius Horae subsec. cent. ii., cap. xlv.
Interdifficultas Urinariae. RECTI, Signa. CATA Pliniain (1845). An,? Neiu
Picio Exeroe ?vit'Sc coxxal'ritUl'' natitur
talgas, Paederastia aPA-
Orpheus secundum Ovidium 2 fuit auctor hujus vitii abominabilis:

"Ille etiam Thracum populis fuit auctor, amorem
In teneros transferee mares citraque juvetum
Aetatis breve ver et primos carpere flores.

Cuique notum est, quam antiqua haec aberratio sit in Orient; etiam inter
Muhamedis sectatores polygamos feminae in gynaeceo sunt tribades; et Turcae
puniti hoc vitium. Etium inter populos feros occurrit inter Cactas in
America septentrionali. 3

"Violatio cadaverum etiam occurrit. 4 Signa sunt: membra cadaveris positionem
mutatam offerentia, genua flexa, crura detracta, genitalia externa ampliata,
in virginibus hymen recens ruptus, in vagina et extra illam vestigia seminis.

"Coitus cum animalibus certe difficiliius detegi potest. Inprimis suspicio oritur, si animal circa genitalia laesum inventur. 5 Incolae Persiae coxalgia adfecti, luic vitio, tanquam remedio, se sedere dicuntur. 6 Feminae Kamtschadales anima1a mascula superstitione ductae ad coitum excitant. 7 Leviticus mentionem facit de coitu cum bestis, et cum feminis Judeorum interdicit. 8

"Incolae insulae Madagascar vivunt modo ferarum, pueri et puellae libidines
exercet in presentia parentum, qui rident. Pueri et cum animalibus libidinantis,
imo et servi cum vaccis impuniti stuprum factunt. Inveniuntur ibidem
Tsecats, homines impotentem et effeminati, qui qu aerunt pueros et libidini indulgent;
as feminae aversantur, nec coitum cum iis amant. 9 Apud veteres, nonnulla exempla coitus cum animalibus occurrunt: feminae Mendesiae cum bove sacro, 10 qui actus sapa palm omnibus celebrabant; 11 evo Trajani et Adriani magnus numerus feminarum pulchrarum se voluptatibus permisit cum
animalis sacro, ast bos ut plurimum preferebat femellam propriam, abhorrens
ipse detestabilem coitum. Piae et religiose, secundum Diodorum Siculum, se
offerebant nude et in statu ardo ris veneri:

. . . . . . . . . " Mendetis
Quo salax caprae maritus
Humanam audet inire feminam.

"Homines cum capris quoque sibi voluptatem permiserunt; inde cultus
Panis et ejus sacerdotibus tales honores decernebantur.—Superstitione haec reli-

1 Bernt, Medicina Legalis, p. 100.
2 Metamorph., lib. x. 85.
3 Bossu, Nouv. Voyages aux Indes Occid., t. ii., p. 100.
4 Haller prolectiones, sect. 42, p. 301, narrat puellam, quae mortua esse videbatur,
secundatum esse.
5 J. Warton, Note on Theocrite, idyll i., v. 88, p. 19. Siculi caprarii cum capris et
sarracenus sanctus (p. 274) cum asellis. Baumgarten, Peregrin. in Ägypt. Arab., p. 73.
6 Pallas, neue nordische Beiträge, part ii., p. 38.
7 Stellar, Beschreibung von Kamtschatka, p. 239.
8 Cap. xviii., xix., xx.
9 Flacourt, Madagascar, p. 86.
10 Hancarville, Recherches sur l'origine des arts de la Gréce.
11 Herodot., lib. ii., c. xiv.
giosa exstitit ante Mosem, et female Judaeorum saltabant nudae ante bovem Adonai, et occurrit adhuc in secundo seculo post Christum. In operibus sculptis veterum Graecorum tales scenae observantur.

"Omnes hse aberrationum nisus sexualis tristissimae contemptum aversationem merentur, quibus obrutae sunt; tam leges naturae quam code* civilis et precepta ecclesiae eas condemnant et in asceclus puniunt. Etiam in populis feris varia remedia tentantur ad onaniam praecavendam: annuli labiis, tintinnabula in membro virili; in insulis Zubut annuli ex auro facti, in Turcia ex ferro (Nicolai.) Labillardiere narrat, in insulis meridionalibus quaedam mullusca esse, quae ibidem suspendantur, ut bullae ovum."

Part Second is practical. The causes which lead to Psychopathia Sexualis in its various forms are enumerated. They are just those with which physicians are well acquainted. The truth of the following statement regarding the sources of this vice cannot be too strongly impressed upon practitioners and parents.

"Efficacissima et maxime vulgaris causa: seductio directa ope nutricium, capillorum concinnatorum, ancilarum, condiscipulorum, imo in dedecus gessentium liumani et educatorum vel praeceptorum."

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Lectures on Animal Heat. By Thomas Spencer, M.D., &c., 12mo, pp. 114. Geneva, N.Y. 1845.

The author does not pretend to give any new facts; but his deductions from those which have been already ascertained, possess some pretensions both to novelty and ingenuity.

Chapter II. is upon the "Chemico-vital changes produced by Respiration upon the Blood and Respired Air." It terminates with the following summary:

"1. Carbonic acid gas is formed in the lungs by the oxydation of Carbon from the darkening pigment of venous blood.

2. The oxydation of the carbon imparts to water free heat, which uniting with it as latent heat, forms vapour.

3. The carbon of the colouring pigment which is cast off from the lungs must be elemental atoms of carbon, as a compound of this element.

4. The pigment is probably a compound of the elements of water and carbon; and if so, the changes in the lungs may be thus illustrated:

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1 Leviticus, c. xvii., v. 7.
2 Berhard Hierozoic., p. 643 et 842.
3 Collectio ex Herculano et Pompeiis seriem obscenitatum offert.
4 Pierre de Saintre, Voyage en Guin. i.
5 Odoardo Barbari.
6 Pigafetta Congo ii.
7 Mos nefandus est complurium nutricum, infantes ope titillationis genitalium sopire.
8 Casum recordor, ubi ancilla libidinosa puero 12 annorum extremitates ope fasciarum ligavit, denique membrum tandiee titilavit, donee seminis emissio subsequeretur.
9 Alius casus mihi praeesto est, ubi puer cum suis condiscipulis communicavit, hanc esse meliorem urinam emittendi.
Chapter III. treats of the “Change of Colour and Chemical properties, produced upon the blood by the systemic capillaries.

Chapter IV. is upon the Function of Calorification. The lungs are shown not to be the sole generators of animal heat, and the immediate cause of it is thus described:—“As fluid and gaseous substances, like water and carbonic acid, on becoming solid must part with latent heat, it hence follows, that wherever the capillaries form these atoms of hydrate of carbon, latent heat must be set free, and thus furnish an incessant supply of this life-imparting agent.

The author thinks that an explanation of the Spontaneous Combustion of the body in habitual drunkards may be founded on his physiological views. It is known that both alcohol and water are promptly absorbed from the stomach. “Alcohol has often been found distilled into the closer cavities of the brain, instead of passing off by the lungs, the usual safety-valve. These and various other facts prove that alcohol may enter the blood without decomposition. From long habit of drinking, the blood becomes surcharged with this inflammable poison, as the breath indicates even when the drunkard is sober. This poison deranges all the functions of life; and if the lungs failed to throw off all the hydrate of carbon and alcohol, as inflammables, the oxygen might ignite the carbon and alcohol, and thus set up a spontaneous combustion in every part of the body where red blood circulates.” p. 44. The author gives the following summary of his views upon the reciprocal chemical changes of the blood in the capillaries of the lungs and system; and the connection of respiration with calorification.

1. The lungs perform an excretal office on which life constantly depends, because directly and indirectly aiding calorification.

2. The substance thrown off is hydrate of carbon.

3. The carbon, on coming in contact with atmospheric oxygen, combines with it, forming carbonic acid gas, which is thrown off from the lungs and skin by expiration and perspiration.

4. The amount of latent heat of the oxygen gas employed, is much greater than that of the carbonic acid gas formed in the lungs, and hence caloric is set free, imparting heat to the blood and surface.

5. This free heat also combines with the water of the hydrate of carbon, and converts it into vapour.

6. The lungs and cutaneous surface aid in regulating animal temperature by the conversion of water into vapour, thus conveying off any excess of free caloric in the system by combining with it in the form of latent heat.

7. The water of the hydrate of carbon is converted into vapour in the lungs and upon the surface, precisely as when wood is burned, and hence assumes the form of insensible respiratory and perspiratory transpiration.

8. Facts appear to show that the chemical change in both venous and arterial blood may occur, independent of the vital principles, by applying to the venous, oxygen gas, and to the arterial, carbonic acid gas.

9. The systemic red capillaries are the antagonists of the pulmonary, and are constantly decomposing carbonic acid, and with water forming hydrate of carbon,—or in other words, carbonizing the blood.

10. From this union, water and carbonic acid are transformed into a solid substance; and hence latent becomes free heat, at every point where red blood circulates.
"11. The function of the systemic red capillaries of the body in decomposing, and that of the small vessels of the lungs and skin in recomposing, carbonic acid gas, reciprocally depend upon and balance each other; in other words, one set carbonizes, the other decarbonizes the blood.

"12. In consequence of this indissoluble link which connects the functions of respiration and calorification, the degree of temperature, the carbonic acid evolved, and the size of the lungs as compared with the bodies of animals, always bear a direct ratio to each other.

"13. There is a beautiful analogy between animals and vegetables in the decomposition of carbonic acid by the minute vessels of each.

"14. This explanation shows that the great end and function of respiration is, both directly and indirectly, to aid in the all-important office of the generation and diffusion of animal heat." Pp. 45-47.

The author shows that the lungs are not only employed in the function of excretion and calorification, in expelling and oxidizing the carbon of the hydrate of carbon, but are the last of the organs of hematemesis, viz.:

"1. In decarbonizing the chylous and other constituents of blood, thus fitting them for nutrition.

"2. This decarbonization of the elements originally entering the animal as food, furnishes the carbon of carbonic acid, and the hydrate of, employed in the function of calorification.

"3. That the oxides of iron are the first instruments for oxidizing and deoxidizing carbon, as the important agent in calorification, while atmospheric oxygen is the last agent.

"4. The protoxide of iron is the carrier of the carbonic acid from the lungs to the systemic capillaries.

"5. The affinities of the iron in its circle for calorification show, that if either oxide exists as a constituent of blood, the other oxide must necessarily be formed,—the pulmonic and systemic capillaries antagonizing and balancing each other in oxidizing and deoxidizing these compounds." Pp. 65, 66.

The following is the "General Summary and Inferences" with which the work concludes:

"Synopsis of the Circle of Chemical Changes in Animal Life.

Diagram 10.

Gastric, Hepatic, and Duodenic Secretion and Digestion.

Diagram 10.—Explanation.

"Gastric Secretion.—Double decomposition of the water and salt is effected by the organism of the stomach, in a manner analogous to the action of electro-
galvanism on the same compounds. In this decomposition the oxygen (O) of the water unites with the sodium (Na) of the salt to form soda (Na): the hydrogen (H) of the water unites with the chlorine (Cl) of the salt to form (HCl) the free muriatic acid of the gastric secretion.

Gastric Chymification.—Free muriatic acid, as a general solvent of the food, unites with peroxide of iron, (FeO3), one of the constituents of the food, and forms by double decomposition water (HO) and the perchloride of iron (FeCl3). Another portion of the muriatic acid unites with fibrin (Fn) forming a soluble compound, (HClFn).

Hepatic Secretion.—The soda (Na) is carried to the liver by the gastric veins. A part goes thence, by the vena cava hepatica to the heart: this is the free soda of the blood. Another part of the soda is incorporated with the bile.

Duodenic Chylification.—This soda of the bile, passing into the duodenum, unites with albumen (An) rendering it soluble (NaAn).

The various components of the chyle, perchloride of iron (FeCl3), water (HO), soluble fibrin (HClFn), soluble albumen (NaAn), &c., pass by the lacteals and the left subclavian vein, through the heart, to the pulmonic capillaries.

Diagram 11.

Pulmonic Capillaries in the Function of Haemotosis.

Sol. Fibrin  HClFn  Pass unchanged.
Sol. Albumen  NaAn

Soda  \[ \text{Na}_3^3 \text{O}_3 \]

Perchloride of Iron  \[ \text{Cl}_3^3 \text{Fe}_2^2 \]

NaCl  \[ \text{Fe} \]

Fe  \[ \text{O} \]

Fe  \[ \text{O} \]

Fe

O

O

C

\[ \text{FeC} \]  \{ Carb. Prot. of iron. \}

Diagram 11.—Explanation.

"Soluble fibrin (HClFn) and soluble albumen (NaAn) pass through the pulmonary capillaries unchanged. The free soda (Na) of the blood and the perchloride of iron (FeCl3), by double decomposition, become common salt (NaCl) and peroxide of iron (FeO3); the latter, in contact with the carbonaceous compounds of the blood, is converted into protoxide of iron (Fe), and carbonate of protoxide of iron (FeC). These pass on to the systemic capillaries together with the soluble fibrin and albumen."
Systemic Capillaries in the Functions of Calorification and Nutrition.

Protoxide of Iron
\[
\begin{align*}
\text{Fe} & \rightarrow \text{Fe}^2\text{O}_3 \\
\text{O} & \rightarrow \text{Fe}^2\text{O}_3 \\
\end{align*}
\]

Carb. of Protox. of iron
\[
\begin{align*}
\text{Fe} & \rightarrow \text{Fe}^2\text{O}_3 \\
\text{O} & \rightarrow \text{Fe}^2\text{O}_3 \\
\text{C} & \rightarrow \text{CHO} \\
\end{align*}
\]

Soluble Fibrin
\[
\begin{align*}
\text{H} & \rightarrow \text{NaCl} \\
\text{Cl} & \rightarrow \text{NaCl} \\
\text{Fn} & \rightarrow \text{NaCl} \\
\end{align*}
\]

Soluble Albumen
\[
\begin{align*}
\text{Na} & \rightarrow \text{NaCl} \\
\text{O} & \rightarrow \text{NaCl} \\
\text{An} & \rightarrow \text{NaCl} \\
\end{align*}
\]

Explanation.

"Protoxide of iron (Fe) and carbonate of protoxide of iron (FeC) are converted into the peroxide of iron (Fe^2O_3), the carbon (C) being set at liberty. Double decomposition takes place between the muriatic acid (HCl) of the soluble fibrin (HClFn) and the soda (Na) of the soluble albumen (NaOAn): the elements of water (H2O) go to unite with the carbon (C), set free from the carbonate of protoxide of iron (FeC), to form hydrate of carbon (CHO), while the chlorine and sodium form common salt, which, with other waste molecules, passes off from the system through the excretory organs. The fibrin and albumen are simultaneously deposited for nutrition.

The change of the carbon from carbonic acid (CO2) into the solid hydrate of carbon (CHO) gives rise to an evolution of heat; and this process, taking place at all points of the organism where red blood is converted into venous, produces universal calorification.

Pulmonic and Cutaneous Capillaries in the Functions of Excretion and Calorification.

Oxygen of the Atmosphere
\[
\begin{align*}
\text{O} & \rightarrow \text{O} \\
\text{O} & \rightarrow \text{O} \\
\end{align*}
\]

Hydrate of Carbon
\[
\begin{align*}
\text{C} & \rightarrow \text{H} \\
\text{H} & \rightarrow \text{H} \\
\end{align*}
\]

Explanation.

"In the lungs and skin the oxygen (O) of the air, meeting with the hydrate of carbon (CHO), forms carbonic acid (CO2) and watery vapour (H2O), both of which pass off as excretions."
"As in burning wood, the formation of the same products is attended with the evolution of heat more than sufficient to disengage the carbonic acid and water in the ariform state, so from the lungs and skin the carbonic acid and water escape in the gaseous form, and leave still a large surplus of heat to warm the passing currents of the blood, and unite with the systemic capillaries in the function of universal calorification.

"Coagulation Explained.—It has already been explained how the vital chemistry of the stomach overcomes the usual affinities of the elements of salt and water; how the new formations, soda and muriatic acid, become the carriers of the new elements for calorification and nutrition; and how the diversified processes of vitality use the elements carried by them to the organism, and how, by the restoration of the usual affinities of chlorine and sodium, salt and water are re-formed. It must be quite intelligible how fibrin, in union with muriatic acid, like iron so combined, may have its carrier taken from it by soda, whether this be united with albumen, or free in the blood. The fibrin may be employed separately from albumen when fibrin only is wanted in any organic process, by its muriatic acid uniting with the free soda of the blood. When death occurs, the rotary motion of the globules, observed during life, soon ceases, the control of vitality over chemical changes must also cease; the congregation is broken up, and each element finds its old associate in the wide world of inorganic nature. So, also, to arrest the vital fluid in a blood-vessel, or to draw it from the body, suspending the usual rotary movements of its globules, breaks up the vital, and subjects it to inorganic affinities. While the albumen still remains dissolved in the serum, the soluble fibrin becomes solid; its muriatic acid combines with the free soda, precisely as in the vital process just explained.

"Probable Function of the Mesenteric Glands.—Soda is the solvent of albumen. That muriatic acid is the solvent of fibrin and other animal elements, has been drawn as a deduction from the facts noticed in the progress of our present inquiries. Not only does this explain coagulation, but considered in connexion with two facts noticed by physiologists, it seems to shed some light upon the hitherto undetermined function of the mesenteric glands. "One fact is, that fibrin is decomposed by muriatic acid. If so, the muriatic acid of the stomach should have a like effect in digestion.

"A second fact is, that fibrin cannot be detected in chyle until this has passed the mesenteric glands. The first fact would seem to show, that the stomach must change the arrangement of the elements of fibrin; and the second, that the function of the mesenteric glands, in restoring fibrin as a constituent of chyle, must be analogous to the function of vegetables in primarily forming fibrin from inorganic elements.

"It would, from these facts, considered in conjunction with that of coagulation, seem probable, that the function of the mesenteric glands may be to recombine the elements of fibrin decomposed by the stomach, and restore them to their primary arrangement, to be subsequently held in solution by the muriatic acid.

"Is there free Carbonic Acid in Blood, both Arterial and Venous?—The affirmative of the question is maintained by Müller, Carpenter, and numerous other physiologists of eminence. While coagulation is one of the prompt chemical changes of blood withdrawn from the vital influence, others still more prompt occur; such as the reddening of venous blood by oxygen, and the darkening of arterial by carbonic acid. It has been already shown, that the very same chemical changes result from the application of these gases to arterial and venous blood in, as out of the body. If venous blood be acted upon by atmospheric air out of the body, the ignition of the hydrate of carbon produces carbonic acid gas, and reddens it, as when passing the lungs. This may exhibit all the appearances of pre-existing carbonic acid in the blood. So of arterial blood; the carbonate of protoxide of iron formed by the function of haematosis.
in the lungs, if exposed out of the body to the influence of oxygen, would evolve the carbonic acid, giving to the arterial blood all the appearance of containing free carbonic acid.

"From the well-known affinity of free soda for carbonic acid, it seems fair to infer, that if this acid entered the blood-vessels by the stomach, the two would at once combine as carbonate of soda; thus accounting for this compound as a constituent of blood. Moreover, facts show carbonic acid gas to be a noxious agent in blood, as when absorbed in respiration. It may be objected, that this result is produced by excluding oxygen, which is the usual stimulus of the lungs. But the fact, that carbonic acid gas produces death much more suddenly than many other non-respirable gases, even when largely diluted by atmospheric air, seems to show, that its absorption must contribute to its suddenly fatal effects. These facts and considerations seem to show, that free carbonic acid is not a constituent of blood.

"Sudden Death from Air entering the Jugular Vein, explained."—The oxygen ignites the hydrate of carbon, and evolves carbonic acid, which almost instantly reaches the pulmonic capillaries. This, as when entering from the pulmonic air vessels, produces the like noxious influence, and accounts for sudden death.

"Animal Fat a reserve of Fuel for Calorification."—Animal fat abounds in carbon, and Liebig thinks it a reserve supply connected in some way with respiration and calorification, although he has not explained how its carbon is ignited. This is sufficiently shown by the previous explanation of the manner in which carbon, derived from other sources, is employed in calorification. The large amount of fat which hybernating animals take into their retirement, supplies the necessary fuel for their long period of slumber.

"Heat of Fever."—In fever, the source of carbon, by way of food, is mainly cut off. Emaciation is rapid, showing prompt absorption of the fat. There is a constant correspondence of activity in the three great functions of respiration, circulation, and calorification.

"The larger proportion of carbon in animal fat than in ordinary food, and the hurried respiration and calorification, constitute a combination of causes, which could not fail of producing a morbid degree of animal heat. As this store of carbon becomes exhausted, the febrile heat necessarily moderates.

"Fetal physiology, as usually taught, comes in direct conflict with the views of respiration and calorification which have been offered. It has been handed down from physiologist to physiologist, as a settled principle, that the placenta of the foetus performs the usual office of the lungs in the adult; but, either this principle, or our whole theory of respiration and calorification, must be founded in error. The single circulation of the foetus before birth, and the anatomical structure of the placenta, show no provision but for vegetable life; that is, to furnish and deposit, but not to carry off the refuse elements of the nutriment. There are no excretions, no pulmonary or cutaneous vapours, no carbonic acid discharged, nor is there any change of colour in the foetal blood, as it goes to, and returns from the placenta. There can, consequently, be no formation of hydrate of carbon, as in the adult, for calorification,—no necessity for any pulmonary apparatus to decarbonize the blood. The elements of growth must, hence, be prepared by the maternal vessels, and furnished through the medium of the placenta, in office analogous to the roots of vegetables; while the heat is furnished from the mother or from some other exterior source, as in incubation. Until the lungs are set in play, the systemic capillaries cannot form, or send on for ignition to the pulmonary capillaries, the hydrate of carbon for calorification. The capillaries of the lungs in the foetus may, doubtless, as in the adult, perform the function of hematosis, converting, by double decomposition, the free soda of the blood and perchloride of iron formed in the mother's stomach, into the hydrated peroxide of iron, that this may be in readiness for decarbonizing the vital fluids as soon as respiration commences.

* For a better explanation, vide Monthly Journal for August 1844, pp. 671-680, and for September, pp. 777-788.
The sudden appearance of dots of red globules in the formation of new parts and vessels, as these permeate the coagulable lymph, admits a like explanation. The free soda and perchloride of iron being at the extremities of the previously colourless vessels brought together, there undergo a double decomposition, and thus complete the red globule.

The Liver principally an Organ of Hematosis.—Physiologists have expressed very different views of the function of the liver, many believing it principally an organ of excretion; others that it is also an organ of hematosis. That soda is furnished by the gastric capillaries for the hepatic secretion, renders it probable that not only this important constituent of bile, but that various other materials are sent from the stomach and bowels to the liver for combination, during the process of chymification and chylification. Moreover, the diversity of elements constituting bile, the slow secretion thereof during the intervals of meals, and its rapid secretion during digestion, appear to indicate that various alimentary substances may be absorbed for direct conveyance through the portal vein to the liver for new elaboration. That almost all the soluble parts of bile enter into the chylous fluids, and are absorbed into the circulation, strengthens the belief that the principal function of the liver is to combine in the globule of bile, the materials from the food, to fit them for the subsequent formation of chylous fluids and blood.

An Objection that Carbonic Acid is evolved in the Respiration of Hydrogen and Nitrogen, Answered.—An objection to this theory of respiration and calorification has been offered, at first view very formidable, viz.: that of the evolution of carbonic acid gas when nitrogen and hydrogen are respired. This fact seems to have confirmed Müller, Carpenter, and other distinguished physiologists, in the belief that carbonic acid gas is an euct from the blood, instead of a chemical product of respiration. Müller expresses the belief that the experiments of Sir H. Davy and others upon warm-blooded animals are of no value, because they 'can be kept in hydrogen but a short time,' and that their lungs 'contain carbonic acid at the commencement of the experiment.' He thinks a long time necessary to such experiments, and cold-blooded animals are accordingly made the subjects, because of their tenacity of life. But are experiments upon these more conclusive? This class of animals evolve far less carbonic acid than warm-blooded, and live far longer without the presence of oxygen; while in some, respiration appears mainly performed by the skin. The amphibia remain submerged for a considerable time, the whale about an hour, without a new supply of atmospheric air. It can hardly be doubted, that frogs and all such animals, can carry in the air-cells a sufficient supply of oxygen to last them during their stay under water. Upon breathing hydrogen or nitrogen, it is fair to infer that respiration would alike go on for some time, before the supply of oxygen would be exhausted, when the same effects would occur as in warm-blooded animals. Until these occurred, the oxygen would oxidize the hydrate of carbon, and form carbonic acid, to be thrown off from the lungs. But Müller also states, that 'frogs fall into a state of asphyxia, when made to respire in hydrogen and nitrogen.' Can it be reasonably doubted, that the asphyxia occurs in both classes of animals from the like cause, the exhaustion of the air-cells of oxygen? If not, oxydation of hydrate of carbon might obviously go on, till asphyxia suspended the respiratory movements in the cold-blooded animals.

Analyses and Differences between Animal and Vegetable Digestion and Nutrition.

We find in vegetable and animal fluids and solids the same compounds as the products of their vital movements, viz.: albumen, fibrin, casein, and compounds of iron. As animals derive their food from vegetables, these compounds must be of primary vegetable origin. Organic compounds are all found in soils, especially in those rich in decaying animal and vegetable substances. In vegetables, as in animals, their elements must be rendered soluble in order to ascend in their capillaries, whether or not vegetable digestion and nutrition consist
wholly in an original elaboration of elements from inorganic nature. That some vegetables are essentially constituted from a primary elaboration of inorganic elements, is doubtless true; but there can be little doubt that they also digest and deposit for nutrition, vegetable and animal compounds. In order to effect the necessary solution of the oxide of iron found in vegetables, some solvent, like muriatic acid, of the gastric juice of animals, is indispensable. Common salt and water are as necessary to vegetable as to animal life; and hence the wise Creator has provided that they shall always be in apposition in rain water, which contains common salt as a uniform constituent. The fact that fruit trees, which have been unproductive, will often yield abundantly by digging around them and depositing salt near their remote roots, is an evidence that salt is as necessary to vegetable as to animal digestion. Admit the truth of this deduction, and the explanation of the manner in which iron finds its way through the vegetable capillaries, to form a constituent of their solid organism, becomes obvious. Double decomposition of salt and water, by the radicles of the roots of vegetables, would, as in animals, furnish muriatic acid to dissolve the iron, converting it into the soluble perchloride, fitted for capillary ascent; while soda would be simultaneously formed, ready to reconvert the chloride of iron into the peroxide, and also to re-form salt as soon as the iron reached the point of destination. The reason of salt being a uniform constituent of vegetables, must be obvious; since when thus re-formed, there is no return circulation, as in animals, to carry it off as an excretion.

"Formation of Hydrate of Carbon in Vegetables.—To form hydrate of carbon, according to all analogy, should require a like chemical action in vegetables and in animals. In animals we have shown, that each of three binary compounds yields an element by what may be properly designated triple decomposition, to form this compound for calorification. So in vegetables, carbonic acid (\(\text{CO}_2\)), muriatic acid (\(\text{HCl}\)), and soda (\(\text{Na}_2\text{O}\)), each yields an element to form hydrate of carbon; thus,

\[
\begin{align*}
\text{Carbonic acid} & \quad \{\text{O}\} \\
& \quad \{\text{O}\} \\
\text{Muriatic acid} & \quad \{\text{H}\} \\
& \quad \{\text{Cl}\} \\
\text{Soda} & \quad \{\text{O}\} \\
& \quad \{\text{Na}\} \\
\text{Na Cl Salt.}
\end{align*}
\]

"This is what may be called triple, or vital decomposition; each of three binary inorganic compounds yielding an element to form the first and simplest triple compound of vital chemistry. We have shown by former facts, that the very same carbonaceous combustible is formed, by diffusing carbonic acid in arterial blood, out of, as in the animal; and that this combustible hydrate of carbon must in both instances have been formed by the triple decomposition just stated.

"Muriatic acid and soda, formed by the radicles of vegetables, carry up in solution the elements of vegetable growth, and evolve them where their double decomposition furnishes the elements of water to form the hydrate of carbon, as in animal nutrition. Here also, there being no return circulation, (as in animals), the hydrate of carbon is deposited as the essential, solid structure of plants, (analogous to the bones of animals), while in animals, the hydrate of carbon is used in their functions of calorification and respiration. These functions in animals, as compared with vegetables, seem to be superadded and intermediate between those of digestion and nutrition.

"Another difference of animal and vegetable physiology has already been noticed, that of the oxygen of the carbonic acid being thrown to the atmosphere in vegetables, but not in animals. This triple decomposition of soda,
muriatic and carbonic acids, does not occur, except when the vegetable is subjected to the influence of the sun's rays, while carbonic acid, undecomposed, passes at other times from the leaves. This is beautifully illustrated in the growth of water plants under ice, as before noticed. Vegetable growth takes place even where the sun's rays are not admitted, as in mines; and it is doubtless true, that it continues during the night, although the carbonic acid is not then decomposed to form hydrate of carbon. This growth of vegetables in the absence of light, may be illustrated thus:

\[
\begin{align*}
\text{Carbonic} & \quad \{ \text{O} \} \\
\text{acid} & \quad \{ \text{O} \} \\
\text{H} & \quad \text{H} \\
\text{Muriatic} & \quad \{ \text{H} \} \\
\text{acid.} & \quad \{ \text{Cl} \} \\
\text{Soda} & \quad \{ \text{O} \} \\
& \quad \{ \text{Na} \} \\
& \quad \text{NaCl}
\end{align*}
\]

"The carbonic acid (\(\text{H}_2\text{O}\)), instead of yielding carbon to form hydrate of carbon at the leaves, as when the sun shines, is given off unchanged to the atmosphere, while the water (\(\text{H}_2\text{O}\)), and salt (\(\text{NaCl}\)), recomposed, remain as constituents of the plant. Any organic elements, such as fibrin, albumen, or casein, found in soils, or the inorganic earthy elements, such as iron, lime, &c., are rendered soluble by the muriatic acid and soda at the roots. After ascending in the sap, they would be deposited for the nutrition of the vegetable after the recomposition of salt and water, as in the nutrition of animals. The water thus re-formed, remaining fluid, instead of helping, as when the sun shines, to compose solid hydrate of carbon, accounts for such vegetables as grow in the dark being more succulent and less solid than others.

"These Analogies of animal and vegetable digestion and nutrition, show why vegetables contain the alkalies or chlorides, as constituents of their solid organism, while animals do not, these throwing them off as excretions, after the soda and muriatic acid have served their office of carriers." Pp. 84–107.

An Inquiry into the Physiological and Medicinal Properties of the Aconitum Napellus, (Monkshood); to which are added, Observations on several other species of Aconitum. By Alexander Fleming, M.D. 8vo, pp. 160. London: 1845.

The work before us is, (in a revised form,) an Inaugural Dissertation which obtained from the Senatus Academicus of the University of Edinburgh, a Gold Medal, at the Graduation of 1844. "In 1842," the author "performed a series of experiments on animals; and in the autumn of 1843 commenced his observations, which he has continued to the present time, of the physiological and therapeutic action of the remedy on man. His residence, during this period, in the Royal Infirmary, afforded him every facility for hourly and continual observation of its effects, which were noted with scrupulous care and accuracy." Dr Fleming does not pretend to give a complete treatise on Aconite; but chiefly contents himself with detailing what came under his own observation.

The History, Botany, and Physical characters of the plant are well and succinctly stated. The appearance of the Aconitum Napellus is familiar to most, as its beauty and gracefulness give it a place in many gardens. "It is an elegant plant, from two to six feet in height, with dark green leaves, and a beautiful raceme of rich blue flowers." The A. paniculatum,—an almost inert species,—cannot be distinguished from it by well-marked botanical characters; but
may easily be known by its lengthened helmet and loose paniced inflorescence. Its flowers are of a paler colour than those of the A. napellus—its leaves less divided—and its tubers smaller, and of a more rounded form. It also flowers several weeks later in the season." Cultivation and climate do not seem to change to any great extent the properties of the A. napellus; though on this point authorities differ. The root is the most powerful, and the best part of the plant for medicinal purposes. It ought to be cut in thin slices, dried at a low temperature, and bruised to powder. From tubers so prepared, an alcoholic tincture can readily be made.

The Physiological action of Aconite upon the Lower Animals was made the subject of extensive and well-directed experiment by Dr Fleming. The experiments are reported at length, and will repay perusal. The general results deduced from them by the author, are thus embodied in one description.

"Aconite, when introduced into the system of one of the lower animals, produces, in the first instance, weakness of the limbs and staggering. The breathing then becomes either slightly accelerated, or slow and labouring. The paralysis increasing, the animal is at last unable longer to support itself, and lies down upon its side, with the extremities stretched out in a relaxed state. The general sensibility of the surface is impaired, and, towards the fatal termination, is altogether lost. Blindness, to a greater or less extent, soon supervenes; the breathing becomes gradually slower and more imperfect; and after a few spasmodic twitches, death by asphyxia ensues.

"On examination of the body immediately after death, the heart is found beating with considerable strength, nor does its action cease for some time. The peristaltic motion of the intestines also continues. The irritability of the voluntary muscles is impaired, as is evinced by their being less easily excited to contraction by mechanical irritation, than is usually the case, although they still respond readily to galvanism. General venous congestion exists; the right side of the heart is distended; there is engorgement of the vena cava, of their tributary veins, and frequently of the brain; venous blood may usually be detected in the left side of the heart, and in the aorta. The blood coagulates, and the muscles become rigid as usual.

"Generally speaking, as already stated, only a few spasmodic twitches occur, such as are usually observed in death by asphyxia from whatever cause. In some of the experiments detailed in the Appendix, however, there were decided convulsive movements, and, in two, distinct opisthotonos, evidently the effect of congestion of the brain, the existence of which state was inferred from the fact that the convulsions did not, in general, occur until the animal had been under the influence of the poison for some time, when, from the advancing asphyxia, there must have been a highly congested condition of the venous system. This view was confirmed by the post mortem examinations.

"In general, the pupil is more or less contracted, dilating to its natural size immediately on the cessation of the respiration. This symptom seems attributable to the same pathological cause as the convulsions, and for the same reasons. It was present in all the cases in which convulsions occurred. In the two experiments (20, 21), on the other hand, in which the muriate of aconitina was injected into the veins, and where, from the rapidity of the fatal result, very slight venous congestion could have existed, the pupils dilated, and continued to do so up to the moment of death; apparently showing, that dilatation is the specific or direct effect of Aconite on the pupil." Pp. 10—12.

Muscular paralysis, a diminution of the common sensibility, and a sedative action on the heart, are, according to the experiments of Dr Fleming, the chief symptoms caused by Aconite. The tincture of Aconite, and the alkaloid Aconitina, act precisely in the same way. The energy and rapidity of their operation is in proportion to the quickness with which they are received into the circulation. The intensity of effect is greatest of course when it is directly introduced into a blood-vessel, and least when applied to the unbroken skin; and, again, it is more energetic when received by the stomach, than when introduced into a serious cavity, or into the cellular tissue.
The Topical Action upon Man is very decided:—it is that of a direct sedative to the nerves of common and special sensation. Tingling and numbness of the part follow its application.

The Physiological Action upon Man in Small or Medicinal Doses is very clearly, and, from all we have seen of the drug, we think that we may add, very correctly unfolded.

Before we proceed, however, to quote the author's graphic descriptions, we must pause to protest loudly and solemnly against the reckless disregard of human health and life, which enabled him to witness the horror-striking sights, which furnish the materials for his account of the fourth degree of operation. We do not wish to be harsh; we do not presume specially to condemn any one; but this we say, that wherever Dr Fleming saw—and apparently he saw upon a large scale—the phenomena described in the paragraph referred to, there unquestionably existed, frightful tampering with human life. Sorry should we be to think, that the Gold Medals of the Medical Faculty of the University of Edinburgh should ever tempt aspirants to academic honours, to avail themselves of the present state of our Medical Charities, by experimenting with poisons upon the poor.

"Physiological Action on Man in Small or Medicinal Doses. I shall, in the first place, take a general view of the ordinary effects of Aconite in small or medicinal doses; and, for the sake of convenience, shall consider these under four degrees of operation.

"First Degree of Operation.—In the course of twenty minutes or half an hour, after the exhibition of five minims of the tincture, a feeling of warmth in the stomach is usually experienced, which is occasionally accompanied by slight nausea and oppression of the breathing. After the lapse of thirty or forty minutes, this sense of warmth is diffused throughout the body, and, in a few minutes more, is attended by numbness, tingling, and a sense of distention of the lips and tongue. There is also tingling at the tips of the fingers, and a peculiar sensation is felt at the roots of the teeth. The feeling of warmth soon disappears, but the numbness and tingling of the lips and fingers continue for a period, varying from one to three hours. Slight muscular weakness is generally experienced, with indisposition for exertion either mental or corporeal. In about half an hour more, the pulse is found to be diminished in strength; and in another hour, both the pulse and the respiration have become less frequent. Thus, a pulse, which, in the normal state, beats seventy-two in the minute, will, by that time, have fallen to about sixty-four, and the respirations, supposing them to have been eighteen, to fifteen or sixteen.

"Second Degree of Operation.—Should a dose of ten minims be given at first, or the first dose of five minims be succeeded in two hours by another of equal amount, these symptoms supervene more rapidly, and with greater severity. The tingling extends along the arms, and the sensibility of the surface is more or less impaired. In an hour and a half, the pulse will probably have fallen to about fifty-six beats in the minute, and become smaller and weaker than before, still maintaining, however, perfect regularity. The respirations will have diminished to about thirteen, presenting, at the same time, a slow labouring character. Great muscular debility is now experienced; and giddiness, with confusion of sight, comes on when the erect posture is assumed. The individual sinks into a lethargic condition, evinces great disinclination to be disturbed, although he rarely falls asleep, and complains much of chilliness, particularly in the extremities, which are cold to the touch. These phenomena continue in their full intensity from three to five hours, when they gradually disappear; a sensation of languor, which lasts for several hours more, alone remaining.

"This is the utmost extent to which I would recommend the physiological effects of Aconite to be carried, in order to obtain, with safety and success, its therapeutic action.

"Third Degree of Operation.—On the administration of five minims more,
two hours subsequent to the last dose, the sense of warmth, and the numbness
and tingling, again spread rapidly over the body. The sensibility of the sur-
face is still further diminished; lancinating pains in the joints are occasionally
complained of; the headache, vertigo, and dimness of vision, are aggravated;
the countenance grows pale and anxious; the muscular feebleness increases;
the voice becomes weak, and the individual is frequently impressed with the
dread of approaching dissolution. Occasionally the pulse is reduced still further
in strength and frequency, perhaps falling to 40, or even 36 beats per minute, but
still maintaining its regularity. More frequently, however, it rises to 70 or 80,
and becomes small, weak, and probably more or less irregular. The respira-
tory movements are also irregular, being either short and hurried, or deep and
sighing. The surface is moist, and still farther reduced in temperature. Sick-
ess may now come on; and, if formerly present, is much aggravated, and pro-
bably attended by vomiting. These symptoms do not entirely subside for one
or two days.

"Fourth Degree of Operation.—On the administration of a fourth dose of
five minims, two hours after the third, the symptoms assume a more alarming
character. The countenance becomes pale and sunken; froth issues from the
mouth, and the prostration increases. Some thus affected have stated, that
they felt as if dying from excessive loss of blood. Consciousness usually re-
 mains; or there may be slight wandering delirium, as occurs also after profuse
hemorrhage. The voice is whispering, or is altogether lost. The pulse be-
comes still smaller, weaker, and more irregular; and the breathing more im-
perfect. The surface is colder than before, and is covered with a clammy sweat.

"I have seen patients recover from this state under the administration of
proper remedies.

"When the action of the drug is carried to a fatal extent, the individual be-
comes entirely blind, deaf, and speechless. He either retains his consciousness
to the last, or is affected with slight wandering delirium; the pupils are dilated;
general muscular tremors, or even slight convulsions, supervene; the pulse be-
comes imperceptible, both at the wrist and heart; the temperature of the sur-
face sinks still lower than before; and at length, after a few hurried gasps,
death by *syncope* takes place.

"It must be borne in mind, that these symptoms do not, on all occasions, oc-
cur in the uniform manner in which they have now been described. On the
other hand, some of them may be entirely absent; while others, not yet men-
tioned, but to which I shall afterwards allude, may appear." Pp. 22—25.

The Remote Action of Aconite upon the Cerebro-Spinal System is stated by
Dr Fleming to be exerted in three ways, viz: 1st, Primarily,—by its direct or
specific action when conveyed to it by the blood; 2d, Secondarily,—by its seda-
tive action on the circulation; and, 3d, By producing engorgement of its venous
system.

The Action of Aconite on the Muscular System, is "directly and powerfully
sedative," the debility enduring "according to its intensity from a few hours to
several days."

Four practical inferences are drawn from the statements just made, as to the
action of the drug upon the cerebro-spinal and muscular systems, viz:
1. "That it is calmative, anodyne, and anti-spasmodic.
2. "That it is an advisable antiphlogistic in apoplexy, phrenitis, or any dis-
ease in which the circulation of the brain is excited.
3. "That it is contra-indicated in headache, arising from anemia, or chloro-
sis; and wherever there is a torpid or paralytic condition of the muscular
system.
4. "Its properties suggest its employment in convulsive or spasmodic dis-
eases." Pp. 30, 31.

From an attentive perusal of the cases and experiments detailed by the author,
as well as from some experience which we have had with the Aconite, we are prepared to assent to the first of these propositions. In most cases, however, in which calmatives, anodynes, and anti-spasmodics are indicated, we will still prefer to prescribe safer medicines; but in rheumatic fever, for example, when the patient is racked with pain, and has inordinately strong action of the heart, we conceive that it would often be very useful to give small doses of aconite, either alone, or mingled with opium, antimony, and henbane.

The second proposition is perhaps too broadly stated. It is true, however, that it is often judicious in apoplexy, to produce a direct sedative effect upon the heart,—without diminishing the quantity of blood; and in these circumstances—no contra-indicating specialty existing—we would not object to the cautious administration of a succession of a few small doses of Dr Fleming's pet medicine. Experience has shown that excessive or "heroic" depletion in apoplexy favours effusion,—the very evil which it is supposed by many to be the most effectual means of preventing. Antimony has hitherto been our favourite depressing remedy in apoplexy; but for the future we would be inclined to make trial of a combination of it with Aconite.

The third proposition is obviously a sound one; and so is the fourth, if we be allowed to add to it these words—"when the more common, and safer remedies have failed."

The Effects of Aconite on the vascular system are important and remarkable. We have had opportunities of making several observations on this point, so far as they go, which perfectly agree with the following statements of Dr Fleming.

"Aconite exerts a direct sedative influence on the vascular system, reducing, more or less, according to the dose administered, the strength, volume, and, in the first instance, the frequency of the pulse. The diminution in frequency varies much, ceteris paribus, with the individual; the pulse, in some cases, not falling below 60, and, in others, sinking so low as 48, 40, and even 30. As a general rule, it maintains its regularity as long as it continues to become slower. On the sedative action being carried further, it rises in frequency, becomes irregular and intermittent, and still smaller and weaker. Its character is then, frequently, most remarkable. It may present, First, Irregularity in point of strength and volume. An ordinary beat, of moderate size, may alternate with a small, almost imperceptible, pulsation, such as is observed in some cases of heart disease; the pulse, at the same time, not presenting any irregularity in point of rhythm. Secondly, It may be simply intermittent, the pulsations not differing from each other in strength and volume. One of these intermissions may last for several seconds. In one instance, I repeatedly observed no less than ten seconds to elapse without any perceptible pulsation at the wrist. Thirdly, More frequently the pulse is irregular, both in point of rhythm and strength. Thus a pulse which, for three, four, or more beats, is weak but regular, of moderate size, and beating at the rate of 36 or 40 per minute, may suddenly become much smaller and weaker, and rise to 120. After fifteen or twenty pulsations more, its character may again change, and, for the next few seconds, a full and soft beat may alternate with a nearly imperceptible one. In a short time, it may become intermittent, only to resume, in another minute, one of the characters already described. I have observed the pulse continue in this anomalous condition for one or two hours, after every other symptom of the action of the drug had disappeared. It sometimes presents, in a very marked degree, the character described by the term labouring, in which case its beat suggests very forcibly the idea, that the heart is suffering from some depressing influence. Each contraction appears to be performed slowly and with difficulty, and the artery may positively be felt distending tardily under the finger. In such cases, the cardiac sounds, as heard by the stethoscope, are weak and indistinct. When, on the other hand, the pulse is quick, irregular, and intermittent, they are confused and interrupted, as if many of the contractions of the heart were imperfectly performed.

"To prove, beyond doubt, that the sedative effect exerted on the circulation is direct, I have frequently examined the pulse, every five or ten minutes, for..."
one or two hours after the exhibition of a dose. In general, the first perceptible change was a diminution of strength, and, in a few cases, of frequency; but in no instance did I observe the slightest tendency to primary excitement.

"We must regard the rising of the pulse, after it has fallen to a certain standard, merely as an indication of increasing debility, and as the effect of an effort, on the part of the heart, to compensate for diminished power by increased frequency; while the irregularity and intermissions which follow, are evidently the result of the inability of the organ to maintain steadily this augmented frequency.

"If only two or three doses have been given, the heart recovers itself in a period varying from twelve to twenty-four hours. If, on the other hand, the administration of the drug has been continued for a week or more, several days elapse before it does so; shortly after which event, I have generally observed that the pulse becomes somewhat quicker and fuller than natural; in short, a slight degree of reaction is established—an occurrence which we know almost invariably succeeds depression of the circulation from other causes, as loss of blood, cold, shock to the nervous system, &c. In one instance, this state was indicated not only by elevation of the pulse, but by slight headache, with heat and dryness of the skin.

"The effect of change of posture on the pulse of individuals influenced by Aconite, may be stated as follows:—Supposing the pulse, under the first degree of operation, to be 64 while the patient is in bed, it will rise, on his assuming the erect posture, to 70 or 80, becoming, at the same time, smaller and weaker. Should the second degree of operation have been induced, lowering it to 56, it will rise, on a similar change of posture being made, to 80 or 90, become much smaller and weaker, and perhaps present an irregular character. If in the third degree of operation, the patient attempt to rise, he will probably fall back in a fainting state. The influence of change of position thus seems to increase in the ratio of the depression which has been induced.

"I may take this opportunity of stating, that patients under Aconite ought to be cautioned against any sudden change of position, which may, when the circulation is very much weakened, as in the third or fourth degree of operation, lead to dangerous syncope." Pp. 31—34.

The Practical Inferences which Dr Fleming deduces from a consideration of the action of Aconite on the circulation, are as follows:—

"1. That it is a powerful antiphlogistic.

"2. That it is calculated to be of great value in all cases, where there is inordinate activity of the circulation.

"3. That it is contra-indicated, when there is obvious mechanical impediment to the passage of the blood, particularly through the heart or lungs. It is requisite, therefore, in every case, to ascertain that no such obstruction exists before commencing its use.

"4. That it is contra-indicated whenever there is irritability of the circulation, with great diminution of power, such as occurs after severe venous hemorrhage." Pp. 36, 37.

The frequency of the Respiration is Diminished by Aconite nearly in the same ratio that the number of pulsations is reduced. This phenomenon, as Dr Fleming correctly remarks, may be attributed to one or more of three causes. "1. To a nearly general law in physiology and pathology, that within certain limits, the respirations bear a more or less close relation, in point of frequency, (1 to 4½ or 5) to the heart's pulsations. 2. To the diminished sensibility of the lining membrane of the lungs, in consequence of which the impression of venous blood in their tissue, or of carbonic acid in the air-cells, is more sluggish ly conveyed to the brain. 3. To the impaired energy of the respiratory muscles." P. 38.

Aconite in Poisonous Doses.—Three varieties of poisoning have been observed, viz.—First, by a powerfully sedative impression upon the nervous system; secondly, by suspension of the respiratory function; and, thirdly, by syncope.
In proportion to the amount of the drug taken, death ensues in from one and a half to eight hours. Should an individual, who has taken a poisonous dose, survive the latter period, he will probably recover.

**Appearances on Dissection.**—General venous congestion is usually found.

**The Treatment of Poisoning** with aconite which the author recommends, is, we think, sound in theory; to gain time, however, to sustain life till the toxical effects are exhausted, should have been more prominently noticed and enforced. If the drug has been administered in a fluid form, we fear that purgatives will be of little use; and if powerful, they may do mischief, by suddenly increasing the debility and tendency to syncope. Without farther comment we submit entire Dr Fleming's remarks on this subject to our readers.

"Provided vomiting to a sufficient extent has not already been excited, as an effect of the poison itself, an emetic must at once be administered. If a sufficient time have elapsed for the poison to have reached the intestinal tube, a cathartic ought then to be given, and followed up, if necessary, by purgative injections.

"Tannic acid, from its power of forming insoluble compounds with the vegetable alkaloids, may be expected to be useful in neutralising the poison. The experiments on rabbits formerly noticed, show that the gastric juice of these animals possesses a similar property. An infusion of the stomach of the rabbit, and probably of certain other herbivorous animals, might, therefore, be serviceable in poisoning by aconite, although, from the length of time which it requires to act, this is more than doubtful.

"In order to combat the remote effects of the poison, which have been shown to be powerfully sedative, a stimulant line of treatment must be rigidly enforced. Brandy and hot water, with ammonia, will be found most efficacious. Strong coffee has also been used with decided advantage. From my own observation, I am of opinion, that great benefit is to be derived from friction with warm cloths and spirituous liniments, especially along the course of the spine and on the extremities. By thus stimulating the capillaries, the heart's action seems to be materially assisted. Sinapisms, or bottles of hot water, should also be applied to the precordia and extremities.

"Should convulsions come on, the jugular vein ought to be opened, and a moderate quantity of blood withdrawn. By this means, not only will the congestion of the brain be removed, but relief will be afforded to the heart, the right side of which is, in such cases, much engorged.

"Where there is much dyspnea, recourse may be had to artificial respiration, which will be of service not only in maintaining the function of the lungs, but also in contributing to keep up the action of the heart, and thus diminishing the tendency to syncope.

"When the action of the heart is becoming very feeble, the effect of slight galvanic shocks passed through it may be tried. In such cases, acupuncture of its walls has been recommended by Carraro." Pp. 52, 53.

**The diseases in which Aconite is said by Dr Fleming to be useful, are neuralgia in various forms, hemicrania, angina pectoris, cephalalgia, general pains of fever, certain diseases of the heart, acute rheumatism, lumbago, erysipelas, cancer, pruritus, and hysterical spasmodic asthma.**

Those in which its use is most satisfactorily established are neuralgia and rheumatism. It is decidedly objectionable in several of the above-named affections, particularly in the general pains of typhus and other fevers, where the *in vitæ* is at a low ebb. With the following extracts, we must pass on without commentary to the next department of the work.

**Neuralgia of the Thoracic and Intercostal Nerves—Spinal Irritation.**—I have found the topical application of the tincture extremely successful in the treatment of the neuralgic pains, so frequently complained of by females, as occurring about the seventh, eighth, and ninth ribs of the left side, as well as of spinal irritation, both when co-existing with, and independent of, these pains.

**Neuralgia of the Extremities.**—In a case of crural neuralgia of the right side, where the pain was chiefly seated in a circumscribed spot on the inside of the patella, the external application of the tincture was, in eight days, followed by
A complete cure. The disease, which occurred in a female of thirty years of age, was of three years' standing, and the part had been frequently leached and blistered without effect—the potential cauterization having been the only application which had afforded any relief. An interesting case of neuralgia of the feet, where the internal administration of the drug effected a complete cure, and one of neuralgic stump, in which much temporary relief was afforded by the same means, will be found in the Appendix. Dr Cormack has communicated to me a case of severe neuralgia of the right hand, which was at first treated successfully by the internal use of the tincture. The pain afterwards returned in two of the fingers, to a slight extent; but the patient could not be prevailed upon to resume the remedy, in consequence of its having formerly produced some dimness of vision.

"Two cases of neuralgia of the fingers, in which the Aconite was had recourse to with success, are noticed in the Table of Neuralgic Cases."

"Of twelve cases of sciatica in which I have used the Aconite, seven complete and two temporary cures were effected; two cases were partially relieved, and in one only, was no benefit experienced. An analysis of these cases will be found in the table; and one of them is, for the sake of illustration, detailed in the Appendix. As far as my own experience goes, I believe it will be found most useful in those cases of sciatica, which appear to owe their origin to a congested or inflammatory condition of the nerve." Pp. 63, 64.

"Acute Rheumatism.—Aconite was first recommended in this disease by Stöck, and has since been employed, with much success, by many German and Swedish physicians, as Stoller, Guerin, Gesner, Gmelin, Fritze, Murray, Rosenstein, Blom, Odhelius, Ribe, &c. More recently, Drs Lombard and Sigmund have revived its use, with the most encouraging results.

"The annexed table, which is composed of my own cases, and all those recorded by others which I have met with, shows that the average period required to effect a cure under this treatment, is 5-6 days; the usual duration of the disease, under the ordinary treatment, being about a fortnight or three weeks. In three instances, a complete cure was effected in two days; in one, in three days; and in six, in four days. The lowest averages of the duration of the treatment of acute rheumatism are, as far as I know, those furnished by Drs Hope and Corrigan, the former of whom found new cases which remained under treatment for more than a week; while the latter, who treated the disease by opium, gives nine days as the average. The improvement following the administration of Aconite is often very speedy, some alleviation of the pains being occasionally experienced in the course of an hour after the first dose has been taken, while there are few cases in which decided relief, with abatement of the redness, tension, and tenderness, is not obtained in a few hours. A longer period seems to be required to disperse the inflammation in the smaller joints than in the larger ones.

"The table also shows that in two only of all the cases did any affection of the heart supervene. In both of these instances, however, the disease had been detected prior to the administration of the Aconite. In one of them, the cardiac affection improved remarkably under its use. Bouillaud on the other hand states, that in his practice, which was to bleed largely during the first five days, one-half of the cases presented some cardiac complication; and Dr Macleod, who also practised bleedings, though not to the same extent as the former, met with pericarditis in 52 out of 226 cases; that is, in nearly one-fourth of the whole. Thus, Aconite not only effects a cure in a shorter period than any other mode of treatment, but appears to possess the great negative advan-

1 This Table is important.
2 Not including the two cases of Synovial Rheumatism.
3 See Macleod on Rheumatism, 1842, p. 154.
4 Nouvelles Recherches sur le Rheumatisme, &c.
5 Op. cit. p. 154.
6 See Alison, in Cyclop. Pract. Med. Hist. of Medicine, p. 95; Brit. and Foreign Med. Review, xiii., p. 453.
| Sex   | Age | Variety of Rheumatism, and Joints affected                                      | Duration of Disease previous to use of Aconite | Duration of Treatment | Remarks                                                                 |
|-------|-----|---------------------------------------------------------------------------------|-----------------------------------------------|----------------------|------------------------------------------------------------------------|
| Male* | 50  | Rheumatic fever; left wrist and right shoulder,                                  | 2 days                                        | 2 days               | No stiffness of joints left, and no disease of heart mentioned.         |
| Female* | 52 | Rheumatic fever; left shoulder,                                                 | 21 days                                       | 2 days               | Stiffness remained in smaller articulations. No disease of heart.       |
| Male* | 30  | Rheumatic fever; ankles and knees,                                              | 10 days                                       | 4 days               | Synovial effusion not entirely removed for some time. No disease of heart. |
| Female* | 30 | Rheumatic fever, affecting nearly every joint in the body,                      | 9 days                                        | 7 days               | Slight stiffness remained in articulations of hand. No disease of heart.|
| Male* | 30  | Capsular rheumatism of right knee, with pains in the joints and shoulders,      | 6 weeks                                       | 7 days               | No disease of heart mentioned.                                         |
| Female* | 59 | Rheumatic fever, affecting all joints,                                          | 3 days                                        | 10 days              | Cardiac disease was present previous to the use of aconite. It was improved. No stiffness of joints remained. |
| Male† | 54  | Rheumatic fever,                                                                | 11 days                                       | 8 days               | No stiffness of joints remained.                                       |
| Male   | 40  | Rheumatic fever, affecting all the joints of the left side,                     | 7 days                                        | 5 days               | In all these cases there was no affection of the heart; and in the greater number very slight stiffness of the joints was left. |
| Male   | 19  | Rheumatic fever; shoulder, knee, and ankle joints,                              | 28 days                                       | 8 days               | Slight swelling, with pain and stiffness on motion, remained for some time. No cardiac affection. |
| Female | 22  | Rheumatic fever; knees, ankles, and right wrist,                                | 21 days                                       | 4 days               |                                                                                      |
| Female | 20  | Rheumatic fever; knee, ankle, wrist, and finger joints,                         | 5 days                                        | 2 days               |                                                                                      |
| Female | 20  | Rheumatic fever; ankles, elbows, and wrists,                                    | 3 days                                        | 9 days               |                                                                                      |
| Male   | 31  | Rheumatic fever,                                                                | 16 days                                       | 4 days               |                                                                                      |
| Male   | 28  | Rheumatic fever; ankle, knee, and hip-joints,                                   | 9 days                                        | 4 days               |                                                                                      |
| Male   | 43  | Rheumatic fever; joints of upper extremities chiefly,                           | ......                                        | 4 days               |                                                                                      |
| Female | 20  | Rheumatic fever; wrist and elbow on left side, with right ankle,               | 9 days                                        | 3 days               |                                                                                      |
| Female | 23  | Rheumatic fever; knees chiefly, but ankles also affected,                       | 20 days                                       | 4 days               |                                                                                      |
| Male   | 18  | Rheumatic fever; knee and ankle-joints,                                         | 8 days                                        | 7 days               |                                                                                      |
| Female | 24  | Rheumatic fever; joints of right superior extremity,                            | ......                                        | 10 days              |                                                                                      |
| Male   | 29  | Synovial rheumatism; knees, ankles, and wrists,                                 | 14 days                                       | 9 days               |                                                                                      |
| Male   | 47  | Synovial rheumatism; knees,                                                     | 9 days                                        | 17 days              |                                                                                      |

* Dr Lombard, in *Gazette Médicale de Paris*, 1835
† M. Chandru, in *Lançette Francaise*, November 1835.
tage of not increasing the liability to extension of the disease to the membranes of the heart. Indeed, it seems rather to protect the patient from that dangerous complication.

"It may be thought that as aconite weakens the heart, it is probable that it will predispose that organ to suffer in the same way as blood-letting; but this distinction must be borne in mind, that aconite acts as a pure sedative to the vascular and nervous systems, whereas blood-letting—although it produces a similar action when practised to a moderate extent,—when performed largely and repeatedly, has a peculiar effect in increasing the irritability of the heart. In a strong and healthy subject, with high inflammatory fever, a free blood-letting practised at the outset, will not only be of service, in affording more rapid relief to the patient's sufferings, but will place his system in a more favourable condition for the action of aconite, which, if properly administered, will prevent reaction, and remove the necessity of abstracting more blood.

"Should more extensive trials confirm the conclusions drawn from the limited data here offered, its great superiority over the ordinary modes of treatment will be undeniable. It is true that opium is not open to the objection of increasing the tendency to cardiac affection, but while its stimulant action on the vascular system would induce us, a priori, in the treatment of a disease marked by great excitement of that system, to give the preference to aconite, which from the first exerts a depressing effect upon it, actual observation, as far as it has yet been carried, leads to the same conclusion. Thus the painful symptoms are alleviated at an earlier stage of the disease, under the exhibition of aconite, than of opium, while the final cure is more rapidly effected; the shortest average duration of treatment by opium, viz., that furnished by Dr Corrigan of Dublin, being several days longer than that given in the table. Nor must it be forgotten, that the constipation produced by the opium has frequently appeared to protract the disease.

"In all the cases which I have treated with aconite, the convalescence was extremely short, and there was much less stiffness of the joints than usually remains after the ordinary modes of treatment.

"Aconite seems equally valuable in rheumatic fever, and in acute synovial rheumatism. In the latter disease, Dr Lombard has found it to contribute powerfully to the absorption of the fluid effused into the joints. Friction of the affected joints with the tincture, also assists materially in effecting the same object, as well as in relieving the pain.

"Dr Lombard¹ is of opinion, that aconite acts in acute rheumatism as a specific. I am inclined, however, to refer the good effects which follow its use entirely to its great power as a sedative of the nervous and vascular systems; or, in other words, to its properties as an anodyne and antiphlogistic. I do so, because I have never seen much benefit result from its administration, unless when given to an extent sufficient to develop its physiological action in considerable intensity.

"Chronic Rheumatism.—Aconite may be used both internally and externally in this disease. The internal administration seems to be preferable, in what has been termed the active chronic rheumatism; that variety which is, perhaps, properly speaking, only a very mild form of the acute rheumatism, being attended with some heat and swelling of the part affected, and slight constitutional disturbance. On the other hand, I would recommend the external application of the tincture in what is termed the passive chronic rheumatism, characterised rather by coldness and stiffness of the painful joints, with entire absence of constitutional fever. In every case, however, should the mode of treatment adopted fail to afford relief, the other should be had recourse to; while it is frequently of service to combine the internal and external use of the remedy.

"From the many opportunities I have had of testing its merits, in every form of chronic rheumatism, I can speak very confidently of its value, having found it efficacious in the great majority of cases. It possesses the great negative advantage of not—like most remedies for the same disease—weakening the

¹ Gazette Médicale de Paris, 1835.
strength and impairing the constitution of the patient. In one case of chronic
rheumatism of the fingers, which occurred to myself, as well as in another in
the hospital practice of Dr Craigie, little more than temporary relief was ob-
tained.” Pp. 69, 74.
Administration of Aconite.—The alcoholic tincture of the root prepared ac-
cording to the following formula is the best preparation of the drug for internal
administration. It may be given simply with water, or it may be prescribed
along with antimony, opium, or other remedies.
Tinctura Aconiti.
“Take of root of A. napellus, carefully dried, and finely powdered, sixteen
ounces troy; rectified-spirit, sixteen fluid ounces; macerate for four days;
then pack into percolator; add rectified spirit until twenty-four ounces of
tincture are obtained.
“It is beautifully transparent, of the colour of sherry wine, and the taste is
slightly bitter.” P. 80.
“As an anodyne, anti-neuralgic, and calmative, five minims ought to be given
at first, three times daily, to be increased daily to the extent of one minim each
dose, until the physiological effects described under the second degree of opera-
tion have been produced.
“As an antiphlogistic, five minims ought to be given at first, and repeated in
four hours; by which means the second degree of operation will, in all likeli-
hood, have been induced. In order to sustain the sedative action thus de-
veloped, two and a-half minims are to be given every three or four hours, or less
frequently, according to the effect produced.
“Where this mode of administration is adopted, it is absolutely necessary that
the patient should be seen, and his pulse examined, before the exhibition of
each dose. When this cannot be done, the remedy may be given in the manner
pointed out for its use as an anodyne and calmative.
“The best method of administering the remedy in diseases of the heart, is to
give it in smaller doses than those recommended for its use as an anodyne, but
more frequently repeated, as three or four minims five times daily.
“Sickness may be avoided or checked by an effervescing draught, adminis-
tered with, or immediately after, the dose.” Pp. 81, 82.
External Use.—The aconitina may be applied externally, either in the form
of solution in alcohol, in the proportion of one or more grains to the drachm, or
of ointment made in the following manner:—

R. Aconitina.  .  gr. xvi.
Spir. Rectif.  .  m. xvi., Tereoptime.
Deinde adde Axungiae, 3i, ut fiat unguentum.

If, as occasionally happens, this ointment, after two or three applications, fail
to produce its ordinary effects, the proportion of aconitina must be increased to
three, four, or even eight, grains to the drachm. It is much to be regretted
that the difficulty of preparing the alkaloid, and its consequent high price,
should prevent its more general use. A preparation of inferior quality, or, as
is frequently the case, totally inert, is very commonly substituted for it in the
shops—a circumstance which fully accounts for the low estimation in which it
is held by many who profess to have tried it.
“The tincture, however, will be found an excellent substitute. One or more
drachms of it are to be rubbed over the affected part three times daily, the
friction being continued at each time for a quarter of an hour, or, indeed, until
the topical effects of the drug are fully developed.
“It is hardly necessary to add, that, when there is any abrasion of the skin,
the external application of either of these preparations may be attended with
danger.” Pp. 82, 83.
This last remark is a most necessary caution.

The length of our extracts sufficiently indicates the great importance which
we attach to the work of Dr Fleming; but if a farther testimony be required,
we have no hesitation in saying, that we regard it as one of the most important
contributions which have recently been made to our knowledge of therapeutic
agents. Those who are now using, or have it in contemplation to employ the
remedy, ought to study for themselves the experiments and cases narrated by
the author, as well as the deductions which he makes from them. The
book—were it only from the great mass of new facts which it contains—must,
in the meantime, be regarded as the practitioner's best guide to the therapeutic
use of Aconite. The physiological portion is very complete; and the thera-
peutic details are much more perfect than could have been anticipated in the
circumstances. We only wish that the valuable information which Dr Flem-
ing supplies, had been gained with less tampering with human life.

Practical Remarks on some Exhausting Diseases; particularly those Incident to
Women. By Sir James Eyre, M.D., Physician at St George's and at St
James's Dispensary. 12mo, pp. 75. London: 1845.

Twelve pages of our common type would take in every word of Sir James
Eyre's "Practical Remarks," and the substance of them can easily be given in
as many sentences. When we see a short paper, such as that now before us,
paraded, with an attractive title, dressed as a book,—elegantly bound, and
beautifully printed,—we instinctively begin to suspect, that it has been got up
rather to lure patients, than instruct practitioners. Whatever be an author's
object in sending forth a few cases and paragraphs in an expensive book-gar,
rather than in the more diffusible form of a communication to a medical jour-
nal, the effect undoubtedly is, to prevent their being seen by any professional
man, except those to whom the author sends his presentation copies. We
think, therefore, that Sir James Eyre has erred—we hope inadvertently,—in
bringing forth his remarks in so costly a form; at least if he wished them to be
read by his brethren, and regarded in any other light than that of an advertise-
ment.

The aim of Sir James seems to be, to make known a fact, which is, we be-
lieve, generally admitted, that oxide of silver ought not to be given in large
quantities; and that, according to his experience, when administered in half-
grain doses thrice daily, it will prove more effectual than any medicine which
has yet been employed "in the treatment of gasterdynia, pyrosis, hemoptysis,
and menorrhagia." He believes that it will also "be found of in-
finites benefit in restraining, when absolutely necessary, hemorrhage proceeding
from the intestinal canal, obstinate chronic diarrhoea, colliquative perspirations,
leucorrhoea, and other maladies, in the treatment of which," he is "at the
present time extensively testing its efficacy."

Sir James has not always reported his cases in a satisfactory way: many of
them are useless, from their extreme meagreness. Still, we think, that along
with the statements of other recent writers on the same subject, they warrant
a trial being made of the oxide of silver, when other remedies have failed.

In conclusion, we may remind our readers, that the oxide is believed by many
not to cause that blueness of the skin which renders the nitrate so objectionable
a remedy. It appears, however, that even the oxide—though not so readily
as the nitrate—does induce that peculiar discoloration adverted to. Sir James
notices a case in which this was caused by the remedy, after it had been em-
ployed for many months; and in the Medical Gazette for the 16th of May, there
is another similar example recorded.

1 The dose recommended by some is gr.vj; but that advised by Dr Neligan is gr.s
1 to gr.j. Vide his Medicines, their Uses, &c., p. 334. Dublin: 1844.
Lectures on Subjects connected with Clinical Medicine, comprising Diseases of the Heart. By P. M. Latham, M.D., Physician Extraordinary to the Queen, and late Physician to St. Bartholomew's Hospital. Vol. i. 12mo. pp. 374. London: 1845.

We have just read enough of this book to perceive, that it demands not a cursory perusal, but a careful study. It is eminently practical and suggestive; and when completed, which it will be by the publication of the second volume in October, it will unquestionably form one of our standard medical treatises. "Mine," says the author, "is a limited purpose. It is to regard the diseases of the heart only in one point of view, i.e. as they appear in the living man. But this one point of view includes the several objects of their clinical diagnosis, their clinical history, and their medical treatment. These are what I seek especially to illustrate, while I presume an acquaintance with other parts of the subject, and shall only allude to them incidentally as I go along."—Preface.

Reserving our examination of the work for another occasion, we quote the following very interesting "Statistical facts, with regard to the Frequency of Cardiac and Pulmonary Affections in cases of Acute Rheumatism:—

"Between the years 1836 and 1840, both inclusive, there occurred under the author's care, at St. Bartholomew's Hospital, 136 cases of acute rheumatism. Of these 136 patients, 75 were males, and 61 were females.

"Of the 75 males, the heart was affected in 47, and unaffected in 28.

"Of the 47, the seat of the disease was the endocardium alone in 39; the pericardium alone in 3; and both the endocardium and pericardium in 7. And, while the heart was undoubtedly affected in 7 others, the exact seat of its disease was uncertain.

"Of the whole number of males in whom the heart was thus variously affected, 3 died. And in these 3 the pericardium and the endocardium were both inflamed.

"Of the 61 females the heart was affected in 43, and unaffected in 18.

"Of the 43 the seat of disease was the endocardium alone in 33; the pericardium alone in 4; and both endocardium and pericardium in 4; and the exact seat of the cardiac disease was doubtful in 2.

"Of the whole number of females in whom the heart was thus variously affected none died.

"The account of males and females taken together will stand thus:

Cases of acute rheumatism, 136
Heart exempt in 46
Heart affected in 90

Seat of disease in the heart:
Endocardium alone in 63
Pericardium alone in 7
Endocardium and pericardium in 11
Doubtful in 9

"Deaths 3. In all of which both endocardium and pericardium were affected," Pp. 144, 145.

But, of the 63 patients who suffered from endocarditis, and who became convalescent, auscultation still told that, after the inflammation had ceased, the membrane recovered its complete integrity of structure only in 17, and that it remained permanently injured in 46. Of the 30 males, the endocardial murmur ceased entirely only in eight, while it remained, as long as they continued under observation, in 22. And of the 33 females, it ceased entirely only in 9; while it remained in 24.

In the 136 cases of acute rheumatism which form the basis of the inquiry, the heart was inflamed in two-thirds of the whole, and the lungs only in about 1 in five. In these cases, the inflammation of the lungs was severe.
The 24 cases were 4 of bronchitis, 18 of pneumonia, (in 9 affecting both lungs) and 2 of pleurisy. Out of these 24 cases 4 are marked as fatal.

Of the 46 cases of acute rheumatism in which the heart was unaffected, the lungs were uninfamed in 6, in the proportion of 1 to 9. But of the 90 cases in which the heart was inflamed, the lungs were also inflamed in 19; or in the proportion of more than 1 in 5.

Of the 63 cases of endocarditis the lungs were inflamed in 7; or in the proportion of 1 to 9.

Of the 7 cases of pericarditis the lungs were inflamed in 4; or in the proportion of more than one half.

Of the 11 cases of endocarditis and pericarditis occurring simultaneously, the lungs were inflamed in 8, or in more than two-thirds.

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PART THIRD.

PERISCOPE.

ANATOMY AND PHYSIOLOGY.

On Mounting Preparations under Thin Glass. By Dr J. W. Griffith.

The preparations which I have found answer permanently are—"1st, A solution of Canada balsam in ether or oil of turpentine, evaporated to just such a consistence as is sufficient to allow of its being applied with a camel hair pencil. 2d, A mixture of gold size and white lead; this used as the ordinary gold size and lamp black has remained permanent; a little red lead mixed in with it makes it dry quicker and harder. 3d, A mixture of red lead and gold size used immediately, dries very rapidly, and becomes very hard. 4th, A mixture of fine lamp black and white hard varnish laid on immediately forms a very good compound."—Tulk and Henfrey's Anatomical Manipulation, p. 408. London: 1844.

Antrum Tube of Roederer. By Dr Ritchie, Glasgow.

This modification of the structure of the curved and sacculated distal extremity of the Fallopian tube, which was first described by Roederer, and afterwards by Montgomery, has been suggested by Dr Ritchie to be pathological. He says, "In occasional instances, both of women who have not borne children, and of such as have been mothers, one, and sometimes two portions of this vesical-like process project from the line of the tube, in the form of well-defined chambers or recesses. These affect a globular shape externally, and are sometimes so thin as to be translucent, while, internally, the muscular fibrils of the tube are gathered into bundles around the neck or orifice of the little chamber,—the whole forming a structure not unlike a miniature hernia wall, and communicating the impression, that the muscular layer of the canal had gradually given way under some mechanical force, such as that of the tube frequently and strongly compressed,—distending the mucous lining, and separating the muscular fibres, till