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. XIV.—1858.—NEW SERIES.

AUGUSTA, GA: J. MORRIS, Printer and Publisher.
1858.
ORIGINAL AND ECLECTIC.

ARTICLE XXVII.

An Essay on the Physiology of Menstruation. By Eben Hillyer, M.D., of Rome, Ga. (Read before the Medical Society of the State of Georgia, at the annual meeting in Madison, April, 1858, and ordered to be printed.)

The function of menstruation has always been a subject of much discussion among physiologists. Its nature, the causes which bring it about, and the purposes which it subserves, in the female, have never been clearly understood. There exists much difference of opinion, among scientific men, upon all these points, and there is no theory which has yet been advanced, which has received the entire support and approbation of the profession; so that it cannot be said that the physiology of menstruation is established upon any definite theory.

Menstruation may be defined to be a sanguineous discharge from the uterus of the human female, accruing generally at monthly periods, and continuing from three to six days: it is considered to be peculiar to woman. The females of other animals are supposed to be in an analogous condition during the period of heat, except that they do not have the discharge. We're told that there is an exception in a certain species of ape; by some, this exception is not admitted—they believe it to be a mple flow of blood from the rupture of some small vessel of the vagina, or uterus, and that it is not true menstruation.
From the accounts given us of the discharge in the ape, it is very probable that this animal is an exception with the human female, to the usual course of things, during the period of ovulation. Its early, or late appearance, depends much upon the climate, the constitution, the habits, and the hardness of living, to which the girl may be subjected. Those accustomed to a luxurious life, to an abundance of nutritious and stimulating food, sleeping upon down-beds, and in warm rooms, etc., will menstruate much sooner than one, who has endured hardships. In the one, the female is hurried on to maturity, as in the hothouse plant, under similar circumstances; in the other, from her mode of life, the privations she undergoes, etc., the discharge is delayed, as are also other developments, which are signs of her near approach to womanhood. Her reading of exciting books of romance, and an early association with the opposite sex, will tend to cause her to be early in a condition to menstruate. In warm climates, girls have this function to come or much more early than in a temperate or more northern latitude. In Greece, we are told, that girls are subject to this evidence of maturity at eight or ten years of age. As we proceed north the more do we find the function postponed. In Lapland, it is said, that it does not appear until a mature age, and that in some far northern latitudes, it only occurs in the summer, and then is very slight, and continues only for a little while. On the other hand, in a more southern region, it is much more profuse, and lasts for a longer period. In this latitude, the age at which girls usually begin to menstruate, is between the ages of fourteen and fifteen.

At the first period of menstruation, there is a very decided change in the constitution of the female. Her color is much improved, her checks are flushed, her countenance more animated and expressive. There is a decided change in the character of her conversation. She ceases to be amused with dolls, and other childish playthings. Her sympathies are more easily aroused. Her affections more strongly exhibited. Her whole intellectual nature becomes peculiarly sensitive, and impressionable. Her form is more graceful, the contour of her limbs is more perfect; her breasts expand, her voice becomes more harmonious, clear and distinct. With some, the discharge tak
place without any premonitory symptoms, but generally, it is indicated by a train of unpleasant feelings, which announce its approach. For some time previous, the female is troubled with a sense of weight, pain, a bearing-down in the pelvic region. The vascular system is disturbed, and there is a determination of blood to the head, and to the mammae.

The quantity of the menstrual discharge is also governed much by the habits, and station in life, of the individual. The emotions and passions of the mind will affect it; stimulating diets and drinks, or the use of a warm foot-bath, will increase it, as will any cause which tends to produce a plethora of the uterus. In this country, the quantity of the discharge is estimated at from three to six ounces during each period. At the approach of old age, this peculiar function ceases; the time of its cessation varies in different persons. As a general rule it may be assumed, that in those cases in which it commenced at an early period, it will disappear sooner, while in those in which it occurred after the usual age of puberty, it will continue longer in action. When the time draws near for the menstrual discharge to cease, it becomes more uncertain as to the periods of its return; also, as to the quantity eliminated. Sometimes it will miss one or two periods, or be put off two or three weeks, and then recur with increased violence, sometimes amounting to a dangerous hemorrhage. Then, perhaps, there will be several successive regular periods, during which it will conform to the functional habit which has been established; then, perhaps, another hemorrhage, after which it leaves the woman forever. This is a critical period in her life; it is known as the "change of life," the "turn of life," etc. In temperate latitudes, menstruation commonly ceases at from forty to fifty years of age.

During the menstrual period, the system of the female is more irritable than at other times. Any sudden or irregular check to the transpiration should be avoided; also, every kind of mental or corporeal agitation, or the process may be impeded, or hysterical or other unpleasant affections be excited.

The appearance of the menses is an evidence of the capability of the woman to become impregnated, and their cessation the loss of such capability; but there are exceptions to this rule. Morgagni cites instances of a mother and daughter, both of
whom were mothers before they had menstruated. Sir Everard Home mentions the case of a young woman, who was married before she was seventeen, and having never menstruated, became pregnant. At four months after her delivery, she became pregnant again, without menstruating. The fact that, with the cessation of menstruation, woman lose the power of bearing children, has been long known to mankind. It was known to the old patriarch Abraham, for when the angel appeared to him, and told him that Sarah, his wife, should bear him a son, he was loath to believe it, and gave as an evidence that it could not be so, that "the ways of woman had ceased upon her."

There is usually no menstrual flow during pregnancy and lactation; in fact, the cessation of the discharge is one of the evidences that conception has taken place; though it is not uncommon for the discharge to occur once or twice after conception; and I have known one or two instances in which it has continued, at regular intervals, throughout the period of gestation. Its absence during lactation is by no means constant, especially should the period of lactation be prolonged: but when it does recur, it is an evidence of an aptitude to conception. There has been an opinion prevalent among mankind, which probably had its origin among the Jews, that the menstrual blood of the female had malignant properties. A woman who had her menses upon her was considered unclean, and anything which she touched was polluted. In the time of Pliny, this notion was carried so far that her touch was believed to blight corn, to arrest the growth of grafted trees, to corrode copper, to destroy hives of bees, to drive dogs mad, etc., etc.

We are informed by Dr. Elliotson, that many in England believed, that meat would not take salt, if the process was conducted by a woman so circumstanced. There has been for some time past, much discussion among authors and teachers, as to the nature of the menstrual fluid; some contend that it is a secretion from the internal surface of the uterus; others insist it is a hemorrhage. Hippocrates declares it to be pure blood. Many, since the days of Hippocrates, believe it to be a secretion. Haller, Border, and John Hunter, besides other eminent and learned men of a later day, are of the same opinion. The doctrine that it is a hemorrhage, is at the present time the mos
popular. The researches of Von Baer, Purkinge, Pruchet, Negrier, Bischoff and others, have rendered it clear to the minds of many, that the catamenial fluid is blood. From a careful investigation of the subject, I have no hesitation in saying that I am in favor of the hemorrhagic theory. To my mind the evidences of its truth are conclusive. I do not believe that there is a single argument which is used to prove that the fluid is a secretory product, but what can be refuted. Those who believe that menstruation is a hemorrhage, contend that the discharge is co-existent with, and a part of, the function of ovulation. The rupture of the Graaffian follicle, and the extrusion of the ova, are periodical.

Dr. Meigs says: "That at this time the ovaries receive a much larger supply of blood. That their vascular circulation and nervous intensity is much augmented; this state of excitation passing from the ovaries to the uterus and vagina, renders them also the seat of sanguineous engorgement.

"Under such circumstances, the uterus increases in weight, acquires a redder hue, is more sensitive, and sinks lower in the pelvis. Probably the glandular tubular matter of its body becomes thickened. From such engorgement and affluxion it is delivered by means of the mensual hemorrhage, which escapes from the vessels on the interior of the womb, falls into the vagina, and thence flows upon the outer surface of the external genitalia, and is called 'Menses,' 'Catamenia,' 'Show,' &c."

This doctrine is advocated and taught in many of our colleges. Its most successful advocates are Gendrin, Racaborski, Lee, Wharton Jones, Coste, and others.

That the menstrual fluid is a secretory product is contended for most strenuously by Dr. Dewees. He says—"I look upon this discharge as a genuine secretion from the mucous membrane of the uterus with which the cavity of that organ is lined."

The reasons which he assigns for his belief, are the same which are generally brought forward by those supporting the same views. He contends—

"1st. That the color of the discharge is between arterial and venous blood, being less brilliant than the former and more brilliant than the latter.

"2nd. It does not separate into its components."
"3rd. Does not coagulate, though kept for years, whilst other blood does, when exposed to the air.

"4th. Its odour is remarkably distinct from that of the circulating mass."

To his argument, that its color is between arterial and venous blood, we would reply, that this change is clearly owing to its admixture with the secretions of the cervix uteri and vagina. To his second and third, that it never separates into parts, nor coagulates when other blood does—we answer, that the power of coagulation is lost by the decomposition of the fibrin by the vaginal secretions. To his fourth, that the odour is not the same as blood—we answer, that it is not reasonable that it should be, passing, as it does, slowly through the vagina and mixing with its secretion, which has a peculiar odour, distinct enough to make the change, and to entirely neutralize the natural odour of the blood. We ascribe all the differences which he points out between the menstrual fluid and pure blood, to the effect of the mixture with the vaginal mucous, &c.

He asserts, further, that it is from the mucous membrane, lining the uterus, that this discharge has its origin. If so, why does this mucous membrane secrete blood globules?—Can this be possible? This is not all: there is fibrin found in the discharge. Does it secrete fibrin? and all admit that the other essential elements of blood are in the discharge. So now we have all the constituents of pure blood, all that is claimed to belong to it, and secreted from a mucous membrane. No other mucous membrane in the whole body secretes any one, much less all of these ingredients. If, then, this fluid be a secretion, containing these elements, it must be regarded as a perfect anomaly in physiology, forming a single exception to all the laws of secretion throughout the entire system. The uniformity of nature’s laws forbid us to accept such a position.

The experiment of M. Brierre de Boismont proves that, when it first issues from the womb it has all the constituents of pure blood, and almost in the normal quantity. In conducting his experiment, "he adjusted a speculum to the cylinder of the cervix uteri during menstruation. A patient of his allowed this to be done. He thus carefully collected the fluid, as it passed from the speculum. It contained fibrin, and by analysis
was shewn to have *all* the constituents of blood, and nearly in the same proportion as blood drawn from the arm."

There can be no doubt but that the vaginal secretion will decompose the fibrin, and thus prevent coagulation. Women who have passive hemorrhages from the womb, rarely pass coagula, and when they do, it is when the hemorrhage has become so excessive that the quantity of the vaginal mucus is not sufficient to decompose the fibrin. Within the last twelve months, I have made enquiries of many women upon this point, and they all have told me that when they only had a slight hemorrhage they passed no clots. I know one woman who had a constant hemorrhage for months, and she rarely passed coagula. What does this prove? *That the discharge of blood, being slight, the secretions of the vagina were wholly adequate to produce the changes alluded to by Dr. Dewees. These women do not say that they bleed—that they have a hemorrhage, but "they are unwell all the time"—that they have their courses constantly upon them. No man will admit that this is so. All will agree that, in such cases, the woman has a passive hemorrhage, unconnected with ovulation. Will it not appear from this, that the blood of a passive hemorrhage and the menstrous blood are similar?*

It is now generally believed, that the cause of menstruation is from the excitement produced by the maturation and discharge of the ovulum from the Graaffean follicle. This is substantiated from numerous cases collected by Negrier, Robert Lee, Raboborski, and others, of females who die during menstruation, in whom the Graaffean follicle was recently ruptured, and the ovulum just escaped. It is universally admitted, that conception is more likely to take place just before or just after menstruation. Hippocrates remarked this fact. Boerhaave and Haller were of opinion that ovulation and menstruation were coincident. Both functions begin in the female at the same time, and leave her at the same time.

From all these facts, I am forced to believe that menstruation is caused by ovulation, and that it is a hemorrhage. There have been numerous theories advanced as to the purposes of the menses: none of them seem to have much weight with physiologists. The true purpose which nature intended them to
subserve in the female, is not yet clearly understood, and this
point is still open for investigation, by those who are interested
in studying this subject.

ARTICLE XXVIII.

Remarks on the Sources and Qualities of Honey. By Paul
De Lacy Baker, M. D., of Eufaula, Alabama.

Messrs. Editors:
In the October number of your valuable Journal I find dis-
cussed, "The question of Poisonous Honey;" and the importance
attached to it by your interesting editorial, induces me to offer
to your pages a few brief, and matter-of-fact, observations in
reference to the subject.

The chief object of this communication is to combat the erro-
naceous, yet almost universal impression, that bees "extract"
honey from flowers, and that as some blooms possess poisonous
properties, the honey extracted from them must, of necessity, be
more or less deleteriously impregnated. This impression pre-
vails with all, I believe, who have written about bees and honey,
and it plainly exists in the minds of the three writers, whose
articles, in reference to this matter, were set forth in this Journal.
Now, I propose to show that honey is not the juice or nectary
of flowers, and that it is never extracted or collected from flowers,
but that like dew, it falls from the atmosphere, and is gathered
by the bees and deposited in the cells of the honey-comb in pre-
cisely the same state in which it was collected, and that there-
fore, in all probability, honey, "within itself," is ever a perfectly
innocuous substance.

The following experience forced me unavoidably to this con-
clusion:—About the middle of June, 1850, I was at an old
hunter's house, in South-Western Georgia, preparatory to start-
ing with him on a deer drive. This man was a great lover and
minute observer of Nature; in his yard there was a great num-
ber of bee-hives, and he sold the honey in large quantities to the
neighboring villagers. While at his house, I heard him com-
plaining that there was a honey famine—that the hives were all
ready for its reception, but that they were utterly destitute of
honey, and that the bees would soon starve. I asked him, how such could be the case, when it was then the middle of June, and the country full of flowers, and why the bees did not collect it? To my great surprise, he replied, that bees did not get honey from flowers, but that it “fell from the clouds.” I was amused at the idea, but, of course, wholly skeptical concerning it. He, nevertheless, assured me of its correctness; and to my question, why did we always find bees at work upon flowers?—he answered that, they were gathering pollen, from which they made bee bread for their young, and that they were also collecting materials for forming the honey-comb and arranging the cells,—to convince me, he exhibited to me a hive, where, sure enough, existed the comb, cells, and all else, perfectly prepared, yet not a particle of new honey, and the old supply nearly exhausted. There was prevailing at the time a severe and protracted drought. Of course I had to believe what I saw, but was still an unbeliever as to the “honey falling from the clouds.”

The evening of the same day we went fifteen miles into the wild woods, where our hunting party camped, far away from any dwelling. The Old Hunter and I slept under two beautiful young hickory trees, and at dawn the next morning he roused me up, exclaiming, with great enthusiasm, “the honey dew has fallen!—get up, you unbelieving Thomas, and see for yourself.” Upon rising, the first thing that attracted my attention was the buzzing of bees, and on looking up to the top of the hickory trees, I saw myriads of them working, and coming and going; the limbs of the trees grew low to the ground, and upon its being pointed out, my astonished eyes beheld, for the first time, the “honey dew,” on the leaves, and occasionally actually roping down and dropping from the pendant points of the smooth leaves; I tasted it frequently, and at once recognized the peculiar flavor of the common honey. I saw, and felt, and tasted it, and my mind was convinced by these means, which God had given, to lead it to correct conclusions.

The only observable difference, between this substance found on the trees, and honey obtained from hives, was, as to their relative consistency—the latter being somewhat more inspissated; but I have no doubt that the difference is produced by time alone, and that if a portion found on the hickory leaves had been col-
lected, and preserved in a test vial, its properties would ultimately have been identical with that found in the hives.

My companion remarked that, in ten days all his hives would be ready for robbing, and that the next morning he would show me the bees working at home, and collecting honey from the leaves of the tall black gum trees that grew in his yard. He said, bees only collected it from the smooth-leaved trees of the forest. The same evening we returned to his house, and at daylight the next morning we went out into the yard, and the smooth-leaved black gums presented the same appearance as did the hickories in the woods on the previous morning. The bees filled the air, and I watched them fly from the trees straight to the hives—occasionally, those starting from the lower limbs would come to the ground before reaching the hive, and be compelled to take a second and sometimes, a third flight to gain it,—some of these we caught and killed and opened, and in every instance were their stomachs filled with the honey. I tasted it, and found it identical with what I saw the morning before. Through a glass in the hive, I saw them storing the honey—they invariably backed into the cell and deposited their burden.

In less than two weeks I was at this man's house to see the hives robbed. They were full to overflowing, with the most beautiful and luscious honey. If I recollect correctly, there still had been no rain.

I am aware that there are flowers, such as the common honeysuckle and woodbine, that contain a sweetish juice, not visible I think, but readily detected by the sense of taste, but the flavor is not similar to that of honey. It is true, as the editor of the "Druggists' Circular" remarked, that "the saccharine matter of the nectaries of flowers is not exactly identical with the characteristic properties of honey." I would also observe, that this juice occupies a situation so far down, in the long tube of the flowers, as to be out of reach of the bee, and only attainable by the long delicate bill of the humming-bird, or the proboscis of the butterfly; and even could it be attained by the bee, it exists in such minute quantities as to preclude the possibility of a swarm's collecting from such a source, twenty or twenty-five pounds of honey in the space of two or three weeks, as was evidently done by the hunter's bees.
Such is the experience, and such the observations that have taught me, that honey is not the "extract" or product of flowers; nor is it the result of any elaborating function of the bee's stomach, but, that it falls like dew, and is collected as ready-made honey, and requires no more extracting or elaborating process, than is necessary in collecting rain water in a cistern.

So much, then, as to "whether honey is, within itself, ever a poisonous substance;" but, what I have related, does not do away with the fact that persons are sometimes injuriously, if not poisonously, affected from or after eating honey; nor does it explain the why or wherefore of such accidents, but I think it does establish the fact, that such occurrences depend upon extraneous matters and accidental circumstances. If it could be ascertained, I think it would be found to be the fact, that whenever deleterious consequences resulted from eating honey, the honey-comb was masticated, and that no care was used in the selection of it; in this way, it would be quite possible to introduce into the stomach poisonous materials; for it is a well ascertained fact, that there is such a thing in the bee-hive, and among the comb, as "bee-bread;" that it is a brown, bitter substance collected from the pollen of flowers, as food for the young bees. This might be collected from poisonous flowers, and to it may pertain in full force your philosophic remark, that "the instinct of the bee may, in most instances, preserve him and his race from the toxic effects of the deleterious properties of flowers, and yet, what has served as his nutriment may be, for man, a most destructive poison."

I have no certain knowledge of the source from which are collected the materials for forming the comb, nor what the nature of those materials is; but I would sooner look to them as the cause of the mischief, than to the honey—knowing as I do, the source from which it is gathered. Again: in considering this matter, it might be well to remember, that it is common to find in honey—in the comb—dead bees, and that to the sting of each is attached a bag of poison, and should these be accidentally conveyed into the stomach, might not the circumstance have some connection with the ill effects produced? Nearly all the cases of sickness or poisoning, I ever heard of, as occurring from the use of honey, resulted from eating wild honey obtained from
an old hollow tree, and where it was consumed incautiously and in large quantities, during the frolic of robbing the bee tree, which is generally done at night; and it should not be forgotten, that the cavities, of the trees containing the honey, are the abodes of bugs and spiders of very poisonous natures, which by the fall of the tree might possibly be crushed and mingled in the honey, and in that way be conveyed into the stomach. In addition to the suppositions already set forth, I would remark that these old hollow trees are frequently covered with a vine known as the "poison vine," and would suggest the possibility that, cut and bruised as it would necessarily be, in the fall of the tree, it might, in some way, be the cause of the mischief. The frequency of these cases of poisoning is by no means so great as to exclude the possibility of the agency of such circumstances in producing it.

It is, however, true, that these accidental and isolated cases afford no explanation of the effect produced upon large numbers, as for example, on the Grecian army, as related by Xenophon. In reference to such examples, all I can say is, that if such an effect should be produced among soldiery at the present day, by the use of honey, there would exist in my mind, strong suspicion, that there was mixed with it an undue portion of "old peach."

The only way in which I can imagine that honey could, in itself, possess toxic properties, is in the same manner that the dews of certain latitudes and localities are rendered poisonous. This is said to be the case; if so, the same causes and circumstances rendering the dew nocuous, might also deleteriously impregnate the honey dew.

ARTICLE XXIX.


There is, perhaps, no duty of the physician so badly executed as the writing of prescriptions. I trust, therefore, a few practical hints, from one who has had some experience in deciphering and guessing at these important documents, will not be entirely devoid of interest to those, who desire to furnish their apothecar-
Farell's *Remarks on Formulae.*

Since there is, probably, no better reason for writing prescriptions in Latin, than a sort of veneration for antiquity, it is greatly to be desired, that physicians would employ the English, without contraction, leaving out no important words, nor adding those that express nothing, and thus avoid the many glaring errors, to say nothing of the occasional fatal mistakes, which expose them to the just ridicule and contempt of the intelligent. If, however, there are those, who insist on retaining the ancient custom, let them make themselves sufficiently familiar with the language to write their prescriptions correctly.

In many works, whose practical precepts are justly entitled to high regard, we observe a jumble of English and bad Latin in the formulae, disgraceful to the merest tyro. For illustration, the following recipes are taken from the pages of most respectable practitioners and professional writers:

<table>
<thead>
<tr>
<th>Formula 1</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\text{Hydrargys. præcip. alb.}$</td>
<td>3 ij.</td>
</tr>
<tr>
<td>$\text{Ess. lem.}$</td>
<td>gwt. x£.</td>
</tr>
<tr>
<td>$\text{Adeps præparat.}$</td>
<td>3 ij. M.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Formula 2</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\text{Ol. Ricini, opt.}$</td>
<td>f 3 ij</td>
</tr>
<tr>
<td>$\text{Terebinth Recentis.}$</td>
<td>f 3 ss</td>
</tr>
<tr>
<td>$\text{Sodæ Bi. Carb.}$</td>
<td>3 ij</td>
</tr>
<tr>
<td>$\text{Pulv. Acacia. opt.}$</td>
<td>3 j</td>
</tr>
<tr>
<td>$\text{Sacch. Alb.}$</td>
<td>aa 3 j</td>
</tr>
<tr>
<td>$\text{Sp. Lavendul. Comp.}$</td>
<td>f 3 j</td>
</tr>
<tr>
<td>$\text{Aqueæ Camph}$</td>
<td>M</td>
</tr>
<tr>
<td>$\text{Menth Pip}$</td>
<td>aa f 3 vj</td>
</tr>
<tr>
<td>$\text{M Ft Emulsio.}$</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Formula 3</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\text{Tinct. Cubebæ}$</td>
<td>3 j</td>
</tr>
<tr>
<td>$\text{Syr. Uva Ursi}$</td>
<td>aa 3 ij</td>
</tr>
<tr>
<td>$\text{Pulv Acaciæ opt}$</td>
<td>$\frac{3}{4}$ ij</td>
</tr>
<tr>
<td>$\text{Aqueæ Cinnam}$</td>
<td>f $\frac{3}{4}$ xvj</td>
</tr>
<tr>
<td>$\text{M Ft Emulsio}$</td>
<td>M</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Formula 4</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\text{Pulv. Opii.}$</td>
<td>aa 3 j</td>
</tr>
<tr>
<td>$\text{Pulv. ipecac}$</td>
<td>3 jvij M</td>
</tr>
<tr>
<td>$\text{Sulphate of potass}$</td>
<td>5 viij M</td>
</tr>
</tbody>
</table>

The above formulae are medicinally, and pharmaceutically, admirable, but grammatically, bad. In the first, the syntax would
have been greatly improved by the use of lim., and Adipis instead of "lem." and "Adeps."

In the second, the "Sodæ Bi Carb," by the use of the capitals, seems to consist of three distinct words. The word "Acacia," like "lem" and "Adeps," violates one of the simplest rules of syntax. "Lavendul" is a new coinage, neither English nor Latin, and must be guessed at, as no dictionary defines it. The apothecary arrives at the meaning of such mongrel crosses by the following syllogistical process of reasoning. The word lavender, and its Latin equivalent, lavandula, both mean the article we call lavender.—The word "Lavendul" lacks nothing of being the one, but what is contained in the other,—ergo, it must mean lavender also. The author has displayed his medical latinity by the use of this new version of lavender throughout his work.

In the third recipe, if "Syr. Uva Ursi" was intended for English, it is in the wrong place; if Latin, it is in the wrong case.

In the fourth, the simple recipe for Dover's powder is commenced in Latin and finished in English.

Much of our medical literature is spoiled with such formulæ as the above, to the discredit of the authors and the profession generally. Until we reform in this particular, we shall never hear the last of our dog-Latin. The evil is equally great among a large class of physicians, who, in their practice, in endeavoring to make a little display of their classical lore, couch their prescriptions in a jargon, neither English nor Latin, leaving the apothecary to guess at their meaning, which he will generally do, rather than ask an explanation, and incur abuse for want of proper qualifications.

The gross errors of some of these learned gentry are quite amusing. One, in prescribing the citrate of iron and quinia, "comes the Latin" with a grand flourish, after this fashion—"Ferri Quinia et Citras." Another latinizes Dover's powders thus: "Pulv. Dov. et Ipecac. Opii. Compos.," seeming much pleased with the length and mystery of his recipes. There are others, again, who pride themselves on the shortness and simplicity of their prescriptions. It was one of these who drugged his patients for a long time with saltpetre, by directing simply
"Nitre," when sweet spirit of nitre was intended. On learning the fact, he abused the apothecary, and made the matter worse by ordering "spirit of nitre," which, the apothecary's apprentice learned to mean nitric acid, and sent it out accordingly. This was too much for the doctor's nerves: he stormed the dispensing shop, and had the master of bottles arraigned for his grave error(?), who proved that he had learned a thing or two, besides the detergent qualities of soap and water, by producing no less authority than Wood & Bache, for what he had done. This medicinal doctor would have done much better to have ornamented his prescription with "spts. nit. dulc. eth.," which would have been within guessing distance of the true mark.

Now, all this confusion of tongues, errors and uncertainty, might be easily avoided by the use of plain English, and thus save the profession from a deal of wit, sarcasm and just blame, which all ages have been disposed to direct against it. Being no Latin scholar, and but little skilled in medical Latin, we intend, in our own practice (should we have the occasion), to write our prescriptions in English.

As above indicated, we do not seriously object to the Latin, if correctly written, yet must think reform in this particular desirable. We are glad to see that this reform has already been commenced by some of the most respectable professional writers of the day, who are beginning to write their prescriptions either in good Latin or good English.

The Medical Uses of Wines.

This is a subject thickly clouded with all sorts of prejudices and prepossessions, as is the discussion of most substances used equally by the sick and the healthy. Persons argue that what is good for themselves must be good for their patients. We have known a plethoric dietician, who himself loved lobster-salad and champagne in the small hours, advise a starveling dyspeptic to follow his custom of taking no breakfast till noon. So a hearty rough stomached doctor will declare one diluted alcohol just as good as another; the ascetic, or the reformed rake, will pronounce all equally bad; the gouty will dread all that is thin and acid; the aguish will have a predilection for Port.
It is very possible that prime wines may be made of all kinds, which may be equally and perfectly wholesome; but their rarity will always put them out of the reach of our patients, and what we have practically to think of in naming a wine for use, is at best a second or third-rate article. We must also choose those which are capable of being grown in quantity proportioned to their popularity, or the chances of adulteration are exaggerated. When Madeira was on everybody's table, it could not be recommended to patients, for in nine cases out of ten it was either an inferior sort or a sour imitation. But now that it has gone out of fashion, a wholesome and often a very perfect wine is to be bought of that kind, and the adulterators expend their ingenuity upon Sherry. What we want is a liquor which is either produced in very large quantities, or is not sufficiently known to the million for it to be worth imitating.

The medical questions concerning the employment of wine will be put in the clearest light for exhibiting our real knowledge and ignorance, by considering separately the physiological effects on the human frame.

The effects may be practically included under the following heads: Exhileration, Nutrition, Arrest of Destructive Metamorphosis, Inebriation, Degeneration of Tissue, Derangement of Digestion. The three first are good—the three last bad; and the object is to secure the former, while avoiding the latter.

Exhileration is not merely a minor degree of drunkenness. It may be produced by many things besides alcohol, and which do not inebriate—such as, for example, the essential oils, peppermint, onions, valerian, asafetida, tea, coffee. Even eating, and the increased circulation of blood, produced the effect to some extent. Alcoholic fluids truly do exhilerate with the greatest certainty and rapidity, but not in direct proportion to the alcohol they contain. A glass of wine will raise the spirits of a healthy person as much as a glass of gin; a glass of fine claret as much as one of strong tavern port; and this is not merely from the pleasure of taste or association, for the same may be observed in fever patients, whose gustatory nerves are blunted by a thick coating of sordes.

The distinction is not only a subjective one, evident to the mind of the recipient, while it is incapable of demonstration to others. There is a real physiological difference in the effects which follow exhilarating and intoxicating doses—a difference which in its ultimate results, amounts to a complete contrast. The former increase the amount of vital power rendered available in a given period, and the latter decrease them. Can there be a more perfect antithesis?

This is too important a matter to rest solely on the unassisted
senses of patients or observer, and it does not do so, for the admirable experiments of Dr. Bocker having submitted it to the proof of chemical analysis. Though the whole series of his investigations into the action of alcoholic stimulants bear directly on the present subject, they are too mutually dependent on one another, and too lengthy for quotation. The general results, however, may be stated as follows:

1. The special action of alcoholic drinks is to arrest destructive assimilation—to stop the over-active processes of life in their effects upon the organism; so that, for a certain period during the stay of the alcohol in the system, less urea, less phosphates, less water are excreted by the kidneys, less carbonic acid by the lungs, and less digestion goes on in the alimentary canal, showing that the muscles, bones, nerves, &c., are not getting rid of their effete tissue, but retaining it, and making use of it as far as possible.

2. But at the same time they give rise in the body to a defensive reaction, which is prominent, first immediately after taking the dose, then gives place to the special action, and on this ceasing is again manifested to a greater extent.

3. So that if a suitable quantity be taken, and if both action and reaction are allowed to exhaust themselves before the dose be repeated, more manifestation of life, represented by more excretion and more consequent renewal of the body, takes place in a given time with the alcoholic drink than without. There has been a positive gain in vitality.

4. But if such a large quantity is taken at once that the reaction is overpowered, or if it is arrested by a continuous repetition of the dose, the manifestation of life is kept down; the body is not renewed, because its effete particles are not removed, and the amount of vitality must certainly be reckoned at a loss.*

The first named state is Exhilaration, in which the alcohol may be fairly called a food or medicine, a medicinal food or dietetic medicine, for body and mind. The second state is Intoxication, when it is a poison to both.

Now, the exhilarating effects of diluted alcohol are very much increased by its admixture with sugar, extractive, vegetable essential oils, ethers, and the allied substances which have been described as producing the aroma and bouquet of wines. With a quantity of alcohol which taken alone would be inefficient, a delicate wine is able to produce a decided impression upon the nervous system. When, then, this is mainly sought,

* Beiträge zur Heilkunde, von F. W. Böcker, vol. 1., sect. 6. Weingeist. We have introduced the name of this author again in our heading list, because he, and indeed all physiologists of the Schultz-Schultzenstein school, are much less known in England than they deserve. A collection of translations and abstracts would make an admirable volume for the new Sydenham Society.
as in cases of mental depression, hypochondriasis without bodily ailment, nervous exhaustion, over-anxiety, hysterical fainting, vomiting, and the like, or when wine is wanted merely to smoothe down the roughnesses of daily toil, we must remember that the good result may be obtained without the evil; and we can obtain it with least chance of the evil by selecting liquors richest in their peculiar scented constituents. Bordeaux, Champagne, Rhine, and Moselle wines offered a variety of choice, the first being the most perfect and suitable to the greatest number of these cases; whilst the others have certain inconveniences, hereafter to be mentioned, which often forbid their use in the special case to be prescribed for.

The beneficial effects on the nervous system are increased by effervescence; thus, sparkling Champagne will sometimes have a most magical effect in stopping vomiting in cases accompanied with much nervous depression. And even in health, the greater exhilaration caused by genuine effervescing wines is notorious. The physiological explanation of this result is not very clear. It cannot be due to the carbonic acid alone, for the inhalation of this gas tends to completely oppose consequences. Perhaps the sudden physical change in the liquid during the extrication of the fixed air develops ethers which in a nascent state are more potent than at other times. Perhaps other gasses are generated, whose properties are in themselves exhilarating. In the Champagne sent into Wurtemberg from Rheims, Baron Liebig found that for every volume of carbonic acid there were two volumes of protoxide of nitrogen* (laughing gas); and it was assumed, without absolute proof, to have been artificially introduced for the purpose of augmenting the joyous results of the bottle. The subject demands chemical investigation on purely scientific grounds; and it would moreover, be useful to know if we could thus at will increase the required exhilaration, while decreasing the quantity of alcohol or carbonic acid.

The gladdening effects of alcohol are augmented by its mixture with other constituents of wine, but its intoxicating or poisoning effects are diminished, and thus more may be taken, with its advantages and without its evils. So that, for example, if a man drinks a pint of Mr. Brande's Marsala, he gets a somewhat larger dose of spirit than there is in half a pint of gin,† but it is unnecessary to say, without the same bad consequences. This is partly to be attributed to the presence of the ethers‡ and

* Medical Times, Nov. 1850.
† Marsala contains 26°3 per cent. of absolute alcohol (Brande); Geneva, 49.4 per cent. (Jones).
‡ The disinebriating influence of ether is shown by its being actually a remedy for drunkenness. Twenty or thirty drops taken neat on a little oil will restore to temporary sobriety. The knowledge of this fact has been popularized in France, by its forming a point in a wicked railway novel (Le Troup de l'Enfer), the author of which perhaps owed it to M. Batilliat (Traité sur les Vins de la France, p. 100).
sugar, but also in a great degree to the intimate combination of the alcohol with extractive and albuminous matter, so that it is not absorbed immediately by the membranes, but gradually and during a process of digestion. It is obvious that its local effect on the mucous surfaces and viscera must be thus much modified, and a powerful argument is afforded in favor of the use of wine instead of brandy for invalids.

_Nutrition_ is an indirect effect of wine. There is shown by chemical investigation to be very little substance in it capable of building up the body. The phosphates and albumen are more readily found elsewhere, as Franklin has imprinted on our memories by his comparison of a penny roll and a gallon of beer. But alcohol seems to render the alimentary canal more ready to absorb nutriment. Farmers find this, and always try to put some waste beer or fermenting grains in their pig troughs. Physicians find it, too, and give their patients cod-liver oil in a glass of sherry when they would have it fatten quickly. The effect, however, is probably confined to oleaginous food and the adipose tissue, for the digestion of albuminous matter by the gastric juice is certainly impeded by alcohol,

Hence we gain the following rules concerning the administration of wine as an aid to nutrition:—1st. That the alcoholic contents are those of principal importance, and that the amount of solid or nutritive matter in the wine makes little difference. 2ndly. That we may hope help from it in increasing adipose tissue, but not muscle. 3rdly. That as its agreement with fatty food is the prime object, we must avoid those wines which are likely to make such food unassimilable, as, for example, by making it rancid; and therefore, 4thly. That sound wines with a small proportion of acid to their alcohol, and but little body to cause re-fermentation, should be selected; the types of perfection may be considered the dry Spanish wines, Amontillado and Manzanilla. And, 5thly. They should be taken along with the fatty food itself, or immediately after it.

_The arrest of destructive metamorphosis_, or what has been picturesquely called "the moulting of the tissues," is unquestionably the most important of the medical uses of alcoholic liquors. By them we are enabled to stay the progress of interstitial death in low fevers, till the period of the zymotic poison's virulence is passed, and it has either been evacuated or become inert. By them we can check the exhaustion of the body through excessive secretion, as in cases of chronic catarrh, ulcers, abscesses, amputations, &c. By them we can diminish, in ordinary dieties, the wearing out of the body by the over-worked mind, which in this busy metropolis throws so many into the hands of the physician. But in the wielding of this two-edged sword the
greatest judgment is requisite, lest we carry the effect too far. The destruction of effete tissues is part of life, and necessarily precedes constructive renewal; if, then, we check it too far, interstitial life is diminished, and the system is overloaded with matter incapable of vitality.

It is better, therefore, to give alcohol in a diluted form, even when we wish to produce its most decided action, as in typhus fever, for example. And it is better to give it combined, as it is in wine, with other substances of partially corresponding action, than to administer it merely diffused in water, as is sometimes done for economy's sake. Sugar, we know from Dr. Bocker's experiments, has a special effect in limiting the destruction of tissues containing phosphates, tissues of no less importance than the bones and nerves. And it is likely that similar investigations into the physiology of ethers may show some special effects belonging to them. The acids, too, and the extractive in wines, seem to prevent better than water those injurious effects upon the mucous membranes which spirituous liquors exhibit. There is, then, no extravagance in preferring wine to brandy and water in the management of low fevers in hospital and parish practice.

This is not the place to discuss details in the mode and period of administering wine in acute complaints. But one remainder may be deduced from the view taken of its physiological action—viz., to allow intervals to elapse, during which its effects may subside, and the system recovered for a time its metamorphoses, so that the effete tissues may have a due exit. The night is a convenient time for this in general; but if, from any cause, that is considered inexpedient, some hours of corresponding duration should be selected, during which the administration of stimulants may be discontinued.

The wine chosen for fever cases is usually Port; but the rarity of really good Portugal wine, and the excessive badness of all low-priced imitations now in the market, render it daily more and more incumbent upon us to have substitutes at hand. The best in the London market seem to be the red Spanish wines, Beni Carlo, and Cadiz; especially the former, which, indeed, is often mixed with spoiled Portuguese wine, and sold as port. It may be had in the wood at a low price, considering its strength, and is highly to be commended for hospital use in a diluted state.

Poor people, however, are not the only patients supplied with Port wine unfitted for the sick room. The prepossession in favor of antiquity causes many cellars in wealthy houses to furnish nothing but a damaged article. To find fault with a bottle that cost a great sum a great many years ago, is flat
1858.]

The Medical Uses of Wines. 815

heresy; and the better way is to give it up at once, and order your patient a good full-bodied wine of a different nature, such as Madeira, Burgundy, or Hermitage.

Inebriation is a terrible word to meet with in periodical literature. It opens up a prospect of so many social and political questions, that the reader is apt to close the page in despair. He shall be let off here with a simple remark derived from way-side observation—viz, that in all countries where wine is plentiful and cheap, drunkenness is almost unknown; where it is most expensive, that vice is at its maximum.

Degeneration of Tissue, as a consequence of drinking, appears to be a chronic state of that arrest of metamorphosis which has been already discussed as a remedy for disease. The effete tissue remains as a useless burden mixed up with the healthy, and is finally converted into the least vitalized of all the organic constituents of the body, oil or fat. Careful and valuable observations have been made by Dr. Böcker, on the abnormally retained blood-discs in the circulating fluids of habitual spirit-drinkers, and the appearance of the degenerated hearts, livers, and kidneys of these miserable suicides is familiar to us all.

Degeneration arises from the arrest of metamorphosis being too long and continuously kept up. Hence there is little danger of it in acute cases, where the large quantity of alcoholic remedies we find it expedient to administer is necessarily diminished as the disease recedes, and during convalescence is reduced to the ordinary allowance of health. But in chronic cases it is often a matter for serious consideration whether we shall employ an agent capable of doing along with the good we intend, an evil greater than that originally to be combated. If the dose of a stimulant be repeated before the arrest of metamorphosis has ceased and the reaction of the system has begun, a second arrest indeed takes place as before; but the postponed reaction is augmented in force each time it is delayed, and when it occurs at last, it is so painfully depressing that it becomes more and more difficult to resist the instinct to put it off, and in the end it is rarely dangerous to do so suddenly. This is the short history of confirmed tippling; and often we fear it may be traced in its origin to the carelessly worded advice of some medical men. Science or practice has taught him that alcoholic action will alleviate certain morbid phenomena, and he recommends it without due warning. The patient knows no harm in alcohol except drunkenness, and so long as he avoids that vice, thinks he cannot keep up too steadily the agreeable relief he experiences.

Alas! much safer for him would be the occasional debauch of a man he despises as a profligate, than his own continuous
steady course towards death. A drunken bout brings its own cure, and is usually allowed to be followed by reaction afterwards; but the most alarming symptom in a tippler is that he cannot get drunk. Day by day there is a little less and a little less life in his system, till at last his degenerated body is fit for burial.

Now, the result above described are, practically speaking, unknown as the consequence of wine; it is spirit drinking that leads to them. There are several reasons for this, independent of the chemical differences of the liquors. Wine is rarely used except at the principal meal, or as a sort of medicine in measured quantity at other hours, so that the effects have time to pass away before another dose becomes due, and no craving for increased quantity is experienced. In fact, men go on taking daily for quarters of their life the same identical number of glasses, feeling daily the same comfort, and never finding it necessary to increase the quantity. But the spirit bottle is opened when its owner "feels to want it,"—nay it is very often carried about the person under the appropriate name, as regards its deadly results, of a "pocket pistol".

We have been in the habit, in insurance practice, of omitting the usual inquiries about "sobriety" and "temperance", &c., which give offence and elicit no information, and substituting for them the simple question—"Do you ever take spirits between meals"? This is something definite, not to be shirked, and if answered in the affirmative should lead to rejection.

The subject of spirit drinking takes up more space in this article than our promise of avoiding temperance common-places perhaps led the reader to expect. But we have two excuses: one is, that it occupies quite distinct ground from the question of drunkenness, has much more to do with the production of disease and is therefore much more the province of a medical reviewer. The other excuse is (we blush to write it), that no class of persons who have received a liberal education are so often addicted to it as medical men. Londoners were shocked two or three years ago at the suicide of a highly moral and intellectual surgeon, who left a paper attributing his despair to the habit of secret tippling; but they would have been less astonished had they known how many practitioners all over the country suffered from the peculiar dyspepsia of alcoholism. The long robe and her Majesty's uniforms are occasionally disgraced by inebriation, clergymen may sit too long at the bottle, but spirit tippling seems left to medical men and the classes below them. They have many temptations: hard mental and corporeal toil, sudden calls for exertion when tired, broken rest, irregular exposure to cold and wet, weary waiting in lone farm-houses for lingering labours,
The dull company of ill-educated persons, the wish to be sociable and not seem proud, are a few of them. Into these temptations they do fall, and that on a large scale, especially in rural districts.

To require of an unfortunate patient and brother practitioner that he should give up at a blow that alcohol which instinct and science agree in teaching him to be necessary, is too great a demand. If he becomes a teetotaller, he would probably die all the sooner. Hard common-places about the virtue of temperance and the evils of its opposite, produce no more effect than schoolboy's themes. What he wants is—first, kind sympathy with his misfortune, and second, a rational means of getting rid of it. Now, nothing contributes more towards the latter than a clear sketch of the chemistry and physiology of the subject, and a belief that the advantages of alcohol may be had without its disadvantages. He should reflect how wine differs from the spirits which are in it; and again, how it is not so much the quantity, but the frequency of the dose, which is hurrying him to the grave and his children to poverty. The most complete relief is the substitution of wine for spirits. The very economy which was perhaps the first origin of the habit, will prevent excess in the dearer liquid. If that cannot be accomplished, let at all events drams between meals be avoided as poison; and let the addition of sugar, and flavors in the shape of lemon, fruit, or a few drops of nitric ether, make the drink approach a step nearer to the juice of the grape, and be daily more and more diluted.

Among the Derangements of Digestion arising from wine, it will not be necessary to dwell long upon the immediate consequences of a debauch. It is usual, in army medical returns, to report it as "febris," as indeed there is, truly enough, an ephemeral fever, but, like other fevers, it works its own cure, and civilians are not in the habit of applying to it the same euphemistic nomenclature. But, without being taken in such quantity as to be considered an excess as regards alcohol, wines will sometimes cause a disturbance of digestion, which prevents our sanctioning their use in cases where otherwise we might be willing or anxious to do so. This is always accompanied by the presence of a large quantity of acid in the alimentary canal.

In some instances this excessive production of acid follows equally all sorts of wines, and even spirits. Then it is due to the mucous membrane of the stomach being so morbidly sensitive that it becomes irritable and temporarily inflamed, so that it refuses to secrete its solvent juice, and to perform with sufficient activity the peristaltic movements. Hence the alimentary mass undergoes the acetous and lactic fermentations, instead of being digested. These patients ought to abstain from all alcoholic drinks whatsoever till cured of their morbid condition.
More commonly it follows only wines, and some sorts of wines more than others. These cases deserve much thought, because they are in danger of falling into the snares of spirit drinking, and also because very often the patient's system especially requires a stimulus which yet he cannot take without inconvenience. When we reflect on the large quantity of free acid existing in wine, we cannot be surprised at its causing some trouble in the stomach. If a man drinks half a bottle of hock, he swallows one hundred grains of acid, equal to five tablespoonfuls of lemon-juice; in a pint of claret, eighty grains; in sparkling champagne or Madeira, the same amount; in port, if he takes even this comparatively large allowance, he does not get above sixty grains; but then in the three last there is nearly an ounce of sugar, which, mixed up with the food, has a strong tendency to ferment, and turn into a fresh portion of acid at a more advanced period of digestion.

Here chemistry steps in with valuable aid. In the simple instrument of a standard solution of caustic soda, we possess a means of testing rapidly the whole acid contents of wines, and rejecting any which are thus declared unfit for our patient.

But it makes some difference what sort of acid is contained in the wine. Acetic is to many stomachs much less injurious than tartaric, and it is found that the proportion of these to one another varies very much in the products of fermentation. Thus, in Madeira nearly one-third of the acid contained is acetic; in port, only one-fourth; in claret, one-fifth; in champagne, one-seventh; and in hock, not one-eighth, whilst the rest is the least digestable, tartaric, or its ally, racemic.* Besides these, the tannic must be allowed for, small indeed in quantity, but powerful in operation, as its use in medicine shows.

Of course, both the quantity of acid and the proportion of the several acids vary within certain limits, in different specimens even from the same vineyard, and still more in growths classed under a common name in the market. So that to give an opinion as to the fitness of a peculiar wine for drinking, we must carry our investigation rather farther than merely the application of the soda test.

The acetic acid may be estimated by distilling it off from the wine slowly, at a moderate temperature, so as not to decompose

* See Mulder, p. 202. In 100 grammes of wine there were—

<table>
<thead>
<tr>
<th>Alcohol of acetic acid</th>
<th>Milligrammes of tartaric, racemic, &amp;c.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Madeira</td>
<td>167</td>
</tr>
<tr>
<td>Rhine wine</td>
<td>66</td>
</tr>
<tr>
<td>Port</td>
<td>95</td>
</tr>
<tr>
<td>Bordeaux ordinaire</td>
<td>86</td>
</tr>
<tr>
<td>Champaigne</td>
<td>64</td>
</tr>
</tbody>
</table>
the extractive, and measuring it by the standard alkaline solution.

Sugar in wine which is to be taken by itself as a medicine, is often beneficial by making the acid and alcohol less immediately irritating to the mucous membrane; but in that which is to be mixed with food it is very apt to increase the generation of acid in the stomach or caecum to an injurious extent, generally two or three hours after meals. If an examiner of wine is disposed to reckon the absolute quantity of sugar, he will have to go to the expense of Soleil’s saccharometer (which costs, with its accessories, not much under £20), and even then may have his analysis doubted by a chemist; but a fair comparative valuation may be made by first neutralizing the acids with lime, and estimating the sweetness which remains by the taste. This is done by measuring the quantity of water which requires to be added before all trace of it cease to be perceptible to the palate.

The injurious effect of ill prepared effervescent wines is easily explained by the large quantity of undecomposed ferment they contain. This is set in action by the warmth of the alimentary canal, and can hardly be overcome even by the strongest digestive powers. Flatus and acidity are its normal consequences.

The proverbial unwholesomeness of “mixed wines” is not explained by chemistry. In most cases the evil may be traced to the temptation to increased quantity, or to the taking of some sorts which, even if adhered to throughout the meal, would be equally hurtful. In fact, the precept of keeping to one wine seems to rest on the same principle as keeping to one meat.


*Paralysie Générale.* By M. H. Ranney, M.D., Resident Physician of the New York City Lunatic Asylum.

This disease has been but recently discriminated from other forms of paralysis. The attention of the medical profession was first called to it by Esquirol, within the present century. It may have been confounded, perhaps, with the results of apoplexy, ramollissement, tumors, tubercles, &c., of the brain. It is a singular fact, however, that its frequency has greatly increased during the last sixteen years, as will be seen by reference to the various annual reports of the Superintendents of American Hospitals for the insane. In the report of the McLean Asylum, for the year

†The fallacy in Soleil’s polarizing saccharometer as a quantitative test is, that uncrystallizable sugar rotates the ray to the left, whilst glucose and cane sugar rotate it to the right. So that a sample of sherry, for example, with its usual allowance of the uncrystallizable, might be so adulterated with white lump, molasses, caramel, or malt, as exactly to balance and appear to contain no sugar at all.
1844, Dr. Bell remarks. "I have regarded it as a somewhat curious fact, that it is only within the last three years that this disease has been admitted to this institution. As late as my visit to Europe in 1840, it was unknown within our walls; nor, after seeing it so often manifested there, can I recall any case in our register which would at all meet its characteristics, rendering it certain that it was not overlooked. Since that period, however, we have abundant evidence that it is not a form of disease peculiar to other countries."

The recent investigations by Calmeil, Foville, Rodrigues, Fallet, and others have thrown much light on its nature and character. The name adopted by Esquirol does not give a correct idea of the disease. There is not usually complete paralysis, but the power of volition is partially lost, so that muscular action is imperfect and unsteady.

The characteristics of this disease are found in the paralysis, and in peculiar mental aberrations. Either the physical or the mental affection may be antecedent in its manifestation.

The first paralytic symptom is an affection of the muscles of the pharynx and larynx, which changes much the tone of voice and produces a difficulty in articulation. There is a peculiar "cracked" husky tone, and a hesitancy between syllables and words like stammering. A slight excitement produces a spasmodic action of the muscles of the face, particularly about the corner of the mouth and eyes. The tongue when protruded is tremulous, and thrown forward by successive efforts resembling the spasmodic action observed in chorea. The face becomes expressionless; as the disease progresses all of these signs become more marked, and a difficulty occurs in locomotion. The patient totters in his gait, and if he attempt to change suddenly his direction, is likely to fall. In falling he makes no apparent effort to recover himself, and his head stikes with equal force as other parts of his body. Deglutition is gradually impeded, and eventually there is a loss of control over the sphincters. In most cases epileptiform convulsions follow at intervals, varying from one week to three months, each of which seem to lessen the vital power of the system, and to increase, temporarily at least, the extent and degree of the paralysis.

The mental changes are marked both in the susceptibility and intellect. The patient is restless, constantly moving from place to place, peevish, fretful, and impatient of contradiction. He is ever discontented with his present condition, although the past and future afford unalloyed happiness. Opposition to his wishes is soon forgotten. Recent events are generally but feebly retained, whilst the past affords to his mind images of unparalleled success, and the future glows with day dreams of great achievements to be performed, or noble actions done. The disease may
assume the form of mania, monomania, or dementia. The most prominent and usual characteristic is generally exaltation of the imagination. The belief is permanent, that he excels in everything, and possesses strength, wealth, influence, and intellectual capacity far beyond that of any human being. They who were previously endowed with a brilliant imagination, and had received high mental culture, present visionary schemes of the most attractive character. Their language is well chosen, and their style highly poetical. They project ships on an immense scale, and palaces of pure gold, control kingdoms, and discover the secrets of Providence. Great subjects alone occupy their attention. The following extract, from the register of the New York City Lunatic Asylum, illustrates this phase of the disease. The imagery of the delusions is entirely that of the patient, and his style and language is retained as far as practicable.

"H. H., born in Virginia, aged 32, admitted 1853. After receiving his degree at Yale, he was supplied with an abundance of money, and unrestrained in the gratification of every desire. His funds becoming exhausted, he endeavored to obtain a living by his own exertions, but with indifferent success, on account of the impairment of his mind and health through the influence of his former habits. His system is very feeble, and a large ulcer upon one of his limbs renders him almost helpless.

"The imagination of H. H., naturally active, is morbidly exalted. He believes himself to be the ‘Earl of Warwick, the King-Maker,’ and adds to the singularity of the delusion, by the conception that he is fourteen feet high, and large in proportion. He wishes to purchase the asylum and all its contents, proposes to bestow the most magnificent presents and the most extensive estates upon the physicians, and signs papers to that effect. Nothing is beyond his reach by reason of its expensiveness; nothing too good for his friends. His clothes are of the finest cloth, lined with the most costly satin, decked with intricate embroidery, and ornamented with buttons of enormous diamonds. For him magnificent pictures adorn the walls of mansions, which the highest architectural skill has reared. The souls of Praxitiles and Canova shine through the marble monuments of their art which fill the corners of his libraries. Through the stained-glass window, shaded by the heavy folds of Genoa velvet, the light falls upon the most rare editions of the works of those men, whose literature is eternal.

"Carpets, the delicacy of whose tints rival those of the summer cloud at sunset, cover the floors of his apartments. Tables inlaid with precious stones, which cause the envy of the brightest stars of heaven, uphold wines sparkling upon the brim of golden goblets, as if anxious to kiss the lips of the drinker, and viands which have been prepared with the consummate skill of the high-
est culiari art. Flowers of supernatural beauty, whose delicate perfume angels might use on their spotless garments, fill his conservatories.

“Among the spreading branches of the trees of his pleasant gardens birds of brilliant plumage and unrivalled song pour forth their sweet voices in harmony with murmurs of fountains, whose silver-edged bubbles ripple over pearls and garnets, and whose banks are clothed with the herbage and verdure of the tropics”.

Even they who previously possessed but little imaginative power evince now the most lively conceptions. Matters of common occurrence may occupy the attention, but are so vividly and fancifully described as to render it difficult to detect the real nucleus of fact. The exhilaration produced on certain individuals from stimulating drinks bears some resemblance to the expansive ideas in this form of paralysis. These delusions continue until the disease has progressed to a low state of dementia. There is an occasional exception to the general rule of exaltation. In such cases the mind seems depressed and enfeebled from the commencement of the attack, and the paralytic symptoms are very strongly marked.

The presentation of symptoms and the diagnosis being the principal object of this paper, I select a case from Esquirol, in which the prominent characteristics are given. “M. L. D., thirty eight years of age, had participated in the last campaigns of the empire, and was elevated to the rank of colonel after the restoration; uniting to every physical and intellectual quality all the advantages of a lofty position in society, and a large fortune. He was of the opinion that he had experienced injustice on the part of the government. His self-love was deeply wounded, and after many days of insomnia he gave himself several thrusts with a knife in the region of the heart. He was promptly secured, and his services were but for a brief period discontinued. From this time he expressed with bitterness his dissatisfaction, but was in no respect less exact in fulfilling his duties as a commanding officer. Two years subsequently he has an attack of cerebral congestion, for which he is largely bled. Two days later he has a second attack, more severe than the first. He remains excited, talks much, is agitated, irritable, and exacting. He does not sleep, and after a third attack a true mania is developed. The delirium is generally attended with agitation and notions of grandeur and fortune. He commits a thousand extravagances, remains almost naked, talks incessantly, cries aloud, orders a thousand things at once, is impatient, and commits strange and imprudent acts, which compromise his life, though he entertains no idea of suicide.

“Several physicians are called in consultation, and the maniacal state of the patient cannot be denied. His age, however, and the brief duration of the disease, offer to the counsellors expecta-
tion of a cure. I affirm that the patient will never recover; 1st, because three severe attacks of cerebral congestion had preceded the maniacal state, and that, consequently, there was some degree of cerebral lesion; 2d, because, notwithstanding his excessive loquacity, certain words are imperfectly pronounced, and because his gait, although lively and active, is uncertain. I added, that active medication would hasten the progress of the disease; that the country, exercise, a severe regimen, and the repeated application of leeches to prevent new congestions, appeared to me to be the only proper course. One of the consulting physicians did not concur with me in my unfavorable prognosis, and proposed certain tentative measures.

"After a month spent in fruitless attempts, we were obliged to renounce all hopes of cure. Paralysis had progressed and dementia was confirmed—the patient retaining incoherent notions of grandeur, which persisted for more than two years. He regarded himself as the possessor of several provinces and kingdoms; distributed palaces, and gave away millions, and commanded also an army of giants. His cavalry was mounted upon horses of gigantic size; he possessed palaces of diamonds, and his stature was 20, 30, and 40 cubits in height. He talked both night and day; now in a low tone, now loudly. He also uttered loud cries. Beset by hallucinations of hearing, he listened to the voices of imaginary beings, and replied to them, boasting of his person, disputing with and even abusing them. He recognized the members of his family, and addressed them with amiability and politeness; but after a brief interval, however, resumed his habits of constant conversation. He was sent to the country".

Paralysie générale occurs more frequently among males than females; in fact, among the latter it is of rare occurrence. No good reason has been assigned for this—the predisposing and exciting causes to which the disease is referred being found in operation in both sexes. At Charenton, of 619 insane (366 men and 253 women) there were 109 cases of general paralysis, (95 males and 14 females). Into the Asylum at Halle, in the Tyrol, 257 men and 181 women were admitted, among whom were 28 cases of general paralysis, (22 men, 6 women). In the New York City Lunatic Asylum, of 5,092 (2,391 men, 2,701 women) under treatment within the last eleven years, 85 deaths have occurred (76 males, 9 females) from this disease. It is a disease of adult life, rarely occurring before the age of twenty-five. Those of a sanguine temperament are more liable to an attack, especially if of a full habit, with a tendency to apoplexy. It occurs to a great extent in the class called good lives, who remain up late at night, and indulge in suppers with a free use of wine, the mind at the same time being actively engaged. Venereal excesses, a free use of mercurials, syphilitic diseases, a hereditary taint of insani-
ty, or scrofula—in a word, everything that tends greatly to de-
teriorate the blood, impair the constitution, or lessen the vital
power of resistance, may act as a predisposing cause. The ex-
citing cause is generally some sudden mental shock—a loss of
friends or property, great anxiety in business matters, or it may
be an indulgence in very great excesses.

There are various diseases with which it has been and may
be confounded. "Ramollissement du cerveau" has some symp-
toms in common with it; but the continued pain in the head,
ocasionally vomiting, rigidity of the flexor muscles of the limbs,
and stupidity, instead of exaltation of intellect, seem sufficient to
distinguish it from general paralysis. In the last-named disease
there is also a softening of the brain, but it is the cortical portion
that is particularly affected, and this gives rise, usually, during its
progress from irritation to softening, to the peculiar mental symp-
toms that have already been described.

Cerebral hemorrhage is usually accompanied by paralysis of a
hemiplegic character, and its sudden invasion with the ordinary
apoplectic symptoms is a distinguishing feature in its diagnosis.

Inflammation of the brain or its membranes, as well as the
affections of the spinal cord, might lead to error from superficial
examination, but the rapid progress of the one and the paraplegic
character of the other, without any peculiar mental aberrations
would indicate the nature of the disease. Delirium, arising from
inflammation, differs essentially from delusions. There is gener-
ally a low condition of the system; the mind is not occupied with
external objects, but seems to retire within itself, and in a half
comatose state is manifested by incoherent mutterings without,
ever exhibiting the reasoning power of insanity.

Paralysis caused by mercury, alcohol, or lead, may be distin-
guished by a careful study of the causes and symptoms, the mus-
cles of the extremities being in these cases at first affected either
with numbness, trembling, or a complete paralysis of the exten-
sors.

Morbid growths of the brain, such as tumors, (malignant and
non-malignant,) tubercles, &c., present many features in common
with general paralysis. The character of the morbid growth can
be inferred only from the particular diathesis, or by the external
manifestations, the paralytic and mental conditions involved in
them depending principally on compression and inflammation,
with its sequences. The change occurring in the mental facul-
ties is that of general enfeeblement, presenting eventually the
ordinary characteristics of dementia. The last stage of general
paralysis closely resembles this, and its discrimination requires a
knowledge of the previous history and a careful analysis of the
successive order of the paralytic symptoms.

The following is selected from the case book of the New York
City Asylum, as an illustration of this error in diagnosis. It had been considered as the effect of a morbid growth in the brain, previous to admission. "C. L. S., aged 36, by profession an actor, was on the 10th of December, 1856, admitted into the Asylum. When admitted, he was found to be completely demented, paralyzed, unable to walk or stand, and with difficulty to swallow. He lingered nine days, when the disease terminated in death.

The following history of the case, communicated by his brother together with the post-mortem appearances of the brain, indicate the form of the disease of which the patient died to have been paralysis générale. His brother states that he had always been a temperate man. Some two years since, in consequence of domestic and business troubles, he passed through a period of great mental anxiety and excitement.

A year ago last October, while in Philadelphia, he exhibited strong symptoms of insanity of a maniacal character, succeeded by a condition of prostration. Soon after recovery of physical health, a change in his character was noticed; he became irritable, impatient of contradiction; at times despondent, and then very sanguine of success in his profession and business. His time, following such recovery, up to April last, was spent in forming business plans and studying the important characters of Shakespeare, in the belief that he was to become a prominent actor, although his friends knew him to be incompetent in this respect from the great impairment his memory had lately suffered. When slightly excited, twitching of the corners of his mouth and tremors of the muscles of his face were noticed; his tongue was protruded with difficulty, and his voice altered and "cracked" in its tone. All of these symptoms increased in intensity about the beginning of April last, when on the 8th of the month, he had a convulsion of an epileptiform character, as described by his brother, followed by prostration. From this he afterwards gradually improved until August last, when he had another severe convulsion, followed by loss of consciousness. For several hours previous to this last convulsion, it was noticed that his left arm had become paralyzed. He was then taken to a hospital, and for a short time improved so as to be able to walk about the ward, and regained considerable power in the use of his tongue and arm.

During the four months he remained there, his brother states that he had several convulsive attacks similar to those already mentioned, followed each time by increasing helplessness and greater loss of mental power, until he became reduced to the condition in which he was brought to the Asylum. Autopsy fourteen hours after death: skull a quarter of an inch thick, and of a texture less dense than usual; dura mater and arachnoid closely adhered over summit of cerebrum; arachnoid thickened, and presenting an opaline appearance, with serum between it and pia
mater; general appearance of brain, atrophied; the cortical structure somewhat softened and easily scraped with the knife or finger-nail from the white medullary substance; this latter was found to be hardened, of a firm texture, and glossy in appearance; the ventricles were largely distended, and contained 3 iv. of clear serum; the floors of both lateral ones had a feeling of roughness to the touch; the foramen of Monro was large and patulous, easily admitting the end of the little finger; the middle or soft commissure was wasted to a thin ribbon of almost transparent membrane; the pons varolii and medulla oblongata were of less than usual size, and the pituitary gland shrunken, and the upper portion of its peduncle enlarged. The weight of the brain, drained of the serum in its ventricles, was two and a half pounds, which is some ten ounces less than the average given by Solly.

The most common pathological change in paralysie générale is a softening of the vesicular neurine of the brain, especially in the anterior portion of the parietal regions. Sometimes the tubular neurine is also involved. Various other changes are occasionally found, such as thickening of the membranes, effusion of serum, induration of the cerebral substances, &c., but with no particular uniformity; and these, in fact, are found in many of the chronic diseases of the brain. The length of time in which the disease has progressed, must necessarily vary the cadaveric phenomena, and if death occur very early, there may be no manifest softening; yet from this it does not follow that it has been in progress, that there is no organic detritus. Either a subjective cause like over-excitement of the mind, or an objective one like intemperance, or moral and physical causes combined, may over-stimulate the brain, and its continuance result in congestion, from which condition serum may be effused into the primitive cells, causing irritation that may or may not end in softening. Why softening follows in this form of paralysis, but not in ordinary congestion, is not well settled. It may depend either upon some particular predisposition on the part of the patient, or upon some unknown peculiarity of the disease.

The prognosis is highly unfavorable. Rodrigues mentions a few cases of recovery, but by most the disease is considered incurable. Death follows, generally, in from one to three years after the first symptoms appear, but life is occasionally prolonged beyond the last-named period. If it occur early in the disease, the termination is usually by epileptiform convulsions; if at a late period, from general exhaustion, or disease of some important organ other than the brain.

The object of this communication being merely to call the attention of the profession to the general characteristics of this form of paralysis, I will not dwell upon the subject of treatment.

M. Roderigues recommends the adoption, at an early stage, of
active measures, such as frequent venesection, &c. After the disease is somewhat advanced, he advises the occasional abstraction of blood, in connection with tonics, aromatics, and cold baths, while at a later period he recommends laxatives, and revulsives to the skin. The treatment of M. Roderigues has not been found successful when adopted by others, although he gives a very favorable account of its results.

The observance of general principles of treatment to meet the indication of the symptoms has seemed to be attended with as much benefit as the adoption of any other system. I have seen more temporary good effects follow the use of a seton, or the free application of Ung. Tart. Ant. to the back of the neck, than from anything else in the way of treatment. If at a very early stage the habitual excesses which had partially undermined the system were corrected, and a careful hygienic course pursued, some hopes might then be entertained of a gradual restoration.


Fevers—Their Identity and Treatment. By W. L. Johnson, M. D., of Charleston, Ky.

There is no class of disease in Nosonomy of such importance to the physician as that of Fevers. (Febris, from fièvre rel ferrore). The fevers prevalent in the different climates of the United States, constitute a very large per centage of the disease with which the physician has to combat. Moreover, they constitute a class of disease frequently of great malignancy and fatality, sparing neither age nor sex; the inhabitants of the sunny South, of the umbrageous West, of the frozen North, and of the East, are alike often victims of their ravages. Of the mortality among the people of the United States, a large per centage die of the great scourge of the world, fever. How often does the scientific disciple of Æsculapius find his skill unavailing, and feel his strong, sinewy arm grow weak, as he beholds his patient in rigor mortis, or struggling with the grim monster death. From these and other considerations, I am induced to write an article on the subject of fevers, hoping that it will merit a place in the columns of your excellent journal, and throw out one glimmering ray of light to the profession, or elicit something upon this important subject from others of greater age and of riper intellects than the writer. If I shall present ideas or views of the pathology, causation and treatment of fevers different from others, they will be conclusions or deductions arrived at from close observation and study, and from an extensive practice of several years.

Medical literature abounds with accurate and faithful history of all the phenomena, symptoms and complications of fevers, nev-
ertheless but a glimmering ray of light has been thrown out as yet on its real causations and pathology.

In physiology as in chemistry every cause produces an infallible and uniform result, and like results or consequences must be produced by identical causes.

The blood is now generally admitted by the most renowned writers, as the seat of these phenomena, denominated fevers. The idea is generally inculcated that they are occasioned by the introduction into this fluid of some virus, malaria, miasm, effluvia, or vapors, etc., so called by writers, which materially, chemically or vitally change its character.

It would be absurd and illogical to arrive at the conclusion that the multifarious substances affecting that fluid could produce the same results; hence we are brought to the conclusion that all similar febrile disturbances or diseases have the same or identical causes or sources, caeteris paribus.

The analogy between fevers is striking to a casual observer, considering the difference in the circumstances under which they originate, which seem to indicate or establish the probability of the somewhat plausible hypothesis that they are produced by similar or identical causes.

If we compare the miasmatic or autumnal fevers, we will find as little difference between them as exists between cynanche maligna and cynanche simplex, or the different species or fevers of variola, scarlatina, etc., etc.

Now let us search out the localities, circumstances and seasons favorable for the prevailing of intermittent fevers; the type of those fevers which are admitted by all authors and physicians, as being produced by some vegetable, and peradventure, in some degree, by animal poison.

Intemittent fever is most prevalent in low, swampy lands, of a wild, luxuriant growth, which has been for ages enriching the soil by its decay, until its whole surface has become covered with abundant vegetation, where the plough and pruning hook have never been used by man, where the land is often inundated and the soil is alluvial in character. It is there that we see the sallow cheek, the yellow tinged conjunctiva, enlarged spleen, anasarca, etc., among the poor and indolent inhabitants who have emigrated there to subsist upon the game of the forest, and the fish of the creeks and rivers. The intensity and frequency depends greatly upon the overflowing of the rivers, creeks, etc., and uniform heat or temperature of the season, thus producing great and rapid decomposition of the vegetable matter, the prolific source of the disease.

It prevails to a great extent in the counties of Hopkins, Christian and Caldwell, Kentucky, and in the vicinity of Charleston, in midsummer and in the latter part of autumn and spring. This
fever prevails in almost every river valley in the west, in the savannahs of the south, and in the marshes and flats of the northeastern States. The disease becomes less prevalent as the lands become cleared and cultivated by the agriculturist, which brings to mind an old maxim, that when the cause shall be removed the effect will cease to exist. A certain amount of virus or malaria seems necessary to produce intermittent fever, but a greater amount produces fevers of a greater malignancy and of greater duration, though similar in character.

The high lands contiguous to these regions or localities, where intermittent fevers is so prevalent, are by no means secure or exempt from this disease, though it prevails to a less extent and is milder than in the low lands, and is often contracted in the low lands, or the malaria is carried through the medium of the atmosphere.

Remittent fever arises under the same circumstances, and in the same localities, seasons, etc., only requiring perhaps a greater amount of malaria or heat.

The isthmus and yellow fevers are confined to low lands, marshes and swamps, only in climates of higher temperature, and are seldom found in the uplands or in the mountainous districts.

Typhoid: typhus, bilious fevers, etc., we think, from deductions made from close observation, practice and study, are produced by the same vegetable poisons in the same localities, though at different seasons of the year, or in climates of a higher temperature. They are the most prevalent when we have excessively hot summers, and when decomposition of vegetable matter has been very great. When cold weather comes on and the decomposition of vegetable matter is arrested by frosts, these fevers disappear, and genuine cases of typhoid, bilious, or typhus fever are but seldom seen unless the disease has been contracted during the autumn. They are very uncommon in high latitudes where the temperature is low, or in a dry, upland country. Therefore from the best knowledge on the causation of these prevalent and important diseases, we are bound to come to the conclusion that they have identical causes.

Some other forms of fever remain unnoticed, but we will not examine into the causation of any more in this article, but will now show the great similarity of the initiatory or incipient symptoms of the general or prevalent fevers of the United States.

Taking intermittent and remittent fevers as the type of all the miasmatic fevers, we will first give a meagre description of their invasion, phenomena and course. These fevers are mostly preceded by general lassitude, cephalalgia, soreness of the muscles, yawning, articular pains, etc., etc., and frequently by some unpleasant enteric and hepatic symptoms, the tongue coated with a whitish yellow fur. All of these are ushered in by a chill, followed
by fever, some cerebral disturbance or congestion. Now up to this stage of these diseases, there is but little or no difference between intermittent and remittent fevers; this difference, should it exist, is only in degree. Intermittent fever has three distinct stages, its chill, fever, and the stage of perspiration; these are succeeded by a marked intermission of duration proportionate to the severity of the attack and the type, whether quotidian, tertian, quartan, etc. But remittent fever does not present that perfect intermission as in intermittent fever, but often presents remissions of greater or less duration, according to the nature and malignancy of the case, and often runs into typhoid fever, unless skilfully treated, thus showing the identity between these diseases, or as is sometimes the case, it runs into intermittent fever. The similarity between intermittent and remittent fever is very striking, nevertheless easily distinguished by the practitioner, and the indications of these two fevers are such as to require almost the same treatment.

Bilious and yellow fevers have almost the same incipient symptoms as the two fevers just described, only differing in the severity of their attack and character. These fevers are similar and analogous, the latter only differing in its great malignancy, and requiring a much higher temperature for its development; both of which have great hepatic derangement, pathognomonic of these affections, the viscus of the liver being more powerfully affected than all others; the whole secret of success in the treatment of these diseases consist in addressing remedies to that organ, and eliminating its poison or malaria in the system by the same medical or therapeutical agents as in intermittent and remittent fevers.

We now come to typhoid and typhus fevers, almost entirely analogous or similar in character, incipiency, stages, duration, etc., and often a diagnosis is perplexing to the most scientific physician, nor can it be made with great certainty until the disease has made considerable progress. As in remittent fever there are often remissions, though imperfect. They are ushered in by a chill frequently, headache, lassitude, pains in the back, diarrhœa, or constipation, biliary derangements and delirium, though this last symptom seldom presents itself until the second stage. So we find the phenomena, the invasions, all the general symptoms of these two fevers to be analogous or identical, doubtless produced by the same cause but under somewhat dissimilar circumstances; hence the propriety of giving them different names in our text books.

From this hasty view and imperfect investigation of the causation of fevers, we arrive at a very correct or at best, plausible conclusion, that the difference in malignancy, forms, duration etc., thereof, is caused by the different amount of malaria introduced into the blood, the climate, idiosyncrasy, previous organic derange-
ments, or pathological conditions, and circumstances under which they present themselves.

Now the inference or deduction is natural, philosophical and plausible, that fevers have the same existing, identical cause, if it be admitted that what we have stated is true relative to the locality, temperature, climate and circumstance under which they originate. Moreover it seems equally plausible to admit the identity of fevers, should there exist the great similarity in the initiatory symptoms, exacerbations or paroxysms, and course, concomitant to the progress and termination of these diseases, described in this article. We think that the contagiousness of yellow and typhus fevers can be satisfactorily explained, upon the principle of a vast amount of miasm or malaria in the vascular system, to such a degree that it is given out, emitted or exhaled by the lungs, or excretory ducts of the cutaneous system, etc., so that the poison may be imbibed or received by the nurse or occupants of the sick chamber from the victims of these malignant and alarmingly fatal diseases, especially the former, yellow fever. In our next article we will present the identity of the treatment of fevers. Especial attention will be given to the treatment of typhoid fever, the writer believing and knowing that it can be arrested and greatly shortened in its course, having never lost a case of this dangerous malady, or any other fever, though never having treated a case of yellow fever.—[Nashville Med. and Surg. Jour.

On the Observations of Temperature in Patients. By Prof. C. A. WUNDERLICH and Dr. L. MEYER.

Already during the last century several eminent physicians endeavored to ascertain the temperature of the body in different diseases. These efforts, however, were soon abandoned again, and only quite recently the thermometric observations in patients have again received that attention which they so much deserve. Prof. Wunderlich has, in this respect, a rich experience at his command; accurate thermometric observations were regularly made in his clinic in more than 5000 patients during the whole course of their sickness, and also in private practice he has convinced himself of the practicability and usefulness of this means of investigation. He considers himself justified, therefore, to pronounce the view so generally taken, and recently advanced again by Lasègne, (Arch. Génér., May, 1856,) that thermometric investigations would never become very important to pathology, as perfectly erroneous. It is true, that for the theory of diseases these observations of temperature have remained as yet without direct use, and that they do not throw much light at present upon the nature of fever, inflammation,
etc., but also in reference to theory they have afforded facts which are of great consequence for many important questions in relation to pathological physiology. Of far greater importance, however, are they in a practical point; Prof. Wunderlich considers them even of more value than most of the other means of investigation, provided that also in local diseases the part taken by the whole organism is considered of sufficient moment. As proof of his statement, the author gives the following facts:

1. The observation of temperature offers the most reliable means for deciding the importance of a disease of recent origin; with normal, or but little elevated temperature, the disturbances of health are, with some exceptions, (cholera, apoplexy, pulmonary hemorrhage, strangulated hernia, poisoning, etc.,) first of all of no importance; an elevation of 2° R. or more, announces, however, with certainty, the commencement of a serious disorder. This circumstance is a valuable guide, particularly in cases of children, in which, as is well known, an insignificant disease is frequently accompanied by violent symptoms, as also in reference to the continuation of the patient's business, to his departure, or transport, etc.

2. The observation of temperature points out frequently important, though still latent disturbances; an indisposition with much elevated temperature deserves always particular attention; in the state of reconvalescence from serious diseases a relapse, or a secondary disease, is frequently indicated first by an elevation of temperature. This is particularly the case in typhus; but also in intermittent fever an elevation of temperature without any other symptoms is frequently observed after an apparent cure, and a relapse can then only be prevented by continuing the use of quinine.

3. If the disease is developed the observation of temperature offers the most reliable indications for the diagnosis. Diseases in which the diagnosis of particular forms of the same or other of pathological processes can be decided in this manner are, according to Prof. Wunderlich, the following:—typhus, (exanthematic; enteric;) intermittent fever; pneumonia; meningitis, (at the base; at the convexity;) serous and purulent effusions in the pleura or pericardium; acute exanthemata; internal suppurations; peritonitis, (in lying-in women.)

4. The diagnosis being decided, thermometrical observations are of the greatest use in reference to the prognosis. Intensity and character of the disease, its stage the commencement of a complication which is often not indicated by any symptom, the usual aggravation and increase of the malady, as well as its decrease, can be recognized, as the author proves by many exam-
amples, the earliest and surest, sometimes even solely by the
behavior of the temperature of the body. A certain height of
temperature (about 34° R.) indicates, with certainty, a fatal
issue; perseveringly high temperature (over 32°5°) makes the
prognosis always more serious; a falling of temperature in a
proper manner, however, permits predicting a favorable turn of
the disease. In the state of convalescence changes of the tem-
perature of the body deserve no less consideration as a means
by which to recognize deviations from health, otherwise hardly
perceptible. Insufficient falling of temperature indicates, in
spite of apparent convalescence, an incomplete cure, and gives
reason for fearing the development of a chronic disorder; even
a small increase of temperature challenges precaution in regard
to diet and regimen of the convalescent.

5. Another great advantage derived from thermometric ob-
servations is the proof of a regular typic course of numerous febrile
diseases; it is true that physicians of a former period supposed
it to exist, but it cannot be demonstrated with certainty but by
accurate observations of the changes of temperature of the body.
In the same way deviations from this regular typic course are
best recognized by the use of the thermometer, and we are thus
enabled to avert them by removing the causes, to neutralize
their consequences, or also, as many of such irregularities are of
a more favorable character than the normal course of the dis-
ease, to bring them on by therapeutical means.

6. From what has been said, the importance of thermometric
observations for therapeutics is evident enough; they indicate
where energetic interference is necessary, and when the disease
may be left to itself again. The thermometer gives us, however,
also reliable and accurate information in regard to the efficacy
of certain remedies and methods of treatment used; for instance,
on the effect of general bleeding, of calomel, digitalis, camphor,
an emetic, and other energetic means in febrile diseases. The
observations of temperature have, as the author shows, so great
a value for therapeutics, particularly for the reason that the in-
dications for treatment have more frequently to be derived from
the general condition of the patient than from so-called local
disturbances which usually disappear spontaneously, and in
which direct interference is not of much benefit.—[Arch. f. Phys.

Dr. Meyer considers observations of temperature in insane
patients of very great use, as they aid the physician in determi-
ning whether there exists a direct disease of the brain, or whether
the latter is affected merely by reflex action from another organ.
In the former case a corresponding change of temperature is ob-
served; if the delirium is accompanied by elevation of temperature without remission, a direct irritation of the brain exists. In reflex alienations, however, this change of temperature does not take place; if the temperature rises in these cases, it indicates the occurrence of a complicating disease. These statements, the importance of which for the prognosis and therapeutics of mental diseases is very evident, the author proves by a condensed report of numerous cases, (mania, progressive paralysis.) As the peculiar character of insane patients does not permit a long continuance of the usual mode of observation—viz., by placing the thermometer in the axilla, he prefers to insert it into the rectum.—[Deutsche Klinik., 1858; Schmidt's Jahrbüch. 1858, and Ibid.

On the Normal Course of Certain Typical Diseases. By C. A. Wunderlich.

Professor Wunderlich considers the thermometer (applied to the oral cavity, the armpit, or rectum) as the best means of determining the type of a disease, because its indications are but little liable to be influenced by accidental circumstances; thus, the character of the pulse, though presenting considerable uniformity in different morbid states, varies too much, and is too dependent upon accidental circumstances, to allow of our using it for the purpose of establishing the types of disease by its aid. The author has not been able to determine any definite laws regarding some acute diseases—as acute articular rheumatism, peritonitis, pleurisy, and pyemia, nor for chronic diseases generally; but he has found that febrile affections run a definite typical course, which may be represented by the curves obtained by connecting the daily fluctuations of temperature. But even in these typical forms of disease variations occur, which depend upon the bearing of the individual, and upon influences to which he is subjected. But there are certain influences which are so uniform in their effect that this amounts to a law, and thus a new type is established; this is the case with regard to vaccination in its influence upon variola, venesection upon the course of pneumonia, or calomel upon typhoid fever. This knowledge of the typical course of a disease has a practical value, inasmuch as the diagnosis may be established by looking at the curve; the deviations from the normal condition are recognized, and the exacerbations, as well as the commencement of cure, are rendered visible. Moreover, when the typical course of a disease has been demonstrated, a look at the curve will protect from all illusions regarding our therapeutic achievements, while it affords a safe means of judging of really beneficial
effects produced by remedial agents; the unusual reductions or diminutions of the course being shown irrefragably in the altered curve. Professor Wunderlich passes successively in review his observations on the following diseases:—Ephemeral fevers, which he does well in restoring to nosology; quotidian, tertian, and quartan agues; measles; erysipelas; scarlet fever; variola; typhoid and typhus fever; and several forms of pneumonia. Without reproducing the curves themselves, which give an ocular demonstration of the rising and falling of the thermometer in the various diseases mentioned, it would be futile to attempt giving the details of Professor Wunderlich's elaborate and valuable paper. The following general remarks will further indicate the kind of results which he has arrived at by this method of investigating disease. In some forms, the mode in which the disease commences is characteristic; the increase of temperature may be very rapid or slow, the maximum being reached in a definite period, or there may be a uniform rate of increase. The period in which the fever arrives at its full development affords numerous important points; the absolute elevation of temperature is determined in part by the special form of disease; on the other hand, it indicates its degree. The duration of the maximum point is even of more consequence than the absolute maximum, and the larger or less variation between morning and evening, and the number of days on which the temperature retains nearly the same elevation, are also points of importance. The duration of maximum elevation varies somewhat, but its duration must be regarded in the main as forming a characteristic feature of the individual type. In some diseases definite fluctuations occur during this period. The termination of the process, and the return to the normal condition, which the author terms defervescence, exhibit a very regular type, which is characteristic for every form of disease; the phenomena of defervescence are even more precise than those of the commencement and elevation of the morbid process, and serve still better to mark the nature of the disease.—[Archiv. für Physiolog. Heilkunde. and Brit. and For. Med. Chir. Rev.]

On the Theory of the Production of Hernia. By Professor Roser.

The views here advanced have already been published by Professor Roser, seventeen years since; but as they have not excited the attention he believes they deserve, he reproduces them with the advantage of being able to add, that all subsequent investigation during so long a period of an active career, has only confirmed his conviction of their truth.

Debating with a celebrated professor of surgery, he declared
that a sudden production of hernia was impossible, according to the laws of mechanics. The professor maintained the possibility inasmuch as he had examined persons who had shown no signs of hernia, and yet, after violent exertion, its presence had become manifest. This, Roser regards not as observation, but as a post-hoc conclusion. It is well known how difficult (or when small, impossible) it is to detect an empty hernia sac. We only recognise it when the intestine has entered it, and we can feel the impulse on coughing, &c.; but when such entrance is prevented by various circumstances, the most we can say is, not that no hernial sac, but that no hernia, is present. Why is it not possible, as Scarpa and Cloquet have shown, to produce a hernial sac on the dead body by the use of violent compressing power, aided by apertures made in the tendinous walls of the abdomen? First, because the peritoneum is not sufficiently elastic to bear the necessary extension; and, secondly, because compression of the soft and fluid contents of the abdomen acts by hydrostatic law; and although the peritoneum may be stretched, it is not thrust out as it is found to be in hernia, and as it may be to some extent by the finger locally applied.

Professor Roser advances these two propositions, that femoral hernia arises from the dragging out (Herauszerrung) of the peritoneum, and that external inguinal hernia, or more properly its sac, is almost always congenital. First, with respect to femoral hernia, the dragging out of the peritoneum is brought about by nodules of fat, which, appertaining to the subserous tissue, are firmly attached to the peritoneum. These nodules slide between the fibres of the septum crurale, thrust them asunder, and lead to their disappearance. The anterior part of a nodule passes out under the plica, covered only by fascia superficialis, and increases in size. Its movements are favored by its pyriform shape, and by the motions of the body, and the peritoneum following it, a sack is gradually formed. In all the instances of commencing hernia the author has had the opportunity of examining, he has found such fatty nodule at the apex of the sac. We cannot expect to find this in old or large hernia, as it would disappear under pressure. Professor Linhart, of Würzburg, the only anatomist who has of late years investigated the subject of hernia, has confirmed these views, stating that he believes that traction exerted on the peritoneum exerts far more influence in the formation of hernia than the pressure exerted by the contents of the abdomen.

External Inguinal Hernia.—The valvular character and oblique course of the inguinal canal, should have formed a sufficient reason for rejecting the ordinary theory of the formation of this hernia. All subsequent investigation has convinced Professor
Roser that his statement made long ago, that this hernia is almost always congenital, is correct. He has found that the hernia vaginalis funiculi—i.e., an open state of the upper part of the vaginal process—occurs much oftener than is supposed. It has been found in almost all the children the subjects of inguinal hernia, whom he has examined; and he has frequently met in adults hernial sacs so long and narrow, that they could only be regarded as incompletely-developed vaginal processes of the peritoneum, into which intestine had not passed. He has also found the anatomical signs, detailed in his former treatise, exhibiting the congenital nature of the affection. Other co-existing anomalies of the peritoneal formation are often met with. Beside the descent of the testis, there is a descent of the cœcum and sigmoid flexure, and disturbances of these often occur at the same time. As the author has found in almost all the outer inguinal herniae he has examined, such grounds for considering them congenital, he has come to the conclusion that the bulk of cases regarded as accidental do not merit the appellation, inasmuch as the sac has been in existence prior to birth. He refers in confirmation of his views to Camper’s statement, that of 63 full-timed children in whom the testis had descended, the vaginal canal was obliterated only in 7, it being open on both sides in 34, on the right side only in 14, and on the left side in 8. So likewise Professor Engel, whose investigations are now published in the ‘Wien Wochenschrift,’ states that in children at birth, or during the first fourteen days afterwards the vaginal canal is found oftener obliterated, or at least considerably shorter, on the left than on the right side—a fact agreeing with the preponderance of hernia on the right side. He found the canal entirely closed at birth in ten per cent. After fourteen days no trace of it could be found on the left side in 30 per cent., while it remained open on both sides at the end of fourteen days in 69 per cent. In the adult the presence or the remains of the vaginal canal was observed in 31 per cent. of the bodies examined, on both sides in 37·5 of these, and on the right side alone in 62·5.

**Outer Inguinal Hernia in the Female.**—The author long since proposed the question to Professor Meyer of Zurich, whether woman were not liable to a similar descent of the peritoneum as men; and that writer, in a paper in Müller’s ‘Archiv,’ has shown that in the female as well as the male foetus, a projection of the peritoneum into the inguinal canal does not take place. Its metamorphosis, however, occurs much earlier, as soon as the fifth month; and it is also less considerable, and therefore less liable to disturbance than in the male sex.

**Internal Inguinal Hernia.**—This, Professor Roser observes, may, in some cases, have a fatty origin, like femoral hernia;
but he believes that other cases arise from a local protrusion of the peritoneum, in aged and relaxed subjects, in whom partial atrophy of the fascia transversalis has taken place. This is a very different thing, however, to the sudden production of hernia usually admitted. He believes with respect to internal inguinal hernia, that the fact that it occurs almost exclusively in aged men is not generally known. It takes place indeed much oftener than most authors admit; and may be almost said to be as frequent in old men as femoral hernia is in old women. The much greater narrowness of the ring is the reason it does not occur often in old women.

_Umbilical Hernia._—This is the only hernia which is produced according to the old theory, viz., by a _vis a tergo_, and even here the author suspects that in some cases it may arise from a congenital protrusion of the peritoneum, remaining from the foetal state. As this hernia differs in the mechanism of its formation from other kinds of hernia, so does it in the remarkable fact of its being generally spontaneously curable, as may be seen from the small number of cases met with in the adult, compared with the large number occurring in infancy. In aged and fat individuals, accidental hernia of this form is, however, frequent.

Originally commencing his investigation with a purely scientific object, Professor Roser has since found that it has an application to legal medicine, the question not unfrequently arising, whether a hernia has been produced in consequence of acts of violence in scuffles, assaults, &c., and the culprit risking to be dealt with too harshly in consequence of the off-hand way in which the affirmative is pronounced.—[Arch. für Physiol. Heilk., and Ibid.

---

**Case of Apparent Death during a Paroxysm of Intermittent Fever.**

By Professor François.

In the midst of an epidemic of intermittent fever which prevailed at Mons in 1822, Professor François was sent for to a lady, aged 40, who had a slight attack, which was soon relieved. Two days after, he was suddenly informed she was in a dying state. She had been seized with a new paroxysm, and after a little shivering and yawning, became almost immediately insensible. He could find no pulse; the pupils were insensible to the action of bright light; the whole surface was cold, pale and dry, and respiration was suspended to such an extent that a mirror placed before the mouth remained untarnished, and the flame of a candle undisturbed, while the ear applied to the region of the heart could not perceive the slightest sound or impulse. Every kind of stimulus was applied in vain, and she had so completely the appearance of a corpse that her burial was alrea-
A New Mode of Treating Purulent Ophthalmia. By M. De Conde.

M. De Condé, a Belgian military surgeon, dissatisfied with the present treatment of this disease, which seems to be very prevalent still in the Belgian army, lays down a new plan, based upon the following considerations:

1. The greatest danger to the eye arises from the contact of the upper lid, which, inflamed and swollen, floods its surface with an acrid and corrosive pus. The excessive heat of the eyelid, the internal surface of which is rough and unequal, interferes with the nutrition of the cornea, while the acridity of the pus leads to its softening and destruction. 2. It is admitted that it is of importance to prevent the contact of inflamed mucous membranes by the interposition of an isolating body, such as sharpie or wadding. This is seen in vaginitis, balanitis, and fissure of the anus. 3. This body, which may alone produce great amelioration, or even in some cases a removal of the disease, may exert a powerful effect if impregnated with an active agent. In this way lint, soaked in a concentrated solution of acetate of lead, and placed between the glans and the prepuce, will cure gonorrheal balano-posthitis within forty-eight hours. 4. Cod liver oil exercises a powerful action in disease of the mucous membrane, modifying and then suppressing their secre-
Six Cases of Successful Operation in one family, on Children Born Blind. By Henry W. Williams, M. D., Boston.

In February, 1857, I visited a German family, residing near the southern boundary of the city, of which five members, the mother and four children, were affected with cataract in both eyes, evidently of congenital origin.

The mother was not aware of any cases among her eight brothers and sisters, or among her ancestors. In her, the lens exhibited in each eye a disseminated, dotted opacity, the cloudy spots being most numerous near the centre, while the margin of the lens was comparatively clear. Consequently, in a bright light she was almost entirely blind, but in a moderate light saw sufficiently well to perform, in a slovenly manner, the house-duties of a laborer's wife. The capsule of the lens, in her eyes, and also in those of the children, was transparent. Her hair and irides were dark; the children had light hair and a grey or blue iris. She has two other children, whose eyes as yet exhibit no trace of cataract. The order of succession in the cases was as follows: The oldest girl had cataract; the second child, a girl,
was free from the disease; the third and fourth children, a boy and girl, were affected; the fifth, a girl, was free; the sixth a boy, was affected.

The eyes of the children presented nearly similar appearances, and one description may answer for the whole. Nearly the entire field of the pupil was occupied by opacities, consisting of dots of various sizes, and evidently occupying different planes of the lens. In a bright light, reflections from crystals of cholesteroline could be plainly seen. All the patients had sufficient vision to enable them to find their way in a moderate light, when the pupil was so far expended as to allow of vision through the margin of the lens; but in a bright sunlight they were nearly blind, and their sight was at no time sufficient to enable them to learn to read, or to gain a livelihood by ordinary pursuits.

Six operations were performed, on the afternoon of the 5th of February, on the oldest girl, aged about 17, the boy about 12, and girl about ten years. As I believed the entire lens might be safely broken up in these cases, the same method was pursued in operating on all the eyes, the lens and capsule being freely divided by means of a needle introduced through the sclerotica. Sparkling reflections from crystals of cholesteroline were distinctly seen in the posterior chamber, by several physicians who were present. The eyes were covered with a dry compress and bandage, and the pupils were kept well dilated by the use of a solution of atropia. The oldest girl had very little pain or injection of the eyes, and no nausea. The boy had considerable pain in and around his left eye, and some nausea, continuing for two days. His right eye gave him no pain whatever. The youngest girl had considerable pain in the right eye, with intolerance of light, continuing four days. Her left eye gave her no pain at this time; but, the absorption of the lens going on slowly, a second operation was performed some months after, which caused some pain and nausea, but was followed by immediate absorption of the residue of the lenticular substance.

As the size and density of the fragments diminished, the absorption of the lenses went on more and more rapidly; but it was several months before the pupil became perfectly clear in all the six eyes. The children have now perfect vision, with the aid of the ordinary cataract glasses, and they will be able to follow any occupation they may prefer. The mother and the child of two years have not yet been operated on, the mother being timorous as regards her own eyes, even with the brilliant results before her obtained by the operations on her children, and wishing to have the little one left undisturbed till he is older. There is nothing in either of their cases less favorable than those which have already been relieved.
I have seen another instance, in a family residing in this State, of no less than seven cases. Other children in the same family were free from the disease. Some of the eyes had been operated on, but I think without much success, on account of portions of the capsule which were left behind and had become tough. These might, however, be readily removed by the small canula-forceps. Mr. Streatfeild also reports an example, in the third number of the “Ophthalmic Hospital Reports,” of six cases of double cataract, five children and their mother. Three other children exhibited no defect of vision. Two of this family had been operated on, with partial success. The cases now reported are interesting from the rare occurrence of such a group, and the rare occurrence of such a group, and the still more rare performance of so many operations at one time in a single family; and the results are particularly gratifying, as they have given almost a new existence to those, who, but for the resources of our art, must have been unfortunate and helpless during their whole lives.—[Boston Med. and Surg. Journal.

On the Absorption of Abscesses.

M. Chassaignac brought this subject recently under the notice of the Paris Surgical Society, stating his belief that purulent collections are never absorbed, at least the solid globular portions, although the serum may sometimes be so removed. Abscesses said to be so removed were in fact non-purulent collections or lymph. M. Richard pointed out the error of supposing that pus-globules were not absorbable because they were solid, inasmuch as tumours, effusions of blood, &c., are known to undergo such absorption. It is by no means rare to find small axillary or peri-mammary abscesses becoming absorbed; abscesses the size of a pigeon’s egg, will in chronic fancy disappear in twenty-four hours; and congestive abscesses not unfrequently heal without any aperture having been made. M. Huguier thinks every one must have seen examples of the spontaneous disappearance of abscesses, a by no means rare circumstance, in inguinal bubo. M. Verneuil referred to a case that came under his care, in which an undoubted abscess, as large as the fist, situated in the middle of the thigh, entirely disappeared after three weeks local application of iodine. In another case, two abscesses in the axilla were opened, while two others, just as manifestly fluctuating, being left to themselves, were spontaneously absorbed. In a case of hygroma, M. Morel-Lavellée obtained a few drops of fluid by means of an exploratory puncture. This was shown to be pus, and the rest of the fluid being left in the collection, flying blisters were applied, and entire ab-
sorption was induced. M. Chassaignac observed that this was the only demonstrative fact advanced in the discussion, and he must wait for others to be convinced. At present he does not believe that properly-characterized abscesses are capable of absorption. Many cases are, it is true, mentioned by authors, but with insufficient proofs. Fluctuation and other symptoms mentioned are not sufficiently rigorous ones. Thus, in a case of angioleucitis, in which he opened two collections apparently alike, one contained pus and the other plastic lymph; and from some inguinal bubos he has opened, he has only removed such lymph. M. Broca, however, desired to know what M. Chassaignac designates as "collections of plastic lymph;" for if he means those masses of yellowish concrete, semi-solid matter found in the centre of commencing bubos, M. Broca can assure him that this substance, which is susceptible of absorption, contains an enormous quantity of pus globules. M. Collerier declares, that since he has treated bubos by the method recommended by Dr. Sirus-Pirondi—viz., blistering, followed by tincture of iodine, he has obtained a cure by absorption of the pus in nine-tenths of his cases. Even when the blister does not succeed, it still exerts a great influence upon the absorption of the globules; and if the bubo has afterwards to be opened, pus containing a large proportion of serum is discharged.—[Gaz. des Hôpitaux, and British and Foreign Med. Chir. Rev.

On Injection of Carbonic Acid Gas in Treatment of Diseases of the Womb, and their Influence upon the System. By Dr. Berrard.

The application of carbonic acid gas in cases of painful uterine disease, as recommended by Drs. Hardy and Simpson, has been tried and found successful by the author in several instances. He records eight cases, four of carcinoma uteri far advanced, and four of a simple congestive but very painful character. In almost all of them the carbonic acid gas had an anaesthetic influence, without producing any alarming symptoms, with the exception of one case. The mode of application is very simple; a bottle, the cork of which is pierced by an elastic canula, is filled with twenty-five grammes of bi-carbonate of soda, and twenty grammes of bi-sulphate of potash, with a sufficient quantity of water. The development of the gas begins immediately, which is brought up to the diseased portion by means of the elastic tube.

The first case proves much in favor of these injections. The patient suffered from carcinomatous ulcerations of the neck, with a foetid discharge and violent pains. After application of the gas, the pains not only disappeared entirely, but even the
ulcers began to look better, and the patient improved considerably in health, so that she was discharged as cured after two months, because only two or three red excrescences could be detected on the neck when she left the hospital.

The second case shows an old carcinoma, with violent hemorrhages and deep ulcerations of the neck, while the body of the womb and the neighboring organs were not affected. In this instance, the gas only showed its anaesthetic influence, having no influence upon the disease itself.

In a third case of ulcerated carcinoma, the injections at first stopped the discharge, and diminished the pain; but afterwards symptoms of intoxication were remarked, and when these injections were tried again after some time, they had a very bad influence upon the disease, so that their use had to be discontinued.

The fourth case is one of far advanced carcinoma, with violent pains in the lower part of the abdomen, which disappeared very rapidly after the first injections. The disease itself was not influenced in its course.

The fifth observation is one of inflammatory induration of the neck, with violent pains. The gas had a local quieting influence, but produced such violent symptoms of intoxication, that, its application had to be suspended.

In the sixth case, which was similar to the former one, the pains disappeared very soon, and the swelling diminished, but signs of intoxication were observed also.

In a seventh case, signs of absorption of the gas were observed, but the pains disappeared, while the ulcerations remained unchanged. The patient remained only a short time under treatment.

Eighth case.—Metritis, engorgement of the neck, violent pains, against which a great number of remedies were applied, without the least benefit. They disappeared after the first injections.

The anaesthetic influence of the gas only remains a short time, therefore the injections have to be repeated several times in a day.—[Archiv. Généralés, and New York Jour. of Medicine.

Report of a Case in which the Operation of Paracentesis Thoracis was performed for the relief of Obstinate Vomiting.

The particulars of the case, communicated to the Society, through the President, by Mr. Heslop, of Birmingham were as follows:—The patient was a girl aged 20, who had been for two months affected with effusions into the left pleural cavity. Extreme emaciation, night sweats, etc., were present, but in addition to these, no food of any kind was retained by the
stomach. No relief followed ordinary measures, and it being evident that the patient was dying of inanition, Mr. Heslop advised the performance of the operation. Two pints of fluid were drawn off, and the relief which followed was immediate and complete. The patient rapidly recovered. Mr. Heslop added that, in advising the performance of the operation, he took the same general line of argument as that pursued by the accoucheur in inducing artificially premature labor, when the interference with important functions, as that of low stomach, calls for that proceeding—[Proc. of Path. Soc. of London.

Menstruation in Austria. By Dr. Fred. Szukits.

Of 665 women born in Vienna, and menstruating there for the first time, the mean age for its first appearance was fifteen years and eight and a half months; in 210 cases, in the beginning of the fifteenth year; in 87, in the eighteenth year: in 84, in the sixteenth; 6 women menstruated first at the age of eleven years, 3 at twenty-two. The period during which menstruation may primarily occur in Vienna comprises twelve years. In Paris, in the same latitude, it occurs one year earlier.

Of 1610 women from the country, the age of first menstruation averaged about sixteen years and two and a half months. 418 menstruated during the fifteenth year, 251 in the sixteenth; then followed in order the seventeenth, eighteenth, and nineteenth. More than half, 888, menstruated after the fifteenth year; less than one-fifth—304 before it. Two menstruated at ten, and the oldest—two likewise—first menstruated at twenty-five. The period during which menstruation may primarily occur, comprises therefore sixteen years in the country—four more than in the town of Vienna. Of these 1610 women, a. 603 were from Upper and Lower Austria Proper; of them, the mean age of first menstruation was sixteen years and three months; here also the greatest number, 142, menstruated in the fifteenth year; 88 in the seventeenth, 81 in the sixteenth, and 72 in the eighteenth year; the youngest, 5, were eleven, and the oldest, 2, twenty-five years old; the period of primary menstruation comprising thus fifteen years, or three more than in Vienna. b. 430 were Bohemians, of whom the mean age of primary menstruation was sixteen years and two months; 148 menstruated first at fifteen, 51 at seventeen, 49 at sixteen, and 46 at eighteen; the youngest was ten, and the oldest twenty-four, at her first menstruation; the period of primary menstruation comprising fifteen years. c. 273 came from Moravia, the mean age of primary menstruation being sixteen years and three and three-quarter months; 69 menstruated first at sixteen, 59 at fifteen,
Menstruation in Austria. [December,

and 32 at seventeen; the youngest, 8 in number, were twelve, and the oldest, 8, twenty-two years old; the period of primary menstruation comprising thus only eleven years; one year less than in Vienna, and four less than in Bohemia and the rural districts of Austria Proper. d. 180 women came from Hungary; and of them the average age of primary menstruation was fifteen years; 39 menstruated first at fifteen, 19 at fourteen, 16 at thirteen, 12 at seventeen; the youngest was ten, the oldest twenty-two; the period of primary menstruation comprising twelve years. e. 67 women came from Silesia; the mean age of their primary menstruation was sixteen years and one and a half months; 21 menstruated first at sixteen, 14 at fifteen, 8 at seventeen, 87 at 18; the youngest was twelve, the oldest twenty-two years old; the period of primary menstruation comprising eleven years. f. 66 women came from Bavaria; their average age for primary menstruation was sixteen years and ten months; 17 menstruated first at seventeen, 15 at 16, 9 at eighteen, and 8 at fifteen; the youngest was eleven, the oldest twenty-three; the period of primary menstruation comprised thirteen years.

Brièrre de Boismont fixed in Paris the age of primary menstruation at fourteen years and ten months for the poor, fourteen and five months for the middling classes, and thirteen years and eight months for the rich; and with this the observations of Chomel, Andral, and Recamier agree. Of our author's 2275 cases, 136 were of the middling classes—in them the average age of primary menstruation was fifteen years and two months; 730 handworkers—medium age fifteen years and ten months at their first menstruation; 1207 female servants, of whom the mean age of primary menstruation was sixteen years and two months; and 202 day labourers, whose mean age at their first menstruation was sixteen years and one and a half month; these results agreeing with Boismont's observation, that menstruation is earliest among the rich, and latest among the poor. Among the 2275 women, the ages at which menstruation first occurred are thus divided:

<table>
<thead>
<tr>
<th>Age in Years</th>
<th>Number of Women</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 years</td>
<td>15</td>
</tr>
<tr>
<td>11 years</td>
<td>15</td>
</tr>
<tr>
<td>12 years</td>
<td>36</td>
</tr>
<tr>
<td>13 years</td>
<td>149</td>
</tr>
<tr>
<td>14 years</td>
<td>204</td>
</tr>
<tr>
<td>15 years</td>
<td>628</td>
</tr>
<tr>
<td>16 years</td>
<td>335</td>
</tr>
<tr>
<td>17 years</td>
<td>283</td>
</tr>
<tr>
<td>18 years</td>
<td>259</td>
</tr>
<tr>
<td>19 years</td>
<td>147</td>
</tr>
<tr>
<td>20 years</td>
<td>95</td>
</tr>
<tr>
<td>21 years</td>
<td>84</td>
</tr>
<tr>
<td>22 years</td>
<td>80</td>
</tr>
<tr>
<td>23 years</td>
<td>4</td>
</tr>
<tr>
<td>24 years</td>
<td>2</td>
</tr>
<tr>
<td>25 years</td>
<td>2</td>
</tr>
</tbody>
</table>

The average age of primary menstruation in Austria being thus fifteen years and seven and a half months. As influential agents in hastening or retarding menstruation, Sz. enumerates geographical position, climate, populousness of a town, nationality,
mode of life, occupation, food, clothing, dwelling, training, morals, and bodily organization; according to some authors, hereditary tendency is also influential. Although in Austria menstruation most commonly occurs between the fifteenth and seventeenth years, many cases have been recorded of its much earlier occurrence. Wilson observed a case in which it occurred in the fifth year; the breasts being as large as those of a marriageable female. Scanzoni records one case at eight years; D'Outreport, one at nine months; she had protuberant breasts, and menstruated every four weeks till her death in her twelfth year. Boismont records two cases—in one menstruation commenced in the third month, in the other in third year. Similar observations are recorded by Mad. Boivin, Dieffenbach, and Martin Wall. In France, early menstruation is more common than in Austria; as Boismont, in 1200 cases, found fourteen who had menstruated before their tenth year. According to Szukits' observation, in scarce one-third was primary menstruation painful; while in France, according to Boismont, this was the case in more than two-thirds. In one case of dysmenorrhoea our author observed trifling acne rosacea on the chin and sides of the nose—the woman was twenty-seven years old. In three cases, each menstrual period was attended by an eruption of uricaria over the entire body; and in two girls, one fifteen, the other seventeen, the molimina of primary menstruation were attended by inflammation of the cellular membrane, which again disappeared on its cessation in three to five days after. Strong, healthy women generally menstruate more sparingly than feeble, anemic, or tuberculotic females; the latter, if not labouring under amenorrhea have profuse watery menstruation, lasting from ten to fourteen days. Of 1013 women, 240 menstruated sparingly, 560 moderately, and 187 profusely; of the latter, 26 passed clots without there being any uterine lesion present. Of 1013 women Sz. found that only 642 menstruated regularly every twenty-eight to thirty days, 371 menstruated irregularly, 269 menstruated from every eight days to every three weeks, 128 only every five or six weeks. The duration of menstruation is influenced by the same causes which influence its early appearance—its medium duration is 3½ days. Three times, Sz. saw menstruation occur for a shorter or longer period during pregnancy; also during lactation it was frequently seen. Trustworthy cases are recorded in which menstruation only occurred during pregnancy or after delivery. During fourteen years, and in 8000 cases, 14 occurred of total absence of menstruation; four of these had borne children repeatedly, the others never; most of them had from time to time, every three or four weeks, molimina menstruations; in none was there any vicarious menstruation; in two
cases, imperfect development of the uterus was discovered. Of 263 women, menstruation ceased in 99, between forty-six and fifty years; in 77, between forty-one and forty-five; in 42, between fifty-one and fifty-five; in 26, between thirty-six and forty; in 15, between thirty and thirty-five; and in 6 cases, between fifty-six and sixty years. The youngest woman who had ceased to menstruate was thirty-two, the oldest sixty-one, at the period of cessation. This may occur suddenly, without interruption to the general health, or it may take several years for its completion. Boismont reckons the average of this at two years. Sz. found the mean duration of uterine power to be thirty years. 125 women menstruated from twenty-one to thirty years; 106, from thirty-one to forty years. The shortest period of menstruation was twelve years, and happened in two cases; the longest, forty-five years, likewise occurred twice. Boismont found one case with a duration of only five years, and another with a duration of forty-eight. Of 863 women, 64 were never pregnant; 124 conceived once; 73, five times; 63, six times; 74, seven times; 38, eight times; 32, nine times; 27, ten times; 11, eleven times; 15 twelve times; 13, thirteen times; 5, fourteen times; 2, fifteen times; 7, sixteen times; 2, seventeen times; 3, eighteen times; 1, twenty times; 2, twenty-two times; 4, twenty-four times—863 women, of whom 61 aborted; each woman averaging about five conceptions. The most usual period of conception in Europe is between the fourteenth and fifteenth year; but cases of child-birth in the sixteenth year are recorded by Meissner, Bernstein, Osiander, Mende, and Busch. Haller saw one case of child-birth at sixty-three, and another at seventy; as also Labatt in Dublin, and Capuron, in Paris.


---

**Beneficial Effects of Pepsine in the Obstinate Vomiting of Pregnancy.** By L. Gros, M. D.

In the great majority of cases the vomiting of pregnancy may safely be left to the influence of time; but there are some cases in which females are scarcely able to retain in their digestive system a sufficient amount of nourishment to support their existence, and are therefore reduced to the last degree of emaciation. In some, also, the shocks occasioned by this obstinate and repeated vomiting become the source of abortions, which might have been prevented by moderating the activity of the morbid phenomenon. A very remarkable case was related in 1856, by M. Teissier, Professor of Clinical Medicine at Lyons, showing the immediately beneficial effect of a dose of pepsine in a case of vomiting during pregnancy. In this case the symptoms resist-
ed all the ordinary methods which were employed, and
the patient was unable to retain in her stomach any substance
whatever. Under these circumstances, the patient was brought
to M. Teissier, who found her in the following condition: The
vomiting had continued for two months, and she was at
the end of the fourth month of her pregnancy; she presented
the appearance of a skeleton, having the aspect and the cough
of a phthisical subject; the pulse was 140, and M. Teissier
thought at first that the case was one of pulmonary tubercle.
Finding that all treatment had been hitherto ineffectual, and
that the lady was actually dying of inanition, he was seriously
meditating upon the propriety of inducing abortion as a means
of saving her life: but as a last resource before operating, he
determined to employ pepsine. He accordingly prescribed one
gramme, to be divided into two doses, and take every day in a
spoonful of broth. At the very first dose the broth was retained,
and from that moment the vomiting never returned. On the third
day the lady ate some chicken, and then some beefsteak. The
treatment was continued in the same manner for three weeks,
and at the end of that time the cure was complete: the emaciation
was replaced by embonpoint, the fever and the cough ceased
with the vomiting, and at the end of the ninth month the lady
was safely delivered.

Dr. Gros then relates six other cases in which the pepsine was
employed with the same success, and he thinks himself warrant-
ed in concluding that pepsine undoubtedly produces good effects
in the vomiting which attends pregnancy. He explains the re-
results by supposing that, although in the first instance the vomiting is due only to the sympathy existing between the uterus
and the stomach, yet subsequently the stomach itself becomes
affected, as is proved by the fact that in the beginning of preg-
nancy the vomiting occurs only in the morning or the evening;
but in aggravated cases it supervenes after every meal, and all
alimentary matters are rejected. In such cases, therefore, when
the stomach has taken on a morbid habit, and exhibits an alter-
ation of secretion, the pepsine appears to be really indicated;
although in a merely sympathetic action between the uterus and
stomach it would be difficult to explain the efficacy of its action.


It is generally known that charcoal possesses proprieties which
are most interesting; that it removes most of the metallic salts
from water; combines with oil to such an extent that it cannot
be separated by ether, and fixes certain of the vegetable princi-
Inversion and real matters, pies. M. Thouery, in 1851 and 1852, made a series of experiments, from which he concluded that animal charcoal possesses real efficacy in combatting poisoning by cantharides. These experiments were 54 in number, and were performed on dogs. Lately M. Thouery has published the details of an experiment made on men.

During the night of the 12th–13th of December, 1856, Antoine B. experienced very acute suffering after having taken an infusion of centaurea from a vessel which contained powdered cantharides. Being called to see him, M. Thouery recognized it immediately as a case of poisoning by an irritant corrosive poison, but none of the liquid remaining for examination, he could not determine the nature of the poison ingested. He confined himself to the administration of general remedies, uniting, however, calcined magnesia and animal charcoal, and giving them in large doses. The condition of the patient did not seem to improve at first, but, after two days of intolerable suffering, relief was obtained and health was restored.

Thouery afterwards found that the poisoning had been produced by cantharides. He does not doubt, then, that animal charcoal largely contributed to the cure; and he regards this observation as confirmative, in a certain measure, of the results of his previous experiments. The only objection which we can adduce against this theory of Thouery is, that it does not necessarily follow from the fact reported*—[American Med. Monthly.

Inversion of the Body for the Relief of the Symptoms produced by the Passage of a Renal Calculus along the Ureter.

Professor Simpson exhibited to the Edinburgh Medico-Chirurgical Society (May 5, 1858) a small oblong renal calculus, from a patient who had passed them at different times, and always suffered terribly during their transit from the kidney to the bladder. This patient had been now twice relieved of the agonizing symptoms accompanying the passage of the calculus by inversion of the body. Prof. S. had subjected her to this treatment in consequence of his belief that the passing calculus, falling down into, and becoming impacted in the ureter, acted at its point of arrestment as a pea-valve, and by its accumulating the urine above, or in the pelvis of the kidney and higher portion of the ureter, led to the accompanying distress by the morbid distension of these portions of the urinary ducts. When

* We have translated this notice from the French, not because we consider the claims of charcoal as an antidote for cantharides to be established as a certainty, but with the view of calling attention to it, and obtaining from our own countrymen some additional facts bearing upon the subject of cantharides as a poison.
the body was inverted, and the affected side manipulated, the calculus probably fell backward, and consequently upwards, by its own gravity. At all events, whatever be the explanation, the practice in this and in one other case had immediately relieved the patient. He had seen partial relief from changed position in one case also of gallstones. Position was a more important therapeutical agent than was generally supposed, not only in medicine, but also in surgery and therapeutics. Several years ago—and shortly after the famous case of Mr. Brunel—Dr. S. saw, with Dr. Patterson and Dr. James Duncan, a case in which a shilling passed into the windpipe, and where upon inversion of the patient the shilling fell back into his mouth, thus saving the patient from the operation of tracheotomy. Dr. Duncan has published a full account of the case. In prolapsus of the umbilical cord in labour, the mere gravity of the cord in the usual supine position of the patient was no doubt one great cause of the difficulty of retaining it in utero, above the head or presenting part of the child, when once returned. But some late cases and observations proved that the return and retention of the cord could be effected with comparative facility, if the aid of position was called in, and the patient was placed upon her face, or upon her hands and knees, till the presenting part filled the brim of the pelvis; for in this prone position the cord gravitated toward the fundus uteri, instead of towards the os.


Rationale of the Saccharine Treatment of Diabetes.

Dr. John Sloane, in a paper read before the Leicester Medical Society (April 20, 1858), gives the following rationale of the saccharine treatment of diabetes:

"Glucose, the variety of sugar found in the urine of diabetes, is generated in the livers of animals throughout the animal kingdom, almost wholly irrespective of the nature of their food. The glucose secreted by the hepatic cells passes into the hepatic veins, thence into the inferior vena cava, and through the right side of the heart to the lungs, where, being exposed to the atmosphere, it sometimes completely disappears. M. Bernard has found sugar in the livers of mammals, of birds, of reptiles, of fishes, of molluscs, and of articulated animals. He has found it in omnivorous, herbivorous, and carnivorous animals. That the secretion of sugar is independent of the nature of the food, he proves by many experiments, of which I shall mention the following. He fed dogs exclusively on flesh for six or eight months; and when they were killed, at the expiration of that period, he found as much sugar in their livers as in those of dogs fed upon a mixed diet. Owlets
taken in their nests were fed exclusively on raw bullock's liver for three months, and were then killed; their livers always contained the normal quantity of sugar. Two dogs were fed solely on flesh, three on both flesh and bread, and two on amylaceous or saccharine food; they were all killed at as nearly as possible the same period of digestion, and the results of the chemical examination of their livers showed that the quantity of sugar secreted did not depend on the nature of their diet.

"Rollo recommended the use of fat for diabetes. M. Thenard and Dupuytren made them eat lard. We have fed dogs with lard and axunge; and we have found this very curious fact, that, under the influence of this alimentation, the sugar diminished in the liver absolutely in the same manner as if the animal had been kept fasting. In dogs to which M. Bernard has given nothing but pure water, he has found the secretion of sugar kept diminishing, and it ceased to appear about three or four days before their death. For the first thirty-six hours, the quantity continues considerable, but during the following days it diminishes very rapidly.

"A dog, having fasted thirty-six hours, had a copious repast of boiled sheep's head, and three hours afterwards, was killed. The blood in the portal vein, previous to its entrance into the liver, contained no trace of sugar; whereas, in the blood from the hepatic veins, there was a considerable quantity. This experiment, writes Bernard, would alone suffice to cause one to admit, as a natural and necessary conclusion, that the sugar is produced in the liver; yet we have accumulated proofs of every kind about this proposition; and we have shown that the hepatic tissue constantly contained sugar, and that it was the only tissue of the body which offered this character.

"In an animal fasting, the blood which arrives at the liver presents no trace of sugar; that which leaves it contains a considerable quantity. Inversely, the blood which arrives in the lung contains sugar; and that which leaves it presents no trace of this substance. The sugar in this physiological state remains hidden between the liver and the lung, and does not show itself at the exterior. This statement is true only in an animal fasting. When the digestion commences, the quantity of sugar gradually augments; yet during the two or three hours following the ingestion of aliment, notwithstanding the increase of the saccharine secretion, all the sugar can be destroyed before it arrives at the arterial system; and it is only after the lapse of time that the production of sugar surpassing the limits of destruction becomes temporarily excessive in the organism. At this period of digestion, one finds sugar in all the vessels of the body, arterial and venous, and even in the renal arteries; but the proportion is too slight for any of the sugar to pass in the urine. Yet we shall see, that under certain physiological circumstances, the quantity of
sugar can be increased to the point that it passes off in the urine without the animal being diabetic. Under the ordinary circumstances of digestion, this species of saccharine overflowing is manifested equally with animal or amylaceous diet, and it lasts about three or four hours. It is not less than six or seven hours after a meal that the excess of sugar in the blood commences to disappear, and that the equilibrium between its production and its destruction tends to re-establish itself as before digestion. This species of oscillation, which the glycogenic function presents, it is very important to know; for in the pathological state (diabetes) we find exactly the same phases, with the exaggerations we should expect in this malady. Different observers—Rayer in France, and Traube in Germany—have remarked that there are diabetics who do not pass sugar in their urine, except at the time of their digestion; and that, in the interval, their urine does not contain sugar. This phenomenon can be reconciled very naturally with the physiological fact which has been pointed out to you. There is nothing essentially different between the normal state and the pathological symptom, save the intensity of the phenomenon caused by a deviation of vital activity.

The sugar is formed from the albuminous substance; and this sugar is the result of the physiological action of the liver upon those principles, which are divided so that their oxygen, hydrogen, and carbon, are grouped so as to form sugar, while their azote enters into other combinations, and probably into the azotized principles of the bile. One does not know, indeed, any other origin for the saccharine matter, which cannot be produced in the intestine by digestion. Experiment has shown us that, during alimentation, by means of albuminous substances, the intestine and the blood of the portal vein never contain saccharine matter of any kind. Neither gelatine nor flesh produce saccharine matter in the intestinal tube by the known digestive processes. The amylaceous matters taken as food enter as sugar into the portal vein, and, arriving at the liver in this state, are then destroyed by this organ, and changed into another matter, which has every appearance of a fatty substance converted into an emulsion par une matière protéée spéciale. We have said that the sugar introduced into the intestinal tube does not augment the quantity of this matter contained in the liver, but that it is there destroyed, and causes the appearance of an emulsive substance. That the sugar introduced into the intestinal canal does not augment the quantity of this matter contained in the liver, M. Bernard shows by the following experiments. He takes two rabbits, whose urine he first finds, by testing, to be free from sugar. Into the stomach of one he injects a quantity of sugar in solution, with some ferroycyanide of potassium. Beneath the cellular tissue of the other he injects half the quantity of an exactly similar solu-
tion. He examines their urine an hour afterwards, and he finds in that of the first not the least trace of sugar, while the urine of the second presents it in considerable quantities. But you may say that this difference may be accounted for by the intestinal absorption being less rapid than the subcutaneous; but in both the ferrocyanide of potassium was readily detected in the urine. This will prove that the absorption is equally effectual in the intestine as under the skin, but that, in the first case, the solution has abandoned one of its constituents, the sugar, in traversing the liver; whereas this has not taken place in the second instance. He arrives at similar results in the following experiments. Through a small opening in the abdomen of a rabbit, he injects a quantity of the same solution into one of the branches of the portal vein; and into the jugular vein of another rabbit he injects the same quantity of the same solution. It is clear that, in this mode of operating, we cannot have any difference in the absorption, as in both cases we introduce the substances directly into the blood. Nevertheless, we obtain exactly the same result; that is to say, that in the rabbit, in which we injected by the jugular, the sugar has passed into the urine with the ferrocyanide of potassium, and with very great rapidity; whilst in the rabbit injected by the portal vein, the ferrocyanide of potassium alone will have passed into the urine, where one cannot find the least trace of sugar. These experiments are very conclusive. Bernard proves by experiment that starch, taken as food in the intestine by the influence of the pancreatic juice, becomes converted into sugar; and this passes into the portal vein. That sugar is destroyed by the liver, receives further confirmation, he states, by the facts known in the fattening of cattle. You all know that animals fatten most by the use of food in which starch predominates; that the geese and the ducks, in which the fat livers are artificially produced, are gorged with a pâté of maize or other amylaceous food; that the fat formed by an animal is not in proportion with the adipose matter which it takes; that, on the contrary, the animals which only eat fat, far from becoming fat, get lean rapidly. Hereafter it is not only the biliary secretion which we shall have to look upon in the liver; it has two other functions of capital importance—one the production of sugar, which is dependent upon the aliment containing albuminous matters; the other, the production of fat, which is dependent upon the amylaceous and saccharine matters in the food.

"Cane-sugar is never destroyed; it is constantly eliminated by the urine when it is injected directly into the blood; but this sugar, when in the intestine, is in part, at least, transformed into glucose. The latter, on the contrary, injected into the blood, can be destroyed in certain proportions."

"When we prick the mesial line of the floor of the fourth ven-
tricle, in the exact centre of the space between the origins of the auditory and pneumogastric nerves, we produce an exaggeration of the hepatic (saccharine) function, and of the renal secretion; if the puncture be effected a little higher, we very often only produce an augmentation in the quantity of the urine, which then frequently becomes charged with albuminous matters; while, if the puncture be below the indicated point, the discharge of sugar alone is observed, and the urine remains turbid and scanty. Hence it appears that we may distinguish two points of which the inferior corresponds to the secretion of the liver, and the superior to that of the kidneys. As, however, these two points are very near to one another, it often happens that, if the instrument enters obliquely, they are simultaneously wounded; and the animal’s urine not only becomes superabundant, but at the same time saccharine. The urine becomes saccharine in from one to two hours after the operation, but seldom continues for more than a day.

"The secretion of sugar is not under the direct influence of the pneumogastric nerve; for if it be divided before irritating the floor of the fourth ventricle, sugar still appears in the urine. Bernard believes that the influence is transmitted by reflex action through the ganglia of the sympathetic.

"There is a phenomenon which is manifested, for example, when, after fasting a certain time, a great quantity of sugar is taken. The intestinal absorption then proceeds with extreme rapidity. A great quantity of sugar arrives in mass in the liver; the mechanical circulation much prevails over the chemical; the sugar is poured into the general circulation in proportion much greater than occurs in the normal state; and it passes then into the urine, where its short-lived presence can be found for a certain time.

"M. Bernard, after a great many experiments in reference to the subject, has proved that there is a species of election in the excretion of matters which pass out of the organism. Sugar is eliminated in two ways only—by the kidneys, and by the mucous membrane of the stomach. When sugar is injected into the blood of an animal to saturation, and puts it for a time into a state of diabetes, we do not find sugar in the saliva, in the tears, pancreatic juice, bile, nor perspiration; whilst the urine and gastric juice contain it in proportions more or less notable. These results entirely resemble those obtained in diabetic patients. Lehmann states, however, that he has obtained sugar from the saliva of a diabetic. The presence of sugar has been pointed out in the expectoration of diabetes. Bernard admits that sugar can be had in notable quantity in the expectoration. But, he writes, we must not confound the bronchial mucus which these patients, almost always phthisical, in the last stage of the disease expel in
abundance, with the salivary secretion properly so called; it is the mucosities formed in the lung which contain the saccharine matter. Nevertheless, this fact is not constant; for M. Rayer has reported to the Society of Biology a case in which the expectoration of a phthisical patient examined by M. Wurtz did not contain sugar. Bernard proves by the following experiments the statements regarding the election in excretion of matters which pass out of the organism.

"He takes a dog with a parotidean opening, into which he inserts a tube. Nothing flows by this tube, which proves that the secretion is not continuous. By putting in the mouth some vinegar he excites the flow of saliva, which passes out of the tube rapidly in large drops. He next injects into the jugular vein of the animal a solution containing sugar, prussiate of potash, and iodide of potassium. Immediately after this injection the salivary secretion is again excited in the same way. The saliva is received into three glasses. One is examined for sugar, and none is found. The sugar therefore does not pass in the saliva. The second is examined for prussiate of potash, and it is not present. The third is found to contain iodide of potassium. This substance then passes immediately into the saliva, whilst the prussiate of potash and the glucose, equally soluble, cannot be found. In the saliva extracted before the injection, none of the substances exist. In the urine of the same animal after the injection the prussiate of potash is found in considerable quantity, and the iodide of potassium in small proportion. As regards the sugar, there is none yet, but we shall find it presently. It requires an hour or more for the sugar to appear in the urine.

"The urine then eliminates all these substances in a manner more or less rapid. The prussiate of potash appears first and the glucose last.

"There is another secretion in which the presence of sugar can be found; this is the gastric. The passage of the sugar into the stomach has surprised most of the observers who have seen long since that when diabetics vomited, although they had eaten nothing but flesh, the vomited matters were saccharine. When it was believed that diabetes proceeded from a perversion of the digestive functions, it was considered that the flesh was changed into sugar in the stomach. But one need not now be mistaken; the flesh is not saccharine. Bernard himself has observed that, in diabetics who vomit fasting, in the vomited matters the presence of sugar could be found. But this has only occurred when the disease is at its greatest intensity; and in all those cases, even in the animals which have been rendered artificially diabetic, it is much more difficult to obtain the passage of glucose into the gastric juice than into the urine.

"The sugar is formed, as we have seen, at the expense of the
Treatment of Diabetes.

albminous substances. In the healthy man it is clear that a part only of these matters is consumed for this purpose. The diabetic who forms much sugar expends a very large quantity of azotized material; the blood is impoverished; and, although the patient eats enormously, he gets thin like a man badly nourished. The liver takes in a manner the ration of the other organs, which undergo a considerable attenuation, because the albuminous elements are transformed into sugar.

"M. Bouchardat has proscribed the use of amylaceous and saccharine matters in the food of diabetics. The facts which Bernard has himself witnessed in the practice of M. Rayer prove clearly the utility of azotized aliment. In the regimen of these patients, writes Bernard, vegetable aliments ought to be forbidden, as it is evident that they augment the functional activity of the liver. You know, also, that they are excitants of the kidneys; that they are much more diuretic than animal matters. Thus all the herbivora pass much more urine than carnivorous animals. In the azotized regimen diabetics have the advantage of food which is not diuretic.

"I have at great length reminded you of M. Bernard's views regarding the formation of sugar in the animal economy. As some of them are of so novel a character, and so little in accordance with the notions formerly held, I have thought it advisable to mention the experiments upon which he founds his opinions. That they will, upon further investigation, be more or less modified, is not improbable; but they have been very generally received by the most distinguished physiologists and pathologists.

"From M. Bernard's investigations, we learn the following facts of importance in reference to the saccharine plan of treating diabetes:—

"1. Sugar may be rationally administered to diabetic patients, inasmuch as the sugar found in the general circulation is almost always secreted by the liver, and as sugar introduced into the intestinal tube in its passage through the liver is there altered and converted into an emulsive substance, which serves to fatten these patients, and thus to counteract their tendency to emaciate.

"2. Substances which contain glucose—such as honey and fruits, should be given to diabetics in preference to those containing cane-sugar, because the latter is not destroyed when injected into the blood, but is constantly eliminated by the kidneys; whereas glucose can be destroyed in certain proportions.

"3. Cane-sugar would be beneficial to a certain extent; as when taken into the intestine it is in part at least transformed into glucose; but if given in too large proportions to be thus completely transformed, the disease would be probably aggravated by the presence in the blood, and subsequent excretion by the kidneys, of the former variety of sugar.
“4. The glucose should be given in moderate quantities at a time, and frequently, rather than in large quantities at long intervals; because, when much sugar is taken fasting, it is absorbed too quickly to admit of its complete destruction in the liver, and it passes into the general circulation, whence it is eliminated in urine.”—British Med. Jour., and American Jour. of Med. Sciences.

EDITORIAL AND MISCELLANEOUS.

END OF THE FOURTEENTH VOLUME.—The present number closes the Fourteenth Volume of the Southern Medical and Surgical Journal. While carefully reviewing the accumulated results of our labors during the past year, as we have been obliged to do in the preparation of the final Index, we can but feel encouraged by the high style, practical character and great value of many of the original papers kindly furnished by contributors. The true intent and purpose, of a medical journal, as we conceive them, are never so fully carried into effect as when its original communications present a clear, full and reliable exposition of the Pathology and Therapeutics peculiar to the region in which it is published. There is perhaps no circumstance which strikes the mind more forcibly, when opportunity for observation is allowed, as the difference impressed upon the type and progress of disease, and no less on the treatment required, by the change of locality. The fevers of the Northern climates would, we opine, but illly bear the active medication found necessary at the South, while our endemics would fare badly, if the temporizing precepts of our northern brethren were not mended to meet the dangerous, and often fatal tendencies, impressed upon them by our peculiar climatic and thermotic influences. Medical journals, then, must record these differences, if they would attain their full degree of usefulness in their own region, or supply to other and more distant regions a faithful report of the history of disease in their immediate vicinity.

But a restricted record of local medical facts and precepts would not fully answer all the demands of even, a local journal; the neglect to embody in its pages a portion of the vast amount of valuable information accumulating in other portions of the world, would deprive its readers of much which justly belongs to them. The Eclectic department therefore, becomes no less important than the Original, and when this is carefully and judiciously conducted, a monthly medical journal can be made to supply a greater variety of practical and useful information.
than can be made available by the practitioner, who is actively engaged, even from the largest and best selected library.

To such a purpose, we have earnestly endeavored to devote the pages of the *Southern Medical and Surgical Journal*, and to the same end, we shall endeavor to labor during our connection with it in the forthcoming fifteenth volume. With this view, we ask the assistance of the Profession, not only in extending the encouragement of *prompt payments* to our faithful and liberal Publisher, but also, we, as Editors, invite contributions, which shall enhance its scientific value, and keep it, as it has heretofore been, a store-house, full of valuable practical information for readers, not only at home, in the South, but in the North, the East, and the West—wherever its pages may be perused.

*Our present number* has been detained somewhat beyond its usual time in the preparation of the Index to the volume. For the delay, the Editors are alone responsible;—the work of the publisher was fully ready at the usual time of issue. Book notices, and much other Editorial matter, are necessarily delayed for our next number.

**Chloroform in Dentistry.**—There is an impression abroad amongst dentists that every man is his own keeper, and that his life is in his own hands. Lamartine says that it is strongly characteristic of the weakness and imperfection of humanity, and typical of our earthly nature, that man comes into the world impotent to save himself, or to add one day to his life when beneath the edge of the mortal shears, destitute and helpless, but armed with the power of annihilation and self-destruction. This privilege the dentists of some sort are disposed to grant freely to their dupes. Chloroform is undoubtedly a mortal agent, an agent which may become inimical to life. Its risks have but too frequently and too fatally been shown by many recent accidents, and especially by the unhappy death at Epsom on the 27th ult, of a person, to whom it was administered by a druggist. There is a moral as well as an intellectual side to our art, and to the art of the true dentist. It is time that the ethics of chloroformization were established. The extraction of a tooth is not an operation which in any way bears upon life; it is not in itself attended with any risk. The deaths which chloroform has occasioned, when administered to facilitate this process, are unbalanced by any corresponding gain of equal import. The moral duty of the dentist is therefore clear. He has not the right to risk the patient's life for the extraction of teeth. The timidity of the patient or her pressing entreaties are not more germane to this consideration of duty than her rank or her wealth would be. In the cause of life everything is permissible. It is justifiable to refute the arguments of her ladyship; it is right to give a flat denial to her grace. However crooked those cruel fangs, they are less pitiless than the fangs of death; and though the patient turns rebellious from the door, it is better than that she should have found there
Miscellaneous.

“that bourne whence no traveller returns.” It is chiefly our fashionable ladies who demand chloroform. This time it was a servant girl who was sacrificed; the next time it may be a duchess. If a patient should press urgently for any dangerous poison it would not be administered to her, notwithstanding her own personal responsibility. Nor should chloroform, although only probably dangerous to life. Henceforward we think that this must be looked upon as a matter of conscience amongst operators. To our thinking they are bound to withhold chloroform for the extraction of teeth by every consideration of right and moral responsibility.

[London Lancet.]

Castration for Malignant Disease.—The diseases which may lead to the necessity for castration, as given in Mr. Curling’s work on “The Testis,” are the different forms of carcinoma, incurable struma, abscesses, and tedious sinuses consequent on inflammation, and cystic disease. We have given clinical records of most of these from time to time; but the most common form which demands this operation is carcinoma, and not unfrequently the medullary form. We saw the right testicle removed on the 10th ult., at Guy’s Hospital, by Mr. Cock, from a man twenty-five years of age, who was married and the father of a family. His general health was good; but eight months ago he first noticed an enlargement, and this gradually increased, until latterly it has become rapidly much larger. There was no history of having received a blow, and there was no pain; there was a degree of fluctuation about it which indicated a surface of fluid. A needle was introduced a few days before, which gave exit only to a little blood. Mr. Cock suspected it to be malignant; for besides the suspicious character of the nature of the swelling, the cord was enlarged. An incision was made over it, and then a section into the body, when the gland was found to be completely disorganized from soft cancer. It was, therefore, removed, the vessels of the cord being tied before the tumour was detached. The cord consisted principally of a mass of tortuous veins in a varicose condition, but was not otherwise affected, and therefore held out a favorable prospect of cure from the operation.

In Mr. Coulson’s case, the testicle was extensively diseased, as a result of inflammation, and removal was equally imperative, as in the foregoing instance.—[Ibid.

Traumatic Diabetes.—Dr. Plagge relates the case of a young man who received a blow upon the occiput, and the following night complained of strangury. Three days after he suffered from excessive hunger and thirst, and passed large quantities of urine, of the sp. gr. of 1·043, containing much sugar. His condition remained stationary in spite of the employment of opium, tannin, and an animalized diet. A drachm of the bicarbonate of soda (the urine being slightly acid) was then given to him daily, and he considerably improved. Nevertheless, the quantity of urine continued in excess during two months.—[Gaz. des Hôp., and Virginia Med. Journal.