which is not my own, but which I think fairly bears me out, and explains the facts I believe better than any other; but as my anxiety is much more to discover and establish truth than to theorize; and as I think that a calm investigation is infinitely better calculated to lead to that discovery, than an intemperate inquiry; if you should perceive any undue asperity in this letter, I beg that you will correct it. I also request Dr. Kinglake to accept my thanks for entering upon the subject.

I am, &c.

E. HARROLD.

CRITICAL ANALYSIS
OF THE
RECENT PUBLICATIONS
ON THE
DIFFERENT BRANCHES OF PHYSIC, SURGERY, AND MEDICAL PHILOSOPHY.

A Treatise on the Origin, Progress, Prevention, and Treatment of Consumption. By John Reid, M. D. Member of the Royal College of Physicians, London, Senior Physician to the Finbury Dispensary, and Lecturer on the Theory and Practice of Medicine. 8vo. London.

In the Preface to this Work we meet with the following statement of the views with which it was composed. "The writer of the ensuing pages has laboured to render the disquisitions that they contain, at the same time open to general observation, and interesting to the professional student. He has attempted to delineate a portrait, the prominent character of which shall be universally understood, while the more minute lines and shades of expression shall remain for detection by the skill of the artist."

In pursuance of this plan, our author introduces his subject with a slight sketch of those different hypotheses which have, at various periods, been constructed in order to explain the nature and origin of what he conceives necessary to the actual existence of genuine phthisis, ulcer in the lungs, and hectic fever. The principal errors of such hypotheses are attributed, by Dr. Reid, to a neglect on the part of their founders, of regarding life as an effect, produced and supported by influences totally distinct in their nature from those which regulate the economy of the inanimate creation.

"Theories of disease were deduced from the principles of loose analogical
analogical reasoning; unprofitable disquisitions into the cause, for
a long period, supplied the place of an attentive inquiry into the
laws and characteristic qualities of vitality, and the science of life
remained to be disclosed."

That reformation, so long desired in the conduct of medical re-
searches, has at length been effected, according to the opinion of
our author, by the enunciation and application of what is gener-
ally denominated the Brunonian theory, the outlines of which are
described by the following words: "Every change which is ef-
ected on the solids or fluids of the living system, is subordinate to,
and consequent upon, a certain degree of action in the animate
fibre. This action is produced upon principles entirely different
from the impulse of mechanism, or the attractions of inanimate
matter. It is governed by peculiar and exclusive laws. The pow-
ners by which it is generated are the powers by which life is sus-
tained. Health consists in its regular maintenance. The various
modifications of disease are in their origin entirely attributable to
its derangement, and death is the inevitable and immediate con-
sequence of the loss of susceptibility to its action."

The four succeeding chapters are devoted to a delineation of the
structure of the respiratory organs, an account of the chemical in-
gredients of atmospheric air, and a general inquiry into the func-
tions of the lungs and skin, as far as they are connected with the
propagation and preservation of animal heat. Our limits will not
permit us to scrutinize the reasonings of Dr. Reid, from which the
following inference is deduced, that chemical agency has been too
precipitately made to apply to the functions both of the lungs and
external surface of the body; and that the generation and due ad-
justment of animal temperature, are, like all other phenomena of the
living frame, influenced by the peculiar laws of fibrous excitation.

Those affections are next made to pass under review, which are
frequently precursors of ulcer in the lungs; these are treated of
in the following order, Hæmoptysis, Catarrh, Pneumonia, and Tu-
bercles.

In the chapter on Hæmoptysis, Dr. R. takes occasion to object to
those accounts of its origin, which he conceives to be relics of the
mechanical and humoral doctrines in pathology. Discharges
of blood from the lungs, our author maintains, in no instance or-
ginate according to the opinion of Dr. Cullen and other writers,
from a sudden diminution of weight in the atmosphere, acting ei-
ther upon the principles of mechanism, or by occasioning the cir-
culating fluids to rarify and expand; an effect which he contends
is altogether inconsistent with the established laws of vital cau-
sation. While considering the treatment of hæmorrhage from the
lungs, as likewise the production and treatment of catarrh and
pneumonia, the writer's principles are maintained with much in-
genuity of argument, and considerable force of expression.

We were much gratified with observing, that in his remarks on
pneumonia, our author adverters, in an especial manner, to the ten-
dency of eruptive disorders in early life, more especially the mea-

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Dr. Reid's Treatise on Consumption.

fles, to affist or even create phthisical disposition, unless immediately and effectually counteracted; for the purpose of preventing this occurrence, he is of opinion, with many contemporary writers, that Digitalis furnishes an important agent.

With respect to tubercles, Dr. R. objects to that vague mode of explanation, which refers their origin to constitutional acri-
mony; but does not, in our opinion, substitute any theory of their production which is explicit or satisfactory. It is not suffi-
cient to describe these bodies, as consequent upon slight and re-
peated inflammation, depositing matter which remains unabso-
red. We conceive the question at issue to be, Why should that peculiar deposition, by which a tubercle is constituted, result from inflam-
mation in parenchymatous substance exclusively? To afcribe this to "peculiarity of structure," is not to explain, but merely to state its cause.

We are, moreover, disposed to think that Dr. R. has evinced too great a partiality for system and generalization, in his endeav-
ours to prove that susceptibility to catarrhal irritation of the mu-
cous membrane, and that the generation of tubercle, exist in the same ratio. Violent and reiterated inflammation, we are per-
fuaded, frequently affect the mucous membrane without being fol-
lowed by tubercle.

In the next division of his work, Dr. R. considers the predis-
posing and exciting cause of consumption; and the characters of the phthisical temperament are here pointed out with so much per-
spicuity and accuracy, that we regret our limits do not admit of their detail.

On the means of obviating the consumptive tendency, we find a considerable coincidence of opinion with another modern author of deserved reputation; a coincidence which will in no measure de-
tract from the value of those precepts which are contained in this important division of Dr. R's work.

The progressive symptoms of phthisis pulmonalis are traced with fidelity in the ensuing chapter, and the practical rules, with re-
gard to the treatment of the complaint, display much nicety of discrimination, and correctness of judgment. We conceive, how-
ever, that the author would have rendered his treatise more ac-
ceptable to the majority of readers, by a more ample detail of both the dietetic and medicinal management of the consumptive invalid. In the earlier stages of this complaint, Dr. R. speaks with much confidence of the powers of Digitalis, the modus operandi of which he endeavours to reconcile with Brunonian principles.

The work now under consideration concludes with additional ob-
servations on the mode of discriminating between genuine and spurious phthisis, with an account of the different species and causes of general decline, and pulmonary consumption; and with further remarks on the remedies required in consumptive affections, whether independent of, or connected with, an actual disorder of the lungs.

We shall finish our Analysis by extracting the following par-
graphs,
graphs, which terminate the work, and which we think afford a favourable specimen of the general style in which it is written.

"Coughs are by no means absolute indications of catarrhal affection. The idea of specific remedies for coughs and colds, is founded upon a total ignorance of the laws and functions of the animal economy. It is equally inconsistent with, and contrary to, both philosophical principles and actual experience, as the vulgar and empirical notion of correcting impurities in the blood.

"Urgent pain is often unaccompanied by inflammation or increase of local excitement. It is in many instances consequent upon the difficulty and labour with which an enfeebled organ performs its accustomed and salutary action. An important demand for invigorating resources is too commonly supplied by enervating powers.

The flushed cheek and emaciated countenance, are the most faithful attendants upon genuine phthisis. Even these, however, are not absolute indications either of the presence or absence of pulmonary consumption.

"A familiarity with the physiognomy of this diseafe can only be acquired by an affidious attention to its ever varying shades, and by carefully marking its multifarious expressions. In proportion, however, to the difficulty of the task is the necessity of its accomplishment. Delays and errors are here especially to be dreaded. Decision comes too late, when not merely the nature of the disorder, but likewise its fatal termination, almost ceases to be a subject of doubt or enquiry. To know the rocks on which his vessel has foundered, affords but small consolation to the shipwrecked mariner."

A Treatise on the Process employed by Nature in suppressing the Hemorrhage from divided Arteries, and on the Use of the Ligature; concluding with Observations on secondary Hemorrhage; the whole deduced from an extensive Series of Experiments, and illustrated by fifteen Plates. By J. F. D. Jones, M. D. Member of the Royal College of Surgeons of London.

We know not whether most to admire the benevolent intentions of this author, his persevering industry, or the accuracy and minuteness of his observation under so long a series of experiments. If ever there was a subject which authorized experiments on brute animals more than another, it is the one before us. It was not with a view of establishing some uncertain theory, some unimportant doctrine, the favourite invention of his brain, but from the sole motive of relieving his fellow creatures under circumstances which admit of no delay, that these enquiries and communications have been made.

That our readers may be enabled to follow us through the rest of the work, we shall transcribe the first chapter, entitled, preparatory considerations.

"The changes produced on arteries by accidents, and the sur-

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Dr. Jones's Treatise on Hemorrhage.

tical operations to which they are subjected, have a certain relation to their structure. The subjects, therefore, of this Treatise naturally suggest a few preliminary observations on the structure of arteries; but only such a description will be given, as may suffice for the explanation of the phenomena which they exhibit, when influenced by accident or art.

"The substance of which arteries are composed is divisible into distinct parts, which have been called tunics or coats. Three coats, which have received various names, can be readily demonstrated, and may be simply and clearly distinguished by the terms — Internal, Middle, and External.

"The internal coat, although extremely thin, is very close in its texture, and gives to an artery a smooth and polished lining; it is elastic, and firm, considering its delicate structure, in the longitudinal direction, but so weak in the circular as to be very easily torn by the slightest force applied in that direction. The morbid changes, which have been observed in it, prove that this coat is vascular; and some experiments have been related to show the probability of its being sensible.

"The middle coat, which is the thickest, is formed by numerous layers of firm, compact, fleshy fibres of a pale red colour, passing in a circular direction, but appearing rather obliquely connected and interlaced with each other, than forming complete circles. These fibres are of a peculiar nature, are well supplied with nerves, and resemble in form and disposition, muscular fibres, but differ from them in possessing a remarkable degree of elasticity. Their elasticity keeps an empty and dead artery open and circular; for this coat, when detached from the internal and external coats, still preserves a cylindrical form, whilst they, on the contrary, in a state of separation, become flaccid and collapse. As this coat has no longitudinal fibres, the circular fibres are held together by a slender connection, which yields readily to any force applied in the circumference of the artery. The middle coat is intimately connected with the internal and external by very short and fine cellular membrane.

"The external coat, anatomically considered, is so simple, that many authors have thought it sufficient to say, that it is formed of condensed cellular membrane, which becoming gradually of a looser texture, connects the artery with the surrounding parts; but the importance which is attached, in a surgical view, to this coat, renders a more particular account of it highly necessary and interesting. Although ultimately resolvable into cellular membrane, yet it derives from the particular arrangement of its component fibres a characteristic appearance, which distinguishes it from cellular membrane, and entitles it to be ranked as a proper coat of an artery. Internally, or next to the middle coat, its texture is close and smooth, externally more open and rough, in consequence of the cellular membrane by which it is connected with an additional covering. The whole is remarkable for its whiteness.
ness, density, and great elasticity. If an artery be surrounded by a tight ligature, its middle and internal coats will be as completely divided by it as they can be by a knife, whilst the external coat remains entire; a fact, which will be commented upon in another part of this treatise, and shewn to be connected with important circumstances. The strength therefore of an artery depends chiefly on its external coat, which answers, in some respects, the purpose of a strong fascia.

"The three coats which I have just described are the only proper coats of an artery; but the different arteries, while in their natural situation, are surrounded with fine cellular membrane that connects them with additional coverings, called sheaths, which are formed within the cavities of the body by the investing membrane peculiar to each, and in other parts by facia, or cellular membrane. The fine cellular membrane, the bond of connection between arteries and their sheaths, varies in length in different parts, and gives an artery a flocculent appearance. If an artery be divided, the divided parts, owing to their elasticity, recede from each other, and the length of the cellular fibres connecting the artery with the sheath, admits of its retracting a certain way within the sheath; an important fact, the application of which will be made in a future part of this Treatise, that describes the natural process by which hemorrhage is stopped.

"In performing the experiments, which will be subsequently related, it was not my intention to investigate the long agitated question respecting the action of arteries, whether it should be ascribed to their elasticity alone, or their elasticity and muscularity conjointly. I have had, however, frequent opportunities, in the course of my experiments, of observing appearances, which incline me strongly to the latter opinion, slightly modified. These appearances made so conspicuous a part of the process, to which my attention was more immediately directed, that I was induced to discuss the subject at some length in my Thesis. Here we are only concerned to notice one important fact relating to the action of arteries, namely: that when an artery is divided, its truncated extremities contract in a greater or less degree, and the contraction is generally if not always permanent. But I have only once seen a distinct contraction, produced by a mechanical stimulus, while the artery remained entire. It happened in an artery on which the effect of galvanism was tried, but it was uncertain, even in this instance, whether the contraction should be referred to the irritation of the wire of the galvanic pile, or to the galvanic influence, which it conveyed.

Arteries are supplied not only with small arteries and veins (the vasa vasorum), but also with absorbents and nerves, and have, in these respects, a similar organization to the other soft parts of the body. This structure makes them susceptible of every change to which living parts are subjected in common; enables them to inflame
inflame when injured, and to pour out coagulating lymph, by which the injury is repaired, or the tube is permanently closed.

This account, when we consider that the whole of the future experiments are on arteries, is much too short. We admit the caution of our author in not asserting more than he could prove. He observes, with much propriety, that the elasticity of these fibres, which run in a somewhat circular direction, is the means of preserving the cavity of a dead artery: but as he found that the artery had a considerable degree of elasticity, in its longitudinal direction, so as to shorten itself when cut, it became him to define the degree and nature of these elastic powers. By determining how much power remained in a dead artery, and comparing it with the living artery, he might ascertain this as far as the subject would admit; the power lost after death being subtracted from what remained, would show the degree of muscular power, which could only exist with life. What remained must be considered as elastic. It was not necessary, however, to pursue this subject experimentally to any extent. Mr. Hunter's experiments are so numerous, and his accuracy so well known, that a few, to strengthen or confute them, would have been sufficient. The only objection we have to the passage above quoted is, that the author assumes these muscular and elastic powers of arteries, without offering any proofs either from himself, or any other writer. In all other respects, this chapter is highly important, and must be constantly kept in view by the reader, particularly the description of the cellular sheath, and the manner in which a divided artery contracts within it.

The first section is on the process employed by Nature, for suppressing hemorrhage from divided arteries, or, as we should prefer expressing it, on the sources of the constitution, or animal economy, for suppressing, &c.

In the first chapter the author gives a very candid and accurate review of the Theories offered by Petit, Morand, Sharp, Porteau, Gooch, Kirkland, White, and J. Bell. In this we were much pleased to observe the just respect shown to those old French writers, to whom we owe so much; but our obligations to whom are so seldom acknowledged. Mr. Petit, it is observed, perceiving a coagulum lodged at the inside of the extremity of a divided artery, and also that the external part was immersed in a similar substance, concluded that the plug within, and the support without, were the causes of suppressed hemorrhage. M. Morand added to the above causes, the contraction and retraction of divided arteries. The opinions of both these gentlemen, our author, with a becoming candour, shows, were founded on fact, though as he adds, their opportunities did not allow them to pursue their enquiries far enough. Mr. Sharpe's opinion, as expressed in the Edition of 1783, is nearly similar to the above.

Dr. Jones begins his remarks on M. Porteau's account, by regretting how much the value of it is lessened by the severity with which
which his predecessors are treated. M. Porteau, by making similar experiments to those of Petit, found similar results; but in stumps which he had an opportunity of examining at different distances of time, after amputation, he perceived that in some, no coagulum was discoverable within the cavity of the artery, and in others, where coagula appeared, neither its firmness nor adhesion to the vessel, were sufficient to prevent hemorrhage. This induced him to impute the whole to the contraction of the length and corrugation or constriction of the diameter of the artery.

Mr. Gooch's readiness at adopting Porteau's error, as his own discovery, is next delicately touched upon, and also Mr. Kirkland's opinion, that the suppression of hemorrhage was caused solely by the contraction of the arterial diameter; in which he was implicitly followed by Mr. White and Mr. Aikin. But though Mr. White's principal, if not his only concern, should have been with the unassisted powers of the economy, his conclusions are drawn from the condition of a tied artery.

Mr. J. Bell's Theory, being the last that has been offered, and the most likely to interest the rising generation; we shall offer our author's remarks upon it, in his own words.

"The last theory which I have to notice, is that lately published by Mr. J. Bell, who, after freely criticising those which I have already mentioned, confidently asserts, that, "when hemorrhage stops of its own accord, it is neither from the retraction of an artery, nor the constriction of its fibres, nor the formation of clots, but by the cellular substance which surrounds the artery being injected with blood." It is to be regretted, that among the plates which Mr. Bell has very judiciously introduced to illustrate the doctrines of Petit and Porteau, he has not added one to exemplify his own, which, although it appears to be delivered in very decisive terms, yet, in its affirmative part at least, is vague and inconclusive. It was perhaps on this account that the author subjoined a copious illustration of it, which I shall also quote, that I may not incur the reproach of having given only a partial and unjust view of his theory.

"The stream of blood gradually lessens, because the artery is emptied, and the resistance to the arterial action taken away; the stimulus being gradually lessened, the artery every moment acts less powerfully; and the blood being no longer solicited or urged on by the arterial contractions, forsakes the open artery, and moves along the neighbouring branches. The surgeon claps the point of his finger upon the mouth of the artery, and holds it there; the outward bleeding is prevented; the blood is extravasated into the cellular substance round the mouth of the artery; the cellular substance is slightly injected with blood; that blood coagulates, and that slight barrier is sufficient to restrain the bleeding of a small artery, till the parts inflame, and the artery is entirely stopped."
Supposing the artery still larger and more powerful, and that it drives its blood very furiously among the cellular substance, it is not this slight injection of the cellular substance that will restrain the bleeding. Whenever the finger is removed the blood bursts through this slight impediment. The injected cellular substance will not support the artery, unless the cellular substance itself be also supported. . . .

Retraction of the artery has no effect in suppressing hemorrhagy, but as it fills the cellular substance; and this injection of the cellular substance is but a slight obstacle, fit to support only the very smallest arteries. The natural powers which restrain hemorrhagy, do but suppress it for a time, and expose the patient to secondary hemorrhagy."

According to Mr. Bell's first position it appears, that the injection of blood into the cellular membrane which surrounds the artery, is the only natural cause, by which hemorrhage is stopped; but as he has just before said that it is not stopped by the formation of clots, we are at a loss to know how this injection of the cellular membrane effects the suppression of hemorrhage. If we have recourse to his explanation, our curiosity is not gratified, and our embarrassment certainly not diminished, for we there find that the cellular membrane is only "slightly injected with "blood," so that we are not at liberty to infer that it is so completely injected as to compress the artery, and in that way stop the flow of blood. Indeed, however plausible such an assertion might have made the doctrine, it would not have been valid: but, continues the author, "that blood coagulates, and that slight barrier is sufficient to restrain the bleeding of a small artery, &c." But what is the nature of this barrier? and in what manner does it stop the hemorrhage? for it is to be remembered that we are previously informed, in positive terms, that it is not stopped by the formation of clots; and although, in conformity with this, it is not said that the blood is effused into the cellular membrane, at the mouth of the artery, but round it, yet from what has been said above, it must, I think, be pretty evident that an effectual compression of the artery is not implied.

Left then, as we have been by the author, to make the best we can of the theory and explanation, the only conclusion at which we can arrive without assistance from him, is, that hemorrhage is not stopped "by the formation of clots, but by the cellular substance, which surrounds the artery, being injected with blood, which, according to the illustration, coagulates;" but as the artery is everywhere surrounded with cellular substance, the coagulated blood, which stops the hemorrhage, must necessarily be in the cellular substance: we have, therefore, only to discuss the difference between a clot of blood and coagulated blood, to discover the principal difference between this offspring of Mr. Bell, and what he has been pleased to call Petit's "sickly child."

"Retraction of the artery," says Mr. Bell, "has no effect in suppressing
suppressing hemorrhagy, but as it fills the cellular substance." But let it be observed, that besides filling the cellular substance round the artery, it also fills the cellular substance at the mouth of the artery in a particular manner; for the divided artery, by its retraction within its cellular sheath, leaves a space of a determinate form, which, all the circumstances necessary for the suppression of hemorrhage operating, is gradually filled up by a distinct clot. If Mr. Bell really means to confine his doctrine of the natural means of suppressing hemorrhage to the injection of the cellular membrane round the artery with blood; he dwells improperly on one of the attendant circumstances to the exclusion of the retraction and contraction of an artery, and the formation of a distinct clot—all of them primary means in the natural suppression of hemorrhage, of which abundant proofs will be given in the proper place.

"I have chosen to set Mr. Bell's theory in its strongest and best point of view, by confining it to the injection of the cellular membrane with blood; for, in justice to his physiological knowledge, I think it unnecessary to examine the accuracy of the reasoning, by which he would shew, that the blood forsakes the open artery; rather supposing, that, on this occasion, he has hastily adopted the account given by the Editor of the Memoires de l'Academie Royale des Sciences for the year 1735; who, in giving an abstract of Petit's paper, for the year 1731, says, "Dans le cas d'un tronc d'artere coupé, le sang qui continue de s'y rendre, ne doit plus y couler que jusqu'à l'endroit, ou il rencontrera une branche collateral entiere dont il enflera la route, au moyen de quoi la circulation s'achevera." And I am still less disposed to dwell on the inconsistency of introducing the surgeon's finger as an auxiliary to the natural means by which hemorrhage is stopped."

After this account of the labours of his predecessors, our author begins the history of his "experiments on the arteries of dogs and horses, to ascertain the process, and the order of the events which constitute it." We shall not enter into a detail of these at present, reserving our remarks on some particular passages to the conclusion drawn from the experiments. Suffice it to say, that equal industry and judgment are shown in every part; that the result is perfectly satisfactory; that if there is any thing to which we object, it is, adopting Dr. Jones's own expression, "to the manner of accounting for the appearances which he observed." However, as we cannot add, that "his doctrine could only have been deduced from the irregular and partial observations which he was enabled to make," we would not wish that our objections should be considered in any other light than as opinions, which the reader will receive or reject as he pleases.

"The results (says our author) of the experiments related in the last section will not allow us to give so concise and simple an account of the process, as has hitherto been done; but they afford
us one more satisfactory, because it accords better with the operations of the animal economy, in which we are accustomed to observe the most important changes gradually produced by the co-operation of several means, rather than by the sole influence of any one in particular.

"They accordingly shew, that the blood, the action and even the structure of arteries, their sheath, and the cellular substance connecting them with it; in short, that all the parts concerned in or affected by hemorrhage, contribute to arrest its fatal progress, by operating, in the case of a divided artery of moderate size, in the following manner.

"An impetuous flow of blood, a sudden and forcible retraction of the artery within its sheath, and a slight contraction of its extremity, are the immediate and almost simultaneous effects of its division. The natural impulse, however, with which the blood is driven on, in some measure counteracts the retraction, and resists the contraction of the artery. The blood is effused into the cellular substance between the artery and its sheath, and passing through that canal of the sheath which had been formed by the retraction of the artery, flows freely externally, or is extravasated into the surrounding cellular membrane, in proportion to the open or confined state of the external wound. The retracting artery leaves the internal surface of the sheath uneven by lacerating or stretching the cellular fibres that connected them. These fibres entangle the blood as it flows, and thus the foundation is laid for the formation of a coagulum at the mouth of the artery, and which appears to be completed by the blood, as it passes through this canal of the sheath, gradually adhering and coagulating around its internal surface, till it completely fills it up from the circumference to the centre.

"A certain degree of obstruction to the hemorrhage, which results from the effusion of blood into the surrounding cellular membrane, and between the artery and its sheath, but particularly the diminished force and velocity of the circulation, occasioned by the hemorrhage, and the speedy coagulation of the blood, which is a well known consequence of such diminished action of the vascular system, most essentially contribute to the accomplishment of this important and desirable effect.

"A coagulum then, formed at the mouth of the artery, and within its sheath, and which I have distinguished in the experiments by the name of the external coagulum, presents the first complete barrier to the effusion of blood. This coagulum, viewed externally, appears like a continuation of the artery, but on cutting open the artery, its termination can be distinctly seen with the coagulum completely shutting up its mouth, and inclosed in its sheath.

"The mouth of the artery being no longer pervious, nor a collateral branch very near it, the blood just within it is at rest, coagulates, and forms, in general, a slender conical coagulum, which
which neither fills up the canal of the artery, nor adheres to its sides, except by a small portion of the circumference of its base, which lies near the extremity of the vessel. This coagulum is distinct from the former, and I have called it the internal coagulum.

"In the mean time the cut extremity of the artery inflames, and the vasa vasorum pours out lymph, which is prevented from escaping by the external coagulum. This lymph fills up the extremity of the artery, is situated between the internal and external coagula of blood, is somewhat intermingled with them, or adheres to them, and is firmly united all round to the internal coat of the artery.

"The permanent suppression of the hemorrhage chiefly depends on this coagulum of lymph; but while it is forming within, the extremity of the artery is farther secured by a gradual contraction which it undergoes, and by an effusion of lymph between its tunics, and into the cellular membrane surrounding it; in consequence of which these parts become thickened, and so completely incorporated with each other, that it is impossible to distinguish one from the other: thus, not only is the canal of the artery obliterated, but its extremity also is completely effaced, and blended with the surrounding parts.

"When the wound in the integuments is not healed by the first intention, coagulating lymph, which is soon effused, not only attaches the artery firmly to the subjacent and lateral parts, but also gives it a new covering, and completely excludes it from the external wound, which then goes on to fill up and heal in the usual manner.

"The circumstances now described are observed also in the inferior portion of the artery, or that which is supplied with blood by anastomosis; with this difference only, that its orifice is generally more contracted, and the external coagulum is much smaller than the one which adheres to the mouth of the superior portion of the artery, or that from which the blood flows in its direct course from the heart.

"From this view of the subject we can no longer consider the suppression of hemorrhage as a simple or mere mechanical effect, but as a process performed by the concurrent and successive operations of many causes: these may briefly be stated to consist in the retraction and contraction of the artery; the formation of a coagulum at its mouth; the inflammation and consolidation of its extremity by an effusion of coagulating lymph within its canal, between its tunics and in the cellular substance surrounding it.

"And we may conclude that, except in some rare instances, in which the strong retraction and contraction of a divided or lacerated artery prevents hemorrhage altogether, a languid state of the circulation is necessary for the accomplishment of the natural means by which the hemorrhage is stopped. These means may be divided into the temporary and permanent: under the former head we may include the three first of the above-mentioned causes;
causes; whilst the effusion of lymph constitutes the permanent: yet even these can be distinctly traced only for a certain time, in consequence of other changes which the artery gradually undergoes. Its obliterated extremity no longer allowing the blood to circulate through it, the portion which lies between it and the first lateral branch is no more distended and excited to action as formerly; but gradually contracts, till at length its cavity is completely obliterated, and its condensed tunics assume a ligamentous appearance. At the same time, the remarkable appearances at the extremity of the artery are undergoing a considerable change; the external coagulum of blood, which in the first instance had stopped the hemorrhage, is absorbed in the course of a few days, and the coagulating lymph, which had been effused around it, and had produced a thickened and almost cartilaginous appearance in the parts, is gradually removed, and they again appear more or less completely restored to their cellular texture.

"Nor are these all the changes which the artery undergoes; for, if examined at a still later period, the ligamentous portion is found to be reduced to a filamentous state, distinguishable from the surrounding cellular membrane only by being somewhat coarser; and thus the obstruction which commenced at the extremity of the canal terminates in the complete annihilation of the artery to the first lateral branch.

"But long before this final change is accomplished, many of the lateral branches of the superior and inferior portions of the artery have become very much enlarged, and have established by frequent anastomoses, a free and ready communication between these disunited parts of the trunk. The small branches by whose immediate inosculation these anastomoses are formed, appear to have undergone the principal changes; they are not only proportionally more enlarged than the large branches of the limb to which they belong, and very considerably larger than the corresponding branches of the other limb, but have also become longer, and, being confined within their former space, assume a beautiful tortuous and serpentine course, in order to accommodate themselves to it.

"The circulation appears to be carried on as perfectly and vigorously by these anastomising branches in the limb, the main artery of which has been divided, as in that in which the artery is entire; the inferior part of the divided artery, and all its branches, being found fully equal in size to the corresponding part of the trunk and branches of the artery of the opposite limb which has not been divided: and hence, we may conclude, with the celebrated Mr. Hunter, that "Vessels have a power of increase within themselves, both in diameter and in length," which is according to the necessity, whether natural or dis eased."

"I shall now make some further observations relative to the external
external and internal coagula of blood, and the intermediate one of lymph, which, if introduced before, would have too much interrupted the detail of the process. And first, of the external coagulum—

"Its particular figure and extent vary according to the manner in which the wound has been inflicted. If the artery, its sheath, the vein, and nerve accompanying it, have all been completely divided, the figure and extent of the coagulum will depend on the relative retraction of the artery to that of the sheath, which varies in different animals, and according as the artery has been more or less detached from the surrounding cellular substance.

"If the artery alone be divided, the anterior part of its sheath having been opened longitudinally, the coagulum which then forms at the mouth of the artery varies from a quarter to near half an inch in length, and differs from the form of the artery only in being sometimes slightly conical at its extremity; which, when the integuments have been sewed up previous to the division of the vessel, is turned forward, and is continuous with a large globular portion of coagulum, which being confined by the integuments alone, lies over it and the extremity of the artery. This appearance of the external coagulum may readily be accounted for from the circumstance of the sheath not having been divided so as to admit of its retraction; whereas, the complete division of the artery allows it to retract even within the part to which the wound of the sheath has extended, and, accordingly, that portion of the coagulum which lies within the entire part of the sheath, assumes the form of the artery; while the portion of sheath which has been opened, being deprived of the support of the artery, and of its tension, is more or less disposed to collapse, and will necessarily give a conical appearance to the portion of coagulum formed within it; and thus it is that the lower extremity of the external coagulum is sometimes conical: but when the integuments have been sewed up previous to the division of the artery, in consequence of the impediment which that circumstance affords to the exit of the blood, even this flaccid portion of the sheath becomes fully distended with blood, and of course the conical form of the external coagulum is prevented.—I have been thus particular in explaining these circumstances, because I wish it to be clearly understood, how a slight difference in the manner of performing the experiments may occasion a variation in the appearance of the parts when examined; and if, in repeating experiments on this subject, any deviation from the account here given should be observed, I am convinced it will be satisfactorily accounted for, by attending to the manner in which the experiment is performed in both instances.

"The extent, and, indeed, even the formation of the internal coagulum of blood, depends very much on the distance from a lateral branch, at which the division of the artery has taken place:
place: thus, if it is divided about a quarter of an inch beyond a branch, there will scarcely be formed any coagulum of this description, for the effusion of lymph at the cut extremity of the artery is in general sufficient to form a coagulum which extends a little way within the artery, and then the space between the extremity of the coagulum of lymph and the lateral branch is so short, that no internal coagulum of blood can be formed, at least none worth mentioning. In some instances I have found a small lamina of coagulated blood, not thicker than a six-pence, lying on the coagulum of lymph, the extremity of which in these cases generally projects a little beyond the extremity of the artery, and extends further within its canal than merely the surface by which it adheres; which circumstance seems to depend on a larger quantity of lymph being effused than is necessary to fill up the canal of the artery as far as the inflammation extends on its internal surface, and the superfluous quantity not coming in contact with an inflamed surface, and the blood being constantly driven between it and the sides of the artery, it forms no adhesion, but projects a little within the canal. It is probable that the compression, which the lymph undergoes from the gradual contraction of the extremity of the artery, may also contribute to this effect.

But when the division of an artery has taken place at some distance from a lateral branch, a long conical internal coagulum is then formed, whose base is situated towards the extremity of the artery, and in general it adheres partially at the circumference of its base to the internal surface of the artery, close to the coagulum of the lymph.

The internal coagulum of blood, however, does not fill up the cavity of the artery throughout the whole of its extent; and though conical, it has often the appearance of not having been formed at once, but by the successive coagulation of small quantities of blood. It is very readily distinguished from the coagulum formed by the effusion of lymph from the inflamed extremity of the artery, which is rather brown than white at first, probably in consequence of some admixture of red particies, and which is principally characterized by adhering almost throughout its whole extent to the internal surface of the artery: whereas the former, i.e. the internal coagulum of blood, although much longer than this of lymph, forms no adhesion whatever, except a slight one at its base, and which seems to be produced by the coagulum of blood being formed while the lymph is sufficiently recent to allow it to stick to it. Although the internal coagulum of blood when first formed by no means fills up the canal of the artery, except at its base; yet, in consequence of the contraction which the portion of artery containing it gradually undergoes, after a short time it embraces the coagulum so closely that they appear to cohere to each other; so that although the greater part of the coagulum, preserving its natural form, may very easily be
be separated from the artery, yet its internal surface is left of a black colour, as if an external lamina of the coagulum still remained on it. It is also highly worthy of notice, that on examining, at a distant period after these experiments, arteries which, (from similar experiments on the corresponding arteries of other animals more speedily examined), we know must have had considerable coagula of blood in them; no coagula should be found in them; but their internal surface is very black, and their external appearance, previous to being cut open, remarkably dark.

"From what has been said it appears, that when an artery has been divided at some distance from a lateral branch, three coagula are formed: one of blood, externally, which shuts up its mouth; one of lymph, just within the extremity of its canal; and one of blood, within its cavity, and contiguous to that of lymph.

"I have called that of lymph a coagulum, because, when the divided artery has been left entirely to itself, there is such a quantity of lymph effused, that although it is firmly united to the internal surface of the artery, it may be considered as a distinct substance; but, if the cut edges of the extremity of the artery had been kept in contact with each other by pressure, they would have cicatrized, and no coagulum would have been formed; i.e. coagulating lymph would not have been effused in such a quantity as to form a mass of a determinate figure.

"I have already remarked, that when the division of an artery has been made very near to a lateral branch, no internal coagulum of blood is formed: hence we see that the number of coagula varies according to circumstances. But the external coagulum is always formed, and is subject to no other variations than those already described.

"The internal coagulum of blood contributes nothing to the suppression of hemorrhage in ordinary accidents, because its formation is uncertain, or when formed it rarely fills the canal of the artery, or, if it fills the canal, does not adhere to the internal coat of the artery. Hitherto, therefore, I have contented myself with noticing its existence, or pointing out the circumstance which prevents its formation, without ranking it amongst the means which Nature employs for the suppression of hemorrhage. But if an artery be lacerated, its internal coat will be torn in many places, in proportion to the degree of violence with which the injury has been inflicted. Under this particular accident the internal coagulum of blood may extend beyond many collateral branches, will fill the canal of the artery, and will adhere to its surface wherever it is lacerated, in consequence of lymph being effused from these several wounds of the internal coat. The internal coagulum may in this case avail against a return of hemorrhage."

The experiments, without doubt, bear out our author through all the processes he has remarked, and even thro' the causes to which he assigns those processes. But it is not enough to show, that coagulum
gulum on the part external to the orifice of the divided artery is the immediate and temporary means of suppressing the hemorrhage, or that the coagulum within the orifice is, for the most, accidental or unnecessary, or even that the future and permanent suppression of the hemorrhage arises from the effusion of coagulable lymph at the divided extremities of the internal coat of the vessels. If our Readers (and we are sure all who are worth the labour we have willingly bestowed on this article will) take the trouble of re-perusing our extracts, as far as the quotation from Mr. Hunter, they will enjoy a second time the description given by our author of the changes produced in consequence of so serious a violence as the division of a considerable artery; and they will also feel, as the author seems to us to have done, not perfectly satisfied with the causes he assigns for some of the operations he observed.

The first effect of such an injury is the coagulation of the blood to stop the orifice. This the author seems to impute (we admit with some caution) to the diminished force of the circulation. We should rather impute it to the resources of the economy to preserve itself under certain circumstances. We also admit, that these resources are not always sufficient; but such is the case in many other curative intentions of Nature. We well know that the bare stagnation of blood, either within or without the vessels, provided it is still enclosed within living animal matter, is not sufficient to produce coagulation. This is often proved by large portions of blood in a gramous state, as it is called, which sometimes forms the substance of tumours arising probably from ruptured veins. Mr. Hunter gives several other instances, in which blood, both extravasated in the living body, and remaining stagnated in its proper vessels, did not coagulate. He also shows other instances, in which coagulation took place much higher up in the arteries, than the space between the obstructed part and any collateral branch. In this latter case, mortification had commenced at the lower extremity, and was spreading upward. A necessary consequence of mortification would be a separation of the mortified part and a consequent hemorrhage. To prevent this, the blood coagulates in the vessels. When an artery is punctured, so as to form what is called the spurious aneurism, or when the coats of an artery give way in the true aneurism, coagulum is formed over the injured or divided part, and, in some instances, has been found sufficient to remove the disease by the obliteration even of a considerable vessel.

As, therefore, in so many instances, coagulation does not follow extravasation where it would be injurious to the animal, and does take place in so many others where it is absolutely necessary for the preservation of the animal's life; are we not authorized to say that it depends on the necessity the parts are under for the support of life, and seems regulated by it? Are we not authorized in adopting Mr. Hunter's language, and considering coagulation in these instances, as an action of the blood induced by the stimulus of necessity?
cally in the surrounding parts? In one of our author's experiments, he found that a tea cup full of blood taken immediately after the incision into the carotid of a horse, coagulated in five minutes and a few seconds; the same quantity, taken a quarter of an hour after, when the necessity became more urgent, as the animal was much enfeebled, coagulated in three minutes and a half. This speedier coagulation could not arise from any disposition to inflammation from greater powers in the animal; but from an ineffectual attempt at suppressing the hemorrhage; an attempt, however, which might have been successful, had all the other resources been allowed their full effect. We are told, the stream of blood had diminished; the horse fell; showed great signs of restlessness; and, to prevent mischief, was dispatched when in articulo mortis.

The quotation from Mr. Hunter is beautifully illustrated by the picture contained in our author's description. We mean not to speak of this enlargement of the collateral branches of an obliterated vessel as a discovery of late times; it must have been known as long as the destruction of an artery was known. But we wish our readers to remark, that this altered action can only be imputed to the same stimulus of necessity, and is in perfect harmony with every other process we perceive in the blood and the vessels; that is, the parts act according to a necessity which arises for preserving the whole animal, so that we may, without any strain of words, be allowed to impute such actions to the laws constituted for this particular state of the animal.

The copious extracts we have already made, and the close reasoning required to accompany us through these observations, induce us, at present, reluctantly to attend to the limits of our work, and to the patience of our readers. In the next number the subject will be concluded.

An Essay on the Effects of Carbonate of Iron upon Cancer, with an Inquiry into the Nature of that Disease. By Richard Carmichael, Member of the Royal College of Surgeons, and Surgeon to St. George's Hospital and Dispensary. 8vo. 106 pages. 1806.

This work begins with a complaint on the ennui, occasioned by the perusal of modern medical productions. For our own parts, we find, with a very few exceptions, still greater ennui in the perusal of the ancients. To relieve his reader, however, Mr. Carmichael begins, by relating his cases: these are certainly very striking, and so well worth recording, that we sometimes with the author had reserved his subsequent reasoning till he had more completely matured his theory. The cases are five in number. The first is of a woman who had a foul ulcer on each side of her nose, similar to the description usually given of nosi me tangere; these were healed by the internal use of cicuta and calomel and the sprinkling of hydrargyrus muriatus ruber on the parts; but in about two months afterwards, a foul ulcer
ulcer appeared on the lip, which could not be relieved by the same remedies. This induced the author to consult the modern writers on the subject. By some accident he was directed to Dr. Adams's work, which our readers will recollect is confined to the cancerous breast.

"The grounds on which Doctor Adams founded his arguments in favour of the independent life of Cancer, seemed to me not unreasonable, although between that disease and Hydatids, I could not perceive any very great similarity. But this obviously led me to the consideration, that if the lives of those supposed animals were extinguished, they would be expelled from the body by suppuration, — and as iron has been found to be very effectual in destroying intestinal worms, I was induced to hope, that it would be equally destructive to other animals of a parasitical nature.—I, therefore, felt myself justified in making trial of a medicine in itself harmless, the effects of which more than answered my expectations."

"By the history of the case, it appears not only that the carbonate of iron was successful, but also that as often as that remedy was omitted, by any accident, before the compleat cicatrization of the sore, the ulcer constantly spread, and became ill-conditioned. During the cure, we are told, the ulcer occasionally discharged substances about the size of the smallest pea.

The second case was a cancerous ulcer in the external canthus of the eye; this was healed by the same remedies, carbonate of iron; and in the progress, the author remarked "small cavities resembling those greater ones observable in issues after the removal of the pea."

This appearance, he concludes, was owing to the discharge of small bodies, similar to those mentioned in the former case.

The third case was an ulcer of that species, called Noli me tangere, in a very young lady. Before we proceed any further, we cannot help confessing, that we have never met with this disease in a very young subject. However, the carbonate of iron cured the complaint in six days, which had withstood, for as many years, the most powerful remedies. This ulcer does not appear to have discharged any of those round substances.

The fourth case was of a man, forty years of age, with cancerous ulcers on the scrotum and on the calf of the leg, the latter covered with a number of warty excrescences. These were all discharged by the carbonate of iron, and both the ulcers yielded to the use of that remedy applied in various ways.

The fifth case was of a soldier nearly eighty years of age.—Here also the remedy was successful; but it will easily be conceived the patient did not long outlive the cure of his local complaints.

After the relation of these Cases, Mr. Carmichael introduces his reasoning by an account of what has been done by the ancients. This begins with Hippocrates, and is pursued as far down as Helvetius. Whether all the intermediate writers are included, we did not think it necessary to enquire, considering how little was to be learned from those who are quoted.

In
In reviewing the moderns, we are informed of Boerhaave's insipillating, Heister's coagulating theory, Le Dran's and Pearson's obstructions. We think our author too severe on Darwin, whose history of the formation of Scirrhus and Cancer is certainly not bad for a poet.

"But," says our author, "an hypothesis has been lately revived by Dr. Adams, which affigns to cancer a life independent of the part in which it is situated." It is well known that Dr. A. affigns to carcinoma that species of life which has been detected in hydatids. We, therefore, expected to have learned who were the writers from whom Dr. A. received those opinions, which he is said to have revived. Instead of this, we are introduced to the small worms mentioned in the Bibliotheca Anatomica; the insects which Justamond conceives, might be admitted at the external pores of the breast, and which some of the French surgeons have seen. All this is surely very different from the nature of hydatids.

Many other remarks follow, which evidently prove that Mr. Carmichael has only an imperfect knowledge of Dr. Adams's Theory; however, in the midst of all this, we meet with one important objection. "These appearances," says the author, "seem to be merely the effects of the deranged animal economy, excepting the one evincing a contractile power, in what he (Dr. A.) calls the capsules, but which, notwithstanding repeated investigations, I never could perceive. The colour of the fat, which Dr. A. seems to lay so much stress upon, may probably be produced by animal hepatic air, which Dr. Crawford has proved to be capable of imparting to the fat of recently killed animals a green colour; and that this very air, united to ammonia, escapes in great abundance from the cancerous as well as other malignant ulcers." The colour of the fat we do not recollect that Dr. A. lays so much stress on; because he remarks, that when cold, it has all the properties of common fat. But if Mr. Carmichael has carefully investigated that substance when recently taken from a cancerous breast, and found none of the papillary appearance mentioned by Dr. A. he is certainly authorized in rejecting the theory.

"As to the cells in which this substance is deposited, and which seem so strong, that without breaking them, their contents may be dug out; they appeared to me on division, to be common cellular membrane, partially supported by the ligamentous bands, or what he terms the fungus, but which had less the appearance of loculi-menta containing a liquid, than the roots of a plant penetrating where there was least resiliance — but with every attention, I could not discover the papillary appearance from which Doctor Adams deduces the proofs of the contraction and the evidence of the life of Cancer. — But if any motion should be observed by future investigators, the vitality may be attributed with as much reason to the cartilaginous as to the pituitous substance."

Here also, if Mr. Carmichael, in attempting to remove the fat from these cells, found it so universally enveloped with the common cellular substance, that he could not separate it without break-
ing the cells as in common fat, he is fairly at issue with Dr. A. and the controversy must remain open for future enquiry.

The fifth chapter contains "Enquiries into the Nature of Cancer." Here our author again begins with Dr. Adams, whose opinions, he observes, are, notwithstanding the objections he has made, consonant with his own, as to the independent life of cancer, though he differs as to the seat of that life. We must sincerely with he had followed a plan, first, we believe, introduced by Dr. A. and since adopted by most succeeding writers on this subject, that is, not only to tell us what he means by cancer, but also to make some division, according to the different structures of diseased parts, generally considered cancerous. It is remarkable, that none of the cases he gives seem to have the smallest analogy with that which is the subject of Dr. Adams's treatise; yet in his enquiry he seems to include every thing that has ever been denominated cancer; and in so doing, has no difficulty in proving the separate vitality of cancer.

"The origin of carcinoma, says Mr. C. first commencing in a point; the formation of cysts in its texture; these cysts evincing a contractile power by a forceable expulsion of their contents on being punctured; and the peculiar pain in this disease, are all circumstances which strongly impress the idea that carcinoma is possessed of individual life.

"The force with which the fluid is expelled from the cysts, is undoubtedly far greater than the simple elasticity of the part is capable of effecting and it is not a little surprizing that some deduction has not been already drawn from this circumstance: but as those who have not witnessed the fact, will be pleased with a corroboration of my assertion, shall recite a passage from Le Dran, who, endeavoring to demonstrate the infectious nature of cancer, accidently mentions a strong proof the contractile power of those cysts. He relates, "that in the middle of a carcinomatous tumour extirpated by his father, there was a cyst filled with a fluid, which he opened, and part of its contents pouring out upon his clothes, destroyed the colour of them, as if it had been aquafortis; some of it flew in his face, and he felt continued shootings there for several hours, though he immediately washed the part." Therefore the strong force with which these cysts expel their contents, is not owing to their excessive repletion, but entirely to the action of fibres endued with a contractile power. Such a power, even in a smaller, degree is esteemed sufficient to establish the animality of hydatids, generated in the human body, and on the same grounds the vitality of Cancer may likewise be inferred."

It would have been surprizing indeed, if Dr. Adams had overlooked this circumstance in supporting his favourite hypothesis. The mention of muscular power in cysts, containing fluids of various descriptions, and their frequent occurrence in parts which are found the most favourable nidus for what he calls carcinomatous hydatids, occurs in several parts of Dr. A's. treatise. However, we trust that gentleman will feel the obligations he owes Mr. Carmichael for this quotation from Le Dran.

The
The succeeding chapter is on the treatment of cancer, in the
course of which the author seems willing to believe that iron is in-
jurious to all animals whose blood is without red particles. When
we consider how universally this mineral is diffused throughout na-
ture, we cannot but hesitate before we admit of such a conclusion.
If it really is the case that iron destroys such animals as are without
red blood, we shall be in possession of a remedy more valuable than
we need expatiate on. Independent of all our doubts concerning the
carcinomatous disposition in the cases described by our author, the
remedy appears to be a very valuable one, and we trust, by degrees,
its full merits will be appreciated.

A Postscript follows, in which more cases are given on the au-
thority of Dr. C. and his brother practitioners; though they are not
sufficiently numerous to establish the credit of his remedy in so
born a disease, we cannot conclude without acknowledging our obli-
gation to the author for his communication.

A Practical Treatise on various Diseases of the Abdominal Viscera.
By C. R. Pemberton, M. D. F. R. S. Fellow of the College
of Physicians, &c. &c. 8vo. pp. 180. London, 1806.

Works on subjects of medicine or surgery, which embrace a con-
siderable scope, and treat of a variety of diseases, commonly con-
tain much that may be found in older authors. This, perhaps, is
scarcely to be avoided, when the writer's object is to give a full
enumeration of all the symptoms, and all the remedies that have
been found efficacious in each disease. Dr. P. in the truly original
and scientific work before us, has no such object; and it is his pro-
fessed design, to copy nothing from his predecessors.

"I have endeavoured, (says he) in the following work, to trace
these symptoms with some minuteness and precision, and I trust that
the younger Professors of our art, will here find materials of prac-
tical knowledge, by which they will be enabled to form a just and
early prognostic of the nature and tendency of internal disorders.

"The Observations, which are here submitted to the attention
of the public, are the result of several years experience: they were
made at the bedside of the Patient, and were faithfully recorded
at the time, when the cases were passing under my attention.

"As I do not mean to introduce any matter, which has not
been the result of my own practice, or which has not arisen from
my own experience in the practice of others, the reader must not
expect to find in this work a regular history of the abdominal dis-
cases, as they are recorded by our authors, who have collected the
opinions of others on this ample and important theme.

"I must observe, however, that as I have meditated on this sub-
ject for a considerable period, and lost no opportunity of observa-
tion during life, or research after death, I am disposed to imagine
that this little volume will be found to contain some remarks, not
altogether unworthy of attention, even to the experienced Prac-
titioner, upon almost every disorder of the Abdominal Viscera: and

he
he will, I trust, not fail to discover a vein of enquiry into certain diseases, which others have but slightly recorded, or inadequately conceived."

The following organs and parts of the abdomen, with their acute and chronic diseases, are treated of in this work, viz. The peritonæum, the liver, the gall bladder, the pancreas, the spleen, the kidneys, the stomach, and the intestines.

In treating of inflammation of the liver, our author is naturally led to the subject of venæsection, and after several important observations on the appearance of the blood drawn, he adds:

"Physicians have been struck, at all times, with the effect produced by taking the blood from a large orifice in inflammatory diseases, and it is certainly a matter which cannot be too strongly urged as an indispensible point in practice. Especially as the generality of writers do not seem to have instituted any defined plan to regulate and secure the effectual performance of this important operation. I wish, therefore, to press in the strongest terms the absolute necessity of attending to that circumstance, which the following observations may perhaps tend to elucidate.

"It is true, that from a small orifice an equal quantity of blood may be taken as from a large one, but the time of its flowing is so long, that the topical inflammation, which demands for its relief a sudden effect upon the syflem, is not in the least influenced by it, though the general strength is much weakened, which is an occurrence of all others to be avoided in a disease, that requires repeated evacuations.

"As I consider this matter of great consequence, I shall endeavour to point out a method, by which a plan of a more defined nature than that hitherto adopted may be given for drawing blood in inflammatory diseases.

"At present we are contented to order, that the blood should be taken from a large or from a small orifice, than which nothing surely can be more vague or undefined. The plan, which I propose, refers to the length of time in taking the blood, which may be measured, and not to the size of the orifice, which can not.

"I find from numerous experiments, made at my desire for this purpose by different surgeons, that when the orifice is such as to permit eight ounces of blood to flow in three minutes, that then, a patient under acute inflammation will receive every benefit which is expected from the remedy. If it flows in a longer time he will receive less benefit, and under certain circumstances no benefit at all, or even an absolute injury.

"I can suppose a case of peripneumony, where a patient shall have just general strength enough to carry on respiration by the assistance of the voluntary muscles, and that eight ounces of blood shall be taken from a very small orifice, by which the change will be so gradual, in consequence of the time required for the blood to flow, that no alteration whatever will be made in the disease, but yet the general strength shall be so diminished, that death will ensue. On the other hand, had the same quantity of blood been taken
taken by a large orifice, that then the disease would have felt the remedy, and respiration would have gone on with less exertion of the remaining general strength, in consequence of the lungs being relieved by this sudden depletion.

"The great consequence, therefore, attached to the mode in which blood is drawn, (as on this alone life or death may often depend) imperiously demands of every physician to impress upon the mind of his patient the importance of the operation, and the absolute necessity of having it performed by a person fully skilled in his profession.

"I should not omit to mention, that there may now and then occur a case, where the vein may not only be particularly small, but likewise be deep seated, and covered with fat. Here, although the orifice may be sufficiently large, yet a portion of fat will obtrude, so as to interrupt the stream of blood. I would in such a case recommend the surgeon to dilate the external orifice, or even make a fresh orifice, rather than persist in his endeavours to obtain the quantity required in this gradual way."

We have given these observations in the Author's own words, without abridgment, because they appear to us of considerable importance in practice.

(To be concluded in our next.)

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An Account of the Practice of one of the Physicians of the Westminster General Dispensary, and of the Western Dispensary; from March 20 to April 20, 1806.

| Acute Diseases | Enterodynia | Diarrhoea | Asthenia | Dropsy | Pyrosis | Jaundice | Vomiting | Abscess of the Liver | Dysphagia | Dysuria | Deafness | Psora | Syphilitic Eruption |
|----------------|-------------|-----------|----------|--------|---------|----------|----------|----------------------|-----------|---------|---------|-------|---------------------|
| Continued Fever | 2           |           |          |        |         |          |          |                      |           |         |         |       |                     |
| Scarlet Fever and Sore | 3           |           |          |        |         |          |          |                      |           |         |         |       |                     |
| Throat            | 3           |           |          |        |         |          |          |                      |           |         |         |       |                     |
| Measles           | 1           |           |          |        |         |          |          |                      |           |         |         |       |                     |
| Peripneumony      | 1           |           |          |        |         |          |          |                      |           |         |         |       |                     |
| Haemoptoe        | 1           |           |          |        |         |          |          |                      |           |         |         |       |                     |
| Catarrh          | 10          |           |          |        |         |          |          |                      |           |         |         |       |                     |
| Acute Rheumatism  | 4           |           |          |        |         |          |          |                      |           |         |         |       |                     |
| Colic            | 2           |           |          |        |         |          |          |                      |           |         |         |       |                     |
| Dysentery        | 1           |           |          |        |         |          |          |                      |           |         |         |       |                     |

| Chronic Diseases | Enterodynia | Diarrhoea | Asthenia | Dropsy | Pyrosis | Jaundice | Vomiting | Abscess of the Liver | Dysphagia | Dysuria | Deafness | Psora | Syphilitic Eruption |
|-----------------|-------------|-----------|----------|--------|---------|----------|----------|----------------------|-----------|---------|---------|-------|---------------------|
| Cough and Dyspnoea | 38        |           |          |        |         |          |          |                      |           |         |         |       |                     |
| Pulmonary Consumption | 2        |           |          |        |         |          |          |                      |           |         |         |       |                     |
| Serophaemia      | 2           |           |          |        |         |          |          |                      |           |         |         |       |                     |
| Rheumatism       | 5           |           |          |        |         |          |          |                      |           |         |         |       |                     |
| Lumbago          | 6           |           |          |        |         |          |          |                      |           |         |         |       |                     |
| Cephalalgia and Vertigo | 5 | | | | | | | | | | | | |
| Gastrodynia      | 6           |           |          |        |         |          |          |                      |           |         |         |       |                     |

| Periodical Diseases | Enterodynia | Diarrhoea | Asthenia | Dropsy | Pyrosis | Jaundice | Vomiting | Abscess of the Liver | Dysphagia | Dysuria | Deafness | Psora | Syphilitic Eruption |
|---------------------|-------------|-----------|----------|--------|---------|----------|----------|----------------------|-----------|---------|---------|-------|---------------------|
| Quotidian           | 3           |           |          |        |         |          |          |                      |           |         |         |       |                     |
| Hemieranium         | 1           |           |          |        |         |          |          |                      |           |         |         |       |                     |
| Tic Douloureux      | 1           |           |          |        |         |          |          |                      |           |         |         |       |                     |

Dis-