SOUTHERN
MEDICAL AND SURGICAL JOURNAL.

EDITED BY

HENRY F. CAMPBELL, A. M., M. D.,
PROFESSOR OF SPECIAL AND COMPARATIVE ANATOMY IN THE MEDICAL COLLEGE OF GEORGIA;

AND

ROBERT CAMPBELL, A. M., M. D.,
DEMONSTRATOR OF ANATOMY IN THE MEDICAL COLLEGE OF GEORGIA.

Medical College of Georgia.

"Je prends le bien où je le trouve."

VOL. XIII.—1857.—NEW SERIES.

AUGUSTA, GA:
McCAPPERTY'S OFFICE—J. MORRIS, PRINTER.
1857.

"As all the normal phenomena of the living organism are known to occur under the superintending influence of the Nervous System, and are dominated by it, so tis but rational to regard all morbid actions as being more or less influenced in their manifestations by aberrated nervous action."

[Transactions of the American Medical Association, vol. x.]

Gentlemen,—We have deemed it not inappropriate to select Dysentery for the subject of a few remarks to-day, as an important, and latterly, a common field of investigation—one, which must necessarily some time lie in your pathway and therefore, as a theme well deserving your attention. Moreover, we were particularly desirous of bringing to your notice, on some occasion, certain considerations, hereinafter to be discussed, concerning the nature and treatment of this disease, which have been derived from the observation and study of many interesting cases, hoping you may find them some day of practical benefit to you.

In an article transmitted us for publication, in the Southern Medical and Surgical Journal, (October No.,) entitled "Creosote in..."
Dysentery," which records the author's happy experience with this agent, occurs the truthful sentence—"As regards the treatment, there is less unanimity of sentiment than in any other disease that we have to contend with." And this is doubtless the result of the diverse and indefinite ideas entertained generally as to its pathology. Hence, we ever and anon see mustered into columns of varying length, a diversified array of evidences concerning different and antipodal remedial measures; which cause has had the effect of greatly mystifying the understanding of the profession at large, as regards the true nature of this disease, whatever that may be. Besides, the increased and epidemic prevalence of this alarming and often fatal malady in our Southern and the Western States of late years, has compelled a more peculiar interest in, and a more energetic inquiry into, its character and its treatment, upon those whose lines have fallen unto them in these un-pleasant places, and whose duty as well as prerogative it has been, to deal with the destroyer. And they have disclosed to us the result of their ratiocinations, upon whatever basis their interpretation of the nature of this disease, may have presented to them. Some practitioners are found still clinging to the Opiate and Astringent routine, as the sheet-anchor of their hopes, in order "to stop the bowels;" and whatever may be the unavoidable though salutary interludes displayed upon the case, their Opium and their Tannin, with its host of representatives, and their Acetate of Lead, are sure to bear the palm. Anon, we hear one proclaiming the infallible potency of the Cold-Water Enemata—another lauding Mercury, the indispensable back-bone of his medication. And again, the saline or purgative treatment has been much vaunted, and not without some array of substantiating testimony.

These may be said to be the leading, though antagonistic, doctrines before us, presented for our guidance, with respect to this very important matter of consideration. If "in a multitude of counsellors there is safety" always, we certainly should consider ourselves enlightened and feel at ease upon these premises; yet may it not make confusion more confounded, when the experience of another is entered upon the record. But before commencing the detail of proceedings, it would be fair to premise briefly, the impressions derived, concerning the nature of that condition

* By Dr. Wm. H. McMath.
which constitutes Dysentery, from our interpretation of its symptoms, and which have prompted our course, not of entire innovation but rather of selection and amendment.

Dysentery, as it is known, from ὀσμ and ἔννοια, signifying difficulty in the intestine—the large intestine—is a term whose appropriateness and peculiar etymological adaptedness to the idea it embodies, furnishes at once, when considered strictly, a summary of the nature of the disease, which it is meant to designate, and at the same time, well nigh indicates the basis of the operations to be pursued, in answer to the symptoms, which come to us as complaints, wrung from this organ, in the distress, occasioned by its inability or difficulty in performing its normal function. For, Gentlemen, this is the plaint—the com-plaint of the bowels—par excellence, the "bowel-complaint" of which you have so often heard in common parlance. As in contra-distinction to this, it is also well known, that we have handed down to us, from a far-back period in the progress of Medicine, the compound word "Diarrhoea—pertaining to the small intestine—signifying the opposite state—an easy flowing through.

If any apology should be required, for this descent into the construction or definition of the nosological nomenclature, we will but cite the almost universal blending and confusion of ideas, concerning these two diseases as is especially manifested in the similarity of their treatment. Forsooth, there appear to be some who require to be reminded of what, in this connection, they never knew, upon Pope's cute principle, that

"Men should be taught, as if you taught them not,
And things before unknown, proposed as things forgot."

That condition which is implied and comprehended in the term Dysentery, is recognized principally by its two characteristic symptoms, viz.—Tormina, recurring more or less frequently; and the almost immediate, subsequent and repeated dejection from the bowels, of a jelly-like mucus, or muco-sanguinolent discharge, of inconsiderable amount, often, with long continued straining.

The appearance of the discharges presents much variety, the mount of blood is subject to great variation, the passages being sometimes found without a trace, at others, consisting principally of the vital fluid, constituting hemorrhage; which may occur in ss or greater degree, occasionally, even to an alarming extent. the disease has continued for a length of time, the dejections
may have a curdled or granular aspect, presenting the appearance
of whitish grains of coagulated lymph, suspended in a thin, serous
fluid, or they may consist of bloody serum, or contain pus. Not-
withstanding all this agonizing effort on the part of the large in-
testine, there generally appears to be a total suspension of the
ordinary and natural evacuations, except, occasionally there may
be voided, after extraordinary effort, attended with excruciating
pains, a small scybalous mass; or, as is sometimes the case, the
ordinary alvine discharges may continue to recur, with their
wonted regularity, if not interrupted by the action of opiates.

The Fever of Dysentery appears to vary in type or character,
with the degree of intensity in the local inflammation. Whatever
may be their relative positions as regards cause and effect, or
whichever phenomenon is prior to the other, is a matter not very
well defined in all cases; yet, there is a correspondence between
the intensity of the local symptoms and the degree or the type of
the pyrexia, as is generally noticeable in the other phlegmasiae.
In reference to types of fevers, it is well known, that in our cli-
mate and it is presumable, that in every climate, if it were but
recognized, in obedience to the known laws governing the nerv-
ous system, periodicity is a stamp impressed, with greater or less
force, upon many forms of disease. Hence it is, that we see Dys-
entery accompanied with the intermittent or remittent fever, of
greater or less distinctness; and as the fever intermits or remits,
so will there be found a corresponding, temporary abatement of
the accompanying phenomena. It is not uncommon to see cases
set in with a violent chill, followed by high fever, which will
continue to recur, unless prevented by Quinine.

This description does not comprise those cases of simple irrita-
tion in the large intestine, attended with dysenteric passages, with-
out fever, which require for their relief, but a dose of Oil, to wash
away all irritating substances, and a placebo, in the form of a de-
cided opiate, to obtund the nervous sensibility of the irritated
part. And, Gentlemen, it may be here added, that this is about
the only place, where Opium as a curative measure or to check the
frequency of the passages in Dysentery, is admissible, in accordance
with its known qualities and a proper understanding of the
indications to be met, in the treatment of the fully established
disease.

The term “Typhoid Dysentery” has been much handled of late,
until the sound thereof has become as familiar to the ear as household words; while we must say, that either our experience has been too limited to have furnished us with a case to suit this, to us, contradictory phrase, or that, our apprehension of the ultimate nature and the characteristic and distinguishing properties of these two pathological conditions, so incompatibly associated in the above incongruous misnomer, is at fault, or at variance with their appreciation by others, though perhaps of more extensive experience. Diseases are dubbed typhoid, from some real or fancied resemblance to that pathological state called Typhoid Fever, which is sui generis—a unique condition of the whole organism, and found only in alliance with such complications, as its own peculiar disorganizing influence, acting through its own appropriate channels, may determine; and within the limits of our comprehension of them, we cannot accord to Dysentery a place among them. Typhoid Fever is essentially an a-sthenic disease, of long continuance and self-limited in duration, depending, we believe, as is in accordance with the rational interpretation recently set forth by our brother, Dr. Henry F. Campbell, upon a peculiar abnormal condition of the whole, ganglionic, sympathetic or secretory system of nerves; and whose symptoms are but manifestations of this condition of this system of nerves, wherever they may be found—whether in the state of the blood, the secretory apparatuses and surfaces, the integrity of the tissues, and in fact, in whatever sphere of organization, or in whatever property of function, over which, its influence may have control. Here, are no sthenic developments, no active inflammations, no agonizing pangs—the senso-motor apparatus of nerves, seeming to be obtunded and enfeebled, probably from depraved nutrition—the nervous superintendent of the blood-making process, being out of order; but the passiveness, quiescence and uniformity, which characterize the operations of this system in health, are developed into the obtuseness, sluggishness and continuousness, which mark its actions in this state of disease. The amount of congeniality between the two morbid conditions, denominated Dysentery and Typhoid Fever, may be estimated, when it is considered, that out of the vast number of Typhoid Fever cases, recorded by those assiduous statistical reporters, Louis of France, and Austin Flint of America, Dysentery has not appeared as a symptom or as a complication, in even a single exceptional instance.
The error of considering this a typhoid disease and naming it such, no doubt arises from the fact, that the influences at work here, if not soon successfully combated, are peculiarly favorable for inducing, in a marked degree, that state of enervation and enfeeblement of the system, which may supervene upon any active disease, when allowed from any cause, to rage unrestrained upon the powers of life, for a length of time. The spurious typhoid fever, succeeding other diseases of long continuance, then, is all that we can recognize in this application.

The Liver—whatever be the character of the manifestations; whichever be the organ unmistakably deranged, and however distantly located and unassociated it may be—the Liver, Gentlemen, is made by many, the scape-goat of all the offences committed against good order and soundness, within the sphere of the human organism; and dearly has it been made to atone, for being placed, an organ, among the organs of humanity. There is no doubt, but that a deranged state of so important a reccrementitious secerner and emunctory, may give rise to much damage, secondarily, to some of the other members of the system; and likewise, there are many primary conditions of the general system, fever for instance, which may injure and vitiate the action of this organ—so that it is as much sinned against as sinning. Notwithstanding, whatever be the history of such derangement, whether it exists as cause or effect, judicious aid is never out of place, should it occur in Dysentery, as it often does, or in any other disease. But the philosophy of saddling the Liver, with the charge of producing an inflammation of the mucous membrane of a portion of the large intestine, of variable locality, while all the remaining portions of the prime vie are intact, which inflammation is accompanied with paroxysmal fever and that assemblage of symptoms, constituting Dysentery—and which is also, often, epidemic, is so obscure, as not to be appreciable by our naked eye. And yet, there are many, who in the absence of a better pathology, have certified this accusation.

As regards the Pathology of Dysentery, Gentlemen, there is little necessity for dismissing it among the mysterious and inexplicable problems of our science, or reaching far after its explanation, in assumed connexions, which have no substantial basis—when a glance at its anatomical and physiological implements, reveals a more simple theory of its nature. There is an inflamma-
tion of some portion of the mucous membrane, lining the large intestine, which may occur from irritation continuously exerted upon that surface, whether that irritation be direct or reflected. It may be, that the fecal mass, through some ulterior cause, becomes detained in its transit along a portion of the canal, until it becomes inspissated and concrete, from the absorption of its fluid particles, the accumulation continuing and the amount of difficulty increasing, the longer this constipation lasts, until finally, the irritation, thus induced, is sufficient to call for relief, and incite an endeavor on the part of this violated organ, to rid itself of its hurtful incumbrance—and thus, an excito-motory and an excito-secretory process is instituted, which results in, or rather constitutes, the local element in this disease. The ulterior or more remote cause here referred to, would seem to be satisfactorily explained, by attributing it to an obtuseness, or we may say, a paralysis of the nervous supply of the part; which, if we take into view the fact, that the state of the bowels is in a great measure influenced by the condition of the great spinal centre—as is manifested by the effect of a counter-irritant, a mustard plaster, for instance, applied to the spine, being capable of enhancing greatly the action of a small dose of any laxative medicine—we may with propriety, venture to trace this effect, of the stagnation in this portion of the alimentary canal, to a condition of the spinal cord, as its remote cause. And if we still farther proceed to inquire after the ultimate fons et origo of causation, we must interrogate those influences in man's relation to the external world, which, acting upon the susceptibilities of his physical organization, are capable of thus determining, in an important part of the nervous system—which system enacts and controls all his vital phenomena, whether normal or ab-normal—that condition, which may give rise to the manifestations of this disease, apparent to our perception.

Probably, no fact is better established in pathology than the spinal origin of paroxysmal fevers—which, not always but often, are accompanied with an inflammation, attacking one or another organ of the body. And it is well understood, that the more serious the inflammatory action, the graver is the type of the fever, and vice versa. Now, Gentlemen, with such analogous traits before us, what is to forbid our classifying Dysentery among those affections—only differing, as it does in the peculiarity of office, and, therefore, in the singularity of construction, properties and
relationships of the organ diseased—and which but yields its own
characteristic evidences of its suffering condition? As in accord-
ance with the generally received opinion, relative to the exercise
of those organs and those functions, which are under the superin-
tending influence of the spinal system of nerves—that their oper-
ations are characterized by stages of action, alternating with peri-
ods of rest, or intermittently—the intermittent character of the
pains, as well as the other symptoms in Dysentery, may be also
regarded as indicative of its spinal nature.

It has been said, that the initiatory stage of this condition was
one of constipation of the bowels, (though this is by no means al-
ways the case,) where the effete mass was detained in its recepta-
icle, the large intestine, probably, by the effect of obtundt sensi-
bility or paralysis of its nerves. Now, this idea of paralysis would
but illy comport with the known effects of spinal irritation, until
it is recollected, that prior to that action being established in the
spinal cord, which is denominated "spinal irritation," there must
be a stage of congestion or something akin to it, the effect of
which condition in a nervous centre, the brain for instance, is
known to be that of obtundt sensibility and loss of motion, or
paralysis. Thus we see, and it is satisfactorily presumable, that
whilst the initiatory stage of the intestinal affection is in progress,
the inceptional condition in the nervous centre which probably
determines it, is co-temporary with it; and in like manner, when
the active process begins in the bowel, there is to be found a cor-
responding, simultaneous activity existing in the spinal cord, con-
stituting spinal irritation—as evidenced by the paroxysmal fever,
as well as those enhanced, spinal, excito-motory phenomena which
pertain to this disease.

The only mode of incursion of this disease, heretofore noticed,
and which has been used as the example, from being the most
common, is that with constipation; although, as it has been re-
marked, this is by no means the invariable rule, as it is sometimes
preceded by diarrhoea, as well as being also, occasionally, accom-
panied with that affection.

That these are excito-secretory phenomena, is an opinion origin-
atting with Dr. Henry F. Campbell.

If, in our conjectures concerning the implication of spinal dis-
ease in the constitution of Dysentery, we are correct, it would be
an interesting process of inquiry to seek an interpretation of the
rationale of this latter condition, through the aid of this newly discovered function of the nervous system. Then, we assume the position, Gentlemen, that the diarrhoea preceding and accompanying Dysentery is an excito-secretory result; while Dysentery itself, unaccompanied thus, is, for the most part an excito-motorv phenomenon.

That condition in the nervous centre, which, when from its locality and anatomical connections, is favorable for exerting its influence upon the large intestine, is accompanied with Dysentery; when those relations obtain in reference to the small intestine, it is attended with diarrhoea—simply from the fact of the peculiar anatomical construction and functional endowments of this portion of the canal which, when under the operation of a like influence, yields its different and characteristic manifestations. Let us be understood—that in Dysentery there are two co-existing and co-extensive conditions, as manifested by their co-equal symptomatic results, viz:—Spinal irritation, and an inflammation in the mucous membrane of the large intestine.

It must be recollected, that the spinal marrow is in intimate connexion with a long chain of ganglia, belonging to the sympathetic or secretory system of nerves; which ganglia are again associated with others, among the abdominal viscera, &c. Now, any source of irritation, whether cold applied to the surface of the body,* or any which might have its origin in the mucous membrane of the large intestine itself, if conveyed to, and then reflected back from, this grand mixed nervous centre, the spinal centre—the nervous circle being complete and adapted to this direction of its force, might spend its excitation upon the muscular coat of the large intestine, if that be its terminus—giving rise to their in-

* "In the relation of the visceral nerves to the external nerves of the body, there is a sympathy established between the walls of the cavities of the body and the organs contained in them. It exists not merely between the skin of the cranium and the brain, between the skin of the neck and the larynx—where a vascular connexion might be conjectured—but also between the thoracic walls and the lungs, the abdominal walls and the abdominal viscera. Cold or warmth, or any other irritation of those external regions, operates immediately, either injuriously or healthily, upon the viscera situated beneath.... On the other hand, according to Radermacher, in painful diseases of the liver, the abdominal muscular fibres of the right side are in continual spasmodic tension."—[Hentle's General Pathology.

Also, "A partial keen current of air falling on any portion of the skin may induce inflammation in any susceptible internal organ. An extensive burn or scald is apt to induce pneumonia."—[Marshall Hall.
creased, exaggerated contraction;* and also upon the abdominal muscles, if its centripetal energy be sufficient to reach the spinal marrow, the origin of the nerves of voluntary motion—occasioning the incontrolable straining,† and producing Dysentery, the excito-motory phenomenon. Or the same force arising in the mucous membrane of the large intestine or elsewhere, and reaching in its course the secretory ganglia, and being reflected back upon the mucous surface of the small intestine, would give rise to diarrhoea, the excito-secretory result—brought about, it may be, by an irritation radiating from an inflamed point in the large intestine.‡

In substantiation of this position we would but adduce the fact, familiar to every one, presented in the effects of stimulating enemata—the first simply evacuates the large intestine, but if persevered in assiduously, so great an irritation may be wrought up in the large intestine as to be reflected upon the upper bowels, and they are acted upon. Monthly-nurses seem to be aware of this result, for in the application of the soap suppository in infants, if decided action upon the bowels is desirable, they but persist in its introduction, beyond the number of times requisite to empty the rectum.

The spinal marrow being in a state of irritation, excitement or "polarity" would greatly fortify or enhance the reflected influence, and from its propinquity to, and intimate connexion with, the sympathetic ganglia, it is reasonable to suppose that they might participate in its excitement. So that, it would not be so great a stretch of imagination to suppose, the spinal ganglia of the sympathetic nerve as well as the spinal cord, to be in a state of irri-

* "Reflex motions and reflex sensations, from sympathies of the splanchnic nerves among each other, are principally apparent in pathological and physiological events. To reflex sensations we may attribute the pains which accompany spasm of the large intestines (colic), and contractions of the uterus. Reflex motions, as in external parts, appear immediately under the irritated membranous regions, as well from irritation of serous as of mucous membranes.... Still, single regions of the mucous membranes also stand in relation with very remote muscles."—[Henlé.

† "The apparently involuntary contractions of the abdominal muscles in spasms of the bowels, parturition, tenesmus, and other affections, may be reflex motions proceeding from nerves of sensation."—[Henlé's General Pathology.

‡ "There is scarcely a part from which internal inflammation—an excito-secretory effect—may not be excited."—[Marshall Hall.
To resume: Then, in Dysentery, there are apparent two distinct elements constituting the disease—viz., spinal irritation, and an inflammation of the mucous coat of some portion of the large intestine. The former, is manifested by the paroxysmal fever, the torrminas from spasmodic contraction of the muscular coat of the intestine, and by the straining or forced voluntary contraction of the abdominal muscles. The latter, by the character of the discharges, the great irritability of the surface of the organ at the point inflamed, as is indicated by the evidences yielded upon contact of the contents of the bowel—the more solid they be, the greater being the amount of irritation, as shown in the exaggeration of all the reflex phenomena on the passage of scybala; also, by the evidences derived from an examination by pressure of the hand, should the point of inflammation be above the pelvic cavity, it being always discoverable by tenderness on pressure, along the ascending, transverse or descending colon; or if located in the rectum, where it is out of reach of manual examination, by the increased amount and frequent occurrence of tenesmus, and when used, by the great intolerance of all enemata.

These are the two conditions: That they have a connexion is sufficiently proven in their co-existence, and the sympathetic association in the degree of their manifestations: though the problem of priority of birth, or of what one has to do, with the origin of the other—whichever is the parent and which the offspring, is wrapped in more obscurity. But from the evidences already adduced, as well as from the testimony furnished in the application of the laws governing the operations of the various elements of the nervous system, herein implicated, we deem it more philosophical to suppose irritation in the central organ of the nervous system in question, to be more capable of determining such actions at the peripheral extremities of its motor and sentient nerves, under the circumstances, than that an irritation impressed upon the sentient mucous surface, could impart to the nervous centre, that species of persistent and intense excitement as is here manifested. And besides, we have the testimony implied in the fact, that the more decided evidences of spinal disease, chill and fever, &c., are often the first to make their appearance in Dysentery. Furthermore, in corroboration of these views, we will quote the words of a celebrated German neuro-pathologist of the present day*—viz., "In

* Henlé.
proof of the dependence of the vascular nerves upon the brain and spinal marrow, we may farther adduce,—the excrections of persons hanged, and of paraplegic persons, the oedematosous swellings in the epidermis, and particularly in the serous and mucous membranes of parts which are paralyzed by injury of the spinal marrow, or lie within the affected parts, the inflammations and ulcerations in the kidneys and the mucous membrane of the bladder after injuries of the medulla spinalis, perhaps also the extensive abdominal inflammations which Schiff observed after section of the *thalamus nervi optici.* I will also here mention the inflammation of the uvula connected with inflammation of the cervical portion of the spinal marrow, the peritonitis and nephritis connected with inflammation of the medulla spinalis, *the gastro-enteritis, in hemorrhage, inflammation and ramollissement of the brain and spinal marrow,* the softening of the stomach in meningitis of the base of the brain," &c.

The patient in Dysentery is, as it were, between two fires—each having the power, through nervous communication, of lending force to the other with increasing energy and perilous reciprocity. Whenever an irritation is impressed upon the sentient and irritable mucous surface, and is conveyed to the irritable nervous centre, it is reflected back with redoubled force upon the muscular coat and abdominal muscles, causing their spasmodic action, compressing the tender mucous lining and straining or *wringing out the fluids, which furnish the discharges in this disease:* each spasm of the muscular coat of the intestine increasing the irritability of the mucous coat, the impression of which is again received by the nervous centre, and again retorted back with increasing vehemence— and so on, in fatal repetition of the round—the fever all the while, when it exists, lending its influence to this work of destruction. It will be seen, that the coats of the organ are disadvantageously arranged with respect to one another in this disease—the muscular coat surrounding the mucous lining, subjects the latter to pressure upon every contraction; especially, as its calibre is a canal through which *must* pass contents, having more or less solidity and resistance. And thus, may the effect of contact with a hardened faecal mass, be imagined, but cannot adequately be described.

The continuance of these perturbing and enervating causes upon the general nervous system—which have in themselves the

*These italics are ours.*
elements of increase and multiplication ad infinitum, in a geometrical progression, the longer they continue unallayed—are sufficient, very soon, with the aid of the accompanying fever, to exhaust the energies of the constitution, by the excessive excitation and taxation of its powers—and not, surely, by diminishing the strength, as many appear to believe, through the draft upon the circulatory mass, in consequence of the frequent discharges. For, it should be distinctly understood, that these are not passages. In fact, there is generally very little loss of fluid, and that little is as nothing, in debilitating the patient, compared with the fatal torture and fatigue, with fever and loss of rest and sleep, by which

"We see him day by day,
With'er'd on the stalk away."

Thus, sooner or later, is ushered in that state of abasement of the vital energies—the pseudo-typhoid fever, or the Typhoid Dysentery, as many are pleased to term it; when the impressibility, power of conduction and reflection, of that portion of the nervous system first engaged and over-taxed, have failed—leaving it devoid of tone and paralyzed; for, by degrees, we may observe the termina becoming of shorter and shorter duration, then consisting of a sudden jerking pang, at the time of a discharge, and finally, ceasing altogether—a bloody, purulent discharge taking place, from time to time, involuntarily. In support of this view of the subject, we find in the valuable work to which we have had occasion so often to refer, the following cursory expression of a coincident opinion, which although not given in reference to Dysentery, (as this book treats of no particular disease, but of the attributes of the nervous system generally, under the influence of disease,) yet may serve to furnish authority to the reasonableness of our ideas, concerning the pathology of this disease—viz., "Irritation and inflammation of the mucous membranes were for a long time described only in connexion with spasm of the corresponding muscular layers. Abercrombie first gave value to another opinion in reference to the intestinal canal, by demonstrating that not spasm, but a paralysis of the intestinal canal, was the cause of ileus (iliaca passio), which sometimes appears alone, sometimes in connexion with inflammation of the mucous membrane; in the latter case, the inflammation may be either present from the beginning, or only added to it subsequently. Stokes refers to these facts in order to explain how a dilatation of the bronchia may oc-
cules, alone, there is an antagonism, of the mucous and muscular membranes, irritation of the former with paralysis of the latter. But another question arises, whether the internal connexion here is that of antagonism; whether the paralysis is occasioned through the interposition of nerves from the mucous membrane? Abercrombie expresses no conjecture concerning the relation of these two affections to each other. Stokes considers the paralysis as secondary, the result of an exhaustion of the muscular power after its activity has first been sympathetically increased."

Of this condition, there appear to be—two distinct varieties, the difference depending absolutely upon the state in which the bowel is found upon the suprervention of these latter symptoms. 1st. In one, the constipation still persists, or has not been overcome, in the upper portion of the canal. And it is surprising how long this state of affairs may exist, without being detected, or even suspected in the least, when all the while, there, at that point, remains the inexorable barrier to relief. This must be remedied, or the patient must finally succumb to an inevitable continuance of this consuming process. We would say, in passing, that the physician will always do well to see the dejections, to ascertain how many contain fecal matter, how much they contain, or if any at all—for if no fecal matter has passed, there has been no passage.

The diseased section of the intestine is unable to rid itself of its contents; being entirely paralyzed, it yields to the intrusion of an increasing incumbrance—becomes, it may be, stretched to the extreme of distension, forming a pouch, out of which the solidified accumulation cannot pass into the lesser calibre of the uninjured portion of the canal—and often pours out blood in a frightful manner, (nearly all the discharges consisting of pure blood,) which may pass in fluid form or in clots; or perhaps, being retained through the action of opiates, may undergo change and become disorganized and give a putrescent and most unbearable odor.

2d. In the other form of this low condition, the irritation having been reflected for so long a time upon the upper portion of the prime vitæ, we see, in addition to the purulent or bloody evacuations, a continuous and wasting diarrhea. Higher up, the stomach becomes involved in some instances, and there are loss of appetite, nausea and vomiting, even of the blandest fluids—to-

* The italics are ours.
together with a red, dry tongue, quick and feeble pulse, entire prostration of strength, cold extremities and dullness of the mental faculties—and thus, the vital spark grows dim, flickers and goes out, unless again rekindled by its appropriate stimuli. It will be perceived, that the characters of the disease, in this form, have undergone a change—where there was Dysentery, there is diarrhoea with prostration. The nervous system having been overwrought, loses its excitability—becomes paralyzed. The mucous membrane of the large intestine having been racked and bruised, remains a passive, purulent, secretory surface, sometimes retaining the marks of its sore conflict for years afterwards, as is apparent from the evidences of chronic ulceration continuing for that length of time.

In this entire metamorphosis, the characters of the original disease have disappeared. It is not Dysentery, and requires a change of management. It is not Typhoid Fever, as shown in its history, and as is manifested, often by the sudden and almost miraculous recovery of cases, upon the application of its appropriate treatment.

And now, Gentlemen, from the foregoing considerations, so satisfactory to our mind, appears the interpretation which we have ventured to suggest, of the phenomena concerned in Dysentery, that we would risk the prediction, that ere long, in the progress of our science, by the light of the now dawning nervous pathology, such an elucidation of the nature of this important disease, will be more authoritatively and more clearly defined.

The Treatment of Dysentery will be made the subject of a separate Lecture.


The angina of scarlatina is one of the most difficult diseases to describe properly or to recognize readily. To point out its simple or severe forms is, in general terms, easy; but it is not so with one of the varieties of the latter, which we shall study in its turn, in which diphtheritis arises as a complication, disconcerting the previsions of the physician, and giving to the angina of scarlatina a character of fearful seriousness.

Scarlatina is essentially an anginous disease, if you will permit
me this expression. However benign it may be, it is seldom that it is unaccompanied by pain in the throat, as it is seldom that rubella, however light it may be, is unaccompanied by pain in the larynx. This pain in the throat is also met with in variola, and the presence of three or four pustules upon the pharynx explains it; but the angina of variola differs essentially from the angina of scarlatina.

From the first day of the disease, the veil of the palate is red, of a tint analogous to the skin, deeper however; the tonsils, slightly swollen, are of a violet color. As the disease progresses, after two, three, or four days, there appears upon one of the tonsils, sometimes upon both, small, whitish concretions, ordinarily of a milky white, at least when they are not discolored by any substance ejected from the stomach in vomiting. Examining them more nearly, by removing them with the handle of a spoon, you will perceive that they differ from diphtheritic false membranes; these of a yellowish white are adherent, and when they are seized, by means of forceps, they come off in shreds; the concretions of scarlatina, pulpy, but not adherent, have not the characteristics of false membrane, resembling rather those concretions which arise, for example, upon the surface of bad ulcers.

The disease progressing, the intensity of the angina may become so great as to interfere with respiration, and especially with deglutition; fluids taken, return by the nose; the voice becomes nasal, and the ganglions of the neck, principally those of the angles of the jaw, are engorged. When not interfered with by medication, or when a mild course of medication is adopted, this angina retrocedes with the disappearance of the eruption upon the skin of scarlatina. The tonsils throw off their concretions, remaining red, and sometimes excoriated: the disease is cured. The throat and tongue, however, still remain sensitive, and this excess of sensitiveness persists longer upon the first of these parts than upon the second. It ends by a kind of desquamation analogous to that which we have noted as taking place upon the tongue. Such is the ordinary form, the simplest form of scarlatinous angina. There are other more severe forms; there is one, in particular, to which I have already alluded, and which I have almost invariably seen to terminate fatally. I shall now speak of this form.

Some individuals are attacked with scarlatina of moderate severity: they are slightly delirious at night, restless, pick their bed-clothes; the pulse is quite frequent, and the soreness in the throat moderate. The disease passes to the eighth or ninth day; recovery seems certain; the fever abates, the eruption disappears, and the family feel secure. Suddenly a considerable engorgement is observed at the angle of the jaws, occupying not only this region, but the neck also, and sometimes a part of the face. A saunious liquid, fetid, and very abundant, flows from the nares. The tonsils are very voluminous, the breath is very offensive; the pulse suddenly
becomes very frequent and small; the delirium re-appears, and other nervous symptoms re-arise; the delirium continues; coma succeeds, and, at the same time, the skin becomes cold, the pulse more and more feeble, and the individuals succumb, after three or four days, in a slow, painful manner, or die suddenly, as though from syncope.

How can this be explained? It may be asked, if it be not diphtheritis which complicates the scarlatina?—for these phenomena resemble so much the terrible forms of diphtheritis, those forms which destroy adults, as well as infants, before the croupal affection has had time to reach the larynx, the false membranes being confined to the nasal passages, the ears and fauces; these phenomena resemble so much those terrible forms of malignant diphtheritis, that we are tempted to believe that it is not scarlatina, but this last woful disease, that has destroyed the patient.

I am the more inclined to believe this because, in some cases, the larynx is invaded. Graves cites some observations of persons who died of croup following scarlatina, or recovered from this exanthematic fever, after having thrown off tubular false membranes, moulded upon the trachea. Graves, in citing these facts, has reproached me with having mistaken this form of the disease. I had, in fact, heretofore mistaken it. I said: scarlatina does not love the larynx; but during my service at the Children's Hospital, I found so extraordinary an identity between malignant scarlatinous angina and malignant diphtheritic angina, that I wavered in my opinion. Now I cannot help believing—although I dare not affirm it, my convictions not being sufficiently established,—that these phenomena of which I have just spoken, are none other than the symptoms of diphtheritis appearing at the close of an attack of scarlatina, as a most serious complication. Patients die, in fact, with all the symptoms of diphtheritic poisoning: general coldness, small pulse, feebleness of the breath, both by the mouth and nose, universal paleness of the skin, a frightful dissolution of the tissues—symptoms which are not found in any other kind of severe disease. It is possible that persons being subjected to particular conditions in the midst of an epidemic atmosphere—which is especially witnessed in hospitals for children, where diphtheritis is almost always present—it may be that the angina of scarlatina becomes the point of attraction for a diphtheritic exudation, absolutely in the same way as a little exoration behind the ear, as an ulceration of the vulva, of the folds of the skin, as any other wound may, in persons placed in the same epidemic conditions, become the point of departure for the manifestations of diphtheritis. What tends to strengthen me in this opinion, is the fact that of all the anginas arising suddenly at the ninth or tenth day of scarlatina, I do not recollect to have seen a single case get well; while for the angina scarlatina, even very severe, but commencing with the scarlatina itself, and reaching its height towards the sixth, seventh, or eighth day of the disease, for
this angina recovery is the rule, which often takes place without the aid of art.

When we take up the subject of the treatment of scarlatina, I shall speak to you of the treatment of the angina of scarlatina. Now I will simply say to you, that the croupal angina of scarlatina (I do not speak of that severe form to which I have drawn your attention, but the simple form which we have said is almost always accompanied with pultaceous croupal concretions), this simple croupal angina of scarlatina acts very differently from the severe angina, from diphtheritic angina; for while this is very mobile, and tends towards the nose and larynx, the other on the contrary remains generally limited to the pharynx, and for it I maintain the proposition which Graves has condemned; \textit{Laryngem amat evitare.}

The angina of scarlatina is then pharyngeal, very different from the angina rubéola which is laryngeal, and from the angina of variola, which is both pharyngeal and laryngeal. The voice of those affected with the angina of scarlatina is nasal, but it is sonorous; it does not undergo any other modification than that it meets with in passing into the mouth. In rubéola the timbre of the voice is, on the contrary, very often altered from its formation in the larynx; it is not modified in passing the throat.

In some cases towards the close of the disease, towards the decline of the eruption, other symptoms appear upon the neck, or elsewhere: these are the bubos of scarlatina.

All pestilential diseases are accompanied with bubos. Putrid fever has its mesenteric bubos, for you know that towards the ninth or tenth day of that disease the mesenteric ganglions can acquire the size of a pigeon's egg, and even more. Scarlatina, which is also a pestilential disease, has then its bubos. They occupy the cervical region; the lesions which determine their evolution are seated in the throat. From the commencement of the disease you will perceive the ganglionic engorgements upon the sides of the neck and at the angles of the jaw. Sometimes, towards the tenth or twelfth day, independently of the disorders produced by that severe form of angina of which I have just spoken, there will arise a sudden inflammation of these cervical ganglions; the skin reddens, becomes tense, and in four, five, or six days, a large phlegmon is formed. If it is opened pus will be found, and sometimes the cellular tissue which envelopes the ganglions is sphecelated. I recollect a young lad fourteen years old, in whom this gangrene was so extensive that the neck was dissected out as though by a diffused phlegmon, and the carotids were seen to beat at the bottom of this frightful wound; he got well, but retained a sad deformity. Graves reports an identical ease.

These lesions can arise in other parts of the body, where ganglions do not exist, where at least they do not appear to have been the cause of the symptoms. In the young lad of whom I have just spoken, independently of the phlegmon of the neck, another diffused
phlegmon appeared the tenth day of the disease upon the leg, which produced a considerable shortening of the tendons and left the patient lame, to such a degree that he was excused from serving, when six or seven years afterwards he was drawn in the conscription.

Besides these acute ganglionary engorgements, besides these diffused phlegmons of the cellular tissue, scarlatina can also give rise to chronic ganglionary engorgement.

In infants which are not at all scrofulous, you can see as the consequence of scarlatina, chronic engorgements which commenced with the disease, and which persist two, three, or four months after recovery. In scrofulous infants, these engorgements often terminate in scrofulous ulcerations.

The urine during the period of the eruption in this disease, is sometimes bloody, and often albuminous. It has been estimated, that in this period of serious cases of scarlatina, albuminuria is present one time in three. You know that this alteration of the urine is also frequently observed in typhoid fever, in erysipelas, in variola, and in other affections. Although frequent in the acute periods of scarlatina, albuminuria does not constitute a symptom very different from the albuminuria which is observed, more rarely it is true, in other affections which we have designated.

There is another symptom which is also seen in the acute period of scarlatina, rheumatism. The rheumatism of scarlatina is a very common symptom, but as it does not exhibit itself by the symptoms general to ordinary rheumatism, as it is limited in most cases to three or four articulations, and principally to that of the wrist, it is often mistaken. However, by carefully questioning the patients, by examining carefully their articulations, by pressing carefully upon them, articular pains will be discovered in perhaps a third of the cases. This is important, for in the course of the disease, you will often see acute symptoms arise in the joints, general arthritis, and also frequently pericarditis, endocarditis—affections upon which M. Thore (of Sceaux) has recently published some excellent works—affections indicated by Graves, which I have observed myself, and which appear to me to be of a rheumatismal nature. These rheumatic symptoms often have as a result another disease, chorea, which is witnessed in young children.

Desquamation commences the 10th or 15th day; it may last till the 16th or 17th day, as we have at present an example in No. 7, in the women's ward. It is apparent first upon the neck and chest, then upon the limbs, upon the back of the hands, upon the palm of the hands, and finally, upon the bottoms of the feet.

Upon the body this desquamation has peculiar features, but which are still more characteristic upon the hands and feet. Upon the body it takes place in scales, which are often no larger than 2 or 3 millimetres, and which again are one, one-and-a-half, and two centimetres in size. Upon the arms, upon the legs, where the epidermis is a little thicker, they may be four to five centimetres in size, the
epidermis may be raised in large bands, as after erysipelas and phlegmons, but this desquamation has never the furfuraceous appearance of the desquamation of measles. In rubeola, these scales are so small that they have to be attentively examined to see them and often they can only be seen by brushing, so to say, the skin of the patients with the sleeve of your coat, in order to collect the fine powder which this eruption produces. Upon the hands and feet the desquamation of scarlatina is so distinctly marked that it is impossible to mistake it. There the epidermis is elevated in great patches, resembling pieces of a glove. The desquamation of the feet is the slowest; in some cases the nails, which are, as you know, an epidermic production, fall. This is rare, but it has been observed, and Graves cites a case.

We have still to study scarlatina in the symptoms which arise during its period of decline, and again in its elementary forms, that is to say, in the forms which it assumes when it ceases to present its habitual characteristics, when it is so altered, that unless it be examined attentively, in many cases it would be impossible to recognize it. This part of the history of scarlatina is certainly the most important to study, less on account of its nosological relations than its practical relations.

Of these symptoms, some may be considered as immediate, others as mediate, arriving much later.

The first are the nervous symptoms. A person is cured of scarlatina—he is convalescing—you have no longer any anxiety on his account, when suddenly vomitings take place similar to those of the commencement of the disease; with the vomitings come delirium, a terrible agitation, a great frequency of pulse, and the patient dies in coma or with convulsive symptoms. Still there is no anasarca, no albuminuria, no hematuria, nothing which can explain these phenomena. These symptoms are not only seen in children but in adults also. These symptoms arising in the course of the disease have, you see, a much more terrible signification than they have in the first period, and yet they are then very serious. I could not then tell you too emphatically that in scarlatina, you cannot regard your patient as cured until a long time after the cessation of the last morbid phenomena. There is no disease which shames the physician more, there is none in which one is more subject to errors of prognosis, and these errors are inevitable. The fever has subsided, only a very few slight symptoms remain, you announce a cure, and yet the disease is still formidable, it will kill the patient with great rapidity, and this cannot be foreseen.

Among the immediate phenomena of this period of decline, which takes place during desquamation, anasarca is one that deserves your particular attention.

This symptom appears not in the most severe form, but rather in the moderate form of scarlatina. It afflicts the convalescents not only when they are exposed to cold, when they have committed
some imprudence, some dereliction in diet, but when surrounded with the very best care, and attended to with the most constant solicititude.

Anasarca often appears in the most sudden manner. It invades the face, the whole body, in some cases it is so great, that an infant, for example, which the evening before you had left thin and pitiful, seems to you the next day fat, on account of the enormous puffiness which he presents.

This swelling reaches its maximum in twenty-four hours; it is universal, and to a degree which you will rarely find in anasarca, consecutive to organic disease of the heart, or Bright’s disease. In other cases, on the contrary, the anasarca is very slight, and is limited to the face, and to the extremities; but it is accompanied by a remarkable paleness of the skin, and it is almost always preceded or accompanied by hematuria.

Hematuria is a symptom in fact very common in scarlatina, although frequently it is not recognized. If the blood be pure, if it be only slightly altered by mingling with the acids of the urine, which is then of a black color, this hematuria is discovered and pointed out by the parents, but it is not noticed when the bloody secretion is slight, the urine remaining of a rose color. The color of bloody urine can also be greenish like whey, a color essentially different from that of the urine of Bright’s disease, and from all other kinds of urine. The first few days the micturition of blood may be so great, that the urine can deposit at the bottom of the vessel used in experimenting, blood globules forming a precipitation one or two centimetres in depth. The urine then looks like a strong solution of rhatany. According as the disease progresses, the urine is colored as we have said, but blood can still be recognized by the altered globules which are found adhering to the sides of the glass, or by the enormous quantity of albumen contained in the urine. When this is heated or treated by nitric acid, you do not get a white albumen like that which is obtained in Bright’s disease, but a brownish albumen, or a dark colored albumen analogous to that of acute albuminuria.

Ordinarily children recover under a hygienic treatment easy to give them; but in other cases, notwithstanding this treatment, the anasarca, when it is great, and when it has come on rapidly, carries off the patients by producing various symptoms of which I shall now speak.

At times some complain suddenly of a violent pain in the head, attended with difficulty in the sight: convulsions are then to be feared. It is well to know this fact, for upon the one hand it is important to announce to the families what is to be expected, and on the other hand, in some cases you can ward off these attacks. To hold the head elevated, to place the legs hanging over the side of the bed, and to administer an active purgative, are the means efficaciously employed under these circumstances. But most generally
the convulsive attacks come on, whatever may be done, and sometimes immediately destroy the patient. In other cases they are repeated rapidly with intervals of an hour and a half, an hour, or of an half hour; they are almost continuous, one hardly terminating before another commences, and the patient succumbs in a stupor and coma unless prevented by active treatment.

At other times the anasarca reaches to the more profound parts. I have seen it attack the veil of the palate, the uvula, the epiglottis, the aryteno-epiglottic ligaments, and in the infant in whom these lesions were present, the symptoms of œdema of the glottis arose; he owed his life to an active cauterization of the superior part of the larynx. Cases of persons carried off by an œdema of the glottis, during the anasarca of scarlatina, are not rare. Death takes place more readily, because the throat having been attacked by inflammation, that inflammation has extended to the aryteno-epiglottic ligaments, and the tumefaction produced by the œdema, is added to the swelling consecutive to the antecedent phlegmasia.

There are other symptoms which arise during the decline of scarlatina, which are more less known, although they are more than formerly; I speak of malignant pleurisies, of pericarditis, and of rheumatism.

When we speak of eruptive diseases, we say that rubeola invites the thoracic diseases. This is true, for rubeola first attacks the bronchial tubes,—it declares itself there before it manifests itself upon the skin, as scarlatina manifests itself by a pharyngeal angina before any eruption of the skin. The first symptom of rubeola is pulmonary catarrh, and from this it can be easily understood how that, when this catarrh is more severe than usual, inflammations of the lungs are frequently produced. Thus when on the seventh or eighth day of a rubeola the patient is still feverish, you can be almost certain that he has either an acute catarrh or a pneumonia, or even a pleurisy.

Authors agree on this point, that, on the contrary, in scarlatina the thoracic organs are respected. They are, it is true, in the acute period of the disease, but they are not so in its decline. It is quite common, in fact, to see in some affected with anasarca, and even in others who are exempt from it, symptoms of disease of the chest suddenly supervene. The lungs in this case are not attacked as in rugeola, but the serous membranes, the pleura, and the pericardium.

These pleurisies of scarlatina are ordinarily malignant, not only on account of the rapidity with which the effusion takes place, but also on account of the quality of the liquid effused. At the eighth or tenth day of the pleurisy, the liquid is often purulent like that of a puerperal pleurisy. The cause of this production of pus is a general infection. On which account the eruption, the inflammations of scarlatina, have an extensive tendency to suppuration.

At the Children's Hospital, I operated for paracentesis of the
chest upon a child sick with scarlatina, who at the 12th day already had pus in the chest. In a little patient of whom I shall soon speak, and who had anasarca without having had any eruption of antecedent scarlatina (this however prevailed in his family), I also punctured the chest for a pleurisy at the twelfth day, and drew off 750 grammes of perfectly formed pus.

You will never observe anything similar to this except in those who are under the influence of a diathesis of suppuration, as are, for example, women in the puerperal state. There is, then, in these symptoms of scarlatina the influence of the malignity which you will find again further on.

This cause of suppuration, so active in pleurisy, is less so in pericarditis. In truth, this is more seldom and comes on more tardily.

This phlegmasia of the pericardium, pointed out by Graves, has been particularly investigated by M. Thore, of Sceaux, to whom we owe the fact of having established the relation, existing between this affection and scarlatina. M. Thore has demonstrated that a certain number of individuals, during the convalescence of scarlatina, take pericarditis, mortal for some, curable for others.

We have said that articular rheumatism was one of the most common symptoms of scarlatina, more so than is generally supposed. Graves intimated this fact. "In a great number of cases," he writes in his Clinical Lectures, "I have seen articular rheumatism follow scarlatina." Yet it has been overlooked, and for many years I insisted upon this remarkable coincidence. Generally, and what is singular, rheumatism in this malignant disease is not very severe; it usually gets well of itself without any intervention of therapeutics. Still this existence of the rheumatical diathesis explains to a certain degree, the appearance of pleurisy and pericarditis; it enables us to understand why these affections are so common, and how endocarditis can arise, for it also follows scarlatina. The rheumatism of scarlatina at first usually attacks the articulations, then the serous membranes of the heart, and the pleura. In some cases, from the very first, it invades the thoracic organs without touching the articulations, like ordinary rheumatism. Sometimes it takes that terrible form, the suppuration form, which kills without mercy. It is as the sequel of scarlatina or of puerperal fever that we most usually observe suppurative rheumatism. At first it seems simple for a few days, the articulations become more painful, a more intense fever comes on, delirium supervenes, ataxo-adynamic symptoms appear, and the autopsy reveals the presence of pus in the articulations and in the sheaths of the tendons.

Such are the immediate symptoms of the decline of scarlatina. Other mediate symptoms coming on later, are allied to the first, and among others is St. Vitus' Dance.

In children you will see this disease follows very soon after scarlatina, supervening six weeks, two months or three months after. The remarkable works of M. See have thrown much light upon the
relations existing between rheumatism and St. Vitus' Dance. It is very seldom that children escape the last affection when they have suffered from the first, as it is also rare (but this proposition is less absolute than the preceding) to find a child who has had St. Vitus' Dance who does not afterwards have the symptoms of rheumatism. In chorea consecutive to scarlatina, the bellows murmur indicating the pericarditis which had preëxisted, sometimes the friction sound of the pericardium, manifestations of the rheumatism of scarlatina, show that it is through this rheumatism that St. Vitus' Dance is allied to scarlatina, constituting one of its mediate symptoms.

I shall pass rapidly in review other symptoms, such as the chronic suppuration of the eyelids; the chronic suppuration of the nose, which may result in necrosis, tumors, lacrymal fistulæ; suppuration of the ears, resulting in perforation of the tympanum, partial deafness, caries of the petrous portion of the temporal bone, and consecutively facial paralysis. We also merely cite the chronic inflammation of the lymphatic ganglions, principally the ganglions of the neck, producing scrofulous swellings in those of a tuberculcos diathesis. These symptoms are also quite common.—[American Med. Monthly.

[To be concluded in the Jan. No.]

[We seldom copy Reviews into our monthly journal, but the following from the pen of Professor J. C. Dalton contains such a comprehensive condensation of two most valuable and interesting works, that we venture to present it to our readers, trusting that they will not begrudge the space thus occupied.]

Adulterations Detected; or Plain Instructions given for the Discovery of Frauds in Food and Medicine. By Arthur Hill Hassall, M.D. London, 1857.

On the Composition of Food, and how it is Adulterated; with Practical Directions for its Analysis. By W. Marcet, M.D., F.C.S. London, 1856.

The subject of the adulteration of drugs was first brought before the notice of the American Medical Association at its annual meeting at Baltimore in 1848. A communication was then read by Dr. T. O. Edwards, at that time member of Congress from Ohio, in which an exposure was made of the great prevalence of adulteration in imported drugs, and the evils necessarily resulting from it. The Association at that time presented to Congress a memorial on the subject, recommending prompt legislation; and a bill was accordingly passed, the same year, providing for the appointment of drug inspectors in all the principal ports of entry, whose duty it should be to examine critically all medicinal articles imported into the country, and refuse admission to such as were
adulterated or in any way deficient in quality. These inspectorships have been continued from that time to the present.

The exposures which were made, at the period referred to, of the worthless character of many imported drugs, attracted immediately the attention of the profession, and will no doubt be fresh in the minds of many of our readers. The discovery that they had been for some years employing in practice opium from which the morphia had been wholly or in part extracted, or scammony which consisted of scammony, flour, gamboge, and chalk, equal parts, was naturally calculated to excite a lively interest in the minds of practical physicians. It was very evident that some check to this wholesale and injurious adulteration was absolutely necessary; and the appointment of the government inspectors, mentioned above, offered the most direct and efficient means of arresting the evil.

It appears that this measure has been productive of considerable benefit. Six months after the law went into operation, Dr. Edwards made a report to the Secretary of the Treasury, in which he designated the following as the beneficial effects which had resulted from its operation:

1. An elevation in the quality and purity of the medicinal agents imported.
2. An entire prevention of adulterated and deteriorated drugs from entry and use.
3. No embarrassment to the honest importer and dealer.
4. An increased revenue.
5. Protection to the medical profession and community, an increasing confidence, and an earnest desire on the part of the people for the continuance of the law and its faithful application.

The effect of the law was soon felt, it was said, by the European exporters, so that they ceased to send worthless medicinal articles to this country, as formerly; and consequently a much smaller proportion of the imported drugs were condemned during the second than during the first year after the establishment of the law. Indeed, a committee of the Association were informed by Dr. Bailey, drug inspector for the port of New York, in 1849, that not one-tenth of the spurious and adulterated articles arrived at that time that there did before the passage of the law. The uneasiness of the profession, which had been excited by the unpleasant discovery of the extensive existence of adulteration, was, therefore, somewhat quieted by the assurance that the evil was effectually arrested, or at least in a fair way to become so.

At the same time, however, a certain degree of suspicion remained behind, that the remedy which had been adopted was not, after all, completely effectual. Dr. Edwards was very possibly right when he claimed, as one consequence of the operation of the law, an entire prevention of adulterated and deteriorated drugs from entry; but it is by no means certain that it would as effectu-
ally prevent their use. If the foreign dealer and manufacturer found it a profitable business to adulterate before importation, there is no reason why our own should not find it equally profitable to adulterate them afterward. The foreign adopted in this kind of manufacture need not even allow the business to be taken out of his hands. It would only be requisite for him to establish a "New York Branch" of the original London or Brussels establishment, and he might then continue his operations with the same facility as before. These considerations, accordingly, still weighed with the minds of some of the profession, and prevented their being entirely satisfied with the establishment of the drug inspectorships.

The American Medical Association, furthermore, at their meeting, in 1848, appointed a committee of five to report at the next meeting—first, the nature and extent of the sophistication and adulteration of drugs, as practised by the wholesale dealers and retail druggists; and, second, the best means for the prevention of the evil in its various forms.

Such a report was accordingly made in 1849. The committee state that they have made inquiries of wholesale and retail dealers respecting home frauds, "without obtaining much exact information," the dealers being found "unwilling," from some cause or other, "to give any statements except of a general character;" exciting, in this way, a natural suspicion that home adulterations had already, to a certain extent, taken the place of the foreign. The committee appear to have ascertained, the existence of adulteration in many articles of domestic preparation, as well as in some of foreign manufacture which had passed the custom-house in a pure state; and they come finally to the conclusion that "there are enough" in our country "ready to engage in such dishonest work on a large scale, and so great is the temptation, now that foreign adulterations are excluded from our ports of entry, and the prices of medicines consequently enhanced, that it will require the utmost vigilance of this Association and of the public to prevent their carrying it on."

Notwithstanding this, the committee for 1850, to whom the continued consideration of the subject was intrusted, reported, in general terms, that domestic adulteration seemed at that time not to have increased, but even rather to have diminished; and that adulterated medicines were "not commonly vended in our large cities" (unless by those engaged in the sale of nostrums), except under certain particular circumstances. What these particular circumstances were, did not very clearly appear from the report of the committee. In fact, the special instances mentioned in the report showed so much impurity in the drugs actually in the market, as rather to contradict the conclusions just cited; as, for instance, where samples of rhubarb and cinchona obtained in Boston, were respectively only one-half and one-eighth the proper strength;
and where, of fifteen samples of blue mass, obtained in St. Louis, only one-third gave an approximation to the officinal proportion of mercury. Cod-liver oil, again, was found to be so extensively adulterated that "hardly a tenth," it was believed, of what was sold under that name was genuine, being either refined whale or sea-elephant oil. It seems rather difficult to reconcile such facts as those with the belief that adulterated medicines were "not commonly vended in our large cities."

Still, the report of this committee was, in its general conclusions, rather calculated to quiet the agitation of the subject of adulteration, and to convey the idea that it was, on the whole, not a very gross evil, at least in the Atlantic cities. The committee suggested as remedial measures the following:

1. That the various State and local medical societies be requested to annually appoint boards of examiners, whose duty it shall be to procure specimens of drugs from the stores within their limits, for examination, and report upon the same to their respective societies at least once in every year.

2. That the respectable druggists and apothecaries throughout the United States be requested to take active measures for suppressing the fabrication and sale of inferior and adulterated drugs; and that it be respectfully suggested to them, wherever practicable, to form themselves into societies or colleges for the promotion of pharmaceutical knowledge and general improvement in their profession.

3. That a committee be appointed, consisting of one member from each State here represented, whose duty it shall be to collect information in regard to spurious and adulterated drugs, and report the same at the next meeting of the Association.

These suggestions were adopted by the Association, and a committee appointed accordingly; but nothing has since been done, so far as we know, in regard to the matter. Practically, the whole work of protecting the community against the use of adulterated medicines has been left, since 1850, to the custom-house inspectors appointed by the law of 1848.

Now, we believe that the almost universal verdict of medical men, even in the large Atlantic cities, at the present time, will be that this law has been practically ineffectual in preventing the extensive sale and employment of spurious and adulterated drugs. The complaints of constant disappointment in the operation of simple and important drugs, which ought to be reliable, and of their extremely variable efficacy, were never more frequent than at the present moment. There can be little doubt that the general skepticism as to the efficacy of therapeutical agents, now so prevalent among physicians, and which has been almost constantly on the increase, is at least partly owing to the deteriorated quality of the drugs themselves. The inefficiency of the custom-house examination depends probably upon two causes. First, the inspectorships
are liable, we regret to say, like almost all other government offices in our country, to be regarded as purely political appointments, and to be conferred on purely political grounds, with but little if any regard to the professional qualifications of the appointees. It is to be feared that this mode of conferring appointments has become so interwoven with our political system as to leave but little prospect of modification for the better, and little security for the capacity, or even the integrity, of the inspectors. Even if this were not the case, however, and if we could be assured that none but genuine drugs were ever allowed to enter our ports, there would still remain a second and much greater difficulty, and one entirely beyond the reach of any custom-house supervision: that is, that drugs, as we have already intimated, are just as liable to be adulterated after as before importation. The same inducements for it are held out to the unprincipled dealer and manufacturer, and the same injurious results to the community follow from its practice.

Dr. Hassall, whose book on the adulteration of food and medicine has more recently called attention to the subject, indicates the only effectual mode of detecting these impositions. Adulterations must be detected in the samples sold or kept for sale by the retail dealer. All other inspections, whether of the crude imported or domestic material, or of the recently manufactured or wholesale article, though useful to a certain extent, must necessarily be incomplete; since adulteration may be, and certainly is, practised, according to the observations of Dr. H., at any point between the custom-house and the counter of the retail druggist. In England an excise law exists, similar in its operation to the inspectorships of the United States; and yet the amount of adulteration practised in the former country, in articles of both food and medicine, is so extensive and scandalous as to excite the indignation of any who will take the trouble to read over the details which this book presents. Scammony made up of "guaiacum and jalap, with woody fibre, cellular tissue, and other insoluble matter," powdered jalap, consisting, for one-third of its bulk, of rasped wood; ipecac, containing "large quantities of carbonate of lime or chalk;" quinine, containing gum, starch, chalk, stearine, carbonate of magnesia, &c., &c.; such are the drugs which are actually in the English market, and in daily use by practising physicians in that country.

Now it is a very essential question for us whether we are any better off, in this respect, than the English. We seem to have settled down, since 1850, into a somewhat quiescent state about this matter, trusting to the existing laws for protection. It has already been shown that these laws do not and cannot protect us. Supposing the custom-house requirements to be thoroughly and fairly carried out, the nine years which have elapsed since 1848, have certainly afforded time enough for a tolerably active and quick-witted people to learn all the tricks that were formerly done
by foreigners, and to gain sufficient experience for successfully practising them at home. Some further precautions, therefore, must be adopted, unless we are willing to continue in the use of such medicines as are to be found in the market at present. A few reflections, suggested for the most part by Dr. Hassall's book, will show that the subject is fully deserving of all the consideration we may bestow upon it.

Adulteration consists in mixing with the genuine article other substances of inferior value, which increase its bulk and enhance accordingly the profits of the vendor. The foreign substances which are selected for this purpose are usually such as may be readily incorporated with the original article, so as not to be easily detected by ocular inspection. They are, in many cases, simply negative in their properties; and so far, the effect of the adulteration is merely to diminish the efficacy of the medicine; as, for example, where opium is adulterated with clay, or alcohol with water. This adulteration may be carried to such an extent that the properties of the original article are, for all practical purposes, entirely destroyed; and it then amounts to a complete substitution of other materials for those of which it should properly be composed. Hassall states for instance, that samples are occasionally to be met with, professing to be scammony, which "do not contain a particle of that drug, or small proportions only," and are made up of a variety of ingredients, including even wood and ivory-black.

In most cases, however, the simple adulteration of a drug with an indifferent substance, or its dilution, as it might be called, is not the only or the most important alteration which it is made to suffer. The admixture of large quantities of foreign material necessarily impairs the sensible properties of the drug; and these must be restored or imitated as well as possible, by a further adulteration. Thus Cayenne, according to Dr. Hassall, is extensively adulterated with ground rice, and its colour afterward restored by the addition of red lead, or even the red sulphuret of mercury. Mustard is adulterated first with wheat flour or clay to increase its bulk, then with red pepper to give pungency to the mixture, and lastly with turmeric or chromate of lead to restore its colour. The purchaser is, therefore, not only defrauded of the article which he wishes to procure, but is supplied at the same time with other materials which are absolutely injurious.

It would seem almost superfluous to point out the injurious effects of such practices, and their disreputable character; and yet there is a tendency in the minds of some, resulting principally from a too hasty consideration of the subject, to overlook some kinds of adulteration as unimportant, or to palliate them as excusable. This has sometimes led to a distinction between injurious and harmless adulterations; the former class including those cases in which deleterious substances, such as red lead or arsenite of
copper are fraudulently introduced into the mixture; the latter
including those in which the bulk of the article is simply increas-
ed with some indifferent substance, as where milk is adulterated
with water, or calomel with chalk. The slightest consideration
will show, however, that all adulterations, especially in medicinal
articles, are injurious and dangerous, as well as fraudulent. If we
prescribe six grains of calomel to a patient who requires the oper-
ation of the drug, and three grains of the powder which he takes
under that name consist of chalk, it is not merely a pecuniary loss
which he suffers, but an actual bodily injury. Even should the
adulteration be detected the next day, its effects cannot be coun-
teracted by giving another similar dose of pure calomel; for the
time for the most favourable operation of the drug has passed, and
the patient’s illness is, at the very least, prolonged for twenty-four
hours. It is easy to see that much more striking cases than this,
and cases quite as likely to happen, might readily be cited. But
it is not necessary. There is plainly no proper distinction, except
in degree, as to the danger of adulterations in medicine. They
are all injurious; and those which are ordinarily the least so, may
at any time become extremely dangerous, owing to the accidental
circumstances of the case.

But there is another excuse which we frequently hear from those
engaged in the trade, and which is too often allowed to pass cur-
current, to a certain extent, even among professional men. It is the
following: There are, it is said, in all articles of merchandize dif-
f erent grades of quality, corresponding to the means and taste of
the purchasers. Articles of the first quality, which necessarily
bear a high price, are within the reach only of the wealthy; infe-
 rior goods, at a cheaper rate must be supplied to the poorer class-
es, for they would otherwise be obliged to go without altogether.
Accordingly, there are always to be found in the market goods of
these different qualities with corresponding prices. It must ne-
cessarily be so; and in the drug trade as well as in others. There
is no fraud in this, it is said. On the contrary, it is perfectly well
understood that the higher priced articles are always the best, and
the cheaper of an inferior quality. If the customer is willing to
pay for the best article, he can have it. If he prefers to purchase
at a cheap rate, he can be accommodated with an article, corres-
ponding in quality and in price.

Now, it will be observed that the above excuse or explanation,
plausible as it seems, rests entirely for its justification on the pre-
sumption that the varying quality of the article, corresponding
with its price, is perfectly well known to all parties, purchaser as well
as dealer. So long as this is the case, the variation in quality is
not a fraud upon the public, but rather an accommodation. When
a man buys a fine broadcloth coat for thirty dollars and a rough
pea-jacket for five, he understands perfectly well the reason for
this difference in price. It is evident on mere inspection of the
articles; and so long as the articles are good of their kind, and actually are what they profess to be, no harm is done, and the transaction is strictly honorable.

But the case is very different when the inferior article is fraudulently made to resemble the better one, and sold as actually being such. There is a certain class of dealers in clothing, who make a business of getting up, in his way, garments of sham quality; smooth and lustrous externally, but put together of such inferior materials, and in such an inferior manner, that they are ready to fall to pieces after a few week's wear. They are sold at a less price than similar garments of the best quality, but they are sold as really being such; and the unsuspecting purchaser is led to believe that he is really obtaining a good article at a lower price than he could get it for elsewhere. This kind of trade is properly regarded everywhere as dishonest; and those carrying it on are not considered as belonging to the class of respectable tradesmen.

Now, the adulteration of drugs, for the purpose of supplying a cheap and more salable article, is the same kind of transaction with that just described. There is, and can be, in the nature of the case, no difference in the quality of the real drug. Scammony is scammony, and sulphate of quinine is sulphate of quinine; and always of the same composition. But when scammony is mixed with guiacum and the mixture sold as scammony, or when sulphate of quinine is adulterated with chalk, and the mixture sold as sulphate of quinine, such a transaction is nothing less than the sale of one article in place of another, and is therefore fraudulent and disreputable. It is useless to say that the cheap article cannot be supposed to be as good as the high-priced one, and that the fact of its adulteration is well known to the trade. The consumer does not know it. The consumer buys the article, supposing it to be scammony or quinine, and not a mixture of worthless or deleterious substances. In this fact lies the fraud. The truth is, the dealer in adulterated medicines is not guided by any desire to accommodate the public, but simply to enhance his own profits: for though the spurious mixture is sold at a less price than the pure article, it brings a higher price in proportion than it is really worth. Thus coffee is adulterated with an equal bulk of chicory, and the mixture sold at a price intermediate between its real value and that of pure coffee. Opium, from which the morphine has been extracted, is sold as a low-priced opium, when it is in reality altogether without value.

The matter, therefore, becomes perfectly simple, as soon as subjected to a moment's examination. The keeping and vending of adulterated drugs are fraudulent, no matter what may be the mode or manner of its performance. It is to be regretted, therefore, that in the report of the Committee on Adulteration, made to the American Medical Association in 1850, some expressions oc-
Adulterations Detected in Food and Medicine. [December,

cur, which might be regarded as palliating its practice to a certain extent among the trade.

"Extensive inquiries among physicians, manufacturing chemists and druggists," say the committee, "have led to the following conclusions: First, that the wholesale druggists in the large cities, equally in the South and West as in the Eastern States, who are not specially engaged in selling nostrums, either as proprietors or agents, conduct their business on fair and honourable principles. As a general rule, they buy their choice chemicals from those who manufacture them, and either import other articles, or get them directly from those who do; and are always disposed to supply good articles to customers who are willing to pay a remunerating price. At the same time, many of this class keep inferior articles which they dispose of for a corresponding price to physicians and storekeepers who insist on buying at reduced rates."

Now, it is difficult to reconcile this trade in "inferior," that is adulterated, drugs with "fair and honorable principles" of business. These adulterated drugs are purchased by the retail dealers in order to be sold as genuine. It is not true that the public are ever parties to the transaction; or that they prefer a cheap article knowing it to be adulterated. No man, suffering with intermittent fever, would buy a cheap quinine in preference to a high-priced one, if he knew that he would be obliged to take a teaspoonful of the former for every grain of the latter. The retail sale, which is the end and object of all previous trade-sales, is always a fraud. The wholesale dealer knows this perfectly well, and is, therefore, a party to the transaction, when he deals in articles which he knows to be destined for that purpose. Keeping and selling medicinal substances, therefore, knowing them to be adulterated, under the pretence of supplying customers who wish a cheap article, is but little, if any, less injurious and disreputable than actually making the adulteration or retailing the spurious drugs.

We have been led to make the foregoing remarks because it seemed to us that the profession in this country had been lulled into a kind of false security with regard to this subject, and to the amount of protection afforded them by the existing laws.

Dr. Hassall's book possesses a still more general interest from the fact that it treats extensively of the adulterations in food as well as those in medicine. Indeed, the greater part of the book is occupied by the former topic. The author shows that in England at the present day the most important articles of food and drink are hardly less adulterated than medicines. Some of these adulterations are practised abroad, some of them at home; some on foreign and some on domestic articles. In some cases the genuine and spurious materials are both imported from abroad, and mixed after being brought into the country. Dr. H's statements have the greater value since they are not merely the result of general
inquiries among manufacturers and dealers, but of direct ex-
amination of samples purchased at retail, and consequently
in the same condition as they are ordinarily obtained by the con-
sumer.

An extremely important feature of the work is the extensive
application of the microscope to the detection of foreign matters in
alimentary or medicinal substances. Many adulterations have
heretofore escaped detection in consequence of the inability of the
chemist to recognize them by any means at his command. Some
adulterations are so coarse that they may be recognized, by any
one familiar with the appearance of the genuine article, by a care-
ful ocular inspection; as where foreign leaves are mixed with
those of a tea or senna. In other instances, where inspection
would fail, a chemical examination is sufficient; as where calomel
is adulterated with substances which are not volatilized by heat,
or which are soluble in water. There are other cases, however,
principally those of powdered vegetable or animal substances, in
which ocular inspection and chemistry are equally at fault; as
ground coffee, for instance, adulterated with chicory or exhaust-
ed tan, or mustard adulterated with wheat flour and turmeric.
Here, however, the microscope steps in and accomplishes all that
could be desired; for no amount of grinding and powdering can
destroy the shape of the vegetable cells and fibres, or the optical
characters of starch-granules peculiar to different kinds of vegeta-
table substances. Thus the minute anatomical structure of all the
different kinds of flour is readily recognized when these are ming-
gled together. Chicory is detected in coffee, potato flour in arrow-
root, and the fibres of rasped wood in powdered opium. We
know of no application of the microscope, yet made, which has
been more directly and practically serviceable than this.

Tea is adulterated, according to Dr. H.'s investigations, with
various foreign leaves, such as those of the beech, elm, horsechest-
nut, plane, willow, poplar, hawthorn, and sloe. Two or three
kinds of foreign leaves are mixed with the tea by the Chinese
themselves, previous to exportation. The Chinese manufacture
also a spurious article for the purpose of admixture with genuine
varieties, which they designate by the expressive name of "lie tea."
It consists of the dust of tea-leaves, sometimes of foreign leaves,
and sand, made up by means of starch or gum into little masses,
which are afterwards painted and colored so as to resemble either
black or green gunpowder. "This article," says Hassall, "al-
though the chests containing it are branded with the words 'lie
tea,' was at a recent period extensively imported into this country,
and of course found purchasers."

But it is in the coloring and dressing of the real tea-leaves that
the most important, because the most extensive and deleterious,
adulteration is practised. Tea drinkers will probably be surprised
to learn that with every cup of green tea they swallow so much
mineral paint}, artificially put on in order to increase the brilliancy and lustre of the leaves.

"It is with green tea," says Dr. H., "that the practice of artificially colouring the leaves is carried to the greatest extent. The varieties of green tea imported into this country from China are Twankay, Hyson-skin, Young Hyson, Hyson, Imperial, and Gunpowder. Now the colour of the whole of these teas, without a single exception, is artificial, and caused by the adhesion to the leaves of various colouring matters.

"The usual colouring matters employed are ferrocyanide of iron or Prussian blue, turmeric, and China clay. These are mixed in various proportions, so as to produce different shades of blue and green; the surface of the leaves being moistened, they are then agitated with the mixtures, until they become faced or glazed, as it is termed. Occasionally other substances are employed by the Chinese, as indigo and sulphate of lime, or gypsum. In proof that it has long been the practice frequently to colour green tea artificially, we have the evidence of various travellers; but the most conclusive and complete evidence, both as to the extent of the practice and the nature of the ingredients used, has been supplied by the microscope."

In these cases, then, the consumer gets green tea, and various colouring matters in addition. But in other instances he gets the colouring matters alone. One branch of the adulterating business in England consists in buying up tea-leaves which have been already used and exhausted, drying them, colouring them artificially, adding sulphate of iron or catechu to restore the astringency, and re-selling them as black or green tea. The colouring matters employed for this purpose Dr. H. found to be frequently more injurious than those used by the Chinese; viz., rose pink, Dutch pink, chromate of lead, Venetian red, soapstone or French chalk, carbonate of lime, carbonate of magnesia, carbonate of copper, arsenite of copper, Prussian blue, and indigo.

Coffee is adulterated with chicory, roasted flour, scorched peas and beans, roasted carrots, mangel-wurzel, acorns, mahogany sawdust, burnt sugar, Venetian red, and baked livers. This last article is one so little likely to be suspected beforehand, that we give a short description of the process, quoted by our author from a work on coffee, published four or five years since.

"In various parts of the metropolis, but more especially in the east, are to be found liver bakers. These men take the livers of oxen and horses, bake them, and grind them into a powder, which they sell to the low-priced coffee shop-keepers, at from 4d. to 6d. a pound, horse's liver coffee bearing the highest price. It may be known by allowing the coffee to stand until cold, when a thick pellicle of skin will be found upon the top. It goes further than coffee, and is generally mixed with coffee, and other vegetable imitations of coffee."

Why baked livers should be especially selected for this purpose does not at first sight appear. It is evident enough, however, as soon as we have become a little familiar with the "fundamental
principles" of adulteration. Horses' and bullocks' livers are, in the first place, cheap. Secondly, the biliary matters with which they are imbibed serve to imitate tolerably well the colour and bitterness of real coffee. They are therefore much better adapted for this purpose than other internal organs, such as the spleen, kidneys, or brains. Coffee, again, which has been largely adulterated with scorched flour or beans, has its colour and bitterness partly restored by the addition of burnt sugar.

We subjoin, as a curiosity in its way, the following, from page 119:

Results of the microscopic examination of thirty-four different Coffees, of all qualities and prices, and sold under the following attractive titles:

COFFEES OF HIGH PRICE.
5. Best Old Mocha. A little chicory.

COFFEES OF MEDIUM PRICE.
13. Delicious Coffee. Roasted beans and chicory, forming about one-third of the article.
14. Plantation Coffee. Of roasted corn much, with some chicory, both not less than one-third.
15. Finest Turkey Coffee. Much chicory, and some roasted corn; very little coffee.
18. Splendid Turkey Coffee. About one-half coffee, the rest chicory.
19. Fine Plantation Coffee. One-third coffee, the rest chicory, with a little roasted corn.
20. Beautiful Jamaica Coffee. Two-thirds coffee, the rest chicory, with a little corn.
22. Superior Plantation Coffee. Three-fourths coffee, the remaining chicory.

COFFEES OF LOW PRICE.
23. Fine Mountain Coffee. Four-fifths coffee, one-fifth chicory.
25. **Superb Coffee.** The principal part corn and chicory; very little coffee.

26. **Rich Drinking Coffee.** One-third coffee, the rest chicory, with some roasted corn.

27. **Very Excellent Coffee.** One-half coffee, the other mostly chicory.

28. **Delicious Family Coffee.** One-fourth coffee, three-fourths chicory.

29. **Fine Ceylon Coffee.** Very little coffee, a great deal of chicory, some roasted corn.

30. **Fine Java Coffee.** Much chicory and some roasted potato; very little coffee.

31. **Coffee as in France.** Principally chicory.

32. **Very Excellent Coffee.** Principally chicory.

33. **Fine Plantation Coffee.** Nearly all chicory; very little coffee.

34. **Delicious Drinking Coffee.** A large quantity of chicory, and much roasted corn.

Cocoa, sugar, honey, milk, flour, butter, lard, arrowroot, and their adulterations, are all described in a similar manner. With many new and unsuspected adulterations, discovered by Dr. Hassall, there are some, popularly supposed to be very common, which he shows to be either quite rare, or even not to have an existence. Thus sugar is generally thought to be extensively adulterated with sand; but Dr. H. found no sand in over one hundred samples of sugar which he subjected to examination. The impurities which he met with were starch, treacle, glucose, fragments of sugar-cane, fungous sporules, and specimens of the acarus sacchari. Milk, again, very seldom contains chalk, contrary to the general belief. Dr. H. did not meet with it in a single instance. The most prevalent and important adulteration of milk is with water; after which the operator adds molasses or syrup to sweeten it, salt to give it a flavor, and anatto to color it. Starch and sheep's brains are sometimes added, in order to restore the opacity to diluted milk; but these adulterations are rare, the dealers not usually taking the trouble to practise them. These impurities would furthermore, like chalk, be at once detected, on allowing the milk to stand, by subsiding to the bottom of the vessel as a visible deposit.

A very amusing chapter is that on what the author calls "proprietary alimentary preparations; that is, various mixtures which are prepared of cheap ingredients, patented, and then sold at a dear rate under some high sounding title; such as Revelenta Arabica, Nutritious Farina, Semola, Semolina, and the like. These substances consist mostly of baked flour, or even of cheaper ingredients, sometimes scented and coloured, and sold at prices varying from twenty-five to sixty-eight cents per pound; their real value according to their composition, not exceeding in any case five or six cents per pound. Thus the author gives analyses and microscopic drawings of the following of these articles among others:
Dubarry's Revalenta Arabica; consisting of starch-granules of the Arabian lentil, barley flour, sugar, and salt.

Wharton's Ervalenta; consisting of a mixture of the French or German lentil with a substance resembling maize or Indian corn meal.

Gardiner's Alimentary Preparation; consisting of very finely ground rice.

Leath's Alimentary Farina, or Homoeopathic Farinaceous Food; consisting principally of wheat flour, slightly baked, sweetened with sugar, together with potato starch, Indian corn meal, and tapioca.

Bullock's Semola; consisting of the gluten of wheat, with a proportion of wheat starch.

Maidman's Nutritious Farina; consisting entirely of potato flour, artificially coloured of a pink or rosy hue.

Plumbe's Improved Farinaceous Food; composed of bean or pea flour, some potato flour and a little arrowroot.

Palmer's Vitarohorant; consisting of a mixture, sweetened with sugar, of wheat flour with the red or Arabian lentil.

The flour, sugar, &c., were introduced, in many of these preparations, merely to diminish the strong flavor of the lentils, which is sometimes disagreeable.

"Extremes meet," says the author; "lentils, being somewhat cheaper than peas, are supplied to many of our workhouses, to be used in the preparation of soup, &c. Thus they are not only consumed by paupers, but by the rich, the chief difference being that the latter frequently pay 2s. 9d. per pound for them."

Dr. H. suggests also one or two receipts for preparing similar mixtures, which shall have all the advantages of the patented articles, if any such there be, without their exorbitant price.

"As the cost of most of the prepared lentil powders sold as ervalenta, revalenta, &c.—viz., 2s. 9d. per pound—forms a very serious obstacle to their use, supposing that it is in any respect desirable that they should be more generally consumed, we have framed the two following receipts, whereby a considerable saving of expense may be effected:—

1st Receipt.

Red or Arabian lentil flour, — — 2 lbs.
Barley flour, — — — 1 lb.
Salt, — — — — 3 oz.

Mix into a uniform powder.

"The red lentil may be obtained of almost every corn chandler at about 4d. per quart; the cost of our ervalenta would be about 2s. per pound; and it is perfectly clear from the analyses which we have given above, that whatever may be the advantages possessed by the much vaunted ervalentas, revalentas, &c., that our article must contain them all."
Increase of bulk is not the only object for which adulterations are practised. We have already seen that, in the case of teas, foreign and sometimes poisonous substances are added merely for the sake of improving the colour and external appearance of the article. This is still more remarkable in the case of pickles. These articles of food are almost universally more or less artificially coloured, and generally with some preparation of copper. This adulteration is sometimes so excessive as to be readily detected, even by the eye. Every one must have noticed samples of pickles kept for sale by the grocer, in which the green colour was unnaturally strong; the preserved pickles being often, in fact, greener than the same vegetables when in a fresh condition. This green colour has even sometimes a distinct and altogether unnatural shade of blue. Now, in all these instances, the colour depends upon the presence of some salt of copper; either the sulphate (blue stone) artificially added, or the acetate produced by the action of the vinegar on metallic copper. When metallic copper is used, the sulphate is frequently formed as well as the acetate, owing to the previous adulteration of the vinegar with sulphuric acid.

The examination of twenty-three samples of pickled vegetables led Dr. H. to the following conclusions:

1. That the vinegar used for pickling is of a very weak description, the percentage of acetic acid ranging between 1.48 and 2.91. It will be remembered that vinegar of good quality ought to contain from four to five per cent. of pure acetic acid.

2. That nineteen out of twenty of the vinegars submitted to analyses, poor as they were, yet owed a portion of their acidity to sulphuric acid, the amount of which varied in the different samples from .88 to 2.52 in the 1000 grains; the largest quantity of this acid being detected in the vinegars in which the red cabbages were pickled.

3. That in the whole of the sixteen different pickles analyzed for copper, that poisonous metal was discovered in various amounts; two of the samples contained a small quantity; eight, rather much; one, a considerable quantity; three, a very considerable quantity; in one, copper was present, in highly deleterious amount; and in two, in poisonous amounts.

4. That the pickles which contained the largest quantity of copper were those which consisted entirely of green vegetables, as ghirkins and beans.

The author presents a most repulsive picture of the composition of potted meats and fish, as subjected to his examination. These articles are but little used in this country, but in England they
are extensively employed and are generally regarded as a delicacy. The form of a homogeneous paste is, however, that which presents the greatest facility for adulteration; and these preparations are accordingly found to contain not only such ingredients as flour and starch, and to be partly made up of inferior qualities of meat and fish, but to be artificially coloured also, in most instances, with Venetian red or Armenian bole. These earthy substances are added, according to Dr. H., not only for the purpose of heightening the colour of the mixture, but also to conceal the dirt contained in the brine, in which the fish is imported.

The artificial colouring of sugar confectionary is much worse than the above. These articles are sometimes coloured all over with the same tint; and are sometimes parti-coloured, two or three different tints being applied, for the sake of ornament, to different parts of the same piece. From the examination of 141 samples, Dr. Hassall arrived at the following result:

_Fifty-nine_ were coloured with CHROMATE OF LEAD.
_Eleven_ with GAMBIOGE.
_Twelve_ with RED OXIDE OF LEAD.
_Six_ with BISULPHURET OF MERCURY (vermilion).
_Eight_ with BROWN FERRUGINOUS EARTHS, Vandyke brown, umber, or Sienna.
_One_ with INDIGO.
_Twenty-four_ with PRUSSIANT BLUE.
_Ten_ with a mixture of CHROMATE OF LEAD and PRUSSIANT BLUE, making several varieties of green.
_One_ with CARBONATE OF COPPER.
_Nine_ with ARSENITE OF COPPER.
_Four_ with CARBONATE OF LEAD.

Enough has been said to show the great extent of the above adulterations, and the abominable consequences that are liable to result from them. It must be recollected that many of these substances, fraudulently introduced into food, are actually poisonous; and, furthermore, that some of them belong to the class known as cumulative poisons. The small quantities in which these substances are introduced, day by day, is therefore no protection against their finally producing poisonous effects. Whoever takes Cayenne pepper every day upon his salad, is liable to be dosing himself at the same time with red oxide of lead; and the lover of green tea may after a time find his eyelids swelling and his legs aching from the arsenite of copper with which the leaves were coloured. Lest it should be supposed that such dangers as these are altogether imaginary, we subjoin the following account of a case in which lead palsy was produced by taking snuff: an article which is not unfrequently coloured with chromate of lead, or the red oxide of the same metal. The case is given on no less authority than that of Mr. Erichsen; and it is of so remarkable and interest-
ing a character, that we extract it entire. It is from page 617, of Dr. Hassall's book,—

"Case of slow poisoning by Snuff containing Lead. By Mr. Erichsen, Whilst on a professional visit in the country, last March, I was requested to see a gentleman who had been invited down to a friend's country-seat, in the hopes that change of scene and air would influence favourably an attack of paralysis, which was said to be of a rheumatic character, by which he had been disabled from work for many months past, and of which he despaired of recovering, having relinquished all treatment.

"I found the patient in bed, and somewhat exhausted by the journey down, a distance of nearly a hundred miles from his usual residence. He was peculiarly sallow, the complexion having almost an icteric tinge; but the countenance was lively and expressive, and the intellect as bright as usual.

"Mr. A. B. could stand, and, if supported, could walk, though feebly and with much difficulty. He complained much of pain about the shoulders and the fleshy parts of the thighs and legs, and especially of burning sensations in the soles of his feet. The articulations all appeared healthy; no swelling or looseness was perceptible about any of them.

"I was, however, particularly struck with the appearance of the hands and arms, which were lying powerless on the coverlid of the bed. There was marked 'wrist-drop' of both arms, the hands hanging flaccid and at right angles with the forearms, without the patient being able to extend or raise them in the slightest degree. There was, however, some slight power of extension left in the fingers, especially in those of the left hand. Though unable to extend the fingers, raise the hand, and scarcely having power to elevate the arm, Mr. B. could flex the fingers pretty firmly, so as to give a tolerably good grasp to whatever was put into his hand. The index finger of the right hand seemed to be the most affected, and was permanently flexed.

"There was a very marked degree of wasting of the whole mass of the extensor muscles of the forearm, so that a longitudinal hollow corresponding to the interosseous space was perceptible down the whole length of the forearm, and a very deep and marked depression in the interspace between the first and second metacarpal bones. The hands were quite powerless, and the patient was unable to render himself the slightest assistance.

"The tongue was pale and flabby; and on examining the gums, I found a deep blue-black or leaden-coloured line around the teeth, more marked about the molars. Digestion was much impaired. Appetite capricious, with much flatulence, and occasional attacks of constipation, with colicky pains.

"On inquiring into the history of the case, I learnt that Mr. A. B., who is much devoted to literary pursuits, and habitually led a sedentary life, had for some years previously suffered from pains of a rheumatic or gouty character; that in May, 1853, he had been attacked by constipation and colic while lodging for a short time in a newly-painted house. In August of the same year he had first begun to lose power in extending his arms, finding a difficulty in raising them to put on his coat; and from this time the paralytic symptoms gradually increased, until they had assumed the degree in which I found them, when he had become reduced to a state of
complete physical helplessness; though, as I have already observed, his powerful and clear intellect was as perfect as ever.

"On examining Mr. A. B., I was at once struck by the very marked "wrist-drop," more complete than I had ever seen before; the limitation of the paralysis to the extensors, which were greatly wasted; the existence of a blue line around the teeth; and the occurrence of occasional attacks of constipation and colic, together with flying pains in the fleshy parts of the body, with absence of all articular inflammation. These symptoms led me to the conclusion that Mr. A. B. was suffering from saturnine paralysis, and that he had been slowly poisoned by lead.

"The difficulty was, however, to ascertain how poisoning by lead could have been effected. With this view, I made diligent inquiry into the patient's habits, the water he drank, the utensils he used, &c., but could not detect any source to which the presence of the mineral in the system could be traced, except that the first attack of colic and constipation had occurred whilst temporarily lodging in a house which smelt of fresh paint; but as he soon left this, I thought it very insufficient to explain his continued and increasing sufferings. In the course of my inquiries, however, I found that he took snuff in considerable quantities; I accordingly emptied his box of its contents, and took them up to town with me with a view to further examination. The snuff was analyzed by Professor Williamson, who detected in it a considerable quantity of lead; and another supply having been procured from the shop at which Mr. A. B. was in the habit of purchasing it, was subjected to analysis by Dr. Garrod, who readily detected large quantities of the metal in it.

"Mr. A. B. was now put under treatment for saturnine paralysis. The snuff was left off; the bowels were kept open with the acidulated sulphate of magnesia; iodide of potassium was freely given in conjunction with strychnia, which was applied topically to blistered surfaces as well as administered by the hands; and galvanism was assiduously employed. Under this plan of treatment he gradually improved in all respects; the colicky symptoms rapidly disappeared, the muscular pains subsided, and the paralytic condition of the extensors was gradually removed, until at the end of July he was able to resume and to discharge public duties of a very onerous character with his usual ability and energy.

"With the above sketch we received from Mr. Erichsen a sample of the snuff which was the occasion of all the mischief. On analysis it was found to contain 1.2 per cent. of red oxide of lead; that is very much less than some of the other samples, the analyses of which have already been given."

The author goes through, in a similar manner, with the description of vinegar, spices, cheese, ale, porter, spirits, wines, &c., and their adulterations. We will not, however, dwell further on the very interesting details which he presents, but refer the reader for them to the book itself.

In conclusion, we would offer some remarks on the adulteration of food and medicine in our own country, and the means of protecting ourselves from it, for which we believe the reader is already prepared. It is plain that the adulteration of food is a serious injury, not to the purse only, but to the health of the consumer. That of medicine is certainly not less deleterious. It is always
fraudulent and may at any time become even homicidal in its consequences. By its operation all the devotion, skill, and judgment of the practical physician are set at naught. A patient has perhaps swallowed, intentionally or by accident, an overdose of laudanum. The physician who is called finds him already half comatose; and he knows that ipecac and tartarized antimony are too slow in their operation to be trusted as emetics. Sulphate of zinc is not at hand; and if it were, half of it would, perhaps, consist of Epsom salts. But there is mustard; nearly always to be found ready in every family, the most active, prompt, and local in its operation of all emetics, and the most stimulating to a semi-narcotized stomach. He mixes a liberal dose, succeeds by dint of perseverance in compelling the patient to swallow it, and awaits the result. But, unfortunately, the mustard was partly clay, partly plaster of Paris, and partly turmeric, with a little mustard and red pepper to give it pungency. No vomiting follows. Another dose is forced down, with greater difficulty than before, with a similar ineffectual result; and by the time the assistant arrives with a stomach-pump, the patient’s blood is loaded with the narcotic, and he is fairly beyond the reach of help from either medicine or surgery.

Take another instance. A physician wishes to give an emetic to a slender and delicate child, who has eaten the wrong thing at dinner and is sick in consequence. Sulphate of zinc or copper would be evidently unnecessary and inappropriate. Tartarized antimony especially is to be avoided, on account of its depressing effects and the persistence of its operation. Ipecac, mild and effectual as an emetic, without any violent depressing constitutional effects—is the drug which he judiciously selects. But his judgment is without avail; for the ten grains of ipecac administered to the little patient contain eight grains of liquorice and one of tartarized antimony.

Now, let it be remembered that such cases as these are liable to occur at any moment in the practice of any physician. Similar instances, where the immediate effects are not quite so disastrous, evidently do occur daily, and do not require to be especially designated. In view, therefore, of the moral character, the intention and the consequences of these adulterations, there can be but one conviction as to the necessity of legislative interference, and the manner in which it should be exercised. The adulteration of food or medicine should be made a felony; and should be placed upon the same level with the coining of false money, and the counterfeiting of bank notes. The dealer who vends a spurious article, knowing its character, would then be placed in the position of one who passes a counterfeit bill, knowing it to be counterfeit. The consumer would then have every reasonable protection. The honest trader would not be compelled, in self-defence, to adopt the practices of the unscrupulous, or at least to wink at their existence, as he does
at present; and, finally, the practical operation of medicines would no longer disappoint the physician and discourage the patient, as they too often do at the present day. It is to be hoped that both the National Association and the local societies will continue to agitate the question, until they succeed in bringing it properly under the notice of the State legislature. J. C. DALTON. [Am. Jour. of Med. Sciences.

On Mercury in Typhoid Fever. By Dr. Ware. (A Paper read before the Abbeville District Medical Society.)

There is probably no question more interesting to the medical practitioner of our district, or more practically important, than that which relates to the propriety of using mercury in the treatment of typhoid fever. We are every year becoming more painfully familiar with the ravages of this mysterious, this obstinate form of disease, and yet the opinions entertained as to its pathology are almost as unsettled as ever, and the treatment of it as empirical as when it first visited our latitude. True, we have witnessed, time and again, all the symptoms that manifest themselves during the progress of the disease, in all the various forms that it assumes, and we can unhesitatingly trace these symptoms to the different tissues, of the disordered states of which they are significant. We are fully acquainted, too, with all the morbid appearances, all the appreciable lesions revealed by post-mortem dissections, and still we are forced to admit, that our positive knowledge stops short at secondary links in the chain of causes; that we are yet ignorant of the real nature of the primary impression or lesion, from which results the pathological conditions manifested by the phenomena developed during the progress of the disease, and which causes these pathological conditions to resist the influence of remedies usually found efficient to overcome diseased states occurring in other forms of fever, but affecting the same organs and tissues, and giving rise to the same, or apparently the same train of symptoms. Often are we forced to watch a case, week after week, unable to check its progress, trying first one plan of treatment and then another, without seeing any decidedly beneficial effect from any; and in the end we are totally unprepared to say, if the case terminates fatally, whether death was the result of the disease or of the means used to subdue it; or, if the patient recover, whether or not any thing we did, contributed to his cure. Such is the uncertain state of our knowledge, such the humiliating admissions which honesty forces us to make; and it becomes us to examine rigidly and candidly every plan of treatment proposed, and to submit every remedy to the test of a most scrutinizing investigation, before admitting its claims.
Typhoid fever is, according to the best evidences of its true pathology, essentially a disease of irritation, and this irritation, whatever part, tissue or organ, may be its primary seat, results in general irritability of the system, or in some local inflammation, or both; and all are agreed as to the grand, leading indication, viz., to subdue irritation, and support the system under its wasting influence. It is our object to prove, that this, the most important indication, and the one to which all others are but secondary; can not be met by the use of mercury, and that such use is not only unphilosophical, but hazardous; unphilosophical, because it constitutes an attempt to remove a cause by relieving an effect; and hazardous, because it involves an expenditure of vital energy under which the patient may sink, and which can, under no circumstances, contribute to his cure.

Settled opinions, it has been well said, are difficult outposts to carry; though nature herself be battering at the walls; and the tenacity with which many cling to the mercurial treatment, fully exemplifies the truth of the assertion. Accustomed to see all evidences of the disordered states of the digestive organs, as occurring in fevers of miasmatic origin, yield to the influence of mercury, it was not at all surprising to find physicians slow to acknowledge the utter inefficacy of this drug, when used in the treatment of a disease having so many symptoms in common with that one, in which it is wont to exhibit the most beautiful display of its powers. We may have, during the progress of a case of remittent miasmatic fever, a congestion or inflammation of the liver, a torpor or an excessive action of this organ, and any or all of these conditions may be relieved by the judicious administration of calomel. In typhoid fever, the liver becomes congested and inactive, and mercury fails to remove the disorder. Remittent fever, it is admitted on all hands, has its proximate cause in a nervous centre, and with equal unanimity it is agreed that typhoid fever has its primary seat in some portion of the nervous system. Then, why these different results from the same course of treatment, when instituted in two diseases having their proximate causes in the same system of organs, and whose more remote consequences, as displayed in their effects upon the liver and its functions, are apparently the same? May we not, upon true inductive principles, answer, that the two diseases are, in their nature, essentially different, that they are generated by circumstances and agencies totally dissimilar, and that they commence their attacks by making impressions having no real analogy? And may we not, with equal propriety, contend, that, in reference to the liver, in the one case, the disorder is the result of causes overpowering the existing energies of that organ; in the other, of such as diminish the native force of those energies? That in the one case, functional derangement is the result of increased action; in the other, of diminished vitality. In remittent fever, the action
of the liver is disordered or suspended, because the channels through which it acts are obstructed, its machinery clogged: in typhoid fever, this viscus exhibits evidences of imperfect or disordered action, as a result of the diminution of its motor power; and this diminution is caused, not by continued resistance to the exercise of that power, but by the failure of its source. Hence it is that mercurial purgation, in remittent fever, increases the strength of the patient, and contributes to his comfort, by relieving the surcharged vessels of the portal system, and thus allowing the liver the free exercise of its powers, which had been held in check, not obstructed; whilst the same agency, in typhoid fever, increases debility and aggravates existing symptoms, by worrying an organ rendered incapable of being aroused to healthful action, in consequence of its diminished supply of nervous influence.

Again, diarrhœa frequently occurs as a complication of remittent fever, and no symptom is more frequently present in typhoid. And yet, how different the diseased states upon which depend the symptom, as they occur in these two forms of fever, and how strikingly different the means required for the relief of each. The same organs are affected in both instances, but, if I may be allowed the expression, from different directions. In remittent fever, the diarrhœa occurs in consequence of engorgement of the liver, inducing a congestion in the vessels ramifying upon the mucous lining of the intestines, or from the presence of acrid secretions, or of indigestible substances, or from all these causes combined; and we have, accompanying the profuse alvine discharges, a furred tongue with red edges, (probably dry,) and a tumefied condition of the abdomen, with great tenderness on pressure. The tumefaction of the abdomen is removed, and its tenderness relieved, by blistering its surface, and under the continued use of calomel and opiates, the diarrhœa is checked, and the discharges gradually assume a healthy appearance. Here, too, the cause of deranged action is distant from the source of power, and coming within the reach of calomel, the organs are restored to the proper exercise of their functions. But in typhoid fever, the diarrhœa is the result of a diseased condition of the mucous follicles of the intestines; which diseased condition is induced by the failure of healthful innervation, entirely independent of the portal engorgement, vitiated secretions, or indigestible matter; and though we have, as before, a tympanitic condition of the abdomen, yet there is very little tenderness upon pressure, a blister fails to relieve, and the administration of calomel is not followed by a change in the character of the discharges, approaching more and more nearly to the healthy standard, because the seat of the difficulty is beyond the reach of this medicine, and located in a system of organs over which it exerts no direct controlling influence. True, if opium be combined with calomel in such quantities as to prevent its acting upon the bowels at all, the first discharges that occur may be
consistent, and they will probably, exhibit some trace of biliary secretion; but, if allowed to continue, they invariably become watery again, and the scanty admixture of bile gives to them a dirty, dingy, brick-dust color, strikingly different from that appearance so characteristic of stools induced by the specific action of mercury. Nor is the patient at all benefitted by this purgation, but on the contrary, he is invariably left in a more debilitated condition, and frequently with all his symptoms manifestly aggravated. Another consideration, too, renders this practice eminently unsafe; for the calomel, if used at all, must necessarily be given in small and repeated portions, and combined with an opiate: thus ptialism may be induced, and if this occur, cancerum oris will be likely to supervene, in consequence of the putrescent condition of the fluids, always present in typhoid fever. If this be true, (and a painful experience convinces me that it is,) is not the use of mercury, as a means of relieving the disordered condition of the bowels generally incident to this disease, both unphilosophical and hazardous? And if the views that we have expressed as to the difference in the pathological conditions, upon which depend the symptoms that we have investigated, and which occur both in miasmatic and typhoid fevers, be correct, there is, certainly, no analogy between the two forms of disease, and any plan of treatment predicated upon the supposed existence of such analogy, is in violation of the plainest principles of medical philosophy.

But the impropriety of the use of mercurials is not only proved positively, by the fact, that the pathology of the disease under consideration is essentially different from that of the disease in which mercurials manifest their happiest effects, but also, by implication, from the efficacy of remedies of a totally different nature, viz., stimulants and anodynes. These allay irritation, check diarrhœa, subdue delirium, overcome watchfulness, promote sleep, equalize temperature, support the powers of life, prevent the disease from expending its force upon any one vital organ, and, in a vast majority of cases when judiciously administered, conduct it to a favorable termination. And if in the assemblage of symptoms, constituting typhoid fever, these desirable results can be accomplished by the use of mercury, its properties are much more varied than we have been accustomed to regard them, and after all the time and study that have been devoted to the investigation of its physiological effects and uses, we are still unprepared to assign it its proper place in the classification of the materia medica.

[Transactions South Carolina Med. Association.]
On the Nature and Treatment of Inflammation and Abscess, and the Modern Doctrines on that subject. By F. C. Skey, F.R.S., F.R. C.S., Surgeon to St. Bartholomew's Hospital, etc., etc.

GENTLEMEN,—It was my intention to day (July 13, 1857,) to lecture on "Abscess," acute and chronic, a most practical subject. One cannot occupy the mind with the consideration of the nature of abscess without reverting to its origin or cause, and this leads me to the wide study of "Inflammation." Now, you will find the subject of inflammation so misinterpreted and misunderstood in books, and in the wards, that I cannot give you any reason for the "faith that is in me" as to the nature and treatment of abscess, without first saying that I entertain some very peculiar opinions, more especially as to the results of inflammation in surgical cases, and the general treatment, to be adopted. Microscopic inquirers on inflammation are too theoretic for my taste. When a young man is asked in his university examination, what is inflammation? he answers something out of books that he scarcely understands, though it may be the most recent and orthodox idea on the subject. Perverted nutrition! Inflammation is perverted nutrition. A student says that's an answer, and he understands it; but to my mind, there is really no clear idea attachable to it. How will the cabalistic words "perverted nutrition" help you in an obscure case, say of abscess in the pelvis, or in the inner ear, or the skull? I advise you to go more practically to work. Did not Galen tell us inflammation is a state of vessels attended with pain, heat, swelling, and redness? Depend upon it, that in clinical practice, it is better to adhere to Galen, for believe me, though "perverted nutrition" may be more scientific and less old fashioned, it is also less intelligible. I hold that, wherever you have inflammation you have a condition of the vascular system attended with pain, swelling, heat, and redness; and, I hold also, that where you have not pain, swelling, heat or redness, that there you have something else, other than inflammation. There is a great number of modern books on this subject, but I am inclined to pass them over at present. Half a century ago, Dr. Thompson published an admirable book on inflammation, but even this work has carried away the mind of the profession rather too much from the good common sense of Galen. What is the crisis of inflammation? Why it is that point where inflammation stops. Mr. Joseph Henry Green has gone over this very well; read what he says. Thompson says the tendencies of inflammation are towards effusion, suppuration, ulcer, gangrene, cicatrization, resolution, adhesion. There are seven of them, according to Dr. Thompson, but crisis and resolution are one, and I hold very firmly that these seven may be reduced, perhaps, to two, gangrene and deliquescence. Well, what is chronic inflammation? A word in the mouth of
Inflammation and Abscess.

[December,

every doctor. There is no such condition at all. What is suppuration? What is abscess? Local inflammation, the surface softens, matter forms, and you have in an eminent degree pain, heat, redness, and swelling. Now, chronic inflammation and local inflammation are entirely different things. What is ulceration? Here the theorists meet you again; disintegration of molecules! That's fine, is it not? But what of pain, heat, redness, swelling? Certainly if they are essential to inflammation you can have ulcers without them; so that ulcer is not a result of inflammation, or rather inflammation is not a sine qua non of ulcer; you will have ulcers from starvation. I hold that the two essential results of inflammation are, gangrene or deliquescence. Take this idea with you through the wards, and see if I am not right.

Adhesion of opposite sides of pleura, how is that effected? Is there heat, redness, pain, and swelling? Certainly not. If I do a rhinoplastic operation, is that attended by local inflammation? I think not. I know very well that this is the way all such processes are explained; but it is an explanation which explains nothing. Then effusion,—a condition as in hydrocele, attended by a pouring out of water. Surely there you have no pain, heat, redness, swelling. To my mind it is simple nonsense to call this inflammation, or the effusion of fluid in the pleura or pericardium, in debilitated subjects.

Cicatrisation, the last of the lot, is the same; it is not inflammation, there is no word so prostituted in fact as this convenient term of inflammation. These views of Dr. Thompson are unpractical, and it is absurd to apply local depletion to vessels already weakened and showing want of tone. I say to you go back to Galen, and adhere to his definition,—imprint it on your memory. Heat, pain, redness, swelling, where you find these you find inflammation. Chronic abscess! What a large subject that is; and psoas abscess in half-starved scrofulous children! But if you remember what I am saying, it is easily explicable. I often think if the term "inflammation" were restricted to one-tenth of the cases that it is, we should go nearer to the truth of nature, and I am sure we should gain more credit with our patients. Inflammation to us surgically, is sometimes an unhealthy state originated for a healthy object. If you had a thorn in the skin, inflammation is set up to get rid of the thorn. But can you apply that process to the repair of a broken bone? I say you cannot; they are quite different processes. Now as to treatment. I believe in seven cases out of ten depletion does harm. There is nothing more common than to apply leeches to arrest or check inflammation or abscess. I will take an impending mammary abscess in a poor woman suckling. There is nothing, in fact, like leeches or bleeding, for increasing the inflammation. Your leech is your true destructive to hasten suppuration.

Mammary abscess occurs in weak women during lactation, weak
women with what we know as "bad" confinements, that is, a tedious labour with much subsequent haemorrhage, &c. Does not nature herself open your eyes to the fact that there is impaired vital power? Is it not common sense that bark, wine, tonics, meat, and such like, are the proper plan of cure; not purging, leeches, antimony, &c? I never saw a case of abscess that was not improved by the former plan. It is to me quite deplorable to witness the mischief committed by the depleting system. The whole testimony of the best men in the profession is to give up the lancet. The times of the lancet are gone by; you might as well set up cat-o'-nine-tails and chains in lunatic hospitals. I have the highest regard for the opinion of Sir Benjamin Brodie, and I asked him the other day—Does he not use the lancet less than formerly? What about bleeding ad deliquium animi—the venerable old formula when I was a student? The reply of Sir Benjamin Brodie was curious—"I never see a lancet now, I haven't one in my possession." Bleeding is almost unknown amongst our best practitioners. Every abscess you see in hospital is the result of debility, rather than of the phlogistic diathesis. I believe that pus itself is an indication of a condition below par—blood altered into pus. The term congestion is often a better word than inflammation; but we induce the congestion if we weaken the heart as to fever? Do not be misled about that either; many things which we do, selon les regles, only keep up fever, inasmuch as they keep up irritation in the system. Bleeding in Typhus fever, starvation, blisters to the head,—these are all wrong, and perhaps only as wrong as the miserable attempt to stop mammary or other abscess by local depletion. I say increase the heart's action, but do not weaken it.

I have great confidence in the old Jesuit's bark and wine; in the out-patient's department you will see it "work wonders," especially when the patient is brought subsequently into hospital. Take those thick deposits of lymph round a bubo; those slow tedious things that come day after day to hospital, you will never cure them by weakening the patient; but first change your hand and try bark and ammonia; or in erysipelas, try bark, and ammonia, and wine, and you'll cure your patient. Let us now recapitulate, and you will then discover the bearing of all this on the cases of abscess we have in the hospital. 1. I object to the doctrine of "perverted nutrition," and wish you to adhere to the more practical definition of Galen, viz., pain, swelling, heat, and redness. 2. As a rule, venesection does harm rather than good in the cases of so-called inflammation, in hospitals. 3. Chronic inflammation is a term that signifies very little, if it be not, in the majority of cases, a term without any significance. 4. Resolution or gangrene are the only results of pain, swelling, heat, redness. Ulceration is the result from congestion. All the others are accidental in their natures, or mere concomitants.—[Med. Circular.
Artificial Rupture of the Amniotic Sac during labor. Objections to
the practice. By B. F. Richardson, M.D., Adjunct Professor
of Obstetrics and Diseases of Women, in the Medical College of
Ohio.

Is it desirable to maintain the integrity of the Amniotic Sac during
labor? According to some authors, its only purpose during labor
is to dilate the os uteri. Others in conjunction with this, consider
it capable of protecting the foetus from injurious pressure during
uterine contractions. All writers that have been consulted, with
the exception of Dewees, suppose it to be the only proper and ef-
cient agent in the accomplishment of dilatation of the os uteri;
and that having secured this end (complete dilatation) its further
maintenance becomes, at least, a matter of indifference; and those
who allude to its protective power over the foetus, seem to have
reference alone to those cases wherein the liquor amnii is evacuat-
ed prior to a dilated or dilatable condition of the os; for their in-
structions clearly show, that after complete dilatation, they have
no such apprehensions in regard to the child.

Is the Amniotic Sac the only proper and efficient agent in the pro-
duction of dilatation of the os uteri? Prof. Murphy of London has
endeavored by a laboured and ingenious argument to sustain the
affirmative of this question. The defect of his argument lies in his
having assumed that as fact, which remains to be proven. He
asserts that the amniotic sac is a better dilator of the os, than the
smooth, round, and comparatively unyielding vertex. His argu-
ment is by no means conclusive on this point; for the reason, that
to sustain the assertion would require a total disregard of well
known hydrostatic and mechanical laws. Again, he assumes as
a postulate that until a certain degree of dilatation has occurred,
if the vertex, uncovered by the membranes, presses upon the os
uteri, it will irritate it and render it rigid and unyielding. This
idea is reiterated several times. Terms are sometimes more con-
venient than convincing. On page 85, London Edit. 1852,) he
says: "If, when the liquor amnii escapes, the dilatation be slight-
ly advanced, and the orifice of the uterus increased only an inch
or two in diameter, you may expect more or less delay in the com-
pletion of this stage, (the first,) unless the cervix of the uterus be
extremely thin. If it be at all thick, the irritation of the head,
generally, renders it rigid, no matter how dilatable it may have been
previously." The italics are our own.

Now, it may be pertinently asked, what is the character of that
pathological condition imparted to the structure of the cervix by
the pressure of the smooth and usually well lubricated vertex,
whereby it becomes rigid and loses its former dilatability? On
the other hand, the pressure on the os uteri,—no matter how
violent,—by the amniotic sac, however tense, firm and unyielding
it may be; is presumed to be incapable of producing a like patho-
logical condition. Prof. Murphy stands not alone in the entertainment of these views; and we shall therefore endeavor hereafter to point out the true causes of this actual delay in delivery and apparent change in the condition of the os uteri, where the waters are evacuated early in the first stage of labor.

Are there any important objections to rupturing the membranes after complete dilatation of the os uteri has taken place? The opinion of writers as to the uses of the amniotic sac during labor, may be clearly derived from their answer to this question. Chailly says, page 229, “After having ascertained that the dilatation is complete, that the presentation is favorable, and that there is no other mechanical obstruction than the resistance of the membranes, it becomes the duty of the accoucheur to rupture them.” He is here speaking of resistance of the membranes without regard to the efficiency or non-efficiency of the uterine contractions. Again, on same page he says: “I have stated, as a principle, that the membranes should not be ruptured until the dilatation is complete,” &c. In regard to the conduct of an ordinary labor Dewees says: “Should the pains be efficient, and the os uteri well dilated, or even easily dilatable, and the membranes entire, let them be ruptured by the pressure of the finger against them, or by cutting them with the nail of the introduced finger.” The imputation of Prof. Ramsbotham against Burns, could have been applied to Dewees more justly. Again, in the same paragraph he says: “And this should be done for the following reasons: first, because when the mouth of the uterus is dilated, or even easily dilatable, the membranes have performed every duty they can perform,” &c. Denman says: “We will therefore agree in establishing it as a general rule for our conduct, that the membranes should never be ruptured artificially, at least before the os uteri is fully dilated,” &c. Burns says, when speaking of the conduct of natural labor: “Even if the membranes be not considerably protruded, if the os uteri be completely dilated, no injury can arise from rupturing them, for they ought, in the natural course of labor, to give way at this time.” Gooch says:— “Never rupture the membranes until the os uteri is almost or entirely dilated,” &c. Lee says: “If the perineum and os uteri are rigid, and the head is high up, and it is the first child, it is seldom necessary to have recourse to rupturing the membranes before the first stage of labor is nearly or fully completed.” Churchill remarks, when treating of natural labor: “When we are quite satisfied that the head has passed through the os uteri, we may rupture the membranes, by pressing the finger against them during a pain, as their integrity is an impediment to the advance of the child after this time; but it should not be done hastily, nor until we are certain that their usefulness is at an end.” F. H. Ramsbotham says: “It is desirable in practice to preserve the membranous bag entire as long as possible; or, at least, until it has performed the whole office assigned to it by nature,—viz., the dilatation of the os
An *Easy Method of Improving the Digestibility of Milk*. By Dr. GUMPRECHT, of Hamburg.

It is well known that cow's milk, which is commonly employed for the diet of newly-weaned children, and also for those who are older, is frequently not well borne, and gives rise to indigestion, acidity, flatulence, colic, diarrhea, etc. Hence it has been proposed to improve its properties by the addition of water, and sugar of milk. Experience shows that this fulfilts but imperfectly the object in view.

Reflecting that food for adults is never prepared without common salt, which not only renders it more palatable but also more digestible, because (as Moleshott has well remarked in his *Physiologie der Nahrungsmittel*) salt not only acts as a stimulant to all the glands of the digestive apparatus, increasing their activity, but also renders the albumen (and consequently the casein of the milk) as well as the fat, more soluble in the digestive fluids, I was naturally led to the idea of rendering the milk intended for recently weaned and older children more easily digestible, by the addition of a little salt; and I found that I could in this way prevent the indigestion so often following the drinking of cow's milk, and even remove it when already present.

So far as I know, no author who has treated of the diet of newly-weaned children, has mentioned this useful addition to milk, and it is in fact remarkable that so natural an idea should not have occurred long ago, as to season the milk intended for the nourishment of weaned children with a little salt, to make it more digestible, since milk is often given them mixed with flour, groats, pounded biscuit, etc., which require this wholesome condiment in...
order to become more easily digested and assimilated. It gave me, therefore, much pleasure to hear a Dutch physician, whose acquaintance I made a few weeks since, and with whom I conversed on the above subject, say, that in his practice in Holland he had frequently directed the addition of a little salt to the milk for newly-weaned children, with a very happy result.

On my inquiry how the idea occurred to him, he said that he had observed that the peasants of Holland, in order to preserve the swine and cattle from a diarrhœa which frequently occurred in consequence of indigestion, mix salt with the fodder, and he reasoned from analogy that perhaps also children after weaning might in a similar manner, namely by the addition of a little salt to their milk, be protected from the diarrhœa which is so common under the circumstances; and the result had justified his expectations.

The proportion of salt to a given quantity of milk, must be determined by the age of the child; as much as can be taken on the point of a knife, or two or three times this quantity, may be added to a cup full of milk. In order to make the resemblance between cow's milk and woman's milk more perfect, I direct it to be boiled and skimmed, then a little sugar of milk is added, and lastly the salt. Fresh milk to which salt has been added should not be allowed to stand long, as acids will be set free, and coagulation promoted.

In a theoretical point of view, as I think, there is less objection to the addition of salt to the milk for young children, from the fact that this condiment not only benefits the stomachic digestion, by rendering the casein more soluble, but favors the formation of the blood, and renders the latter more fluid while circulating. Thus Moleschott in the *Physiologie der Nahrungsmittel*, says: "Of the inorganic elements of the blood, the chloride of sodium is the most abundant; its quantity is so great that it is not difficult to cause it to crystallize from an aqueous solution of the ashes of the blood. The chloride of sodium is also found abundantly in the tissues, especially in the cartilage, and also in the secretions and excretions."

Although milk, as Prout has very justly remarked, is to be regarded as the type of all food, since it contains all the elements which are necessary for the growth and nourishment of the human organism, as albumen, sugar, fat and the salts, and is particularly adapted, by its bland nature, for the organism of the child, yet it is often unfit for adults, who are accustomed to a more stimulating diet, on account of its insipid quality, and frequently gives rise to oppression and acidity of the stomach, and sometimes even to diarrhœa. Hence some persons have a strong objection to it, on account of its want of flavor. This objectionable quality is, however, easily removed; it is only necessary to infuse powdered cinnamon into the boiling milk, then dissolve in it a sufficient
quantity of salt, until the milk acquires an agreeable piquant taste, and add powdered sugar, in order to give it a decided and agreeable flavor. I have found that milk prepared in this way is very palatable to adults, and is readily taken and well borne by them. Those persons who are accustomed to take spirituous liquors may add to the milk, in order to improve its quality, rum or brandy (a small wineglassful to an ale-glass of milk). In this way milk is often taken in England and in Holstein, particularly in summer.

When the physician orders a regimen consisting wholly of milk (milk-cure), he should not forget to recommend salt and sugar to be added to the milk, according to the above method, both to render it more digestible, and also more acceptable to the taste; since the success of the "cure" depends in a great measure on the perfect digestion and assimilation of the milk, which are much assisted by these additions.

Morning milk, fresh from the cow, is frequently directed for women who are suffering from the effects of general morbid irritability, and often with good results. It sometimes happens, however, that the fresh milk is not well borne, or that the patients have a strong repugnance to its insipid taste. In such cases I advise a little salt, with one or two teaspoonfuls of powdered white sugar, to be dissolved in a small quantity of milk placed in an ale-glass; then fill up the glass with milk fresh from the cow, and drink it quickly. I have found that new morning milk prepared in this way is very easily borne. The remarkable effect of fresh milk in removing the above-mentioned morbid condition seems partly to be attributed to its being saturated with an animal vapor, a peculiar evanescent odorous principle, which cannot be isolated, and which speedily disappears after the milk has been drawn from the cow.—[Boston Med. and Surg. Journal.

On the Treatment of Gonorrhæa without Specific Medicines.

Having stated the necessity which existed for basing all decisions as to the value of remedies on written cases only, and for examining carefully the properties of one remedy at a time, till its true value had been ascertained, the author proceeded to give the result of his inquiries as to the action of certain curative measures in uncomplicated cases. All cases having been rejected which were not traced to their termination, it was found on careful analysis that the antiphlogistic plan of treatment did not appear to exert any material influence over the course of the disease; that waiting as many days with the same amount of rest and low diet, was equally serviceable. Local bleeding, to whatever extent it was carried, was not found to produce any real abatement of the symptoms, it only made the patient more languid and indifferent; aperient and purgatives, with zinc injections, were about equal to
The swelling, produced by injections of nitrate of silver used without medicines. A combination of these formed a useful but not a certain plan of treatment. The result of the inquiries was, that chloride of zinc, in whatever way used, was not superior to the nitrate of silver; that injections of either could not be relied on; but he denied that any proof of their producing stricture or orchitis, except in a very small number of cases, had been brought forward. The author then recommended the preparations of potass as the most certain remedies yet introduced. Mr. Langston Parker, Mr. Henry Thomson, and many other surgeons had tried them with complete success.—[Med. Times and Gazette.


The Plantago Major, commonly designated Yard Plantain, so far as our researches extend, has never laid much claim in the books to the properties that we are about to ascribe to it. It is true that mention is made of it in this connection in some of the old journals, but its claims to the title of Alexipharmic, probably, were not sufficiently urged, or there were not enough cases advanced upon which to base its reputation. This plant is described as being refrigerant, diuretic, and deobstructive in its nature, but no reference is made to its possession of properties more valuable than any or all of these, in its power to counteract the effects arising from the bite inflicted by the venomous spider. With many of the profession and laity of this country—a locality where the plant and spider are both very common—the herb has attained to not a little repute in consequence of these virtues; and, indeed, deservedly, we opine, for from our own observation and that of others, we are led to regard it almost in the light of a specific, if such a term is admissible. My father has had frequent opportunities of testing its efficaciousness in this respect, and it is upon these cases coming under our notice, that we chiefly base our remarks and our confidence in its powers.

As to the habitat of this spider, it is found in cellars, along old fences, in lofts, and in dark and damp places generally. It is black, with a red spot upon its back. The wound inflicted by it partakes more of the characteristics of a bite than of a sting. With regard to the results of the admission of this septic poison into the system, it may be stated that the bite is quite dangerous in its consequences, and is regarded by some as virulent as that produced by the rattlesnake. We have seen one case where partial paralysis ensued upon it. The symptoms became somewhat alarming. If it is one of the extremities wounded, the limb soon becomes nearly rigid; swelling is not a prominent feature; the pain extends along the limb and becomes excruciatingly severe;
the peculiar poison soon diffuses itself; the system soon intimately sympathizes with the primary local disorder, as evidenced by the gastric irritability, and, if the poison is not counteracted, fatal results are apt to follow. With such alarming manifestations as these, it is very fortunate, we conceive, that we almost always have a remedy at hand to counteract its virulence.

This perennial plant—the plantago—is too familiar to all to require description; it is quite general in its growth, and consequently is easily obtained. The mode of preparing and administering, is to express the juice from the fresh leaves, and give three or four fluid ounces at a time. Cold water, with the view of facilitating the expression, may be poured over the leaves after they are bruised. This expressed juice may be given with every assurance of almost immediate relief. The intense pain consequent upon the bite soon ceases; the limb loses its rigidity, and assumes its natural use and motion. The irritability of the stomach is alloyed, and all the parts soon acquire their normal appearance and functions. We may here embrace the opportunity to say that the toad, it is affirmed, in its combat with the spider, has been observed to resort to this plant every time that a bite has been inflicted.

The modus medendi of this potent medicine we shall not attempt to explain. No appreciable change is experienced in any of the evacuations. Under its employment, sleep is sometimes induced, but this is owing rather to the sudden freedom from pain which the patient begins to enjoy, than to any soporific tendencies inherent in the plant.

These observations have for their basis facts and cases sufficient to force upon the mind convictions as to the potency of this indigenous article in the relief of the spider bite. No hypotheses are indulged in, and no reasoning from analogies brought forward in support of a statement founded upon facts, and dependent upon no adventitious doctrines for its maintenance. This remedy unquestionably possesses merits sufficient to recommend it to the favorable consideration of the profession.—[Med. and Surg. Rep.]

Abortion for Relief of Sickness.

Mrs. ——, aged 38, a tall, pale, exsanguined, and emaciated woman, had been attended by me in previous confinements. She was the wife of a tradesman, and mother of a large family, and had always suffered exceedingly from sickness during the latter period of pregnancy, so much so as to necessitate confinement to her bed for the last month or two. She consulted me in April, 1854, when she was six months advanced, imploring me to do something for her sickness, or she should inevitably die. On former occasions I had exhausted remedies, and was therefore little hopeful of doing good. It is true, the treatment might have been deemed em-
Abortion for Relief of Sickness. 763

pirical, but this was of necessity. Doing battle with a symptom in no way advances the removal of its cause; and, indeed, it is difficult to conceive how vomiting, sympathetic with an affection of a remote organ (whether it be an uterus occupied with its ovum, a gall-duct impacted with calculi, or an ureter distended with lithic acid concretions), can be controlled otherwise than by remedies especially directed to the primarily affected organ. Of these, so far as the womb is concerned, we may be said to possess none, save, of course, such as would produce contraction and expulsion of its contents.

The poor woman’s state was truly pitiable; not a particle of food nor a drop of fluid would remain on the stomach, even for five minutes. So long as total abstinence was maintained, there was peace; but the smallest quantity of the blandest material was immediately rejected; and, what seemed astonishing to her friends, for every spoonful she swallowed, two were thrown up. I went through the form of administering purgatives by the mouth and rectum; sedatives, as carbonic acid, preparations of opium, hydrocyanic acid, calomel, and morphia; compound tincture of senna, in drachm doses (a remedy in which some old practitioners appear to put faith; but which seems to me of as doubtful efficacy as the rest); blisters over the pit of the stomach, the vesicated surfaces being dressed with morphia ointment; croton liniment over the spine. All was to no purpose; the vomiting persisted; the debility increased; the emaciation became extreme; the pulse remained permanently at 110, and a mere wave; and my poor patient insisted that she must die. The seventh month was now complete; and although, on previous occasions, I had always seen Mrs. —— accomplish her full term, notwithstanding the exhausting drain to which she had been subjected, I now felt it could be so no more. To exist two months, or even two weeks longer, seemed clearly impossible. Death or delivery was the only alternative. I had been daily expecting that Nature herself, ere the woman’s life was really imperilled, would have emptied the uterus of its contents; but nature not seeming disposed to have anything to do with it, I determined, after consultation with my partner, upon immediately inducing premature labour. There was no reason to doubt that the foetus was alive; but the case was too urgent for the question of its viability to be entertained. Examination per vaginam revealed the os uteri low down, patent to the finger, soft and dilatable, and the head presenting. Puncturing the membranes appeared the most facile and expeditious mode of inducing uterine contractions. Sir C. Clarke’s trocar and canula were used; the liquor amnii drawn off. No pain immediately followed; but in twelve hours one forcible uterine effort expelled the child, which, small and feeble, survived but an hour or two. From this moment the sickness ceased, but my patient for some weeks appeared to be in a dying state, so great was her debility,
Editorial. [December,

and so little of any kind of nutriment was she able to take, on account of the extreme pain which this induced in the stomach. However, by slow degrees she rallied; and, after three or four months, was enabled to be carried down stairs, and I gradually withdrew my attendance.

In the spring of 1855, I was again sent for to Mrs. ———. It appeared that she had never gained sufficient strength to walk unaided across the room; yet little more than a year after her last accouchement she was again advanced upwards of six months in the family way. All her old symptoms had returned, if possible, in a more aggravated form; she had incessant sickness night and day, inability to take any kind of food or obtain sleep; great emaciation; pulse 120; and debility so extreme, that the poor creature could not turn in her bed without assistance. Again we punctured the membranes, and again a living child was expelled in about the same time. It breathed an hour or two, and expired. Mrs. T. now gradually ceased to vomit; but eating caused so much pain that she took but little food; the debility and emaciation increased, and ten days after delivery she sank. No post-mortem examination was permitted.—[Mr. Gurraway of Faversham in British Med. Jour.

EDITORIAL AND MISCELLANEOUS.

The American Medical Association—its Power and its Influence.—An examination of the minutes of the last meeting of the American Medical Association will develop a most active vitality in the association, and an earnest endeavor on the part of its members to promote the advancement of American Medicine in all its interests, whether Scientific, Ethical, or Educational. These three great interests, according to the present constitution of the body, represent the grand triplicate object of its jealous care. The guarding of these interests are the three great functions of the Association. The first of these functions, every class of the Profession yields most cheerfully to the Association, as its high prerogative and just privilege, at the second, only transgressors of the laws of Ethics are inclined to demur, while in regard to the third, which relates to the reform in Medical Education, there is a class who loudly exclaim against its daring to interfere with the private affairs of institutions, in whatever way they may be conducted.

The American Medical Association is not indeed a legislative body—this, its most ardent advocates and firmest defenders will readily admit: It does not pretend to force its dicta as laws upon the Profession with the sanctions of ordinary penal codes; but though not a legislative court, it is far from being a body without its legitimate influence, and still farther from being
Editorial.

765
dvoid of laws, the violation of which are ever atoned for by penalties of the severest kind and most inevitable sequence. In its first establish-
ment, a number of the best, the wisest and most honorable of the Profession, earnestly sought to lay down principles of right, for the direction and guidance of their brethren throughout the country; they met the approba-
tion of the wise and the good wherever these principles were read. The principles of right were thus established, and a standard formed by them, which the Profession at large looked to as the criterion, on all questions of propriety pertaining to their conduct.

A standard and a criterion having thus been enunciated, and approved by every one, the power of the Association henceforth rests not so much in themselves as in the hearts and consciences of the Profession at large. It is for the Association only to declare that such and such a measure is not in accordance with the standard of Right, established and acknowledged by them, and by all, in and out of it, and this judgment being pronounced, public opinion applies the castigation which, in time, must inevitably bring reform or confusion to the offenders.

We are aware that there are many who affect to despise the opinions and rail at ethical rules and admonitions of the American Medical Associa-
tion, as arrogant, offensive, and based on a power, only ideal.—Berkeley asserted, and believed, that life was all a dream, and that external objects and the powers of nature were but the ideal representations of things—yet Berkeley carefully avoided getting into the fire, for fear of being burned, and as carefully shunned the sea, for fear of being drowned. So these pretended despisers of the Association, affecting to contemn its opinions and its judg-
ments, yet are ever anxious to prove that they transgress none of its rules, but have squared with the last letter of its counsels.

The American Medical Association then is potent,—it has a moral pow-
er rooted deeply in the hearts and consciences of men, and ramifying throughout the length and breadth of this wide extended land,—it is the true exponent, the highest tribunal of right in the Profession. It has only to be true to itself and to its own great principles—keeping these ever before the world as the standard of Medical Ethics, never swerving from them in one jot or tittle, but on the other hand, avoiding all petty and meddling tyranny towards particular individuals or particular institutions—and thus, however much some may affect to despise its admonitions and to beard its power, still Reform will follow in its train,—for as the fire will burn and the sea will drown, so will the violation of its ethical laws wither and overwhelm all who may be hardy enough to continue in transgression.

END OF THE THIRTEENTH VOLUME.—With the present number closes the thirteenth volume of the Southern Medical and Surgical Journal. In reviewing our labors for the past year, no one thing has yielded us more
satisfaction than the fact that we have been able to adhere to the spirit of the sentiment expressed in our second number, which sentiment was at the time intended by us as our Platform, in the Editorial conduct of the work. We here reiterate it, and hope that we may be able to adhere to it throughout the whole of our next volume.

“Our sixty-four pages, we find barely sufficient to elaborate the monthly accumulation of valuable matter, which the daily progress of the science is crowding upon us, and which duty impels us to lay before our readers. We have held it an object very near to our hearts, to keep the Southern Medical and Surgical Journal, as it has ever been, the conservative exponent of sound Medical Doctrine, steering clear, if possible, of any involvement in the many vexatious jarrings which too often destroy the symmetry and dim the glory of periodical literature, both Scientific and Polite; rendering the life of the Editor truly, but a “vanity and vexation of spirit;”—a vanity, because it fritters away, in small things and personalities, time and labor which should be earnestly devoted to the high and important objects of his calling; and a vexation, because “grievous words ever stir up anger,” and “an angry man stirreth up strife.”

These were then our words, and whether we present sixty-four pages or a hundred and sixty-four, we must thank the courtesy and good fellowship of our confrères that we have never yet had occasion to depart from either kindly impulse, or kindly sentiment.

By a reference to the Prospectus for the Fourteenth Volume, it will be seen that our Publisher, with a liberality fully commensurate with the requirements of the advanced state of Medical Science, proposes to add eight pages to each number of the work, without any advancement in the price of subscription. We hope that his generosity will be rewarded by an increased list and punctual payments.

In the original department of the now closing volume, we are aware that we have had too often, though reluctantly, to supply the defaults of contributors by the introduction of papers from our own pens; this was not our fault, but indeed our misfortune. We have a corps of contributors able to supply the most valuable matter, and what has been withheld during the present year we earnestly hope will only serve to enrich the coming volume.


The above interesting volume has come to hand too late for us to present to our readers, anything like an extended review, of any of the papers, in our present number. Its size, and the character of its contents will, this time, certainly vindicate the Association from the Trans-atlantic charge of making “a big book with nothing in it.”
Besides the addresses of the Presidents, the minutes of the last meeting, the reports of business committees, the plan of organization, code of ethics, and list of officers and permanent members, the volume contains thirteen papers, which may be said to be the Scientific Records of the Association for the present year. Some of these reports show much ability, and confer credit upon those who presented them, but at present we can do no more than present a simple list to our readers.

They are the following:

Report on the Medical Topography and Epidemics of Ireland.
Report on the Medico-Legal Duties of Coroners. By Alexander J. Semmes, M.D.
Report on the Use of Cinchona in Malarious Diseases. By F. Hinkle, M.D.
Report on the Medical Flora of Washington Territory. By J. G. Cooper, M.D.
Report on Deformities after Fractures. By Frank Hastings Hamilton, M.D.
Prize Essays.—The Excito-Secretory System of Nerves, its Relations to Physiology and Pathology. By Henry Fraser Campbell, M.D.
Experimental Researches Relative to the Nutritive Value and Physiological Effects of Albumen, Starch, and Gum, when singly and exclusively used as Food. By William A. Hammond, M.D., U.S.A.

Some of the above papers we will hereafter notice fully in this Journal.

Binding of the Present Volume.—It has been said that nothing strikes the human mind with greater horror than the idea of annihilation—the thought of passing entirely out of existence; hence every nation, from the most savage to the most enlightened, in its Theology, necessarily contemplates some place for departed spirits—some after-life, whether in form of a spiritual or a material Heaven or Hell—they all revel in the idea of continued existence, and are filled with horror at the blank—or we would rather say, the black idea of annihilation. This horror, we had almost said, is ours, at the present moment. When we reflect, that our twelve months' labors are lying disjecta membra in twelve perishable pamphlets, of sixty-
four pages each, liable to be torn, soiled, mutilated—annihilated, the wish (selfish perhaps) obtrudes itself upon us, that these twelve, to us, costly members could be collected and bound together, and thus protected in the more durable and convenient form of a single volume.

For the information of our subscribers who may reside conveniently to this place, we will state that in Augusta, there are two Book-binding establishments—one connected with the office of the Chronicle and Sentinel, and the other with the Bookstore of Messrs. T. Richards & Son; at either of these establishments the work will be done neatly, expeditiously and cheaply.


This valuable work was transmitted to us, through the kindness of its American publishers, some time ago. Since its reception, it has been our intention to call attention to it, at such a time as might be most serviceable to those requiring its indispensable aid in the prosecution of this arduous study, by giving notice of it just when they were about beginning their dissections. As this is the season for Anatomizing, we would earnestly advise every student, for his own benefit, to supply himself with a copy of this manual, before commencing operations, as Anatomy will be an up-hill business without it, and with it dissecting is made an easy, interesting and improving exercise. Not only is this System of Anatomy suitable as a guide to the dissector, but to the practitioner it is, perhaps, the most convenient and best arranged book of reference, in relation to the topography of any part, he may have to penetrate.

R. C.


Nearly eighteen years ago, in the earliest days of our student-life, we read a work by the above author, on General Anatomy; both that and Pathological Anatomy were even then comparatively in an unsettled state. It is pleasant now to note the long advances which they both have made since then, and it is but common justice to Dr. Gross, to say, that to his
labors in this department, the profession in this country owe much of the attention which is now paid to the study of the tissues, both in a state of health and disease.

His, if we are correctly informed, was the first systematic work of any importance, which appeared on this side of the Atlantic, devoted to Pathological Anatomy. It has firmly maintained its position of favor with the profession, by the side of Vogel, Hasse, Kolliker, Cruveilhier, and a host of others, and through the author's indefatigable watchfulness is kept posted up to last hour of the Science at the issue of its several editions.

Dr. Gross has displayed much good judgment in keeping his work within the bounds of a single volume, and that one of convenient size. To the student of medicine we would say, that we know of no work which we can more heartily commend, than Gross' Pathological Anatomy.

Treatment of Chorea.—Dr. Barlow still continues the employment of the iodine of zinc in the treatment of chorea when complicated with struma—a remedy which he introduced into use, and to which we then adverted about two years ago. In cases in which there is no peculiarity of diathesis he employs the sulphate, but in those in which any indications of struma exist he prefers the iodide. Besides its influence over the scrofulous cachexia, it is quite possible that the iodic element may be useful against the rheumatic diathesis to which the choreic is so close a congener. Good authorities are not wanting who would account for the frequency of heart complications with chorea by supposing that the latter is a condition very closely connected with rheumatism, depending upon similar causes, and occurring more frequently in those liable to it than others. A little girl was discharged the other day from under Dr. Barlow's care in Guy's, in whom, under a course of the iodide for zinc in chorea, a loud cardiac bruit had very much diminished in intensity.—[N. O. Med. News and Hospital Gazette.

Nitrate of Potash in Dysentery.—Dr. Tiedeman, of Philadelphia, has issued a pamphlet on Dysentery, and its Treatment. He says: "The internal remedy which I have almost exclusively prescribed, and frequently with surprising success, is nitrate of potassium, (kal. nitr.) I have given it in large doses, which agreed perfectly well with the patients. Locally, I have ordered, immediately after each evacuation, no matter how often they occurred, injections of pure cold water. In very severe cases, particularly in hot weather, he has ordered injections of ice water with the best effects. As diet, I ordered milk, gruel, barley, rice-water, toast and water, pure water, and butter-milk, as much as the patient liked to take."—[Nashville Journal.

Inflammation and Ulceration of the Sound Skin, produced by the application of a strong Arsenical Solution.—Dr. W. N. Brown, of Melrose, has recorded the case of a farm servant who was affected with inflammation of the skin of the lower part of the abdomen, the penis, scrotum, and upper part of the thighs, running on in some places to ulceration, consequent on exposure for two hours to the action of a solution of white arsenic. He
had been engaged in washing sheep in a bath composed of white arsenic dissolved in boiling water, and his trousers had become saturated with the drippings from the sheep. The skin was nowhere broken. He was engaged in the work for nearly two hours, and on going home, had immediately changed his clothes. In the evening he complained of pain and smarting, and the following morning the skin was red and inflamed. He had severe burning pain, and considerable constitutional derangement. It was a fortnight before he could return to work. The solution consisted of two pounds of arsenic, and a considerable quantity of soft soap to about fifty gallons of boiling water.—[Edinburg Med. Jour.

Dr. Ch. Robin, of Paris.—We find in a letter of the Parisian correspondent of the New York Times, a glowing but just tribute to Robin. Of the medical luminaries of Paris, he is a "bright particular star." To listen to his instructions; to see and know him and kindle one's own zeal by witnessing his enthusiasm and self-sacrificing industry, are objects of themselves, sufficient to repay for crossing the Atlantic. The labors of Robin are not known in this country so much as their importance claims. His great work incorrectly styled anatomical and physiological chemistry, prepared in conjunction with M. Verdeil, is yet to be translated. He has been for some years past engaged on a still larger work—general anatomy, healthy and morbid—which we trust will soon be completed. It is safe to predict that the publication of this work will form an important epoch in the history of these branches of medical science. By his admirers, Robin is often styled the Bichat of the present day. The following is the passage in the letter referred to:

"There is a young physician at Paris, whose example is well worthy a notice here. His is a name which is heard hundreds of times daily from one end of Europe to the other in the mouths of the most distinguished men of science of all countries. And yet he is a poor man, who dines at a cheap restaurant in the Latin quarter with students, and who lives upon a patrimony that would scarcely pay the servant hire of many of his colleagues in science. This is Robin the microscopist. He is a deathly pale, thin, serious-looking man, of about thirty-four years of age. His whole life is devoted, by means of the microscope, to the study, the demonstration and classification of morbid tissues. There is scarcely a cancer excited at Paris, nor a doubtful post-mortem examination made, that Robin and his microscope are not consulted, and his word is authority. His whole life is spent in the exploration of the dead body in order to benefit the living. And all this he does modestly, in poverty, and to the sacrifice of his health, for the promotion of pure science and correct opinions. He has, it is true, the gratification of being adored by his colleagues, old and young, of never having his name pronounced but with veneration; but it is such men as these that are neglected by the public."—[Buffalo Medical Journal.

"The Retired Physician."—The readers of the newspapers for the last few months, must have noticed an announcement of the existence of a "retired physician whose sands of life have nearly run out," hailing from Jersey city. This aged advertiser of a quack nostrum is said to be a young man about twenty-five years old, in good health, and engaged most of the time in writing for the New York Sunday papers. Such is the inexhaustible credulity of a portion of mankind on the subject of remedies, that we presume this "new dodge" has proved remunerative to the inventor."—[Ib.