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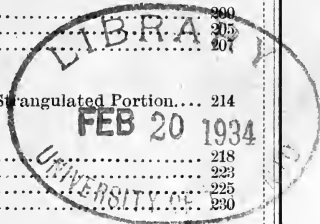
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Detroit Medical Journal.

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MARCH, 1877.

No. 3.

Original Communications.

Remarks on the Origin and Propagation of the Typhoid Fever Poison.

BY J. S. CAULKINS, M. D., THORNEVILLE, MICH.

The theory that the zymotic diseases are caused by the invasion of the human organism by microphytes is just now making rapid progress. Indeed, in the case of typhoid fever, we need not longer understand the "germ theory" in the sense of a hypothesis to be disputed about as something probable, but in the sense of a doctrine, to be taught as something true. The latest researches on the subject, English, Continental and American, show conclusively that the cause of typhoid fever is a microscopical organism, that somehow gets a lodgement in the human system, and there lives, grows, and reproduces itself. It is probable, too, that this minute organism is not an animalcule, but a plantule—a microphyte and not a microzoon. It might be called a microfungoid. It is found abundantly in all the fluids of the body—blood, lymph, secretions and excretions, but most of all in those of the intestinal canal, for which

it would seem to have an especial affinity, the most characteristic lesions of the disease being found there.

Although the histology of the changes produced by the invader in the human system is not understood, these changes must be entirely similar to those produced in other organisms by the attack of fungi. The condition, then, of the unfortunate person sick with typhoid fever is an exactly parallel one to that of a potato struck with the rot. Both are the victims of a fungus that lives, feeds, and multiplies at their expense.

There has been much pro and con argument over the contagiousness of typhoid fever, some eminent men holding that the disease can be caught, like measles, from the emanations into the atmosphere about the sick; others, equally eminent, believing that it is only through the instrumentality of the alvine dejections that the disease can ever be propagated. This is Liebermeister's belief, and Profs. Palmer and Dunster, of our University, have placed themselves on record as holding the same opinion.

It is believed that the fungus will live in the dejections for an indefinite period (and it is even suspected that it may reproduce itself in them), that it will filter through the earth a long distance into the drinking water, and give the drinker the fever, that if such water be drunk by a cow, it will pass through her veins and reappear in the milk with unimpaired capacity for mischief to the one that drinks the milk.

In spite of the respect that the above mentioned names inspire, it is doubtful if the position that the atmosphere is not sometimes the carrier of the contagion is tenable, and its adherents may be compelled to modify their views, even if it should be ultimately proved that the only way the typhoid germ gets into the atmosphere, is in the ejected or dejected contents of the digestive tube.

The main argument in favor of their position is, that the typhoid microphyte is a water plant, and only fructifies in albuminous fluids. This is doubtless true, but it is not proved that if such fluids evaporate and the air of the chamber is filled with the plant or its spores in an exsicated state, that their

viability is *immediately* destroyed, and while it lasts, it would seem that no condition could be lacking for successful propagation, for germs would be swallowed as well as inhaled.

It is not susceptible of proof that the disease is not taken in this way, and it avails nothing to quote fifty cases that did not take it after such exposure, for it does not prove that the fifty-first might not take it.

No doubt nearly all the germs that get into the atmosphere are soon destroyed, if proper cleanliness, ventilation, and disinfection are maintained, but in the absence of sufficient natural or artificial germicides, a few might escape and remain in hiding, to be revived when again soaked in the albuminous fluids to which chance might introduce them. It is difficult, then, to see what the basis of the theory is, that seeks to establish a different method of propagation in typhoid fever, from that which obtains in the exanthems.

In neither case is it yet known how the germs get into the system, but it is believed to be, in the exanthems, either by the way of the oxygen into the lungs, or by the way of the saliva into the stomach, and so into the blood and lymph, through the capillaries and lacteals. What other course can the typhoid fever germ take, except one of these, and what vehicle, except the air, could convey it to the lungs or stomach? Certainly the food or drink could convey it to the stomach, but it must, as a general thing, get into the aliments out of the air.

We must, then, till more is known on the subject, leave typhoid fever (in respect to its method of propagation), in the same category with the exanthems, and for these reasons—

1st. It is incontestable that it, like them, spreads from a centre of infection.*

2nd. The exact manner in which either spreads, is not known, and, where all is conjecture, it is too early to dogmatize.

*This is not denied by the gentlemen alluded to above. They admit that the typhoid germ is the starting point of typhoid fever, and are contagionists in the sense of believing in a *contactum* between the germ and its recipient. There are genuine Simon pure non-contagionists but with them! I have no controversy, their views being already sufficiently refuted. My controversy is with those who, while admitting that typhoid fever is caused by a typhoid germ, yet believe in its spontaneous origin.

3rd. The lesser degree of contagiousness of typhoid furnishes no valid ground of objection, for the exantheas differ from each other in degree of contagiousness.

It can be remarked respectively of each of these three headings :

As to the 1st. It is not meant that typhoid fever always spreads. Many a case is the first and the last of the series, as far as one person's observation goes, and the same fact is often observed with small-pox, measles, and scarlet fever, especially the last, solitary cases of it being of common occurrence.

Shall we argue that because the case of typhoid was solitary, or because the source of the infection cannot be traced, that the poison that produced it sprang into existence on the spot, and died out there? Not at all, or if we do, we can as well say the same of the others, and, indeed, many do believe this of scarlet fever. Measles has been known to break out on ships six weeks at sea. Small-pox makes its unwelcome appearance in localities where it was never before seen, and where no *known* means of transportation can be traced; and scarlet fever comes and goes as mysteriously as an ill-laid ghost.

A case of any of these diseases is solitary, when the source of the contagion is unknown, and when *care* in the case of small-pox and measles, and *accident* in that of scarlet fever, and typhoid fever, prevent it from spreading farther.

As to the 2nd. It is not known how the seeds of any contagious disease get entrance into the human system. It has been commonly supposed that they were inhaled, and passed with the oxygen into the blood. Doubts have lately been thrown on this theory, and it is a grave objection to it, that if the system is open to invasion by this route, the bacteria of putrefaction, which are always in the air, would get into the blood vessels by it, and death from septicæmia would be an every day occurrence. This is Tyndall's opinion, and he compares the blood in its vessels to the juice of the grape in its impervious skin. Fermentation will never take place, under any circumstances, while the skin of the fruit remains unbroken. You may hang a bunch of Ives's seedling (a grape with a thick, tough skin), in a warm place, and

it will remain there unchanged until dried, but squeeze out the juice and leave it exposed to the air, and it soon undergoes the alcoholic fermentation, which at 70° and upwards, Fahr., quickly passes into the acetous.

This theory makes it difficult to conjecture how disease germs do get into the animal fluids, for if the capillaries of the lungs are closed to them, those of the stomach ought to be, and it would seem that there could be, in that case, but one possible avenue of approach left them, namely, absorption with the chyle by the lacteals.

If this is really the case, it furnishes a possible explanation of the puzzling fact of exemption from contagious diseases, and the more puzzling fact of non-receptivity at one exposure, and receptivity at another.

The possible explanation is this: The germs may be killed by the acids, in their passage through the stomach, and digested by the gastric juice, at one time, and none reach the lacteals, while at another time some might survive the dangers of the passage and get into the lymph in a viable condition.

However this may be, neither its truth or falsity argues anything in favor of the idea, that in the mode of its communication, typhoid fever differs from the exantheams.

We must then conclude, in the present state of our knowledge on the subject, that it is premature to assert, as Prof. Dunster is reported to have done, "that the poison of typhoid fever is not properly an atmospheric poison, and can only be communicated by contact with the excretions of typhoid fever patients." This statement needs some explanation. If contact with the external integument is the kind of contact meant, how does the poison get through the skin and into the blood, and what kind of a poison does the professor consider it to be? If contact with the membrane, lining the digestive canal, is meant, what can the poison be called except atmospheric? Atmospheric can only mean a state of suspension in the atmosphere, and, as already remarked, disease germs must often reach the mucous membrane by inhalation, and by means of food and drink into which they have been carried by the atmosphere; and

that such is the general rule, seems evident, for no one is apt to lick his fingers after contact with the excretions of sick people, or mix such secretions with his dietary.

A moment's reflection will satisfy us that it is impossible to keep the germs from getting into the atmosphere, for the reason that the excrements of the sick are often thrown on the ground, where they are dried by the sun and blown away by the wind. No doubt the fate of the vast majority of these is to be hunted to their death by the scavenger of the atmosphere, ozone ; but this, unfortunately, is not always present when needed to do its beneficent work. At the same time and place that Prof. Dunster made the remark above quoted and commented on, Prof. Palmer said: "He believed typhoid fever, whether communicated or not, was constantly originating, *de novo*, especially from filth, and perhaps from other causes. * * * * * A poison capable of producing typhoid fever is no doubt produced in foul privies. He believed the disease depended on a peculiar poison, generated in filth. * * * * * But he did not believe that all, or a majority of typhoid fevers, were communicated from one person to another, by fæces or otherwise."

These remarks are susceptible of two distinct meanings. Interpreted in one way, they place the Professor in antagonism to the modern doctrine, that microphytes are the cause of typhoid fever, and make him consider the poison generated* in the "filth and foul privies," as a chemical product, for if it be a microfungoid, a veritable *formum vivum*, it could not be generated in filth, although it might possibly be reproduced in it, if its spores were first planted there. Interpreted in the other way, Prof. Palmer's remarks distinctly commit him to the doctrine of archebiosis, for if the poison be not a chemical product, but a microphyte, then "the beginning of life" was in the filth and foul privies.**

*I am not aware that Prof. Palmer has ever defined his position on spontaneous generation, but remember hearing his address to the State Society at Saginaw and thinking it leaned that way.

**If the word "generated" is used as synonymous with "reproduced," it would essentially change the meaning of the above, and leave nothing to argue about, but it is obviously not so used.

What the "other causes," capable of originating the typhoid fever poison are, besides filth, the Professor does not say, but I should be very glad to hear.

Before dismissing my second proposition, it would be well to observe as my profound conviction, that although we do not know how typhoid fever makes its attack on its victim (and the same can be said of every other zymosis), that we are warranted in believing that no defective drainage, no overcrowding, no want of ventilation, nor all these influences combined and assisted by "filth" in its worst imaginable forms, ever originated a case of typhoid fever. These influences might cause death in other ways, as by poisoning by carbon dioxide, or by sulphhydric acid, or other unthought-of methods, but never by typhoid fever.

Careful plowing and harrowing, plenty of manures and fertilizers, frequent stirring of the ground, a proper amount of heat and moisture, are excellent aids in the growth of a good corn crop, and we say of them that they make corn grow, but all of them combined never made a hill of corn grow in a place where no seed was planted. So of the unsanitary conditions spoken of above with respect to typhoid fever, doubtless they accelerate its growth and fearfully increase its ravages, if the fever seed has been sown. We harvest such as we plant. If we plant fever we harvest fever.

With regard to my third reason: It is no proof of the non-contagious nature of typhoid fever that among those apparently exposed to it, those who take it are the exception and not the rule. It is more or less true of every contagious disease, that there are those who enjoy immunity from it. This immunity is least in small pox, and perhaps greatest in typhoid fever. The greater this immunity is, the more the contagious nature of the disease will be marked by any notorious lack of sanitary conditions which happen to exist at the time an epidemic breaks out, and which, I am sorry to say, can generally be found, and which, if an epidemic were not prevailing, would pass nearly unnoticed.

I will illustrate this by a reminiscence of an epidemic of typhoid fever as remarkable and more extensive than the one

investigated by Prof. Palmer at the Maplewood Institute, and in which the gigantic proportions of the apparent cause completely hid the contagious nature of the malady from the eyes of the physicians as well as from those of the community.

Lapeer county began to be settled about 1832, and till '46 there had been no typhoid fever within its limits,—perhaps not one case. Late in the fall of that year it broke out with great violence in the village of Almont, and spread into the neighboring townships. It was commonly spoken of as the “potato fever,” and was so called because the disease was believed to have been caused by an immense heap of rotten potatoes in the south part of the village. These potatoes had been bought by a company of Eastern capitalists, for the purpose of making starch from them. Twenty-five thousand bushels had been delivered, and the manufacture had just commenced when it was discovered that the potatoes were rotting.

Efforts were made to pick over the heaps and go on with the work, but the rot made such progress that the attempt was soon relinquished in despair; and the whole rotting mass was thrown out of doors and left, a huge heap of putrescence, just outside of the mill.

The smell was intensely disgusting, and in the direction of the wind could be plainly perceived from one to two miles. The fever made its appearance simultaneously with the rot, the first fatal case being one of the employees of the mill, and spread rapidly over the village. Almont was at that time a village of 700 or 800 inhabitants, and was the trade center of a large section of country. Before winter was gone the pestilence had attacked half or more of the families in the village, and had spread to many localities in the country. In one little neighborhood there were six fatal cases in a radius of a mile. The fever was typically typhoid; every symptom was diagnostic. Hemorrhage from the bowels was a common thing; and the red tongue, the fatuous countenance, the low muttering delirium, the coma vigil, the sordid teeth, the ochrey diarrhoea, and the tympanitic abdomen were marked in almost every case, and during convalescence the falling of the hair and scattered abscesses.

There lived at that time in Almont two practitioners of medicine, Frederick W. Bailey, a man verging on 40, and a resident of the place since its first settlement, and Oliver P. Strobridge, about ten years his junior, and located there a year. Both were men of more than ordinary culture and talent, but both, in common with the community, believed that the potatoes were the cause of the fever, and overlooked its contagious nature.

Many were the discussions which the writer (then only a few months in practice, and several years younger than either) listened to between these two gentlemen relative to the fever, and it was invariably treated as a demonstrated fact that the potatoes were its cause.*

It was not from lack of evidence that the contagious nature of this disease was not recognized. This evidence was overwhelming. It was well known that the disease was carried from place to place, but that heap of potatoes appealed so strongly to more senses than one, that it was thought to be its (the potato heap's) miasm that was carried.

Among the worst sufferers was a family named Kidder, none escaping the fever, and all but one being cases of severity. From that family the seeds of disease and death were scattered in various directions and to distances of from four to ten, and in one and the worst instance, to twenty miles, A boy living in

*At one of these, the writer, in whose mind there was a lingering suspicion that this was not proved, timidly ventured a hint to this effect. This elicited some vigorous objurgations from Strobridge, who was provoked that the writer "should be so superfluous as to demand a reason," while such a palpable one as that heap of decaying potatoes was in sight. The heretic was glad to recant, and thereafter swear by the potato heap himself.

Bailey died a few months since at Nashville, Tenn., where he settled a few months after the war, during which he was a surgeon in an Illinois regiment. To the last day of his life he believed that the emanations of the rotten potatoes were the cause of the fever. There is a notice of this fever in an article from his pen, in the January number, 1875, of the *Detroit Review*. Whoever reads it will observe that he does not once use the word contagion. He mentions frequently "the local cause," and where he speaks of its transportation his meaning always is transportation of the poison from the decaying potatoes. The source of the infection, it should be added, was the neighboring village of Romeo, and was carried to Almont by families moving from the former place, where it had made its appearance several months before. Instead of being cause and effect, the potato rot and fever were merely synchronous.

the family, being taken sick, could not be cared for there, and was carried the last mentioned distance to his own home. He recovered, but his father and mother and seven brothers and sisters, all took the fever from him and died.

Such cases as the above look to us like proof of a contagion reproduced in the systems of the infected; but thirty years ago they taught no such lesson. It required some courage, then, in a man to say that he believed in contagion in fever. When Louis declared that such was his belief, a contemporary remarked that "his frankness did him honor."

The animus of this remark, is a sentiment of wonder that such a man could entertain such a vagary, something as we would feel toward an honest convert to Mohammedanism among our neighbors.

In explanation of this attitude of incredulity, it must be remembered, that the vicious reasoning (which the world has not yet entirely outgrown) that argues that a disease cannot be contagious of which the source of the infection cannot readily be discovered, had immensely more weight thirty years ago than now, from the fact that the modern doctrine of fermentation in disease was yet in the future.

Leaving the reader to decide whether the three points contended for have been sustained, this paper will conclude with a reference to the treatment of typhoid fever.

With the exception of that for complications, which will vary with individual cases, the writer believes in no medication or treatment which will not meet one of these indications:

(a.) Decrease the heat, and for this he has had no experience in the anti-pyretic use of quinine, but endorses that of water, by frequent sponging;

(b.) Conserve the strength, and for this purpose believes in alimentation, but does not think alcoholics good food early in the disease;

(c.) Kill the microphyte, and for this recommends to the profession a trial of the nitrate of silver, as an internal germicide, in doses of one eighth of a grain every four hours. The writer believes that this salt has done good in typhoid fever, in his hands, but admits that he cannot prove it was not by keeping him from more active medication.

The Causes of Phthisis Pulmonalis.

PAPER READ BEFORE THE DETROIT ACADEMY OF MEDICINE BY
LEARTUS CONNOR, A. M., M. D.

Without exact definition, I shall in this discussion use the terms Phthisis and Consumption in their general and ordinary signification. They include several distinct diseases; but the causes of these are much the same and are most appropriately considered together.

'Tis an old proverb "that long-continued familiarity breeds indifference." The more startling, terrible and frequently repeated the fact, the more blunted are the sensibilities. In no other way can we explain the comparative apathy to the ravages of consumption.

If a pestilence before unknown should pass over the civilized part of the temperate zone during the year 1877, and number among its victims one in every ten of all deaths from all causes, millions of hearts would quake from anxiety and fear; industrial and commercial activities would be checked; while all who were able would flee the accursed zone. Yet it is believed that one-tenth of all deaths in the temperate zone are caused by consumption. The proportion varies in different localities. Thus, of the different States and territories in the United States the proportion of deaths is highest in Maine—being, for 1860, one to every 3.57. It is lowest in Arizona—being one for every 50. The other States and territories vary between these two extremes. In Michigan, one-eighth of all deaths during 1869-70 was due to consumption.

Once brought fairly to our consciousness these are startling facts—most suggestive to us as physicians and men. Is it true that our chances of dying from consumption are one to eight? Will one in eight of all our kinsfolk, friends and acquaintances be cut down by the sickle of consumption? The answer to these questions is, we believe, recorded in the saying from an old Greek book: "As ye sow, so shall ye also reap." In short, persons will die of consumption who are subjected to the causes and conditions which produce consumption. Our pres-

ent object is to review some of these causes and conditions by the light of ancient and modern investigation. If from this we shall see how very imperfect is our knowledge in this direction and are stimulated to individual observation, I shall be content.

For convenience, we will divide all the causes of consumption into two great classes. (1) Constitutional. (2) Local. The first tends to produce an abnormal state of the body; the second to excite a local irritation of the pulmonary organs. Both are followed by the disease called Phthisis. Believing that the constitutional causes are the most important, we shall consider them at some length, only speaking of the local causes incidentally.

(1) Does hereditary influence cause or promote consumption?

Of one thousand cases collected by Dr. Cotton at the Consumptive Hospital, London, 36 per cent. were hereditary. From 5,627 histories Dr Pollock was able in 30.16 per cent. of the cases to trace the disease to hereditary influences. Neither of these observers clearly tell us whether the parents of the cases were consumptives or debilitated from some other cause. We suppose that the ordinary mode of speaking was followed, and that the ancestral stock was depraved by phthisis.

Walsh, in 162 cases, found that 26 per cent. had a tubercular parentage. It will be observed that these statistics were taken from hospital practice, and are open to criticism. Analysis of cases in private practice would be more satisfactory. But I have been unable to find any such analysis of any considerable number of cases, or even to collect a large number of well-observed cases to analyze. Isolated cases are recorded, and are known to all practitioners of experience, in which a distinct hereditary influence is clearly seen in certain families. Dr. Flint records the following striking illustrations:

“All the children of a family, seven in number, were victims of consumption in five years, the ages being between 18 and 23. The mother died of the disease shortly before the death of the first child, and the father was a man of robust health.”

Medical opinion almost unanimously affirms that consumption is caused or promoted by hereditary influences. Dr. Bowditch tells us that all but one out of 206 correspondents emphatically asserted the great importance of such influences. This evidence is specially significant from the fact that it comes from physicians who see families born, grow up and die under their own care. I cannot forbear quoting briefly some of the replies to Dr. Bowditch's inquiries.

One writes: "I do not remember to have seen a well marked case of consumption where I could not trace the taint in the ancestry of the patient." Another says: "I can point out several families in which I have been able to trace consumption through three generations." Another: "My observation leads me to believe that consumption is hereditary—that this tendency is the predisposing cause; but I do not believe that this cause of itself is sufficient to produce a fatal result in nearly all who have this cause operating in the system at birth. The tendency may remain dormant during life unless other conditions favorable to the disease should arise."

Pollock says "that in the absence of more accurate knowledge than science yet possesses we are inclined to refer the actual precipitation of the disease phthisis to the influence of hereditary predisposition acting in conjunction with, or occasionally in the absence of, all or any of the other remote agents. If to one or more of these conditions we add that of inherited tendency, few escape. The modifications on which depend its rapidity, development and duration are distinctly seen in families."

Dr. C. F. Williams concludes an admirable study of this subject as follows: (1) "Family predisposition occurs more commonly among, and exercises a more decided influence on, females than males. (2) Fathers transmit more frequently to sons and mothers to daughters than the converse. (3) Family predisposition precipitates the onset of the disease, and thus shortens life."

What is this hereditary influence in the existence of which physicians so universally believe? None pretend to give an

exact, definite answer. Some state that it is a *specific diathesis*, others that it is merely a *general debility*, which may be present in the offspring of parents in bad health from any cause. From all the evidence presented on both sides and our own observations we are inclined to accept the latter view as the true one and of the greatest practical importance.

Thus, from an impartial examination of statistics, as collected in hospitals, of isolated cases and of the combined testimony of many careful and reliable observers we conclude that in a large number of cases consumption can be traced to *diseased ancestry*. Facts show that *parents gravely debilitated*, from *any cause*, as disease, age, debauchery, etc., are *likely to have consumptive children*.

This is a startling conclusion, and one which should be pondered by every parent and every person considering the subject of marriage. Looked at from the physical standpoint, debilitated persons should never become parents, and the married should be especially careful that while propagating the race they be perfectly healthy. If the same care and common sense that is employed in improving the breeds of horses, cows, etc., were expended on the human species, a beginning would be made toward stamping out consumption.

(2) Race is closely allied to hereditary influence in the production of phthisis. We have found but few reliable statistical facts bearing on this point alone. It is stated in a general way by writers that, in the colder parts of the temperate zone, negroes and creoles are peculiarly liable to phthisis. My own limited observation confirms this view. Further, when once attacked by phthisis, these races speedily succumb.

Morton, Nott and Rufz tell us that phthisis is a common disease among the blacks in the West Indies, and that by it large numbers of creoles perish.

From facts collected by Bowditch it would appear that in Boston, at least, the Jews suffer great immunity from consumption. A Rabbi, after careful investigation, ascertained that there were at least 5,000 Jews in Boston. Of these only

eight had died of consumption during the last five years. Dr. A. Haskins states that, as physician to Jewish societies, he has cared for sixty Jewish families during two and a half years, averaging among them two visits daily. During these visits he had met but one case of consumption. In a large private practice among the Jews for the same period he had met only two cases of phthisis. These statements seem entirely trustworthy, and indicate that consumption is less frequent among Jews than among Christians.

(3) Age.—Deaths from consumption occur at all ages, but, as we shall see, they are most frequent during the periods of greatest functional activity. The researches of Boyle, Louis and Sir James Clark throw considerable light upon the exact age at which most die. From these we learn that the greatest number die between the ages of 20 and 30; the next greatest between 30 and 40; the next greatest between 40 and 50. The number of deaths between 50 and 60 about equals that between 15 and 20. Between infancy and puberty phthisis is fearfully common. Dr. Passavoine tells us that, out of 920 children observed by him who died between the ages of 2 and 15, no less than 538—nearly three-fourths of the whole number—died of phthisis.

(4) Occupation.—From an analysis of six hundred and seventy cases recorded by himself, Dr. Flint says “that the varied occupations of life favor the production of phthisis, in so far as they involve *confinement within doors* and *sedentary habits*.” In these statistics and those of several other observers amounting to some eight thousand cases, we are especially struck with the fact that the greatest number belonging to one trade was composed of clerks and shopmen. Dr. Knight, of Sheffield, says that the dry grinders die of phthisis before they are thirty-two. This observation is abundantly confirmed by physicians who treat the operatives in American cutlery establishments. That this result is largely due to irritation, etc., produced in breathing air filled with fine particles of dust, we have clear proof. Thus, the operatives who grind over wet stones, from which there can be no fine dust, suffer in no marked degree from their occupation.

The proportion of consumptives is large in all those trades that require a stooping posture—as tailors, bootmakers and weavers—which, by mechanical hindrance to the free entrance of air into the lungs, restrict the expansion of the chest walls and result in imperfect performance of respiration. This interferes with the proper nutrition of pulmonary tissue and general lowered vitality of the system.

In this connection I quote from “Punch” a parody on Mrs. Hemans’ “Homes of England :”

“The cottage homes of England,
How beautiful they stand
(So once Felicia Hemans sang)
Throughout the lovely land !

* * * * *

The cottage homes of England,
Alas ! how strong they smell.
There’s fever in the cess-pool
And sewerage in the well.

The cottage homes of England,
Where each crammed sleeping place
Foul air distils, whose poison kills
Health, modesty and grace.

Who stables horse or houseth kine
As these poor peasants lie —
More thickly in the straw than swine
Are herded in a sty ?”

The spirit or essential truths forming the basis of this parody is not inapplicable to millions of homes and workshops in our own land. The personal habits, as manifested in the average house or workshop, are far from conducive to health or happiness. We have not space to pursue this matter further.

A majority of the leading minds in our profession believe that our system of education at school and college really tends to the production of consumption. Bad hygienic conditions doubtless have much to do with this result. But some of our keenest observers declare that the violent stimulus placed upon scholars by approaching examinations for rank and prizes, or

exhibitions, is not seldom, after the extra labor, followed by entire prostration, ending in phthisis.

Dr. Flint says "that among those whose work may be distinguished as *brain craft* they who suffer from the mental causes of disease are not the close students, the industrious authors and the laborious lawyers, clergymen and physicians in so large a proportion as men of business, speculators and politicians. It is not the amount of intellectual work so much as the constant tension from anxiety and suspense, the alternations of undue exaltation and despondency occasioned by the so-called caprices of fortune and persistent over-excitement which constitutes the morbid agencies of mental origin."

The researches of Bowditch show that three-fourths of the profession believe "that the people of this country are overworked;" and, with still greater emphasis, they might have added that we are *overworried* and *overfretted*. We suspect that this latter element far more than *honest work* is the fatal poison of our activities. The observer just mentioned gives his own views thus: "We have no large vacations; no pastimes; we give no rest to ourselves or employees. The struggles for life are so great and the "*accursed love for gold*," the nature of our political institutions, our stimulating climate, all urge us to work and overwork. Even in our parties during the winter, and at gay watering places during the summer, there is no rest. The "*dance of death*" goes gaily round all the time, whether we work or play."

(5) Personal *habits* have an insidious power in producing phthisis. I can find no evidence to show that intemperance in alcoholic drinks tends to produce phthisis in the drinker. In truth, the reverse of this is very clearly shown by a variety of facts, which will be referred to at another time. But, if the drunkard suffers an immunity, his family is often reduced to such want and squalor as to render them easy victims of this disease.

Excessive sexual indulgence, according to a majority of New England physicians, is a cause of consumption. I was especially impressed with the evidence presented, and am sure

that it will aid in elucidating some cases otherwise obscure in their etiology and course.

The want of physical and mental exercise is doubtless a prolific source of phthisis. Good blood cannot be made without exercise, even when every other condition is supplied. Physical exercise to weariness, but not exhaustion, is an essential condition of the formation of the best blood and the best protoplasm. With these constantly present there can be no consumption.

(6) Diet, insufficient in quantity or deficient in quality, is generally said to have a powerful influence in producing that malnutrition which precedes and accompanies phthisis.

Lombard, from an examination of the records of 54,572 histories of consumptive cases and 4,300 deaths, involving 220 different occupations, found that, other things being equal, the *poorest fed* classes were *twice* as liable to *phthisis* as those better fed.

Dobell and others have laid great emphasis on the *deficiency of fat* in the system as a cause of phthisis. It is certain that fat or fatty food is especially repulsive to consumptives. Dobell says that this is due to a disturbance in the secretion of the pancreas, so that only small amounts of fat can be digested. We cannot now enter into a discussion of the different articles of diet and their relation to normal nutrition, nor can we take up those disturbances of digestion which, at least, accompany every case of phthisis. It has been suggested that the comparative immunity of the Jews from consumption was due to their eating so little pork. Instances, well observed, are recorded in which pork diet seemed almost the sole cause of phthisis. 'Tis well known that, of all meats, pork digests with the greatest difficulty. The method by which it is most frequently cooked—frying—renders it still more indigestible. Hence, it is not surprising that digestion, primary and secondary assimilation, are perverted in some who depend upon it for subsistence. Should such have an hereditary tendency to phthisis, it is easy to see how this perversion of supplies might fully develop the disease. All pastries and other *grease-soaked*

dishes fall under the same head and tend to produce the same results.

Badly-cooked food, bolted, half-chewed food, even more than kind or quality, are a condition for, if not a cause of, consumption. If women and men really desire to check the devastating ravages of consumption, they can do inestimable service by seeing that *abundance of fresh, nutritious, palatable and well-cooked food* is provided for those under their charge. I think we may safely affirm that none will die of consumption, or even be attacked, who *eat and digest three good square meals each day*. The proportion of saccharine, starchy, oleaginous and nitrogenous elements entering into a proper diet will vary with climate, season, age, occupation, etc. But some of each should be taken at every meal.

(7) Respiration is best performed when the air is pure and exercise sufficient to produce a free circulation of blood through every part of the lungs, in particular, and the body in general.

Lombard says "that in all pursuits involving a sedentary life, with a confined position of the body, the prevalence of phthisis will be in proportion to the greater or less amount of muscular exercise required by each occupation. The lack of exercise and bad air are the causes of consumption, rather than the special and local influences to which it is usually attributed." The same observer found that the deaths from phthisis, in workshops, were double those in the open air, and that the proportion increased as the apartments were close, narrow, and imperfectly ventilated.

A large number of facts show that not every impure atmosphere will induce consumption. Thus the sewer cleaners of Paris are singularly free from it. Colliers and miners are not more liable than others to phthisis.

But air vitiated by human respiration increases greatly this liability. Baudelocque, Carmichael, Lepelletier, Leil, Arnott, Toynbee, Guy, Greenhow, and others, furnish a large amount of evidence on this point. Guy says "that of 109 compositors who worked in rooms of less than 500 cubic feet for each person, 12.50 per cent. had phthisis; of 115 in rooms having from 500

to 600 cubic feet, 4.35 per cent. had phthisis; and 101 in rooms of more than 600 feet, 1.98 per cent. had phthisis."

Parkes states "that in a prison at Vienna, very badly ventilated for a certain number of years, 51.4 per 1,000 died of phthisis; while during the same period, in the same city, at the well-ventilated house of correction, the deaths from phthisis were only 9.7 per 1,000. The Sanitary Commission of the British Army, after the fullest investigation and assigning all probable influence to exposure on duty, intemperance, syphilis, and faulty diet, states that the extraordinary frequency of phthisis in the European armies can only be accounted for by supposing the *vitiating air* of the *barrack room* to be at *fault*. The disease prevailed at the most varied stations of the army, in which there was but *one* common condition, *impure air* in the *barrack room*. To make the argument still stronger, of late years there has been a decided decline in phthisis in those stations in which the *only change* has been a *better* condition of the *air*. MacCormac carries this doctrine so far as to make rebreathed air the almost exclusive cause of phthisis. Thus he says, "whenever the air, habitually respired, has been largely, or wholly, respired before, these tubercular deposits are found."

Facts collected by Hirsch, prove that in foundling hospitals, orphan asylums, boarding schools, factories, and like institutions, the air poisoned by animal effluvia is in the highest degree favorable to the development of phthisis. This is true in those cases in which there is the greatest cleanliness, good food, warm clothing, and all the other conditions of healthy life.

We have already presented facts showing that lack of general muscular exercise is one cause of consumption. Further statistics show that those who use their vocal and respiratory organs most are less liable than others to phthisis. It is quite clear that the reason why tubercular deposits first take place in the apices of the lungs, is that from their anatomical relations, these are less exercised than other parts of the lungs.

The pernicious effect of *rebreathed air* and lack of *exercise* is well illustrated by the comparison of wild with domesticated animals. The latter is far more liable to phthisis than the former.

‘The stabled cow, the penned sheep, the tame rabbit, the monkey, the caged lion, tiger or elephant, are often destroyed by phthisis.’

(7) Mental influences, says Laennec, are most certain causes of phthisis. On the power of melancholy, he gives the following striking illustration: “For ten years I had under my eyes, in Paris, a nunnery whose rules were very severe. The alimentary regimen of the nuns was not beyond the bounds of nature, but the spirit in the rules of the nunnery directed the mind to the most terrible, rather than the consoling, truths of religion, and compelled the inmates to resign themselves in everything to the will of the abbess. After about two months sojourn in this house the menses became suppressed, and in a month or two afterwards symptoms of phthisis appeared. Those who at this time left the house recovered. But of those who remained, all died except the superior and the sisters who had such duties in the kitchen, garden, infirmary, or city, as to distract their minds from such gloomy thoughts. During the ten years that I was physician to this establishment the numbers died off twice or thrice.”

Seventy-two per cent. of all Bowditch’s correspondents affirmed that consumption was caused by mental influences. More and more the profession is approaching the belief in such a unity of mind and body that one cannot be disordered without affecting the other, that a diseased body will cause a diseased mind, and a diseased mind a diseased body—that mental trouble, even of the briefest duration, must cause an unhealthy mind. This, in turn, must interfere with the laws of physical health—so lower the vital powers and tend to the production of phthisis.

(9) Various classes of disease may produce in persons, free from every other cause, a decided tendency to phthisis.

This is true of many affections of the alimentary canal—of diabetes mellitus, chlorosis, tertiary syphilis, various fevers, miscarriages, prolonged lactations, etc.

On the other hand, certain diseases tend to check the tendency to phthisis. It rarely occurs in cases of emphysema, or in cases of cardiac lesions, which leave the lungs engorged with

blood. This pulmonary engorgement seems to be an antidote to the disease. That ordinary pneumonia, pleurisy, bronchitis or pharyngitis tend to terminate in consumption, I can find no adequate proof. I am aware that this is disputed ground, but on anatomical, physiological, pathological or clinical grounds, I cannot accept the teaching of Niemeyer on this point. Limited space prevents a discussion of the question here and now. All the statistics I have been able to collect point unmistakably to the conclusion, that phthisis is no more frequent in individuals liable to bronchitis, catarrh, pleurisy and pneumonia, than in those who have no such liability. In short, if a person having no other cause of phthisis be attacked by one of the above diseases, there will be no reason to either expect or fear consumption, as a sequel. In fact, physicians do not expect such a result, because contrary to experience.

(10) Is consumption ever caused by contagion? Aristotle, writing 340, B. C., speaks of it as contagious. Galen, 130, A. D., states that it is dangerous to pass an entire day with a consumptive. Lomnius, 1560, thought the sputa contagious. Morton, 1610, asserts that consumption is as contagious to a bed-fellow as malignant fever. Revirius, 1650, says that contagion is the chief cause of consumption. Morgagni, 1760, would not dissect subjects who had died of phthisis, for fear of infection. Cullen, 1777, states that he had never known a case from contagion. Thence the idea faded out till within the past 20 years. During this time it has had a varied fortune. The Italians are most positive in their belief in the contagiousness of phthisis

The English and Germans generally reject this belief.

Dr. Cotton states that during his connection with the consumptive hospital of London, since 1846, only one of all the employed in or about the hospital has had phthisis. That the disease has been developed in widows and widowers, so as to favor the doctrine of contagion, he admits. But he thinks these facts may be better explained in one or two ways. First, he adduces the fact, that husband and wife often come to resemble one another by virtue of some peculiar physiological relation. Why may they not come to resemble each other in their *lingering*

constitutional diseases? Second, a phthisical husband may taint his wife, through foetus in utero?

Dr. Webber made the statement before the Clinical Society of London, that he had the histories of twenty-nine marriages between women with more or less marked signs of consumption and healthy men, and of fifty one marriages of tainted men with healthy women. While only one husband from the twenty-nine who married diseased wives became consumptive, eighteen of the fifty-one healthy women married to diseased husbands, died of consumption. The eighteen women were the wives of nine husbands, one of whom lost four wives, one three, four two, and three one each.

On the other hand, Dr. Budd holds that dried sputa contain particles of the real contagium of this disease, and that they may be floating around in every atmosphere in which a consumptive lives. Thus it will be seen, that after a study of more than two thousand years, the question is still unsettled. Meantime it is wise to prevent, if possible, a well person from sleeping with, or in the same room, with a consumptive.

(11) The infection of phthisis is of intense interest, and has been extensively studied. It has been repeatedly demonstrated that the inoculation of certain animals with tuberculous or other foreign matters, is always followed by symptoms and lesions apparently similar to those of true phthisis. Further, 'tis well known that deposits of pus or chronic indurations in one part of the body may be, and often are, followed by phthisis. In explanation of this fact, it is said that the broken down, purulent matter is absorbed, and in passing through the capillary circulation, excites those changes which end in phthisis. Many of our most brilliant pathologists say that in this way tubercle is usually formed. That phthisis is sometimes produced in this way, all must admit. By the admission, we can explain many curious facts. Thus it is a matter of clinical observation, that the stopping of running sores, fistulas, etc., is frequently followed by phthisis. We now understand that the poisonous matter and badly organized corpuscles which escaped from the body through the sore are retained in the circulation, and bring about the observed morbid changes.

(12.) The influence of *climate* in the production of consumption is undoubtedly great. But the question is at once asked, what is the climate that exerts the greatest power in this disease? The term, climate, is very complex in its elements, including soil, air, temperature, elevation, sunlight, electrical condition, etc. Dr. Bowditch first established the fact that in those localities where consumption prevailed most frightfully, *dampness* was the characteristic of *soil* and *air*. In those localities which were comparatively free from consumption, *dryness* was a *characteristic* of soil and air.

Of the other elements of a consumptive climate he does not speak. Eighty per cent. of his correspondents believed that consumption is both caused and promoted by climate. One, a physician of eminence, uses the following language: "My own conviction has been for many years that consumption loves a moist locality and a dark dwelling. I have noticed that houses built upon a dry subsoil, and so constructed that they admit the sun freely, are generally free from consumption. A dry locality, with plenty of sunshine, warm clothing, and plenty of food, will never breed phthisis. With these, even though persons be predisposed, one can keep the disease at bay, and live to a good old age."

A high latitude seems to protect from phthisis. After fifteen years of observation, Jaccoud says that tuberculosis is almost unknown in Alpine districts above 4,000 feet. The inhabitants of Iceland are said to be entirely free from this disease. Experience has shown that although the barometric pressure was lessened by elevation, hæmorrhage from diseased lungs is not increased. Toner has shown that "those states presenting the lowest elevations and the greatest area of ponds, lakes, rivers, and wet lands to their whole area, have the largest number of deaths from phthisis." Coolidge, in his report on the sickness of the army, says that the reports from the line of posts stretching from the upper Platte through New Mexico, to the Rio Grande, give a smaller proportion to pulmonary phthisis than the reports from any other posts in the United States. The air in this region is almost devoid of moisture—there are

few sudden changes - the depressing heats of eastern summers are never felt, and although in the north winter is extremely cold, a stimulant and tonic effect is the only result of exposure in the open air." We do not think, in view of the facts presented, that we can insist too strongly upon the fact that *damp soil* and *damp air*, especially if loaded with emanations from decaying animal or vegetable matter, is *one well established cause* of consumption. Sudden changes of temperature and barometric pressure—bad enough in themselves—greatly increase the ill effects of dampness.

The effects of sunlight have not been studied with sufficient care to enable us to make any accurate statements, yet we are sure that the absence of the sun's rays is no insignificant cause of phthisis. Of electricity and magnetism in their relations to the human organism we are just beginning to learn.

Thus, in a very imperfect manner, we have passed in review some of the causes or conditions of consumption. The exact part each shall take in any given case must be ascertained by the medical attendant. It does not seem presumptuous to expect that with our advancing knowledge respecting these causes and conditions, we shall be able to detect the disease ere it has destroyed the functional power of any tissue, and, by removing the cause, cure the disease.*

Report on Physiology.

READ BEFORE DETROIT MEDICAL AND LIBRARY ASSOCIATION,
BY DR. J. G. JOHNSON, DETROIT, MICH.

GENTLEMEN:—By the terms of the constitution of this society, it becomes my duty, at this time, to present to you a *resume* of the advance made during the past year, in physiology,

*For facts, etc., contained in this article I am indebted to the following publications: The Treatises on "Practice of Medicine," by Riverius, Cullen, Hoffman, Trousseau, Niemeyer, Watson, Flint, Bennett and Roberts; Report Mass. State Board of Health, 1873; Vital Statistics, State of Mich., 1873; Works of Aristotle, Hippocrates, Celsus, and Galen; Louis on Phthisis; Toner's Dictionary of Elevations; Williams' Principles of Medicine; British Medical Journal; London Lancet; Edinburgh Med. Jour; Glasgow Med. Jour; Amer. Jour. Med. Sciences; Amer. Practitioner; Medical Record, and many other medical journals.

pathology, microscopy and chemistry. These are the most extensive and difficult subjects connected with our profession, and to take stock of the real, genuine progress made in a year is no easy matter. It is hard to say, in a given case, whether we have to do with facts which will stand the test of time, or with assumptions which will be disproved in the next journal.

Hundreds of enthusiastic workers in England, Germany, France, Italy and Russia, as well as in our own country, are engaged in costly laboratories with microscope and test tube, ferreting out biological mysteries. Facts are in demand. Details and minutiae are dwelt upon and magnified to an extent that only the hope of support for the theory of evolution would seem to commend.

The internal arrangements of the lower forms of animal life have acquired an importance which they have never hitherto enjoyed. This is probably as it should be, for it is reasonable to suppose that the higher forms of life can be best studied through the lower and simpler. One thing, however, is certain, that the vast mass of details which are accumulating have, as yet, rather an expectant than actual interest for the profession at large.

In physiology it is the nervous system which has received the most attention during the past year; but the positive results have been few. Numerous experiments have been made touching the question of the excitability of, and localized centres on, the cortex cerebri.

Some have confirmed, and others thrown doubt upon the conclusions of Fritch and Hitzig. Some of the later experimenters, while they confirm the facts as stated by them, ascribe the muscular contractions resulting from faridazation, to the conduction of the stimulus along the course of blood vessels, to centres at the base of the brain. Others, as Brown-Sequard and Claude Bernard, consider the results as simply reflex phenomena.

M. Bochefontaine, who has recently published in the "*Gazette Medicale*" the results of an extensive series of experiments upon dogs, is of the same opinion. He has discovered at least three points upon the cortex cerebri, which occasion, when

stimulated by faradization, hypersecretion of the submaxillary gland, four points which cause contractions of the spleen, and six which cause contractions of the intestines, with simultaneous discharge of urine from the bladder.

Brown-Sequard maintains that there are no centres, properly speaking, in the hemispheres, but that the nerve cells, acting together, are distributed in different parts of the surface of those organs. They are connected, of course, and might be supposed to act together quite as well at the distance of several inches, as one inch.

In this connection, we might mention his explanation of those cases of hemiplegia where the lesion and paralysis are upon the same side. He would make them really reflex paralysees, just as might be produced by any peripheric source of irritation. He says, to quote his own words, at the conclusion of one of his lectures in London, last March, "that it is owing to an irritation that one-half of the brain is capable, when diseased, of producing paralysis either in the corresponding half the body or in the opposite one. He denies the explanation according to which there should be no decussation of the conducting motor fibres in those cases, for the reason that no anatomist has ever yet discovered any such absence of decussation in the cord.

The question of the existence of vaso-motor nerves has, of course, been settled some time ago; but their unity or duality, and their mode of action, is still agitated. A large number of physiologists, with Claude Bernard at their head, claim that the existence of dilator nerves is as well established as that of the constrictors.

There are many facts claimed as support for the duality of this system. Irritation of the isolated chorda tympani gives rise to hyperæmia of the point of the tongue, and the same procedure with the glosso-pharyngeal produces the same result in regard to its base. Again, it is well known that section of the fifth nerve, internal to the Casserian ganglion, is followed by impaired nutrition of the cornea and other parts of the eye, without any apparent degeneration of the nerve fibres. This is explained, according to the dualists, by supposing that in making

the division of the nerve the vaso-dilators, which it contains, are also divided, leaving the constrictors uncounterbalanced, with, of course, a corresponding diminution of the vascularity of the part.

The *nervi erizentes* of Shiff are also used in support of these views. It is, however, very difficult to understand by what mechanism a blood vessel could be made to dilate by means of muscular fibres in its own walls.

The latest experiments upon the rapidity of the sensory current in man, by Bloch, give as a result for peripheric nerves, 434 feet per second, and for the spinal cord 638, figures materially differing from those given by Dalton in the last edition of his work.

An attempt has been made by physiologists, within the past few years, to establish the relations between the different kinds of food and their products in heat and labor.

To this end the production of urea and carbonic acid has been carefully studied, the one as expressing the consumption of nitrogenous elements, the other that of the non-nitrogenous. In the course of these studies a subject of considerable physiological importance has been, as it seems, definitely settled, and in a matter directly contrary to the views for a long time promulgated.

Pavy, from a series of very careful observations made upon the pedestrian Weston, concludes "that the amount of urea excreted corresponds to the general tissue change, and not to the amount of muscular exercise; also, that we work at the expense of our non-nitrogenous food, and not at the expense of the albuminous tissues. He thus confirms what had already been assumed as fact by the Germans. Traube maintained that doctrine some time ago, and based it upon the considerations:

(1) That even with a food which is poor in nitrogen, as vegetables, a considerable amount of mechanical work can be performed; the majority of the beasts of burden are herbivorous, and bees, though fed merely on honey, are continually in motion.

(2) That cold-blooded animals, and even animals and men

inhabiting hot zones, and whose heat production can only be very small, yet live, in a great part, on a vegetable dish containing but little nitrogen.

(3) That it has been directly ascertained that the albuminous bodies which are consumed in a given time, calculated by the amount of urea excreted, are not, by any means, capable of accounting for the work done during the same time, even when the heat of combustion of those bodies was calculated extravagantly high. He also mentions the well-known fact, that the inhabitants of mountainous districts prefer to carry fat and sugar as provisions when they have arduous journeys to perform.

The physiological action of alcohol has been extensively, not to say exhaustively, studied by Dr. Lauder Brunton and Prof. Binz, of Bonn, men of the very first authority in England and Germany, respectively. As their conclusions are substantially the same, we may be excused for giving them as summed up by Dr. Brunton :

“Alcohol, in small quantities, increases the secretion of gastric juice and the movements of the stomach and intestines, and thus aids digestion. Although unnecessary in health, it is useful in exhaustion and debility. It increases the force and frequency of the pulse, by acting reflexly through the nerves of the stomach.

In large doses, it impairs digestion by over-irritating the stomach.

It may produce death reflexly by shock. After absorption into the blood, it lessens the oxidizing power of the red blood corpuscles. This property renders it useful in reducing temperature. When constantly or very frequently present in the blood, it causes accumulation of fat, and fatty degeneration of organs. It undergoes combustion in the body, maintains or increases the body weight and prolongs life on an insufficient diet. It is, therefore, entitled to be reckoned a food. If large doses are taken, part of it is excreted unchanged. It dilates the blood vessels ; increases the force and frequency of the heart by its action on the nervous centres, to which it is conveyed by the blood ; imparts a feeling of comfort and

facilitates bodily and mental labor. It does not give additional strength, but merely enables a man to draw upon his reserve energy. It may thus give assistance in a single effort, but not in prolonged exertions. The same is the case with the heart; but in disease alcohol frequently slows, instead of quickening, the pulsations of this organ, and thus economizes, instead of expending, its reserve energy. By dilating the vessels of the skin, alcohol warms the surface, at the expense of internal organs. It is thus injurious when taken during exposure to cold, but beneficial when taken after the exposure is over, as it tends to prevent congestion of internal organs.

The symptoms of intoxication are due to paralysis of the nervous system; the cerebrum and cerebellum being first affected, then the cord and lastly the medulla oblongata. It is through paralysis of the medulla that alcohol usually causes death.

The apparent immunity which drunken men enjoy from the usual effects of serious accidents is due to paralysis of the nervous mechanism, through which shock would be produced in a sober condition.

Binz claims for alcohol this advantage over cod liver oil in wasting diseases, that, although it has not the calorific power of the latter—that of alcohol being expressed by 7, while that of cod liver oil by 9.1—yet, in the form of a good wine, it is pleasant to the taste, is readily digested by the weakest stomach and is completely consumed in its passage through the system.

On the other hand, cod liver oil requires for its emulsion, absorption and assimilation a very considerable amount of labor, which is, of course, only that much more of a drain upon the powers of the patient.

In the past year the usual number of dogs have been sacrificed by being deprived of the healthful influence of their hepatic secretion, but still the functions of bile remain somewhat of a mystery. A fact of apparently considerable significance was mentioned in the June number of the "Detroit Review," taken from the Virginia "Medical Monthly" for March. Dr. E. C. Barrett reports the post mortem examina-

tion of a large dog, in which nothing remained of the liver but a fibrous network, similar to a piece of seine. It had died quite suddenly, without any apparent cause, as it had eaten well and thrived. There was no discoloration of the skin nor constipation; the food appeared to have been well digested; there was nothing to show any disease of any other organ, except an albuminous urine. Herman, in the last edition of his "Physiology," sums up the extent of our knowledge upon the uses of bile, as follows: "As animals with biliary fistulæ quickly grow lean, provided they are prevented from devouring the bile which escapes, it is supposed that the greater portion of the bile is reabsorbed from the intestines."

The ultimate destination of the reabsorbed biliary matters is, however, not known; nor have the other circumstances which help to explain the starvation of the animals, from which the biliary secretion is removed, been completely eliminated from the question. Moreover, in the normal condition, all the biliary substances are found in the feces in considerable quantities—the coloring matters which color the feces, bile acids, mucus, cholesterine, etc.

The bile acids, especially taurocholic acid, undergo, in the lower part of the intestinal tube, a hydrolytic decomposition; there being found in the feces, therefore, glycocholic acid, cholic acid and their anhydrides, choloidic acid and dyslisin. The reabsorption of the specific constituents of bile is, therefore, doubtful.

Unlike all other secretions connected with the digestive apparatus, bile is probably of no importance in digestion proper—that is, in the preparation of food for absorption. The one property it possesses which is of value for that purpose, that of emulsifying fats, is shared by it with other secretions which possess it in a far higher degree, as pancreatic, and, perhaps, intestinal juice. Solutions of peptones are precipitated by bile.

The importance of bile, physiologically appears to be chiefly in regard to the absorption of fats. Bile, and the salts of the bile acids, for instance, renders possible both filtration of fats through membranes under slight pressure and diffusion be-

tween fats and watery solutions, probably because it causes the simultaneous inhibition of both, in the form of soapy solutions. It renders *easier*, also, the *passage* of fats through narrow tubes.

Bile is said, also, to induce contraction of the muscular fibres of the villi of the intestines, and thus, again, to assist in the absorption of fats. It appears, moreover, to prevent decomposition of the contents of the intestines.

Drs. Felz and Ritter, of Nancy, have lately reported to the Academie des Sciences the results of some experiments with the constituents of bile. On injecting into the veins of animals small doses of a solution containing glycocholate and taurocholate of soda, in the same proportion as they exist in bile, bilious vomiting and diarrhœa were produced, together with a slow pulse, reduced temperature, and less frequent respiration, symptoms closely resembling slight attacks of jaundice. By way of explanation of these symptoms, they showed by experiment that the solution of biliary salts had a paralyzing influence upon muscular tissue; that they produced a diminished rate of flow through carillary tubes, and that in their presence the blood corpuscles underwent disintegration more pronounced according to strength of solution.

In pathology some valuable work has been done, and some valuable contributions made to the science.

Dr. Dreschfield, in the *Doctor* for May, concludes, from experiments upon animals, that in acute catarrhal pneumonia the first stage consists in an active proliferation of the epithelial cells lining the alveoli, which becomes detached from the walls of the alveoli, increase in size, become more granular, and show multiplication of their nuclei, thus giving rise to new cells.

(2) The capillaries in the neighborhood of the alveoli undergo an active hyperæmia, the white blood corpuscles accumulate in them, and eventually emigrate into the alveoli.

(3) The epithelium, after the process of proliferation is completed, undergoes fatty degeneration.

Prof. Kelsch, from careful microscopic measurement and study, concludes that in malarial fevers there is a diminution of

the number of the cellular elements of the blood; that there is an augmentation in the size of the red corpuscles, and that there is a development of black pigment, which does not enter into the normal condition of the fluid.

Dr. Bannister, in the "Chicago Journal of Mental and Nervous Diseases" for January, submits the following as his idea of the pathology of tetanus; given—

(1) A peripheral wound, involving the sensitive nervous fibres, and causing an irritative local lesion—a neuritis.

(2) Transmission of this irritation, either merely as such or as actual inflammation, through the nerve trunk and the gray matter of the cord, to the medulla and pons, and possibly to the higher centres in the optic thalamus and corpora quadrigemina (striata), or, perhaps, even to the *cortical* motor centres of the brain.

(3) Reflection of this irritation along motor nerves, at first only the trigeminus and accessory, then gradually involving other spinal nerves, and producing tonic contraction of nearly all the muscles of the trunk. This is the condition, until death, in many cases of the disease, but in others convulsions appear at a late stage.

Death may occur from exhaustion, asphyxia, or paralysis of the heart.

In saying that an irritation is transmitted from a local injury through peripheric nerves through the spinal cord, and again through peripheric nerves to the contracted muscles, it seems to me that he simply enumerates the known nervous connection between parts, but does not actually explain anything.

Dr. H. B. Baker, in the "Detroit Review" of last month, congratulates Dr. Geo. P. Stevens, of Albany, N. Y., upon his discovery that chorea is due to anomalous refraction of the eyes of children. Their efforts at accommodation, for short distances, produce muscular tension, which, in its turn, gives rise to muscular exhaustion. He claims that chorea is due to the exhaustion of the muscles concerned in accommodation, and reports that of forty-one cases where that disease was associated with hypermetropia, hypermetropic astigmatism, myopic stig-

matism, and unequal degrees of myopia. His views may, perhaps, better be taken, for the present, with a grain of salt.

Dr. W. H. Dickinson, in October, read before the Royal Medical and Surgical Society, a paper on the same subject—chorea. He gave the results of a careful study of the post mortem appearances in seven fatal cases. The changes were directly associated with vascular disturbance, allowing the sclerosis of the authors to be such.

The first step in the process seems to have been injection of the arteries, which is succeeded by extrusion of their contents. Both the brain and cord were affected, more especially the latter, and usually symmetrically.

He says the term "sclerosis" is misleading, since there was no induration, the change consisting in small, round or oval translucent spots about $\frac{1}{100}$ of an inch in diameter.

He concludes "that chorea is not in any way, either embolically or otherwise, a result of endocarditis, though often associated with it as having a common origin, rheumatism, while endocarditis was continually a result of chorea, set up, possibly, by the muscular irregularity of the heart, and the mitral regurgitation occasioned thereby. In conclusion, chorea was regarded as dependent upon a widely spread hyperæmia of the nervous centres, not due to any mechanical mischance, but produced by causes mainly of two kinds—one being the rheumatic condition, the other comprising various forms of irritation—mental and reflex—belonging mainly to the nervous system. The spots of perivascular change were scattered widely through that large region which lies inferiorly to the cerebral convolutions, the district of the motor and sensory, as distinguished from the mental functions.

Dr. Rudolph Arndt contributes the results of post mortem examination in a series of fatal cases of sunstroke. He found in all the organs extreme distension of all the blood vessels above a certain calibre, while the finer ones were empty. The surface of the brain, liver and kidneys appeared blanched and swollen by imbibition of serum, or, perhaps, by an excessive formation of protoplasm rich in granules.

He particularly insists on the very high temperature of the

body, and the consequent interference with all the vital functions, particularly the destructive metamorphosis of tissue, and the elimination of used up material. He points out that the blood is loaded with excreted material, that it has a black color, does not coagulate, and is rich in carbonate of ammonia. In conclusion, he would make the changes in the different organs due to a parenchymatous inflammation modified by the peculiar circumstances of the attack, and the special nature of the tissue.

Microscopy.—Dr. Klein published, in January last, the results of some of his researches into the lymphatic system of the lungs. They were undertaken under the auspices of the medical department of the British Privy Council, as an introduction to the more thorough study of the subject of pulmonary tuberculosis.

He demonstrates the existence of stomata upon the surface of the visceral pleura, opening directly into the subpleural lymphatic vessels. Through these, fluids in the pleural cavity can be removed in a short space of time, by the alternate expansion and contraction of the lungs. The bronchial tubes and the alveoli are surrounded by a net-work of lymphatic vessels opening upon their walls by irregular lacunæ, which he calls pseudo-stomata, partially filled by branched connective tissue corpuscles.

Dr. Creighton has published an important series of papers upon the physiological processes of involution and evolution of the mammary gland, and from their normal changes explains the histogenesis of pathological products from the epithelial cells of that gland.

To attempt to give an idea of his work would require more time than we wish to occupy.

J. Annaheim, from a series of experiments upon the weight of atoms, concludes that an atom of hydrogen can not possibly weigh more than the five hundred billionth of a gramme. We are glad Mr. Annaheim made these experiments, as it gives us a certain definite idea to place before our minds.

By way of conclusion to this rambling, disconnected paper, we would suggest that before the end of the next year the sub-

jects be divided, so that there shall be a paper upon the advance in physiology and pathology, and another for chemistry and microscopy. As it is now there are too many topics embraced to admit of justice of discussion to any.

Abstracts from Virchow's Archives.

PREPARED FOR THE DETROIT MEDICAL JOURNAL, BY H. P. V.
PETERSHAUSEN, A. M., M. D., PH. D.

- I.—*On the Relations between Diseases of the Ear and of the Trifacial Nerve. (Prof. Moos, of Heidelberg, Vol. 68, Nov., 1876.)*

Certain diseases of the higher organs of sense are of a peculiar interest, as well to the pathologist as to the specialist. In a similar manner as some disturbances in the organs of sight are connected with tumors, embolic processes, Bright's disease, etc., a number of functional disturbances of the ear are dependent upon peculiar morbid affections.

Hitherto little attention was paid to those diseases of the ear which are combined with functional disturbances of the trifacial. The author divides the cases seen by him into two classes, viz.: Such as depend upon simple *cerebral disturbances*, and such as depend upon an *organic disease of the ear*, connected with functional disturbances of the trifacial.

The Dr. observed only four cases of the first class. Only the sensitive portion of the trifacial was affected in three cases, while its motor portion remained unaffected. The hyperæsthesia was sometimes very insignificant within the region of the nerve. During this stage there may, besides, be present certain disturbances in hearing, and increased sensibility to certain sounds and voices. In three of the cases there was anæsthesia of the trifacial; in the fourth case, in which complete deafness soon followed the hyperæsthesia, there was none. In three cases there were noticed subjective noises, which disappeared when complete deafness came on. This occurred in three

cases pretty soon, and in two of them remained stationary during lifetime. Complete recovery took place only in one of the cases.

The seat of this disease must be that part of the medulla oblongata, where the deep roots of the auditory nerve arise, which are intimately connected with the sensitive fibres of the trifacial, in the medulla. As causes of this affection were found, extravasations and the so-called rheumatic neuroses. The prognosis is unfavorable in general.

In cases of the second class there may be the organic disease of the middle ear, and adjacent parts, preceded or accompanied, or sometimes followed, by disturbances of the trifacial. The nerve affection is always on the same side with the diseased ear. Only the first branch of the nerve is generally attacked. The intensity of the pain is sometimes considerable. The following affections of the ear were observed to be connected with neuralgia of the trifacial: Acute purulent inflammation of the middle ear; chronic inflammation of the same; chronic inflammation of mastoid process, with or without phlebitis of the sinus transversus, and, at last, cholesteatoma of the middle ear.

The observed phenomena may be explained, in acute cases, by a simultaneous arising of the neuralgia with the ear affection, by the same external causes; or, by an inflammation of the plexus tympanicus with *direct* peripheral conduction, by the nerve petrosus superficialis minor; sometimes with *centripetal* conduction and consecutive irradiation upon the trifacial. In chronic cases there may be supposed: Irritation of the plexus tympanicus, by pressure (exudation, etc.); perineuritis and neuritis; conduction of the inflammation upon the surface of the petrous portion of the temple bone, without caries, mediated by the connective tissue band, extending from the middle ear to the dura mater; partial pachymeningitis; conduction of the inflammation to Gasser's ganglion.

II.—*On Intercellular Canals of the Connective Tissue.* (Prof. Jul. Arnold, of Heidelberg, Vol. 68, Dec. 1876.)

When the author had found that, after the infusion of indigo-carmin (indigo-sulphate of sodium) into the blood of

live animals, there is to be observed a precipitation in the intercellular canals, he resumed his researches on the system of intercellular canals. There was some probability that, by the infusion in live subjects, there might become visible the course of the nutrient liquid in the connective tissue. The Doctor obtained his best results by infusing a 1-5 per cent. solution of indigo-carmin into the blood of frogs, while he irrigated, at the same time, the animal's mesentery, protruded for this purpose, with a $1\frac{1}{2}$ per cent. sol. of chloride of sodium. This being done, there could be observed spindle-shaped figures, or such having branches in the serous membranes, as well as in the skin, the subcutaneous tissues, the cornea, the tendons and the fasciæ. They all are connected by the conflux of their smaller branches. Thus, a network of blue lines is formed, in which the places of intersection are occupied by the above mentioned spindle-shaped figures. In some tissues there appears a second system of blue lines, running nearly parallel with each other.

Similar results were obtained when the Dr. injected with ferro-cyanate of potassa, and washed the tissue afterwards with diluted chloride of iron. An infusion of a solution of starch, followed by an immersion of the object in a weak tincture of iodine, and an infusion of India ink, brought out the network of intercellular canals.

In all these cases there was the coloring matter, deposited either above or below the cells, in consequence whereof the nuclei of the connective tissue cells seem to be situated in the very places occupied by the former. If the vessels of animals become injected after the infusion of coloring matter into their blood had taken place during life, both the infused coloring matter and the injection is deposited in the same places in the tissues.

As the coloring matter infused in live animals is always found, in the same manner, distributed in the tissues, the author concludes that there must exist an arrangement of preformed canals, by which is favored the current into certain directions of the nutrient liquids. It is doubtless that such pre-existing spaces are continually connected with the stigmatæ resp.

stomata of the endothelium, and that the substances passing the latter, on their way to the tissues, will be carried thither within those spaces.

III.—*On the Origin of the Pus Cells, and on the Changes of the Membrana Propria of the Mucous Membrane of the Lungs, in Cases of Inflammation.* (Dr. N. Socoloff, of Petersburg. Vol. 68, Dec., 1876.

After the theory of the humoral pathologists, every newly-formed cell was considered as the product of plastic exudations. Virchow overthrew this doctrine, and tried to find the true sources of such cells. This was the more difficult since Cohnheim published his observations on the emigration of white blood corpuscles from the vessels. What hitherto was considered as the result of the productive activity of the tissue cells, the new theory explained by the emigrated white blood corpuscles. These should, according to circumstances, form as well pus as epithelium, muscle fibres, or the cells of the skeleton. To the cells proper of the tissue there was ascribed then only a passive part. The proliferations of the cells of the pre-existing tissues, caused by local irritations, were, in consequence of such views, ignored.

The author was induced by Prof. Virchow to examine from whence the round cells originate which are found in the secretions of the lungs in different inflammatory affections of this organ. It is a recognized fact that there are two different kinds of cells in the sputa—pus cells and cells of the mucous membrane. The first are, by many, considered as emigrated white blood corpuscles, while others think that they are partly the products of endogenous growth of the cylindrical ciliated epithelium, and partly the result of the proliferation of the connective tissue of the mucosa.

The Dr. caused inflammation of the air passages for his purposes by inflations of the bichromate of potassa into the tracheæ of rabbits and dogs. His experiments make it evident that the pus cells in the secretions of the air passages are neither emigrated white blood corpuscles nor the products of prolifera-

tion of the connective tissue of the mucosa, but that they develop in the epithelial layer itself. The normal connection of the elements of the latter is disturbed; the ciliated epithelium is detached from the sub-epithelial layer and that layer of cell which normally lies in two rows between the ciliated epithelium, and the membrana propria is found in a state of proliferation. The newly formed cells lift; in some places, the ciliated epithelium, or they even break through it, in consequence whereof the epithelium becomes partly destroyed, and partly is placed between the newly formed cells.

Though in some of the epithelial cells there were found round cells, they must not be considered as endogenous products of them, as only perfect cells, and not intermediate forms between such and mere protoplasmic lumps were observed. Besides, the presence of red blood corpuscles in the epithelial cells speaks for this view.

The epithelium of the bronchial glands behaves somewhat differently. It will form round cells in case of certain irritations, so that from tessellated epithelium there may be formed pus cells.

The layer beneath the sub-epithelial layer consists of cells with granulated protoplasma and large nuclei, and resembles the tessellated epithelium, or the endothelium of the blood vessels very much. The author considers, therefore, these cells of the membrana propria as epithelial cells. He thinks that, in case of a sufficiently powerful irritation, which is followed by a lively proliferation in this layer, the latter might continue to produce pus. Besides, he is of opinion that the epithelium of the lungs is only the continuation of the membrana propria, and might, therefore, likewise produce new cells.

Reports of Societies.

State Board of Health.

REPORTED BY THE SECRETARY, DR. H. B. BAKER.

The Michigan State Board of Health held its regular quarterly meeting in Lansing, January 9, 1877.

There were present, Prof. R. C. Kedzie, Rev. Charles H. Brigham, Dr. H. F. Lyster, Rev. J. S. Goodman, Dr. Arthur Hazlewood, and Henry B. Baker, Secretary. Rev. Mr. Goodman was appointed temporary chairman.

A paper entitled "The Locating of Healthy Homes," by Dr. Henry F. Lyster, of Detroit, was read. The condition of the homes of the people may be regarded as an index of their civilization. A complete, healthful and beautiful home indicates health, intelligence and refinement in its occupant. The paper gave an historical review of the different kinds of homes occupied by different peoples; but it also dwelt upon the various unsanitary conditions most common to our modern homes. Those most strongly touched upon were, defective disposal of sewerage, unwholesomeness of water-supply, unfavorableness of location, too complete exclusion of sun-light and air, resulting from excessive shade, lack of proper drainage, etc. The author said that the paper was not as complete as he desired to make it, and the Board requested him to prepare it for insertion in the next Annual Report of the Board.

Prof. R. C. Kedzie, Committee on Poisons, Explosives, Etc., presented a report on the "Quality of Illuminating Oils" in use in Michigan. Dr. Kedzie thinks the people of Michigan are to be congratulated upon the present condition of their illuminating oils, so far as exemption from loss of life and property are concerned. The public prints are not now filled with recitals of deplorable accidents resulting from the use of kerosene. But, notwithstanding this security from accidents, the people justly complain of the quality of some of the oil now supplied. Much of it burns poorly, the wick gums and chars, and the light flickers and goes out. The people demand a change. The refiners claim these to be the necessary results of the high standard required by the Michigan law, and they state that if we will lower our standard to 110° for the flash test, all these evils will disappear, and we shall be still safe from accidents. Misled by these statements, the people are petitioning the Legislature to alter or abolish the present law. Under these circumstances, it is our duty to look carefully at the matter. If the test is too

high, we ought not only to consent to, but to urge a change. But if the the test is such as public safety demands, then no clamor of interested or misinformed parties should influence us in the least to swerve from the path of duty. In order to arrive at an intelligent conclusion, in the light of all the facts attainable, Dr. Kedzie, by the advice of the Board, had visited Cleveland in order to examine the methods of refining the crude petroleum to make illuminating oils. The report here gave a review of the different processes in the manufacture of kerosene. Specimens of the different products arising from the refining of the crude oil, rhigoline, paraffine, coke, etc., were presented; also specimens of different sorts of oils, and some with which Dr. Kedzie had performed various experiments.

Dr. Kedzie's investigations established the following facts: That to manufacture good oil, which will stand the test required by the Michigan law for inspection, requires either extra care and expense in refining, or it takes what is called the "heart of the run." This is done in the case of what is known as "water white" oil, which is transparent, burns with a clear, bright light, and does not become opalescent by exposure to a temperature of 32° F. But to dispose of the inflammable products and still furnish an oil which will stand the Michigan test, the refiners run into the low test oil the waxy and tarry products, paraffine, etc., which are not readily combustible, and which raise the standard of the low-test oils, rendering them capable of standing the test, but of poor quality for lighting purposes. Among the specimens exhibited was four ounces of paraffine taken from one quart of oil. The presence of a large amount of paraffine has a tendency to gum up the wick and render it incapable of supplying oil to the flame. Dr. Kedzie found that the "water white extra" would flow through 93 millimeters of tube containing wicking, and burn freely, while the "Michigan test," or the oil that contains so much paraffine, would flow through only seven millimeters. The action of sun-light upon oil spoils its burning qualities. It develops in the oil a quantity of tarry matter. Two specimens of oil, drawn from the same barrel, one of which had been exposed to the light for a few

weeks, and the other kept in an opaque bottle, were exhibited. The one exposed to the light was decidedly yellow and clouded, while the other was still white and transparent. Dr. Kedzie recommended the use of broad, shallow lamps, which would make but little demand upon the capillary power, and contain only what oil would be burned in one evening. To "a people sitting in darkness," but, thanks to the inspection law, not "in the region of the shadow of death,"—the remedy is emphatically not an abolition of the system of inspection required by the present Michigan law. Nor when a lamp, quietly burning, explodes like a bomb shell and scatters death and destruction broadcast, as was once the case, can we afford to entertain the notion of lowering the standard test? If the test could be extended to ascertain the amount of paraffine present, and rejecting such oil as contains it in amounts which impede the capillary action of the wick or render the oil hard or waxy in cold weather, it might do very much toward removing the difficulties of which the people complain. The best test which he could now propose for this was: The oil should remain clear when its temperature was reduced to 32° F.

Mr. Perry Averill, State Inspector of Illuminating Oils, being present, was requested to present anything bearing upon the subject of illuminating oil and the inspection thereof. He read a report relative to the progress he had made in establishing an efficient and uniform system of inspection, the number of barrels of oil inspected, the number rejected, etc. He said that the petition praying for a reduction of the test to 120°, which has been so widely circulated throughout the State, and which is now pouring into the Legislature from many localities, originated with the Standard Oil Company, of Cleveland, and has been sent throughout the State by its agents. He thought the law should be changed so as to provide for a uniform *flash test*, which should be branded on the barrel, instead of the burning point, as now.

After a long discussion of this subject by the members of the Board, the following resolutions were adopted:

Resolved, That the great reduction, since the present sys-

tem of State inspection of illuminating oils has been in force, in the number of casualties from lamp explosions and otherwise, through the use of low grade illuminating oils, is an indication of the value of such inspection, and of the present test.

Resolved, That a committee, of which Dr. R. C. Kedzie shall be chairman, shall be appointed by the Chair, to take such steps as circumstances may require, to furnish the Legislature with any information in the possession of the Board regarding the workings of the law for the inspection of illuminating oils in this State, and to act for the Board in maintaining the present standard of inspection, so far as regards the flash test.

Dr. H. O. Hitchcock, Chairman of the Committee on Legislation in the Interests of Public Health, submitted a report including a proposed memorial to the Legislature, asking that a commission be appointed to investigate and report in two years concerning the influence of the liquor traffic upon the life and health of the people of the State, to ascertain, as far as possible, the value to the State of the traffic in alcoholic drinks, and the losses to the State fairly chargeable to the use of intoxicants, and to report all facts which have a rational bearing upon the Vital Statistics of the State, the object being to collect facts upon which to base future legislation, if found desirable.

Rev. Mr. Brigham reported upon a subject previously referred to him, namely, the sanitary influence of the *Eucalyptus globulus*, or blue gum tree. He read letters from persons who had studied the habits of the tree, including one from Dr. Asa Gray, who thought the tree could not be made to thrive in Michigan, on account of the severity of the climate. Dr. Lyster said the trees were growing in Detroit; that by being cut back they had become somewhat hardened. He recounted instances in which the tree had been planted in certain insalubrious regions in Africa, where they had a remarkably beneficial sanitary influence.

Dr. O. Marshall, of Lansing, presented, through the Secretary, a communication on "Opium and Morphine Eating." He gave facts concerning 25 cases which had come under his observation. He thought the evil was increasing, and that

measures should be taken not only to assist those who are already victims, but to prevent others from acquiring the habit, and he believed this to be a proper field of labor for the State Board of Health. Of the 25 cases reported, 9 use morphine, 15 use opium, and 1 uses both. Dr. Marshall thought a law regulating the sale of these drugs was needed, and might prove effectual. He especially urged the prohibition of the sale of soothing syrups, cordials and anodynes, which are preparations of opium or morphine in disguise, and which create in the infant a predisposition to the opium habit in the adult. The author was requested to prepare a paper on the subject, for publication in the next Annual Report of the Board.

Dr. Milton Chase, of Otsego, submitted to the Board a proposed bill relative to the qualification of physicians who practice in Michigan. It provided for furnishing to the people information relative to the professional study of those who practice medicine in Michigan ; such information being furnished by means of sworn statements filed with the County Clerk in the county where the physician practices.

The Secretary submitted a report relative to duties performed and work done in his office since the last meeting of the Board. The work has consisted largely in the preparation and publication of the Fourth Annual Report of the Board and the distribution of blanks to Clerks of local boards of health for their annual reports and reports of diseases dangerous to the public health. The number of local boards of health in this State is about 1,200. The report accounted for considerable work in the way of computing data on meteorological observations, correspondence relative to prevailing diseases in 1876, and other work pertaining to the office.

The next regular meeting of the Board will be on April 10, 1877.

Transactions of Flint Academy of Medicine.

Flint Academy of Medicine met at Dr. Chapin's office on Tuesday, February 6th, 1877, President Dr. Fish in the chair. Members present—Drs. Chapin, Clarke, Cogshall, Fish, Tobes,

Hurd, and Willson ; Dr. Eastman present by invitation. Minutes of last meeting read and approved. A communication from Dr. Palmer, in regard to establishing a nine, instead of a six months course of lectures at the University, was read, and, on motion of Dr. Clarke, was placed on file. The secretary inquired of the Society as to the questions which had been raised in regard to publishing the report of the proceedings in the journals. Dr. Willson said that the secretary was required to furnish reports for the medical journals. On motion of Dr. Clarke, the President and Recording Secretary were made a committee to revise the proceedings for publication in the local paper. Dr. Chapin moved as a substitute, that the Corresponding Secretary be added to the committee, which was carried. Dr. Willson exhibited specimens of professional cards issued by the physicians in Canada, and explained the manner of using them. Dr. Chapin brought before the Society a case of talipes, treated by Sayre's method of bandaging, at the same time showing photographs taken before treatment was commenced.

Dr. Willson expressed his opinion, that before a cure was reached, the Doctor would be obliged to resort to tenotomy.

Dr. Chapin also referred to a case of hare lip, complicated with cleft jaw and palate, operated upon a few days since.

Dr. Chapin presented the name of Dr. Joseph Eastman as a candidate for membership of this Academy.

On motion of Dr. Willson, the society acted upon the application at once. The President appointed Dr. Clarke as teller, and the Society proceeded to ballot for Dr. Eastman.

The Society having voted in favor, Dr. Eastman was declared elected.

Dr. Willson gave notice that at the next meeting he would move to amend the constitution.

On motion, the Society adjourned, to meet at Dr. Willson's office.

GEO. W. FISH,

President.

E. H. HURD, M. D.,

Secretary.

Detroit Medical and Library Association.

DECEMBER 6, 1876.

President, Dr. Jas. A. Brown in the chair.

Dr. Shurly presented a ball of hair, about the size of a base ball, taken from the stomach of a bullock. In external appearance it was hard, smooth, shiny, and of a reddish brown color, and furnished no indication of its real composition. A small perforation, however, showed that within it was simply a mass of hair. The Doctor stated that it was a somewhat rare curiosity, and he found no mention of such concretions, except in one of Bennett's works. It was supposed to be formed by the animal's habit of licking himself.

Dr. Shurly also presented two specimens of pure albumen, one prepared by Mr. Frank, and the other by Mr. Plessner, druggists, of this city. The first had been kept in a loosely corked bottle for about eighteen months, but gave no evidence of decomposition or change. The albumen is prepared from the whites of eggs, by evaporation, produced by passing over a thin layer of the thoroughly beaten eggs a current of air at a temperature not exceeding 110°. Great care must be taken in the process of preparation to avoid coagulation by too high a temperature, as the utility of the preparation is thereby destroyed.

The albumen readily dissolves in warm water, milk or soup, and this may be taken as a test of its value. The theory of its action is, that it is readily changed into albuminose in the stomach, and thus assimilated more readily than cooked albumen. It was valuable in all wasting diseases, and especially in phthisis.

Dr. E. Smith presented two eyes enucleated by himself, the history of which he detailed as follows :

The daughter of Mr. B—, five years of age, when an infant was being rocked by a servant sitting in a large rocking chair, the child's head lying on top her nurse's shoulder. While in this position the chair tipped back against a glass door, the child's head and face breaking the glass. The face and right eye were wounded, the eye being cut through the cornea. Pieces of glass were removed from the wound in the face, but

whether any entered the eye or not, was not known. I was consulted May 10th, 1875. The wounded eye was very much enlarged in all its diameters, the globe being nearly double the size of its fellow, so that the lids could not be closed; there was an irido-corneal staphyloma; a decrease of tension; *no tenderness* on pressure in the ciliary region. Enucleation was advised and performed for its cosmetic effect, as the appearance of the child, otherwise pretty, was disgusting. Assisted by Dr. Munson, I performed the operation the same day. The eye has been hardening in alcohol since that date. On opening it, I find a complete detachment of the retina, the iris in contact with the cornea, the sclerotic very much thinned. The lens was lying in the bottom of the eye, surrounded by a mass of dirty looking substance, enclosed in the completely detached retina. This substance had the consistency of normal vitreous, and in quantity was sufficient to fill about one quarter of the globe. The choroid seems, like the sclera, to have enlarged at the expense of its thickness, it being very thin, but everywhere in apposition with the sclera. The stretching of the choroid seems to have obliterated the ciliary processes, and the ciliary body is very much thinned. The lens is enlarged and of a dirty brown color. In the remains of the vitreous I found a small piece of *glass*, completely surrounded by a substance a little denser and lighter colored than the vitreous. The case is a very interesting one in all its particulars, and especially in the great general enlargement and the length of time, over four years, that the piece of glass had been in the eye.

The following is the history of the second case :

Mr. T. —, of Ovid, Mich., brought his son, aged seven years, to me, Nov. 22d, 1876. Three weeks before the little fellow was kicked in the eye by a horse, the heel-cork of the shoe undoubtedly entering the right eye at its inner half. He was taken care of by two excellent physicians of Ovid, who attended to the wounds of the face, but, owing to the swelling of the lids, were unable to tell anything about the eye until the inflammatory symptoms had subsided. As soon as they discovered its condition, they sent him to Detroit for special advice. The

morning he consulted me there was slight intolerance of light and lachrymation of the sound eye.

With the ophthalmoscope, the fundus was doubtfully hyperæmic. The injured eye was painful on pressure in the ciliary region, opposite the seat of the wound. I advised and performed enucleation the same morning, notwithstanding the fact that the *day previous* an eminent specialist had advised that there was no *immediate* necessity for enucleation, though the eye would probably have to be excised sooner or later. No doubt the irritation, which was *well marked* on the morning of the 22d, might have been absent the afternoon of the 21st, having arisen during the night. That there *was* immediate necessity for enucleation, even had there been no irritation of the well eye, is positively shown by the specimen, which I present for your inspection. The cornea was clear, though drawn out of shape by the cicatrix; the anterior chamber was filled with a straw-colored fluid; the vitreous chamber *seemed* to be filled with a dark substance which I took to be a blood clot. I say *seemed*, and such is really the case, yet an examination of the specimen shows that it was impossible to light up the vitreous chamber, as the pupillary space was filled with inflammatory material and blood clot. The iris could not be recognized before enucleation. The specimen which I bring before you shows very plainly the character of the terrible wound, and its position shows most emphatically the necessity for *immediate* removal. The globe is somewhat puckered, a deep groove running about half way round the eye, the centre of which is about one line from the sclero-corneal junction, and in front of the insertion of the internal rectus muscle. The extremities are near the equator, forming a deeper pucker near the insertions of the superior and inferior recti muscles. The wound had undoubtedly been nearly, or quite, an inch long. The posterior edge of the sclerotic seems turned in, and is distinctly thickened and club-shaped. The wound is filled with new connective tissue, the prolapsed iris and a part of the detached retina being drawn into the scar, which is through the ciliary body. The lens was absent. It probably escaped with the vitreous, at the time of

the injury. The retina was detached, except at the optic disc, and the centre or anterior part of the wound. The space between the retina and choroid was filled with blood clot, the choroid being *in situ*.

THEO. F. KERR, M. D.,
Secretary.

JANUARY 17, 1877.

President, Dr. Jas. A. Brown, in the chair.

Dr. Smith read some notes on the use of mercury in the treatment of iritis, in which he advocated the free use of this remedy in all severe inflammations of the iris, and especially in those arising from the specific poison of syphilis. If the parenchyma was seriously affected, and there was danger of occlusion of the pupil, he pushed its use to salivation, getting that effect very quickly by inunction, and keeping up the effects on the system by the use of corrosive sublimate. Energetic treatment of iritis should be pursued, as thus a frequent cause of iridectomy was removed.

Dr. Connor inquired of Dr. S. what he found to be the most frequent cause of iritis. He replied that syphilis and rheumatism were by far the most frequent causes—three out of four cases treated recently being syphilitic.

Dr. Connor likewise requested a general expression of opinion on the relative value of bovine and humanized vaccine virus.

Dr. Shurly stated that he was using both kinds, and had the best results from the bovine virus, procured from Dr. Griffin of Fon du Lac, Wisconsin. The lymph, he considered much more reliable, and much more satisfactory, in its workings than the crust. The more energetic action of the latter was owing, perhaps, to the introduction of organic matter other than the vaccinia corpuscle.

Dr. McGraw remarked that perhaps one reason why lymph was more reliable than crusts, might be that the crusts were removed after the lymph had been withdrawn, as the former were not often recommended.

Dr. Yemans also spoke highly of Dr. Griffin's bovine

virus. It was the best he had ever used. Eighteen out of twenty vaccinations performed with it at one time were successful.

Dr. Carstens, in speaking of the danger of erysipelas following vaccination, thought the danger greatly magnified. If the inflammation was pretty severe, and there was considerable erythema, it was put down as erysipelas by the laity. He had superintended about four thousand vaccinations in the Polish district, and did not know of a single case of erysipelas.

Dr. Yemans called attention to the minute quantity of virus sometimes necessary to infect a person, and related an instance of a man's producing the characteristic vaccinia pustule *on his hand* by scratching himself with an instrument which had been systematically cleaned.

This led Dr. McGraw to remark that it was just in this way that syphilis was propagated through vaccination. The last patient, perhaps, was a syphilitic one, and the lance had been used to rub the virus on the scarified spot, and the lance was simply wiped off, a proceeding which, in all probability, left a minute quantity of syphilis-tainted blood on the instrument. When the same method was pursued with the next patient, this tainted blood was dissolved and left on the arm, and thus an innocent person might be infected with a terrible disease.

Dr. Connor called attention to a method of keeping virus on lime, which he thought worthy of attention. A friend of his had kept a crust all summer, wrapped in a piece of paper, and lying on top of a small quantity of lime in a loosely corked bottle. The virus had worked well in the fall, and the Doctor thought it was a safe and cheap method of preserving it.

Dr. Shurly had kept virus for more than a year in an ice-chest, and then had used it with success. He thought this the most certain and reliable method of preservation, though it was not always available to every one.

THEO. F. KERR, M. D.,

Secretary.

FEBRUARY 7, 1877.

Dr. Eugene Smith was called to the chair.

Dr. Stevens stated that bronchitis was quite prevalent in the western part of the city, children, especially, were attacked, but he had seen very little capillary bronchitis.

Dr. Connor had attended some cases of capillary bronchitis in children, which he had successfully treated with carbonate of ammonia and quinine, giving two grains of the former every two hours, in some cases.

For the cyanosis, which resulted when the ultimate divisions of the bronchi were choked with the secretions, he wrapped the patient completely in cloths wrung out of hot water, changing them frequently. Such proceeding seemed to stimulate the pneumogastric nerve, and thus both circulation and respiration were improved.

Dr. Gilbert spoke strongly in favor of Dr. Connor's method of treating bronchitis. He had seen one of his own children saved by it, when all hope seemed groundless. For three days the treatment was persevered in, though the patient was cyanotic, and the child recovered—the medicine saved him. When a certain line of treatment has been proven so potent, let us stick to it.

Dr. Gilbert also spoke on the subject of vaccination, which had been discussed at the last meeting. He believed that physicians were often too negligent in ascertaining the results of their vaccinations, and took the word of their patients, when an examination would exhibit a different result from that claimed; patients often magnified the symptoms which attended a simple local inflammation, the result of the scarification only. This should not satisfy us. We should satisfy ourselves, by careful examination, that the specific inflammation had taken place, and that a typical scar remain; in short, do our work in a scientific manner.

Dr. McGraw questioned whether one would get the typical inflammation when the protective power of a previous vaccination was just about expiring. There would be some inflammation, but not a typical crust. In secondary vaccinations, we

should weigh all the probabilities in the case, and secure the best possible result.

Concerning the danger of infecting the blood of the person vaccinated with septic material from an unclean lance, Dr. Inglis remarked that he always took the precaution to hold his lance for a moment in the flame of a lamp, which effectually destroyed any organic matter that might be left on it.

Dr. Stewart reported two cases of pneumonia which he had treated after the old antiphlogistic plan—that is, with bleeding and antimony, and both had made good recoveries. He had also seen two other cases treated from the first with stimulants, and both had proved fatal. He took the occasion to express his belief in the superior efficacy of the former method of treatment, and thought fewer deaths occurred when patients were thus treated, than when subjected to the modern plan of stimulation. In answer to inquiries, the Dr. said that he believed one of the fatal cases would have recovered, if treated after the antiphlogistic fashion. The other, being a very asthenic individual, probably could not have borne it.

Dr. Smith reported the following interesting case :

A gentleman of Windsor, father of nine children, brought two of them, aged respectively seven and fourteen years, to him, on account of a strange blindness coming on at nightfall. The Dr. found them afflicted with a peculiar form of inflammation, known as retinitis pigmentosa, arising from a deposit of pigment in the retina. The symptoms were simply a contraction of the field of vision and blindness, coming on at nightfall. Under artificial light, a person so afflicted would stumble over any obstacle in their path. He had seen, perhaps, twenty cases in all, but had never been able to find the cause, as stated by Liebreich to be consanguineous marriages.

In these two patients, the ophthalmoscope showed the retina beautifully, but with specks of pigment deposited on the temporal side, outside the optical pillars. As the disease progresses the deposit increases in area towards the centre, resulting, finally, in atrophy of the optic nerve, and total, incurable blindness.

Dr. Inglis reported a case of rheumatism which he had

treated with opiates and alkalies, internally, with ammonia liniment, on flannel, to the affected joints. The patient was making a good recovery, was able to sit up in bed on the eighth day, with returning appetite, and the Dr. was not to call next day. However, the next evening he was sent for, and on reaching the house, found his patient in a state of "vigil coma," with a temperature that rose to 109°. He learned that the delirium had begun the previous evening, and made the diagnosis of cerebral rheumatism. In an hour the patient was dead. In answer to inquiry, the Dr. stated that he had only applied a cold compress to the head, as he did not think that anything could be done to save the patient's life, when it was remarked that it would have been interesting to have noted the effect of the cold bath, as recently advised, even in such a desperate case as this.

THEO. F. KERR,

Secretary.

Correspondence.

Intussusception of Bowels—Cure by the Sloughing of the Strangulated Portion.

CENTER, SHELBY CO., TEXAS, }
February 11th, 1877. }

MESSRS. EDITORS:

Some time in the early part of September, 1876, I was called to see Mrs. P—, (æ. 36, mother of eleven children), and found her in the following condition: Patient very restless, countenance anxious, great thirst, stomach very irritable, rejecting everything she swallowed, pulse considerably over normal (don't now remember how much), and small skin cool and corrugated. I obtained from her the following history of her case. A few days previous to my visit she had had a chill, and the night before I saw her, in the evening, she had taken (as she termed it), broken doses of calomel, but it did not act to suit her

and she had followed it with magnesiæ sulphas, which still did not act to suit her, and, as she thought, brought on a spell of colic, which was the cause of my being sent for. I forgot to say that she complained of intense pain in the right hypogastric, also umbilical region. From the excessive vomiting and its peculiar odor (being somewhat stercoraceous), I thought I had a case of hernia, and I immediately examined her for that malady. Not finding any tumor, I was at a loss to know from what my patient was suffering. I forgot, also, to state she was about $6\frac{1}{2}$ months advanced in pregnancy, so that I could not make any satisfactory examination of the abdomen. My impression was, that it must be threatened abortion, and so stated to her. She then told me that she had fallen off of her bed the night before. I gave her a dose of morphine to quiet her, if possible, but her stomach immediately rejected it. I then injected a large quantity of warm soapsuds into the rectum, adding laudanum. She retained the enema a short time, and when it came away there was no trace of fœcal matter. I applied warm fomentations to her bowels, and put her upon the following prescription: Hydrarg. chlor. mitis, grs., viij; morphiæ sulph., grs. iv; divide in chart No. 8; give one every two hours; use injections of warm soapsuds every two or three hours, and to keep up the warm fomentations. I left for the night, promising to call the next morning. Found my patient in about the same condition as when I left. My suspicions were now fully aroused as to obstruction of bowels, and I concluded to try the effect of large doses of calomel, and, accordingly, gave her 40 grains, with morphine, grs. $\frac{1}{8}$. I waited two or three hours and repeated the dose, and shortly followed with oleum ricini $\overline{3j}$ —all of which did no good. I then tried enemas of infusion of senna leaves and epsom salts, which she retained half an hour; probably when it was passed I could detect a slight fecal smell. As her pains were so severe, I asked that Dr. Hayden, an older physician residing close by, be called in. During the consultation nothing was said regarding intussusception, for I was afraid that my fears were groundless, and he seemed to think the vomiting due either to the threatened abor-

tion, or to some obstruction in the bile duct, as she was considerably jaundiced. We agreed to keep up the calomel and morphia for its alterative effect, and, in addition, Dr. H. applied two large tumblers, as cups, over the right and left hypogastric regions, also mustard draughts to the inside of ankles, as her extremities were getting very cool. As we were fearful that abortion would come on I remained during the night. About 10 o'clock at night she got quieted some, and I repaired to a neighbor's house, close by, to rest (there being a crowd at the house, as is usual, in the country). I had just laid down when a messenger arrived, stating that the lady had become worse. As soon as I could dress I hastened to her, and arrived just in time to receive the child, which was presenting at the vulva, vertex presentation. After the placenta was delivered I thought she would rest, but in this I was mistaken. The same colicky pains came on shortly afterward, and she called me to her bed, saying, doctor, you can now feel that knot that I have been telling you about. (She had frequently said it felt like a knot drawing her.) I examined her, and found a little below, and to the right of the umbilicus, a tumor something near the size of a lemon. My worst fears were then realized, and I took her husband to one side and told him that his wife must die. I left morphia and calomel powders, also Dover powder, to give to quiet the pain, promising to return next day, if she were still alive. I came back the next day, and for two more. One the third day after the abortion she fainted away, but, by stimulants, she rallied, and then she expressed herself relieved, and told me she felt the knot give away just before she fainted. In a short while she got over the chamber and had a very free action from the bowels, dark and very offensive. I then left off the calomel and substituted quinine, in tonic doses, also carb. ammonia, grs. iv., in sweet milk, every four hours, strong beef tea, chicken water, and other nutritious dishes. Not having any bismuth sub-nitrate, I used lime water and morphia, to quiet stomach. Under this treatment she rallied very fast, and, having a press of business at that time, I did not see her for several days. I was then sent for to tell them what it was

that she had passed while at stool. I was shown a piece of intestine (I believe it to be), about 12 or 14 inches long, tubular in form, partly decomposed, having also a strong fecal smell. In their presence I pronounced it a part of the bowel. I brought it to my office and showed it to two other physicians, and they concurred with me. I saw Dr. Hayden several days afterwards, and told him about it, and my opinion regarding it, in which he did not concur, saying that it was impossible for one to live in that condition. My own view of the case is this: That a portion of the bowel slipped into a lower portion and became strangulated, and that the invaginated portion sloughed off, leaving the two surfaces in apposition. The irritation caused by the invagination set up adhesive inflammation, and when the invaginated portion sloughed away, it left the gut open, only shortened to the extent of the portion sloughed away. The lady got up, and was able to walk half a mile or more, but has never fully recovered. I saw her not long since, since Christmas, when she told me that she had never been able to take solid food without the colicky pain. Her kidneys were sluggish, also. I prescribed bismuth subnitrate to quiet irritability; also 10 drops of liquor ferri oxy sulphas, made by dissolving $2\frac{1}{2}$ drachms sulphate iron in 3 drachms nitric acid, stirring until effervescence ceases, then adding water $1\frac{1}{2}$ oz. Ordered cod liver oil to increase fat, and acetate potash to act on kidneys, under which she improved, and is doing very well, though I don't believe she will ever fully recover, as she is somewhat broken down by rapid childbearing and manual labor. Being poor, she has had to do all of her household work, such as washing, etc., and, besides, work in the field. I have given you the history of this case in a very imperfect manner, never having written a piece for publication before, being young in the practice of physic, having commenced in 1871. If you think it worthy a place in your journal, you are at liberty to publish it, and I may give you something else that I consider novel. I will say that I can't see that the treatment I used did the lady any good, and that it was a spontaneous cure.

I remain, very respectfully, your obedient servant,

JAS. W. ROGERS.

N. B.—The lady now has no difficulty in passing fæces, and hasn't had since the fainting spell above referred to. J. W. R.

Abstracts From Exchanges.

Practice of Medicine and Therapeutics.

CHOREA TREATED BY THE EXPECTANT METHOD.—Drs. Gray and Tuckwell (*London Lancet*) say that they have treated, without medicine, thirty-eight cases of chorea. Their success was, at least, equal to the treatment by medicine. The average duration of their cases was nine weeks and six days, or exactly the average of See's one hundred and seventeen cases treated with various medicines. They state that they are inclined to rely on isolation, a good nurse, a large crib, well padded and walled in with pillows, plenty of nutritious food without stimulants, until more conclusive evidence can be adduced that the disease is favorably influenced in the slightest degree.

THEORY OF NERVE DISEASES—DR. BROWN-SEQUARD.—The "British Medical Journal" (*December 2, 1876*), in mentioning the conclusion of Dr. Brown-Sequard's lectures at the King and Queen's College of Physicians, Dublin, gives a brief synopsis of the views of the distinguished gentleman upon the localization of function and disease in the brain, which, although published more at length in his original essays in his journal, in 1871, may prove of interest to many of our readers. "Symptoms of paralysis, anæsthesia, amaurosis, aphasia, etc., are due to irritation, and not cessation in the function of various parts of the brain; for irritation of parts, around the portion destroyed by disease, causes certain sensations; not that the part destroyed causes them, but because an irritation starting from the place aroused, influences cells, some near, some at a considerable distance from the locality of the lesion. Dr. Brown-Sequard, therefore, believes that certain functions of the brain, instead of being localized in clusters of cells, are, on the contrary, spread over the greater (if not the entire) part of the brain; and this theory explains a very large number of cases

of disease which otherwise it would be impossible to understand. Parts in the brain supposed to be endowed with special functions can be destroyed without any alteration in the loss of function, and vice versa; so that it follows that any part of the brain can produce anæsthesia, aphasia, etc., and parts supposed to contain special functions can be destroyed without causing aphasia, paralysis, etc. In cerebral affections he places the most reliance upon the actual cautery at a white heat and scored along the back of the neck opposite the last cervical and first dorsal vertebræ, and strychnia pushed so as to produce its physiological effects.

PROGRESSIVE FACIAL HEMIATROPHY.—Dr. H. M. Bannister (*Journal Nervous and Mental Dis.*, Oct., 1876) gives the following facts and probabilities respecting this peculiar disease:

1. Progressive facial hemiatrophy is a neurosis. This is indicated by its limitations to one side of the face and to the regions supplied by special nerves; by implication in some cases of the sensibility, and even special senses; by merely the dystrophic character of the changes it produces in the tissues, without any indications of disease or alterations of the essential structure; by the close analogy, in some respects, with the neuralgias, attended with local hypertrophies.

2. As regards the nature of the nervous trouble, it appears, from an analysis of the symptoms in a majority of the cases reported, that the essential lesion is not in the vaso-motor system, but rather in the trophic functions of other nerves. Vaso-motor symptoms, properly speaking, are lacking in a majority of cases.

3. From the evidence afforded by a large proportion of the reported cases, it seems justifiable to suppose that the trophic functions of the fifth nerve are especially implicated. The facts that render this probable are the frequent limitations of the atrophy to the regions supplied by this nerve or its separate divisions, the analogy with the neuralgic atrophies and the occasional sensory symptoms. I may add, also, that the lack of symptoms that would lead to the inference of implication

of the facial nerve is in favor of this view, at least, as assisting in a kind of diagnosis by exclusion. The hypothesis that the atrophy depends upon alterations in the ganglia on the fifth nerve cannot be said to be very well supported by the facts in our possession as to the results of disease of these ganglia, but it may be the correct one.

4. In some cases there are evidences of positive lesions of other cranial nerves than the fifth—paralysis or irritation of the sympathetic; paralysis of the abducens; of the auditory and glosso-pharyngeal. In some of these observations, where the disorder was apparently due to traumatic causes, syphilis, etc., the facial atrophy is, perhaps, to be considered as only one of the manifestations of the more general intra-cranial disease, of which these other phenomena were also symptoms. Still there are some facts that indicate an alteration of nerve nuclei in the medulla, in many of the cases, the direct cause of which is not obvious.

5. The symptoms of the disorder indicate a chronic, trophic asthenia, or paralysis, rather than any irritative action. This is proven by the slow progress of the disease, its usual unirritative character, and such symptoms—the slower reparative action in wounds on the affected side.

6. That the disorder, however, is not merely one of arrest of development, is shown by the actual wasting of the tissues—the more solid ones, such as the bones, among them in many cases. In this it has a resemblance to the atrophy of old age, with which it seems to have other analogies suggestive in regard to its pathology. Cases of congenital facial atrophy that are not infrequently met with, have not generally the progressive character of this affection, and are more properly to be reckoned as due to arrest of development.

7. There are various peculiarities of this disease, which, in the present state of our knowledge, cannot be accounted for in any way; still they serve to support the neurotic and local theory of the affection. Such is its unilateral character, the greater frequency of its occurrence in females than in males, etc.

8. Therapeutic measures have so far failed to produce lasting benefit for the most part. Two or three cases seem to have been benefited by Farradization, and the prognosis, as regards recovery or arrest of the disease, is not altogether hopeless. If, as has been suggested as possible in one of the cases here related, it ever depends upon a reflex cause, or when it seems due to specific disease, like syphilis, the cutting off of the original irritation, or proper specific treatment, would seem to be the most promising remedial measures.

9. The disorder does not seem to involve life. It is possible, however, that, in some cases, it might extend to organs that are essential to life, especially if the nuclei of various cranial nerves are involved in the morbid process.

MASSAGE—ITS VARIETIES—RATIONAL INDICATIONS.—The following account of massage we extract from *Med. Times*.

The meaning of the term is, in plain English, shampooing. The various manipulations, included under the term, comprise stroking or friction, rubbing, kneading, percussion. Each of these may be employed separately or several in conjunction.

Stroking is performed by passing the hand gently and slowly over the surface desired to be acted upon, the flattened palm pressing against the skin, and the motion being in a direction from periphery to centre.

Rubbing is similar in every respect, excepting that the movements are more vigorous, and are not confined to a single direction. Previous to rubbing, all hairs should be removed from the part to be operated upon. Fat or oil is sometimes used with advantage. Rubbing should be practiced with both hands, simultaneously.

Kneading is performed by seizing the part in the hand, raising it from the subjacent tissues—rubbing, rolling, or kneading it between the palms, or moving it to and fro on the parts beneath. These movements are to be alternated at times with brisk friction of the surface.

Frequency of use. Under favorable circumstances massage should be practiced twice daily, at an interval of three or four hours. Each sitting may vary from six to ten minutes.

Advantages. It promotes absorption of effused material, accelerates the circulation, assuages pain, and reduces temperature.

Rationale. Stroking and rubbing from the periphery towards the centre leads to a direct pressure upon the interstitial lymph canals, and thus aid in carrying away the products of effusion. The rapidity of the vascular current is increased and the blood vessels contracted.

When, during inflammation, stasis exists in the arteries, the stroking movement first arrests the flow for a moment and sends the arterial current backward, while accelerating that in the veins. As this momentary pressure is removed, the vessels are filled again, the blood overcoming the stasis, and the circulation becomes more active. Massage brings about absorption by its direct influence upon the lymphatics and capillaries. The swelling in the affected part goes down, the sensory nerves are freed from the tension and pressure to which they had been subjected, their irritability is abated by further manipulation, and the temperature of the locality operated upon is lowered. In chronic inflammation, vigorous circular rubbing, combined with rubbing from periphery to centre, crushes the newly formed blood vessels in the hyperplastic tissues. The fluid portions of the extravasation being drained away by the pressed-out veins and lymphatics, the more solid portions deprived of nourishment, proceed to retrograde metamorphosis, and are also gradually absorbed. The muscles are increased in vitality and power by these varied manipulations.

Indications for Massage. Conditions of disease in which the following exist, viz: Hyperæmia, extravasations, exudations, hyperplasiæ, condensation, and thickening of the tissues or adherence between sinews and their sheaths.

We are positive that in a large class of cases the judicious application of massage would materially enhance the results. Nurses should be so trained as to be able to properly perform it.

Physiology.

PHYSIOLOGICAL ACTION OF ELIMINANT ALTERATIVES.—

Dr. T. Lauder Brunton (*Practitioner*, Sept., '76) concludes an article on alterative medicines as follows :

1. All medicines may be called alterative, but the name is specially applied to those which imperceptibly modify nutrition.
2. Nutrition is carried on in the intestine, and probably by means of ferments.
3. Alteratives probably modify nutrition by modifying the action of these ferments.
4. Nitro-hydrochloric acid probably acts in headache and also in the depression of spirits associated with oxaluria by modifying the action of ferments in the intestine or liver.
5. Lithates are probably formed in the liver and also in the muscles. The question arises, is nitro-hydrochloric acid useful in stopping the lithates from disorder of the liver and digestion only, or is it also useful when the lithates arise from other causes?
6. Colchicum is probably useful in gout, by diminishing the production of uric acid.
7. Iodide of potassium acts on the lymphatics.
8. Mercury acts on the albuminous solids.

ACTION OF ANÆSTHETICS ON MUSCLES AND NERVES.—

(*Med. and Surg. Report*, Jan. 20, 1877.)—M. Conly, of Paris, finds that when animals are killed by chloroform, ether, or chloral, the muscles and nerves retain their irritability for a much longer time than when the animal meets its death from hemorrhage, compression of the heart, or asphyxia. This is particularly true in the case of chloral. He believes that is due not to a direct action of the anæsthetics upon the spinal cord, but to a particular modification of the muscles and nerves, caused by the action of these agents through the blood, similar to that which occurs in poisoning by carbonic oxide.

VENOUS PULSE AN HABITUAL SYMPTOM OF THE PHYSIOLOGICAL ACTION OF CHLOROFORM.—(*Bulletin de l'Academie de*

Medicine de Belgique. Med. Record, Jan. 20, 1877.)—Prof. L. Noel at Louvain first observed this phenomenon. It appears always at the same period of the anæsthesia, that is, during the period of awaking. The internal jugular, the subclavian, in more than half the cases, the external jugulars, and sometimes even the facial veins are then the seat of isochronous pulsations with the radial pulse. They appear very marked to the eye, but give only a slight sensation to the finger. They continue about half an hour, diminishing, gradually, in intensity. During all this time the heart's action and the respirations present no particular modification. The professor thinks this indicates a profound perturbation of the functions of the heart, and proves that the organism is still under the influence of the anæsthetic. He thinks that it is due, possibly, to an incomplete closure of the right auriculo-ventricular valve; on the other hand, it is not unlikely that the poison causes an engorgement of the venæ cavæ and the right ventricle, which prevents the escape of the contents of the auricle into the latter. Whatever may be the cause, it is important for surgeons to watch their patients while they are recovering from an anæsthetic.

LOCAL ACTION OF ASTRINGENTS UPON THE VESSELS.—(Dr. H. Rosenstien, J. M. Rossbach's *Pharmak. Untersuch.* 11, 1-2, 1876. *New York Medical Journal*, Jan., 1877.) The mesenteries of curarized frogs were the field of experiment. The transparent membranes were extended over the ring in the cork table, and the selected vessels accurately measured by means of the ocular micrometer; then a uniformly large drop, measured by the pipette, of the 0.1-50.0 per cent. solution of the astringent was applied to the vessel. The metronome was immediately started, and thus the time between the application and any change in the vessels was accurately determined. The following substances were employed:

1. Nitrate of Silver.—This agent sustained its ancient reputation, for contraction of the vessels, the veins as well as the arteries, without any previous dilatation, to the half of their original diameter took place in from sixteen to eighty seconds

after the application, the time varying according to the strength of the solution.

2. Tannic, Gallic and Pyrogallic acids, instead of producing any constriction of the vessels with retardation of the blood current within them, caused dilatation of the arteries, capillaries and veins to double their original size. The same effects were produced after the removal of the cord, destruction of the medulla, and even of the brain, so that they were not of reflex origin.

3. Acetate of Lead acted in the same way upon the vessels, with the exception of the capillaries, as the Nitrate of Silver, though in a less powerful degree. The formation of white coagula in the center of the vessels was also frequent, and the author concludes that these are due to increased adhesiveness of the white corpuscles, thus causing a greater tendency than normal to coagulation.

4. The Sesqui-chloride of Iron, unless in 50.0 per cent. solution, produced no effect upon the vessels, and even in that strength was much less powerful than the Silver and Lead salts.

6. Alum.—The experiments with this substance were negative in results, as it produced sometimes contraction, sometimes dilatation, and at other moments no change whatever could be observed.

Surgery.

INTUSSUSCEPTION—SEPARATION AND EXPULSION OF SEVENTEEN INCHES OF THE SMALL INTESTINE.—Dr. E. P. Gerry (*Boston Med. Jour.*, Dec. 28, '76) reports a very rare case. Patient was a man aged seventy-one years. After an illness of three weeks, he passed seventeen and one eighth inches of small intestine, and finally fully recovered. The constitutional symptoms attending the process of invagination and separation of the intestine were comparatively trivial—so much so that some of the consulting physicians doubted the existence of intussusception.

TREATMENT OF INTUSSUSCEPTION BY FORCED ENEMATA.—Dr. Thomas Hawkins, physician to Bellevue Dispensary, is reported by Dr. F. J. Garbit, in the *Medical and Surgical Reporter*, to have successfully treated three cases of intussusception, or invagination, by means of fluid injections per rectum. The patients were placed in the chest-and-knee position, and the instrument used an ordinary Davidson's syringe. Contrary to the injunctions of Flint, that "the injections should not be pushed beyond the point at which they are borne without much suffering," Dr. Hawkins found it necessary to use all the force of which the instrument was capable. He believes that the reason the injection of fluids in these cases has not been more successful in the hands of physicians who so bitterly oppose their use is, because they did not push it "beyond the point at which it could be borne without pain." He quotes, with approval, Dr. Robert Battey, who has caused "the fluid to pass through the entire alimentary canal and flow into the mouth." He is "convinced that success may be achieved in nine cases out of ten, and the strangulated intestine restored to its normal position by the use of forced enemata; and, unless there be some well-grounded apprehensions of gangrene, in every case of intestinal obstruction, whether suspected, incipient or developed, the injection of fluids, judiciously and properly directed, need be the only means of cure invoked, except the occasional administration of an anodyne." The three rules essential to success are:

1. The use of the utmost force possible, but with great care and caution.
2. Persistent and continuous repetition of the injection until the passage is effected.
3. The adoption of a suitable position for the patient.

CAUSTIC ARROWS—THEIR PLACE IN PRACTICAL SURGERY?—Dr. J. C. Hutchison (*Proceedings Kings County Medical Society, Jan., 1877*) answers this question, as follows:

1. Zinc arrows should be used when the disease—especially malignant disease—cannot be taken away clean by the knife,

more particularly if there is a fetid discharge from an open sore, with hemorrhage and pain, which is gradually wearing out the patient's strength, as in uterine and other cancers.

2. If the tumor has more width than thickness, involves the integuments, is ulcerated upon its surface, is situated at the bottom of an old wound and fixed, as it were, against the bones; if, in a word, it is not possible to remove the disease without causing considerable loss of integument, then the caustic should be preferred.

3. In those patients who absolutely refuse extirpation by the knife, the use of caustic arrows is admissible, even though the skin is sound and the tumor movable and can be removed by the scalpel so as to leave a wound whose edges can be more or less approximated.

4. When erysipelas, pyæmia, septicæmia or puerpera fever are prevalent, especially in hospitals, operations should be done with caustic arrows, in preference to the knife, in suitable cases.

5. Cauterization, practiced as here described, is entitled to occupy a prominent place among our surgical resources.

The arrows have the following composition: Chloride of zinc, one part; wheat flour, three parts, and water to make a paste. The paste is made into cakes, and from this arrows of any desired shape are formed.

These arrows are introduced into the substance of the tissue to be destroyed.

SPLENOTOMY—RECOVERY.—M. Pean (*Lancet*, Dec., 1876) Surgeon to the St. Louis Hospital, Paris, gives the notes of a case of this kind, which brings the total number of splenotomies upon record up to six. Four cases belong to Mm. Kuehler, Spencer Wells and Koeberle, all of which were fatal; the two remaining cases were operated upon by M. Pean, and, strange to say, were completely successful.

POPLITEAL ANEURISM—APPLICATION OF ESMARCH'S BANDAGE—CURE.—Mr. Wagstaff, of St. Thomas' Hospital, (*Lancet*, Dec., '76), reports the second case of recovery from aneurism

by the application of the above bandage. It was applied tightly over foot and leg up to the lower border of the popliteal space, carried lightly over the tumor (cotton-wool intervening), and then continued tightly over the thigh to three inches and a half of Poupart's ligament. No elastic ligature was used. Bandage remained *in situ* for one hour, then a tourniquet was placed on the femoral artery, and the former was removed. After an hour, on raising the tourniquet, no pulsation could be detected, but it was thought advisable to continue the complete pressure for five hours more, and the incomplete for the twelve succeeding ones. A week later the aneurism remained only as a solid lump in the popliteal space. It remains a question, whether the same treatment would be as successful in large, thinly-coated aneurisms?

CONTINUOUS GALVANIC CURRENT—ITS INFLUENCE ON NEW FORMATIONS.—Dr. E. Polikowsky (*Russian Med. Jour.—Med. Times*, Dec. 23, '76) has investigated the action of the galvanic current on animals affected with cancer and sarcoma. The author determined the exact histological character of the swelling before the seance, immediately after it, and after the lapse of some days. The strength of the current was measured by the galvanometer, and the duration of the seance twenty minutes. He found that :

1. A weak current (galvanometer 5° to 10°) produced at the places of application of the electrodes a compression of the small vessels, obliteration of the capillaries, and a small amount of extravasation. These phenomena disappeared in two days.

2. A stronger current (galvanometer 45°) produced a destruction of the tissue at the points of application of the electrodes. On the — pole, the destruction was soft, jelly-like, porous, mixed with bubbles of gas; on the + pole it was dry, resembling that formed by strong acid. The current only destroyed the swelling at the points of application of the electrodes, and stopped the circulation of the blood within the limits of the action of the current. The tissue, losing its supply of blood, undergoes retrogressive changes, degeneration, and coll-

oid metamorphosis. Thus, a weak current produces no change in either cancer or sarcoma; a strong current destroys both swellings.

FRACTURE OF THE SPINE, FOLLOWED BY RECOVERY.—M. E. Jackson (*Med. Times*, Dec. 23, '76) gives a very complete history of recovery from fracture of the spine. The subject was injured twenty-six years ago. Motion was lost, but not sensation or control of the sphincters. In a month from the time of injury the man went on crutches, and began to earn his living, which he continued to do until the time of his death. Mr. Jackson kept a strict watch upon him—or his spine—and finally secured it. Careful examination showed that two lumbar vertebræ had been extensively damaged, there having been both fracture and dislocation. A large mass of new bone had been thrown out by the damaged vertebræ, so as to solder the fractured ends together. The union was strong and solid, but there was some twisting of the bodies of the vertebræ, which caused his gait to be unsteady. Not only had the reparative process gone on from the periosteum of the fractured vertebræ, but spiculæ of bone were thrown out from the neighboring vertebræ above and below. The spinal canal was not much narrowed. There was also some injury to two cervical vertebræ, which were firmly united, without any displacement. The specimens are now in the Museum of the College of Surgeons. Dr. Jackson certainly exhibited great perseverance in watching the specimen for twenty-six years.

ABSCESSSES TREATED BY HYPERDISTENTION WITH CARBOLIZED WATER.—Mr. G. W. Callender (*Brit. Med. Jour.*, Nov. 4, '76) says that the presence of septa in abscesses renders ineffectual their washing by the usual method. To obviate this difficulty, he advocates the hyperdistention of such abscess sacs by forcing into them carbolized water. Three cases are described, in all of which hyperdistention was most beneficial—one of angular curvature of the spine, one of disease of the lumbar vertebræ, and a third of renal calculus.

Obstetrics.*

PUERPERAL GLYCOSURIA.—(M. Guebler. *Le Progrès Médical*, Nov. 18. *Med. and Surg. Repor.*, Jan. 20, 1877.)

1. Saccharine urine follows suspension of lactation in healthy women, from diseases of the infant, and when lactation is arrested from some slight ailment of the mother, but not if her disease be a severe one,—*e. g.*, typhoid fever.

2. The glycosuria can be prevented by slight purgation.

3. It is never very marked, but can be detected by the usual reagents.

4. Albuminuria is absent.

5. It continues for about a week.*

GLYCOSURIA IN LACTATION (*Gaz. Hebdom. Pac. Med. and Surg. Jour.*, Jan., 1877.)—When the sugar formed in the gland during lactation is not passed from the nipple it is eliminated in the urine. This fact explains the common occurrence of sugar in the urine of nurses.

SYPHILIS IN PREGNANT WOMEN (Darrosky. *Memorabilien*, 1866, No. 10. *Chicago Med. Journal*, 1877.)—The author by no means advocates the heroic treatment of diseases occurring during the period of pregnancy, but he teaches that an exception should be made in the case of syphilis. He recommends the inunction cure, judiciously but energetically pursued, in order that salivation may be avoided, and administers internally at the same time potassium iodide. The mercurial ointment, in half drachm doses, must be rubbed in daily, chlorate of potash gargles employed, and the greatest attention paid to scrupulous cleanliness and the good ventilation of the patient's apartment. With such care, he does not hesitate to institute the treatment even in the last month of pregnancy.

IS SYPHILIS TRANSMISSIBLE BY MILK?—(*Petersb. Med. Wochensehr. in Centralblatt*, No. 44. *Canada Med. and Surg. Journal*, Jan., 1877.)—R. Voss inoculated three prostitutes by the hypodermic injection of milk taken by pressure from the

uninjured breasts of a woman suffering from a papular syphilide and condylomata of the genitals and anus. The injection in all caused an inflammatory swelling which suppurated and healed, but in the second patient there appeared, forty days after the inoculation, a papular eruption around the point of injection, which, in a few days, spread over the remainder of the body, and was combined with swelling of the lymphatic glands. Under the inunction treatment the symptoms disappeared.

Editorial.

NOTICE TO CORRESPONDENTS, ETC.—Communications intended for publication, and books for review, should be addressed to "Editors of Detroit Medical Journal, care of E. B. Smith & Co., Detroit."

All remittances of money, all letters on the business of the JOURNAL, pertaining to subscriptions or advertisements, should be addressed exclusively to the publishers, E. B. Smith & Co., corner Fort and Griswold Streets, Detroit, Mich.

Original Articles, Reports of Medical Societies, Observations, Correspondence, News, etc., of general interest, are respectfully solicited from every source. Articles should be practical and carefully prepared.

The Editors will not be responsible for statements made over the names of contributors.

Consanguineous Marriages.

A bill now pending before our State Legislature, and which has, indeed, already passed one branch of that body, has, as one of its provisions, a clause prohibiting the marriage of cousins. As might have been expected in a community in which marriages of this nature have not only been permitted, but in which a goodly number have been consummated, the bill has aroused no inconsiderable comment, and in some instances, decided opposition. The secular press has taken hold of the subject, and the public have been treated, as a necessary consequence, to a variety of very learned, as well as unlearned, opinions regarding it. While no one will question the right or duty of legislatures to deal with questions of this nature, all have a right to demand that any action taken shall be intelligent action, and such as experience and facts and scientific thought will endorse. The bill now pending, we will suggest, touches a question upon which much thought has been expended by men whose scientific attainments would seem to peculiarly

fit them for its consideration, but with a very negative result, so far as a satisfactory solution of the matter is concerned. This single fact would seem to justify the suspicion that our Solons at Lansing have undertaken a matter whose consideration is apt to lead them beyond their depth, and that if they attempt its intelligent solution they will soon find themselves floundering beyond hope of regaining *terra firma*.

There is, however, one argument upon which the supporters of the bill dwell with considerable pertinacity and unction, and that is the statistical argument. It is upon this point that we would offer a few suggestions, with a view to showing its fallacy, so far as the question under consideration is concerned. These statistics are appealed to for the purpose of proving that the offspring of blood relations are peculiarly prone to certain nervous disorders, among which are notably deaf-mutism and idiocy. We will admit, for the sake of argument, that disorders of this nature are more frequent among such offspring than among those of parents not allied by blood, although that such is really the case is by no means proven. It by no means follows, however, that such untoward results are attributable to consanguinity *per se*, on the part of the parents. If individual cases are investigated they will be found, in the majority of instances, to result in conformity to a law into which the question of consanguinity does not enter. It has been truly said that "consanguinity intensifies heredity," and it is only in so far as it does this that it is a source of evil to the offspring. In so far as *both* parents manifest a constitutional dyscrasia is that dyscrasia prone to be intensified in the offspring. This fact obtains, however, with equal force, whether or not the parents are consanguineous, and blood relations who may marry run only this additional risk, that constitutional tendencies to any vice are more apt to be concurrent in them than in others.

The statistics at our disposal are defective, in that no notice is taken of this concurrent predisposition on the part of parents. Were it eliminated in investigating the percentage of deaf mutes and idiots, it would be found that the offspring of consanguineous marriages are no more prone than others to the deplorable consequences which have been charged upon them.

It will be seen from this that any evil consequences which result, do so in conformity to a law which, if intelligently regarded, would be the most cogent argument possible in favor of the marriages which our Legislature would interdict. Our fancy stock raisers recognize it in their "in and in" breeding, and, by a judicious mating of animals in which the features they wish to propagate and exaggerate concur, they have succeeded in giving to us magnificent specimens in direct lineage with the very inferior stock from which they started.

Aside, therefore, from strictly moral grounds, it would be more consistent on the part of our Legislature, because more in conformity with science, for them to commend for its possible good, than to condemn for its accidental evil results, the intermarriage of cousins.

It is a matter of wonder, we may remark by the way, considering the hap-hazard manner in which marriages are made, that society is not afflicted with a larger crop of vicious persons than actually exists. If our Solons would do a really good work, let them devise some means whereby the lower and vicious classes may be prevented from propagating an offspring in whom the tendency to crime is aggravated, in conformity with the law above enunciated, with each generation.

This is a subject which, difficult though it may be, could be grappled more intelligently and with better promise of result than that on which they are now bringing their wisdom to bear.

Until science is able to furnish more data than are yet in our possession, we should advise our Legislature to leave the question of the marriage of cousins severely alone.

J. J. M.

A Young Mother. *side*

An esteemed and entirely trustworthy correspondent has furnished us with the following facts touching a case which came under his observation. As an instance of early maternity, the case is one which certainly vies with any case on record:

The girl first menstruated when ten years and six months

of age. ~~She became pregnant at eleven years and six months, and was safely delivered of a male child January 19th, 1875. The reputed father of the child was, at the time, a hopeful of fourteen years of age. The child is still alive, but not very strong or bright, although the promising parents are doing as well as could be expected.~~ *(Detroit Journal)*

Memoranda.

Dried eggs are used in the Bavarian army as an article of food.

Albany Medical College graduated a class of thirty-eight, Jan. 31, '77.

The French Pharmacopœia requires that all medicinal substances be weighed in the preparation of prescriptions.

Dr. Warlomont, of Brussels, states that, out of more than ten thousand children vaccinated with animal virus, not one was attacked with small-pox during the severe epidemic of 1870.

In November last the "Medical Society of London" unan- imously resolved "to exclude persons of the female sex from either becoming fellows of the society, or from being introduced to it as visitors."

London is threatened with a severe small-pox epidemic. To encourage re-vaccination among her subjects, the Queen has caused all members of her household to be re-vaccinated, and the fact to be published by the press.

Dr. H. A. Martin (Bost. Med. Jour., Feb. 1, '77,) says that, during the sixteen years in which he supplied humanized vaccine virus, he was continually troubled by the complication of erysipelas. Since he has supplied only the bovine virus he has had no complaint of erysipelas.

Sir Wm. Ferguson died Feb 11. He was born March 20, 1808; began to lecture on surgery in 1831; was appointed Professor of Surgery, in 1840, at King's College, London; was elected President of the Royal College of Surgeons in 1870. By his special papers and medical works, he is well known to the entire profession.

Dr. Pavy, from observations on Weston during his pedestrian feats in London, has found that during muscular exercise there is an increase of urea excreted. This increase, however, is inadequate to account for the work done. It simply accounts for the wear of muscular tissue. The work done represents the oxidation of carbo-hydrates and the production of carbonic acid and water. It will be remembered that Dr. A. Flint, from observations on Weston, some years since, reached conclusions supporting the doctrine of Liebig, that force—muscular, nervous, etc., results from the disintegration of the particular tissue in action. Flint and Pavy both found increase of urea during muscular exercise. The former maintained that this increase represented a force equal to the work performed; the latter maintains that this increase only accounts for the wear of muscular tissue. From a careful study of both series of observations, we think that Pavy is correct.

Book Notices.

Any book noticed herein may be had of E. B. Smith & Co.,
Publishers and Booksellers, Detroit, Mich.

A PRACTICAL TREATISE ON DISEASES OF THE SKIN By Louis
A. Duhring, M. D. Cloth; pages, 600. 1876. Philadel-
phia: J. B. Lippincott & Co.

The author, in his preface, states that "his aim has been to write a concise, practical, and useful treatise; not exhaustive, yet sufficient to afford a clear insight into the elements of dermatology, and a knowledge of all the important facts in connection with each disease treated of." Questions of theory, the discussion of unsettled points, and useless or obsolete terms, have all been avoided, nor is the literature of dermatology dwelt upon. The classification adopted* is that of Hebra. Diseases are defined mostly from the clinical stand-point, and consist mainly of descriptions of the characteristic lesions and symptoms.

In size the work is one third larger than that of Piffard,

issued last year. It is the second American treatise on the skin. After a careful examination of the book, we are compelled to say that it is a clear and most satisfactory presentation of a subject concerning which the profession generally is greatly mixed.

It opens with general considerations on the anatomy of the skin, symptoms of its diseases, causes, pathology, diagnosis, treatment, prognosis and classification. The anatomy of the skin is told as well as is possible within forty pages, and is plainly illustrated. The objective symptoms are grouped as primary and secondary lesions. Of the former we have maculæ, papulæ, vesiculæ, bullæ, pustulæ, wheals, tuberculæ, tumors of the latter crusts, scales, excoriations, fissures, ulcers and scars. To illustrate his method of describing these, let us take wheals. The synonyms are given, and they are defined as "firm, flat, elongated or rounded, slightly raised elevations, of an evanescent character." Then follows a concise description of their peculiar features.

In the etiology of skin diseases he gives special prominence to diet, making the statement that it produces more diseases of the skin than any other single cause. In proof he adduces the clinics at great hospitals and dispensaries, which are notoriously composed of badly fed persons. In the case of parasites, he thinks "that a peculiar condition of the skin is quite as essential to the development of the disease as the presence of the parasite."

Under the head of treatment he says that skin diseases are amenable to the same principles of therapeutics which hold good of other organs. Hence, he who would be a successful dermatologist must be a master of general medicine. This fact is apparently ignored by many would-be specialists in this or other fields.

Arsenic, he admits, is a valuable remedy, but not for skin diseases collectively—only for certain diseases and in certain stages. This is scientific therapeutics, but the average doctor, we fear, will be unable to appreciate it for some time hence. In a general way it may be said that arsenic influences chiefly

the mucous layer of the epidermis, and so is indicated only in those diseases in which this layer is involved. It is contra-indicated in the acute, inflammatory stage of any disease of the skin; also when there is great heat, burning, intense itching or rapid cell change. The reason for this is that during these states the rete needs rest, while arsenic stimulates it to action.

Part second treats of special diseases, classified, as before mentioned, into disorders of secretions, hyperæmias, exudations, hæmorrhages, hypertrophies, new growths, neurosis and parasites."

In describing the pathology of eczema, the exudation is regarded as the important pathological process. This may be either fluid or plastic, or of all intermediate grades, as the disease is erythematous, papular, vesicular, or pustular. In idiopathic vesicular eczema Neumann showed that first a rythmical contraction of the vessels took place, by which they were alternately distended and empty, gradually becoming more and more dilated, until stasis was observed. The skin became opaque, swollen and hot, and in a few hours dotted with vesicles. Two days afterwards the tissue was found to be infiltrated with serous fluid, and filled with a great quantity of cells.

In papular eczema Biesiadecki found that in the circumscribed portion of the skin the papillæ were somewhat enlarged in breadth and length, and infiltrated with cells and a clear, serous liquid. The connective tissue corpuscles of the papillæ are increased in number and compressed by the serous fluid. Numerous spindle shaped cells prolong themselves into the mucous layer, lying half in the papillæ and half in the deepest cells of the rete mucosum. They crowd the cells of the rete apart and reach even to the horny layer. They often form a dense net-work in the rete between the papillæ. Within this net-work are found somewhat swollen epithelial cells, whose protoplasm appears less marked. This circumscribed infiltration of the papillæ forms the papule of eczema." Further alterations, by which the other lesions in the various stages of eczema are produced, are clearly pointed out.

In discussing the treatment of this disease, the subject of

diet is given the first place. Attention is directed to other hygienic conditions, and all the usual remedies. The physician who reads this chapter and still affirms that he knows nothing of eczema, must be an imbecile, and had better change his business.

In conclusion, we must say that it is a thoroughly good book, and admirably adapted to meet the wants of those for whom it was designed. As such it will facilitate the study of dermatology by medical students and practitioners by teaching them how to observe pathological processes with their special senses, and how to treat these processes on the same general principles that govern the same processes in other organs.

L. C.

MENTAL POWERS OF INSECTS. By A. S. Packard, Jr.

This is the twelfth number of "Half Hour Recreations in Natural History." It contains thirty-six pages, well printed on good paper. The author shows that insects have sensibilities, intellect and will. Besides, they are able to so combine these primary elements of mind as to produce secondary and complicated mental operations. Thus they can communicate ideas one to another—are educated—bees ventilate their hives by fanning their wings. The instincts of the present generation are regarded as the sum total of the inherited mental experiences of former generations.

If other parts of this publication are as interesting as the one before us, they well merit a liberal patronage.

EMMONS' ANNUAL MEDICAL DIRECTORY OF THE REGULAR PHYSICIANS OF THE STATE OF ILLINOIS. 1877.

The physicians are classified in one list alphabetically by their names, and in another list alphabetically by the towns in which they reside. Thus it is easy to find a given name or residence, or one from the other. A record also is given of the different County Associations in the State. Altogether, it is a useful work for all who desire to communicate with the physicians of Illinois.

Meteorological Report for January, 1877.

BY C. HENRI LEONARD, M. D., OBSERVER FOR STATE BOARD OF HEALTH.

BAROMETER.—Highest, 30.537; lowest, 29.473; mean, 30.097; range, 1.064.

THERMOMETER.—Highest, 48 (this was on the 31st, and the highest since Nov. 13, 1876); lowest, —5 (this was on the 9th); mean, 20.3; range, 53. The mean temperature is the coldest recorded since 1871, save that of 1875, although the minimum temperature was less than in '76, '75 and '73. The mean temperature for January, 1872, was 23; for '73, was 20.5; for '74, was 28.9; for '75, was 15.3; for '76, was 32.4. The maximum in these years was, respectively, 37°, 54°, 58°, 41°, 65°; the minimum, 3°, —12°, 0, (zero), —15°, 9°. Hence, it has been an unusually cold January.

WINDS—The prevailing direction has been S. W.; corresponding to that of 3 out of the last 5 Januarys. The maximum velocity has been only 20 miles per hour—less than in any preceding January. The total number of miles traveled has been 4, 357—less, by from 1,000 to 3,000 miles, than that of preceding Januarys. On one day, the 6th, “calms” were noted at *each* observation. The total number of miles traveled during the day was but 23. “Calms” were also noted at the morning and evening observations on the 5th, at the 2 p. m. observation of the 1st, and at the 9 p. m. observations of the 14th and 18th. On the whole, it has been an unusually “calmy” month.

CLOUDS—No. of clear days, 7; 8 fair ones; 16 cloudy, and 16 rainy or snowy. In '72, there were 7 stormy days; in '73, 13; in '74, 23; in '75, 18; in '76, 19.

RAINFALL.—Total precipitation, 1.23 inches. Greatest daily fall, .47 inches (this was on the 11th). It has been, comparatively, a *dry* month, the common asseverations of “unparalleled sleighing” to the contrary notwithstanding. The temperature has been so equable that the snow simply “accumulated,” and so led to this erroneous belief. In '72 we had

1.05 inches; in '73, 3.20 inches; in '74, 5.16 inches; in '75, 0.97 inches; in '76, 2.00 inches. In '74 we had almost *five times* the amount of total precipitation.

MOISTURE.—The maximum amount present was at the 2 p. m. observation of the 31st; there was then present 2.60 grains to each cubic foot of air. At many observations there was so little present as to be absolutely incomputable, although the *relative* humidity stood high on the same dates. For instance, on the 9th and 12th the relative was over 75 per cent., yet the *absolute* was so small that no computation could be made, thus giving a practical example of my assertion of several months ago, that the prevailing summer complaints of children had *nothing* to do with the relative humidity, as that could be very high, and yet the amount of vapor would really be trifling; that it was the *absolute* humidity that seemed to mark the onset of the disease. In our summer months it runs as high as 7 grains per cubic foot of air, a decided increase of pressure to the human body. The coming summer will be one of unusual interest to me, as I have this theory of mine pretty well worked out, and am only waiting for fuller confirmation. I have, for some time, been at work upon the New York City and Philadelphia observations during the "heated term" of last year, and only find myself supported in my statements, made before, "that the *absolute humidity* controls our epidemic summer complaints of children."

OZONE.—Present on most days of the month. The maximum coloration was on the 2d, morning observation. It was then 2 of the scale. The same was also reached on the 9th and 14th.

FROSTS occurred on the 17th, 28th, 29th and 30th.

FOGS occurred on the 17th, 18th, and 30th.

LUNAR HALOS, 22° radius, on the 21st and 30th.

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ANODYNE. Dose, 1 to 2.	{ Pv. Camphoræ 1 gr. Morphiæ Acetat. 1-20 gr. Ext. Hyoscyami. 1 gr. Ol. Res. Capsici. 1-20 gtt.	.75	PHOSPHORI 1-25 gr. 1-50. 1-100 gr.	{ Phosphorus 1-100 gr. Ext. Nuc. Vomiceæ. 1-4 gr.	2.00
ANTI-PERIODIC. Dose, 1 to 3.	{ Cinchonidiæ Sulph. 1 gr. Res. Podophylli. 1-20 gr. Strychniæ Sul. 1-33 gr. Gelsemin 1-20 gr. Ferri Sulph. Exs. 1-2 gr. Ol. Res. Capsici. 1-10 gtt.	.80	PHOSPHORI ET NUCIS VOMICÆ.	{ Phosphorus 1-50 gr. Ext. Nuc. Vomiceæ. 1-4 gr.	2.00
CAMPHOR ET EXT. HYOSCYAMUS. Dose, 1 to 2.	{ Camphoræ. 1 gr. Ext. Hyoscyami Eng. 1 gr.	.50	PHOSPHORI ET FERRI ET NUC. VOM.	{ Phosphorus 1-100 gr. Ferri Carb. (Vallet's), 1 gr. Ext. Nuc. Vomiceæ. 1-4 gr.	2.00
CATHART.: Comp., U. S. P.50	PHOSPHORI ET FERRI ET NUC. VOM. ET QUINIE.	{ Phosphorus 1-100 gr. Ferri Carb. (Vallet's), 1 gr. Ext. Nuc. Vom. 1-8 gr. Quinæ Sulph. 1 gr.	2.90	
CATHART.: Comp., Vegetable. Dose, 2 to 3.	{ Podophyllin, Scammony. . Ext. Colocynth. Aloes, Soap and Cardamon	.60	QUINIE COMP. Dose, 1 to 2.	{ Quin. Sulph. 1 gr. Ferri Carb. (Vallet's) 2 grs. Acid Arsenious ... 1-60 gr.	1.75
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EMMENAGOGUE. Dose, 1 to 3.	{ Ergotine 1 gr. Ext. Hellebor Nig. 1 gr. Aloes Soc. 1 gr. Ferri Sul. Exs. 1 gr. Ol. Sabinae. 1-2 gtt.	1.40	RHEI COMP. U. S. P. Dose, 2 to 4.	{ Pulv. Rhei. 2 grs Pulv. Aloes Socot. 1 1-2 grs Myrrh 1 gr. Ol. Menth Pip.75
FERRI IODID. Dose, 1 to 2 1 gr.	.80	SEDATIVE. Dose, 1 to 2.	{ Ext. Sumbul. 1-2 gr. Ext. Valerianaæ 1-2 gr. Ext. Hyoscyami. 1-2 gr. Ext. Cannab Ind. 1-10 gr.	.75	
FERRI ET STRYCH-NIA CIT. Dose, 1 to 2.	{ Ferri Cit. 1 gr. Strych. Cit. 1-50 gr.	.75	TONIC. Dose, 1 to 2.	{ Ext. Gentianaæ. 1 gr. Ext. Humuli. 1-2 gr. Ferri Carb. Sacch. 1-4 gr. Ext. Nuc. Vomiceæ. 1-20 gr. Res. Podophylli. 1-25 gr. Ol. Res. Zingiber. 1-10 gtt.	.60
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"SOLUBILITY."—During a session of a Pennsylvania County Medical Society this summer, a discussion on ready-made Pills was introduced, and several eminent practitioners asserted their want of faith in the solubility of sugar-coated and compressed pills, on account of not yielding ready effect after administration, and stated that under personal observation they had known the sugar-coated pills to pass through the bowels undissolved. Some of these gentlemen had used McKesson & Robbins' Gelatine-Coated Pills and during considerable experience had always found them to produce the most prompt and positive action.

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Representing this combination in the most agreeable and reliable form.

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PHOSPHORUS COMPOUND AND IRON \$1.25 per 100

The coating we use is in no degree porous and preserves the Phosphorus perfectly in the free state; by the excipient we use the Phosphorus is gradually eliminated in the stomach, thus avoiding the severe action which is experienced after taking the ordinary Phosphorus Pills. The McKesson & Robbins' Phosphorus Pills are used by many of the leading physicians throughout the country, and are stated by them to be the best medium for administering this very important remedy.

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This form possesses many advantages over the Syrup. Used with much success in Dyspepsia.

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Form the best possible medium for administering this remedy, which occupies so prominent a place for the treatment of lung diseases and bronchial affections.

Please be careful to *specify* MCKESSON & ROBBINS' Gelatine-Coated Pills, and *avoid imitations*.

Full lists furnished upon application. See list of formulas, last page.

IMPORTANT NOTICE!!

As a protection against imitations, we would specially caution Physicians to specify MCKESSON & ROBBINS' Gelatine-Coated Pills on their prescriptions and to see that MCKESSON & ROBBINS' are used, as some imitators are offering their pills in the market in the oval or spheroidal shape (introduced by us); and others are offering theirs, *in the round form without any manufacturer's name upon the package*, attempting to introduce their imitations through our previous advertisements, and offering, as inducements to Druggists, prices, in some cases, below cost of honest production. Our attention has also been called to the fact that some Druggists

are in the habit of substituting imitations of our Pills, when ours are intended and even specified by the Physicians. We cannot lay too much stress upon the necessity of Pharmacists purchasing their supplies of Pharmaceutical and Chemical Preparations, as also their crude Drugs, from responsible houses, in whom they can place implicit confidence; and Physicians, guardians as they are of the lives of their patients, should see to it that their prescriptions are faithfully and scrupulously filled, as the substitution of one article for another may be a matter of life or death. We offer this suggestion because inferior Pills have been offered, and the name, "GELATINE-COATED," has thereby suffered in the opinion of some.

In reply to many inquiries in regard to the infringements upon our patents, we would say that the death of one of the Circuit Judges has delayed the calendar of the Court in which our suit will be decided. We intend to protect our rights in this matter, and are pleased to see that most of the trade and profession respect them.

The NATURE of the COATING of a pill is not the only important consideration, the PILL ITSELF must be HONESTLY and PROPERLY made. The best test of the superiority of both the COATING and CONTENTS of OUR PILLS, is the one of submitting them to LIVING SUBJECTS and noting results. One of the MCKESSON & ROBBINS' Gelatine-Coated Pills, placed in the mouth, will be relieved of its coating in less than two minutes. Physicians in the country would avoid disappointment in results by ordering MCKESSON & ROBBINS' PILLS in original bottles of 100 or 500 from their Druggists, or, where remoteness from sources of supply prevents, we will be happy to mail our Pills to any Physician's address upon receipt of list price.

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Formulas of McKesson & Robbins' Gelatine-Coated Pills.

We request Physicians to specify **McKESSON & ROBBINS'** on their Prescriptions, and avoid imitations.

Acid, Arsenious.....1-40, 1-30 and 1-20 gr. Acid, Salicylic.....2-1-2 and 5 grs. Aloes, U. S.....1-2 and 3 grs. Aloes and Assafoetida, U. S.....3 grs. Aloes and Iron.....3 grs. { Pulv., Aloes, Soc., 1-2 gr. { Pulv., Zingib., Jam., 1 gr. { Ferr. Sulph., Ext., 1 gr. { Extract, Conil., 1-2 gr. Aloes and Myrrh, U. S..... Aperient..... { Ext., Nucis Vom., 1-3 gr. { Ext., Hyosciami, 1-2 gr. { Ext., Coloc. Comp., 2 grs. Assafoetida.....2 grs. { Assafoetida, 1-1-2 grs. { Pulv., Saponis, 1-2 gr. Assafoetida, U. S.....4 grs. { Assafoetida, 3 grs. { Pulv., Saponis, 1 gr. Assafoetida and Nux Vomica..... { Assafoetida, 3 grs. { Ext., Nucis Vom., 1-4 gr. Atropia.....1-60 gr. Blue Pill, U. S.....1, 3 and 5 grs. Calomel.....1-2, 1, 2, 3 and 5 grs. Cannabis Indica Extract.....1-2 gr. Cathartic Compound, U. S.....3 grs. Cathartic Vegetable.....3 grs. { Ext., Col. Comp. pulv., 1-1-2 grs. { Res., Podophylli, 1-3-8 " { Res., Lepidandra, 1-1-8 " { Jalapeo Pulv., 1-1-4 " { Aloes Securin Pulv., 1-2 " { Ext., Hyosciami, 1-1-4 " { Ol., Mentha Pip. Chinoidine.....3 grs. Cinchonida Sulphate.....3 grs. Cinchonida Sulphate.....1-2 and 3 grs. Coccyth, Comp., Extract.....3 grs. Colic.....3 grs. { Pulv., Aloes, Soc. 1 gr. { Hydrarg., Chlor., Mite, 3-4 gr. { Pulv., Bistol., 1 gr. { Pulv., Saponis, 1-4 gr. Copalba.....3 grs. Copalba and Oleo Resin Cubeba.....3 grs. { Pil., Copalba, 2 grs. { Oleo-Resin Cubeba, 1 gr. Copalba and Oleo Resin Cubeba.....5 grs. { Pil., Copalba, 3 grs. { Oleo-Resin Cubeba, 2 grs. Corrosive Sublimate.....1-40, 1-30 and 1-20 gr. Dinner (Lady Webster's).....3 grs. { Pulv., Aloes, Soc., 1-4-5 grs. { Pulv., Mastiches, 3-5 gr. { Pulv. Rose, Gallica, 3-5 gr. Dover's Powder, (see Ipecac and Opium.) Emmenagogue..... { Ergotin, 1 gr. { Ext., Helleb., Nig., 1 gr. { Ferr. Sulph., Exsic., 1 gr. { Aloes, Soc., Pulv., 1 gr. { Ol. Sabinæ, 1-4 gr. Ergotin.....3 grs. Ferruginous (Bland).....3 grs. { Ferr. Sulphas, 1-1-2 grs. { Potasse, Carb., 1-1-2 grs. Ferruginous (Bland).....5 grs. { Ferr. Sulphas, 2-1-2 grs. { Potasse, Carb., 2-1-2 grs. Grindelia Robusta Extract.....3 grs. Guarana Extract (Paulinia).....3 gr. Hepatic..... { Pil., Hydrarg., 2 grs. { Ext., Coloc. Comp., 2 grs. { " Bellad., 1-4 gr. Hooper's.....2 1/2 grs. Hypophosphites Compound..... { Calcii, Hypophos., 3-4 gr. { Sodii, " 1-2 gr. { Potassii, " 1-2 gr. { Ferri, " 1-4 gr. Iodide of Iron (Blancard's formula).....1 gr. Iodoform.....1 gr. Iodoform and Iron.....2 grs. Ipecac & Opium (Dover's Powder, U. S.) 2 1/2 grs. Ipecac & Opium (Dover's Powder, U. S.) 5 grs. Iron by Hydrogen (Quevenne's).....1 and 2 grs. Iron, Citrate and Quinine.....1 and 2 grs. Iron, Proto-Carb. (Vallet's Mass.) 2 grs. & 3 grs. Iron, Proto-Carb. (Vallet's Mass.).....5 grs. Iron, Proto-Chloride.....1 gr. Iron, Quinine and Strychnine..... { Ferrum, Reductum, 1 gr. { Quinia, Sulphas, 1 gr. { Strychnia, 1-60 gr. Lime, Lacto-Phosphate.....5 grs. Mercury, Bin-Iodide.....1-16 gr. Mercury, Prot-Iodide.....1-4 gr. Morphine, Carb.....1-8 and 1-4 gr. Morphine Sulphate.....1-8, 1-5 and 1-4 gr. Morphine Valerianate.....1-8 gr. Neuralgia (Brown-Sequard)..... { Ext., Hyocyami, 2-3 gr. { Conil., 2-3 gr. { " Ignati Amarae, 1-2 gr. { " Opil., 1-2 gr. { " Aconiti, 1-3 gr. { " Cannab. Indicæ, 1-4 gr. { " Stramonii, 1-5 gr. { " Belladonnæ, 1-6 gr. Neuralgia (Dr. Gross')..... { Quinia, Sulphas, 2 grs. { Morphis, Sulphas, 1-20 gr. { Strychnia, 1-30 gr. { Acid Arseniosum, 1-20 gr. { Ext., Aconiti, 1-2 gr. Neuralgia, (Dr. Gross') as above, without Morphine. Opium, U. S.....1 gr. Opium and Acetate of Lead.....2 grs. { Opil, Pulv., 1 gr. { Plumbi, Acet., 1 gr. Opium and Camphor..... { Opium, 1 gr. { Camphor, 2 grs. Pepsin.....5 grs. Pepsin and Bismuth.....5 grs. { Pepsin, 2 grs. { Bismuth, Sub-Nit., 3 grs. Pepsin, Bismuth and Strychnine.....5 grs. { Pepsin, 2-1-2 grs. { Bismuth, Sub-Nit., 2-1-2 grs. { Strychnia, 1-60 gr. Phosphates Iron, Quinine and Strychnine..... { Ferr. Phosphas, 2 grs. { Quinin, Phosphas, 1 gr. { Strychnia, Phosphas, 1-60 gr. Phosphorus.....1-100, 1-50, 1-20 and 1-12 gr. { Phosphorus Compound..... { Phosphorus, 1-60 gr. { Ext., Nucis Vomica, 1-4 gr. Phosphorus Compound..... { Phosphorus, 1-100 gr. { Ext., Nucis Vomica, 1-4 gr. Phosphorus Compound and Iron..... { Phosphorus, 1-100 gr. { Ferr. Phosphas, 1-2 gr. { Ext., Nucis Vomica, 1-8 gr. Podophyllin.....1-4, 1-2 and 1 gr. Podophyllin Compound..... { Podophyllin, 1-2 gr. { Ext., Hyocyami, 1-8 gr. { Ext., Nucis Vomica, 1-16 gr. Podophyllin and Blue..... { Podophyllin, 1-2 gr. { Pil., Hydrarg., 2-1-2 grs. Podophyllin, Capsicum and Belladonna..... { Podophyllin, 1-4 gr. { Ext., Bellad. Alc., 1-8 gr. { Pulv., Capsici, 1-2 gr. Podophyllin, Ext. Coloc. and Belladonna..... { Podophyllin, 1-2 gr. { Ext., Coloc. Comp., 2 grs. { " Belladon., 1-4 gr. Potassium Bromide.....2 and 5 grs. Quinine, Sulphate and Bi-Sulphate.....2 1/2 gr. Quinine, Sulphate and Bi-Sulphate.....1 gr. Quinine, Sulphate and Bi-Sulphate.....1 1/2 gr. Quinine, Sulphate and Bi-Sulphate.....2 grs. Quinine, Sulphate and Bi-Sulphate.....3 grs. Quinine, Sulphate and Bi-Sulphate.....4 grs. Quinine, Sulphate and Bi-Sulphate.....5 grs. Quinine and Aloes.....1 gr. { Quinia, Sulphas, 3-4 gr. { Pulv., Aloes, Soc., 1-4 gr. Quinine, Arsenic and Nux Vomica..... { Quinia, Sulphas, 1 gr. { Acid, Arseniosum, 1-60 gr. { Ext., Nucis Vomica, 1-4 gr. Quinine and Iron.....1 gr. { Ferrum Reductum, 1 gr. { Ferrum Sulphas, 1 gr. Quinine and Carbonate Iron..... { Quinia, Sulphas, 1 gr. { Ferr. Sub. Carb., 2 grs. Quinine, Phosphorus and Nux Vomica..... { Quinia, Sulphas, 1 gr. { Phosphorus, 1-60 gr. { Ext., Nucis Vomica, 1-40 gr. Quinine, Phosphorus and Nux Vomica..... { Quinia, Sulphas, 1-40 gr. { Ext., Nucis Vomica, 1-40 gr. Quinine, Phosphorus and Nux Vomica..... { Quinia, Sulphas, 1 gr. { Phosphorus, 1-60 gr. { Ext., Nucis Vomica, 1-4 gr. Quinine Compound..... { Quinia, Sulphas, 1 gr. { Ferrum Reduct., 1 gr. { Acid, Arseniosum, 1-32 gr. { Extract, Taraxaci, 1-1-4 gr. Quinine Compound and Strychnine..... { Quinia, Sulphas, 1 gr. { Ferrum Reductum, 1 gr. { Strychnia, 1-20 gr. { Acid, Arseniosum, 1-20 gr. Quinine, Valerianate.....1-2 gr. Rheumatic..... { Ext., Coloc. Comp., 1-1-2 grs. { Ext., Calc. Acet., 1 gr. { Ext., Hyocyami, 1-3 gr. { Hydr., Chlor., Mite, 1-3 gr. Rhubarb, U. S..... Rhubarb Compound, U. S.....1 gr. Santonin.....1 gr. Santonin and Calomel..... { Santonin, 1 gr. { Calomel, 1 gr. { Chocolate. Strychnine.....1-60, 1-40 and 1-30 gr. Sumbul, Extract.....1 gr. Tonic (Dr. Allen)..... { Quinia, Sulphas, 1 gr. { Acid, Arseniosum, 1-50 gr. { Ferrum Reductum, 2-3 gr. { Strychnia, 1-50 gr. Triplex.....2 grs. { Extract Aloes, 2 grs. { Podophyllin, 1-2 gr. { Pil., Hydrarg., 1-2 gr. Triplex (Dr. Francis)..... { Pulv., Aloes, Soc. { Pulv., Scammonil. { Pulv., Myrrhae. { Pil., Hydrarg. { Ol., Fijiti { Ol., Carui. Zinc, Phosphide and Ext. Nux Vomica..... { Zinc, Phosphoretum, 10 gr. { Ext., Nucis Vomica, 1-4 gr. Zinc, Valerianate.....1 gr.	Iodide of Iron (Blancard's formula).....1 gr. Iodoform.....1 gr. Iodoform and Iron.....2 grs. Ipecac & Opium (Dover's Powder, U. S.) 2 1/2 grs. Ipecac & Opium (Dover's Powder, U. S.) 5 grs. Iron by Hydrogen (Quevenne's).....1 and 2 grs. Iron, Citrate and Quinine.....1 and 2 grs. Iron, Proto-Carb. (Vallet's Mass.) 2 grs. & 3 grs. Iron, Proto-Carb. (Vallet's Mass.).....5 grs. Iron, Proto-Chloride.....1 gr. Iron, Quinine and Strychnine..... { Ferrum, Reductum, 1 gr. { Quinia, Sulphas, 1 gr. { Strychnia, 1-60 gr. Lime, Lacto-Phosphate.....5 grs. Mercury, Bin-Iodide.....1-16 gr. Mercury, Prot-Iodide.....1-4 gr. Morphine, Carb.....1-8 and 1-4 gr. Morphine Sulphate.....1-8, 1-5 and 1-4 gr. Morphine Valerianate.....1-8 gr. Neuralgia (Brown-Sequard)..... { Ext., Hyocyami, 2-3 gr. { Conil., 2-3 gr. { " Ignati Amarae, 1-2 gr. { " Opil., 1-2 gr. { " Aconiti, 1-3 gr. { " Cannab. Indicæ, 1-4 gr. { " Stramonii, 1-5 gr. { " Belladonnæ, 1-6 gr. Neuralgia (Dr. Gross')..... { Quinia, Sulphas, 2 grs. { Morphis, Sulphas, 1-20 gr. { Strychnia, 1-30 gr. { Acid Arseniosum, 1-20 gr. { Ext., Aconiti, 1-2 gr. Neuralgia, (Dr. Gross') as above, without Morphine. Opium, U. S.....1 gr. Opium and Acetate of Lead.....2 grs. { Opil, Pulv., 1 gr. { Plumbi, Acet., 1 gr. Opium and Camphor..... { Opium, 1 gr. { Camphor, 2 grs. Pepsin.....5 grs. Pepsin and Bismuth.....5 grs. { Pepsin, 2 grs. { Bismuth, Sub-Nit., 3 grs. Pepsin, Bismuth and Strychnine.....5 grs. { Pepsin, 2-1-2 grs. { Bismuth, Sub-Nit., 2-1-2 grs. { Strychnia, 1-60 gr. Phosphates Iron, Quinine and Strychnine..... { Ferr. Phosphas, 2 grs. { Quinin, Phosphas, 1 gr. { Strychnia, Phosphas, 1-60 gr. Phosphorus.....1-100, 1-50, 1-20 and 1-12 gr. { Phosphorus Compound..... { Phosphorus, 1-60 gr. { Ext., Nucis Vomica, 1-4 gr. Phosphorus Compound..... { Phosphorus, 1-100 gr. { Ext., Nucis Vomica, 1-4 gr. Phosphorus Compound and Iron..... { Phosphorus, 1-100 gr. { Ferr. Phosphas, 1-2 gr. { Ext., Nucis Vomica, 1-8 gr. Podophyllin.....1-4, 1-2 and 1 gr. Podophyllin Compound..... { Podophyllin, 1-2 gr. { Ext., Hyocyami, 1-8 gr. { Ext., Nucis Vomica, 1-16 gr. Podophyllin and Blue..... { Podophyllin, 1-2 gr. { Pil., Hydrarg., 2-1-2 grs. Podophyllin, Capsicum and Belladonna..... { Podophyllin, 1-4 gr. { Ext., Bellad. Alc., 1-8 gr. { Pulv., Capsici, 1-2 gr. Podophyllin, Ext. Coloc. and Belladonna..... { Podophyllin, 1-2 gr. { Ext., Coloc. Comp., 2 grs. { " Belladon., 1-4 gr. Potassium Bromide.....2 and 5 grs. Quinine, Sulphate and Bi-Sulphate.....2 1/2 gr. Quinine, Sulphate and Bi-Sulphate.....1 gr. Quinine, Sulphate and Bi-Sulphate.....1 1/2 gr. Quinine, Sulphate and Bi-Sulphate.....2 grs. Quinine, Sulphate and Bi-Sulphate.....3 grs. Quinine, Sulphate and Bi-Sulphate.....4 grs. Quinine, Sulphate and Bi-Sulphate.....5 grs. Quinine and Aloes.....1 gr. { Quinia, Sulphas, 3-4 gr. { Pulv., Aloes, Soc., 1-4 gr. Quinine, Arsenic and Nux Vomica..... { Quinia, Sulphas, 1 gr. { Acid, Arseniosum, 1-60 gr. { Ext., Nucis Vomica, 1-4 gr. Quinine and Iron.....1 gr. { Ferrum Reductum, 1 gr. { Ferrum Sulphas, 1 gr. Quinine and Carbonate Iron..... { Quinia, Sulphas, 1 gr. { Ferr. Sub. Carb., 2 grs. Quinine, Phosphorus and Nux Vomica..... { Quinia, Sulphas, 1 gr. { Phosphorus, 1-60 gr. { Ext., Nucis Vomica, 1-40 gr. Quinine, Phosphorus and Nux Vomica..... { Quinia, Sulphas, 1-40 gr. { Ext., Nucis Vomica, 1-40 gr. Quinine, Phosphorus and Nux Vomica..... { Quinia, Sulphas, 1 gr. { Phosphorus, 1-60 gr. { Ext., Nucis Vomica, 1-4 gr. Quinine Compound..... { Quinia, Sulphas, 1 gr. { Ferrum Reduct., 1 gr. { Acid, Arseniosum, 1-32 gr. { Extract, Taraxaci, 1-1-4 gr. 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Our Pills are RELIABLE, being made strictly in accordance with formulas, and of the best materials.

They are SOLUBLE; the Gelatine, in the temperature of the stomach, being speedily converted into jelly, and the contents of the Pill left free to act. TO TEST THE SOLUBILITY OF THE COATING, PLACE A PILL IN THE MOUTH AND NOTE THE RAPID DISAPPEARANCE OF THE GELATINE. A SINGLE TRIAL OF A DOSE OF COMPOUND CATHARTIC PILLS WILL ATTEST THEIR SOLUBILITY AND EFFICIENCY IN THE STOMACH.

They are VERY EASY TO TAKE; patients, who have found it impossible to swallow a plain or sugar-coated pill, are surprised at the readiness with which the Gelatine-Coated Pill "goes down," on account of the oval shape and the nature of the coating.

McKESSON & ROBBINS' FLUID EXTRACTS,

UNIFORM AND RELIABLE.

We have been much gratified by the receipt of a number of letters from Physicians and Pharmacists, speaking in the highest terms of the STRENGTH and reliability of our Fluid Extracts, for they convince us that our efforts to elevate the standard, or rather to maintain the proper standard, of these important Pharmaceutical Preparations have been successful. We shall always endeavor to merit the reputation we have earned.

We have received numerous letters, similar to the following, both from Druggists and Physicians.

"We have shown your FLUID EXTRACTS to some of the Doctors, and they say they are the Best that have been used here."

One of McKesson & Robbins' Pills, placed in the mouth, will be relieved of its coating in two minutes.

The coating, not being porous, will protect such preparations as Phosphorus and Iron Compounds better than Sugar.



The attention of the medical profession is invited to this instrument as the most perfect ever invented for treating Prolapsus Uteri, or Falling of the Womb. It is an Abdominal and Uterine Supporter combined.

The Abdominal Supporter is a broad morocco leather belt with elastic straps to buckle around the hips, with concave front, so shaped as to hold up the abdomen.

The Uterine Supporter is a cup and stem made of very highly polished hard rubber, very light and durable, shaped to fit the mouth of the womb, with openings for the secretions to pass out, and which can be bent to any curve desired, by heating in very hot water.

The cup and stem is suspended to the belt by two soft elastic Rubber Tubes, which are fastened to the front of the belt by simple loops, pass down through the stem of the cup and up to the back of the belt. These soft rubber tubes being elastic adapt themselves to all the varying positions of the body and perform the services of the ligaments of the womb.

The instrument is very comfortable to the patient, can be removed or replaced by her at will, can be worn at all times, will not interfere with nature's necessities, will not corrode, and is lighter than metal. It will answer for all cases of Anteversion, Retroversion, or any Flexion of the Womb, and is used by the leading physicians with never failing success even in the most difficult cases.

Price—to Physicians, \$8.00; to Patients, \$12.00.

Instruments sent by mail, at our risk; on receipt of price, with 16 cents added for postage; or by express, C. O. D.

Dr. MCINTOSH'S NATURAL UTERINE SUPPORTER CO.

296 West Lake Street, Chicago, Ill.

Our valuable pamphlet, "Some Practical Facts about Displacements of the Womb," will be sent you free on application.

A GOLD MEDAL was awarded to Dr. JEROME KIDDER,

At the fair of the American Institute, in the fall of 1875, for

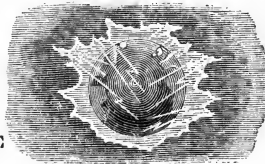
The Best Electro-Magnetic Apparatus

Either here or abroad; and in the fall of 1876,

The Diploma of Maintained Superiority was Awarded.

Also the very highest award was accorded to him for his apparatus at the Centennial Exhibition at Philadelphia.

Fac-simile of Dr. Kidder's
Trade Mark, which



TRADE

accompanies the Genuine
Electro-Medical Apparatus.

MARK.

Dr. KIDDER has unequalled Galvanic Electro-Magnetic and Galvano-Caustic Apparatuses, together with superior Electrodes to use with them.

These Galvano-Caustic Apparatuses sustain their unequalled and remarkable power by a new arrangement secured to Dr. KIDDER by letters patent.

CAUTION.—Practitioners should be on their guard in reference to certain fictitious machines where a coil is tapped, and at different points connected with separate metallic parts, and falsely claimed to be like Dr. KIDDER's manifold coil apparatus. To know the genuine apparatus from the spurious, address, for Illustrated Catalogue,

Dr. JEROME KIDDER,

Northeast corner of 17th Street, and 4th Avenue, New York.

TO THE MEDICAL PROFESSION.

LACTOPEPTINE!

Lactopeptine contains all the agents of digestion that act upon food, from mastication to its conversion into chyle, and is, therefore, the only perfect remedy for Dyspepsia that has ever been procured.

FORMULA OF LACTOPEPTINE.

Sugar of Milk.....	20 oz.	Ptyalin or Diastase	1 dr.
Pepsin (Pure).....	4 "	Lactic Acid.....	2½ fl. "
Pancreatine (Pure)	3 "	Hydrochloric Acid.....	2½ fl. "
Powder and Mix.			

The digestive power of LACTOPEPTINE is invariably tested, so as always to insure perfect uniformity.

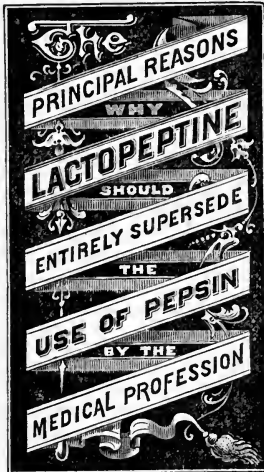
LACTOPEPTINE, as well as other preparations of our manufacture, is prepared strictly for the use of the Medical Profession, and is kept invariably in their hands.

One ounce sent by mail, prepaid, on receipt of \$ 1.00

One pound " " " " " " 13.00

A fraction of an ounce or pound sent by mail on receipt of corresponding price.

This preparation has now been in the hands of the Medical Profession for over two years during which time its therapeutic value has been most thoroughly established in cases of *Dyspepsia, Chronic Diarrhœa, Constipation, Vomiting in Pregnancy or Dyspepsia, Head ache, and all diseases arising from imperfect nutrition.*



1st.—It will digest from three to four times more *coagulated albumen* than any preparation of Pepsin in the market.

2d.—It will emulsionize and prepare for assimilation the oily and fatty portions of food, Pepsin having no action upon this important alimentary article.

3d.—It will change the *starchy* portions of vegetable food into the assimilable form of Glucose.

4th.—It contains the natural acids secreted by the stomach (*Lactic and Hydrochloric*), without which Pepsin and Pancreatine will not change the character of coagulated albumen.

5th.—Experiments will readily show that the digestive power of the ingredients of Lactopeptine, when two or more are combined, is much greater than when separated. Thus 4 grs. of Pepsin and 4 grs. of Pancreatine mixed, will dissolve one-third more albumen than the combined digestive power of each agent separately in same length of time.

6th.—It is MUCH LESS EXPENSIVE TO PRESCRIBE. It dissolves nearly four times as much coagulated albumen as Pepsin, besides digesting all other food taken by the human stomach. *An ounce of Lactopeptine is, therefore, fully equal in digestive power to seven ounces of Pepsin, yet it is furnished at about the same price.*

NEW YORK, April 6, 1875.

The undersigned having tested REED & CARNICK'S preparation of Pepsin, Pancreatine, Diastase, Lactic Acid, and Hydrochloric Acid, made according to published formula, and called LACTOPEPTINE, find that in those diseases of the stomach where the above remedies are indicated, it has proven itself a desirable, useful and well adapted addition to the usual pharmaceutical preparations, and therefore recommend it to the profession.

J. R. Leaming, M. D., Attending Physician at St. Luke's Hospital. Edward G. Janeway, M. D., Professor Pathological and Practical Anatomy, and Lecturer on Materia Medica and Therapeutics, and Clinical Medicine. Alfred L. Loomis, M. D., Professor of Pathology and Practice of Medicine, University of the City of New York. Samuel R. Percy, M. D., Professor Materia Medica, New York Medical College. Lewis A. Sayre, M. D., Professor of Orthopedic Surgery and Clinical Surgery, Bellevue Hospital Medical College. J. H. Tyndall, M. D., Physician at St. Francis' Hospital. Joseph E. Winters, M. D., House Physician Bellevue Hospital. Geo. F. Bates, M. D., House Surgeon Bellevue Hospital.

**TO TEST THE DIGESTIVE POWER OF LACTOPEPTINE IN
COMPARISON WITH ANY PREPARATION OF
PEPSIN IN THE MARKET.**

To five fluid ounces of water add one drachm of Lactopeptine, half drachm of Hydrochloric Acid, 10 ounces of Coagulated Albumen, allowing it to remain from two to six hours at a temperature of 105 deg., agitating it occasionally.

Lactopeptine is prepared in the form of Powder, Sugar Coated Pills, Elixirs, Syrup, Wine and Troches.

LACTOPEPTINE is also combined with the following preparations:

EMULSION OF COD LIVER OIL WITH LACTOPEPTINE.

This combination will be found superior to all other forms of Cod Liver Oil, in affections of the Lungs and other wasting diseases. Used in Coughs, Colds, Consumption, Rickets, Constipation, Skin Diseases and Loss of Appetite.

The Oil in this preparation being partly digested before being taken, will usually agree with the most debilitated stomach. Although we manufacture seven other preparations of Cod Liver Oil, we would recommend the above as being superior to either of them. It is very pleasant to administer, compared with the plain Oil, and will be readily taken by children.

ELIXIR LACTOPEPTINE.

The above preparation is admirably adapted in those cases where physicians desire to prescribe Lactopeptine in its most elegant form.

BEEF, IRON AND WINE WITH LACTOPEPTINE.

In those debilitated dyspeptic cases, when an Iron Tonic, combined with the strengthening properties of Extract of Beef and Wine are indicated, this preparation will be found most efficacious.

**ELIXIR PHOSPHATE OF IRON, QUININE AND STRYCHNIA
WITH LACTOPEPTINE.**

There can be no combination more suitable than the above in cases of Nervous and General Debility, attended with Dyspepsia.

ELIXIR LACTOPEPTINE, STRYCHNIA AND BISMUTH.

A valuable combination in cases of Dyspepsia, attended with nervous debility.

COMP. CATHARTIC ELIXIR.

The only pleasant and reliable Cathartic in liquid form that can be prescribed.

Each fl. oz. contains:

Sulph. Magnesia, 1 dr.	Liquorice, 1 dr.
Senna, 2 "	Ginger, 3 grs.
Scammony, 6 grs.	Coriander, 5 "

With flavoring ingredients.

Dose—Child five years old, 1 to 2 teaspoonfuls; adult, 1 to 2 tablespoonfuls.

This preparation is being used extensively throughout the country. It was originated with the design of furnishing a liquid Cathartic remedy that could be prescribed in a palatable form. It will be taken by children with a relish.

MAINE INSANE HOSPITAL, AUGUSTA, Feb. 25th, 1875.

I am happy to say that we are much pleased with the Compound Cathartic Elixir. It has, so far, proved the best Liquid Cathartic we have ever used in our Institution. It acts effectively and kindly without irritation or pain.

H. M. HARLOW, M. D.

We guarantee all goods of our manufacture. In ordering, please designate R. & C.'s manufacture. Send for Price Lists and Dose Books of Fluid Extracts, Sugar Coated Pills, Elixirs, Syrups, Wines, etc.

REED & CARNRICK, Manufacturing Pharmacists,

198 Fulton Street, New York.

A. KUHLMAN,

MANUFACTURER OF AND DEALER IN

SURGICAL, ORTHOPÆDIC,

AND DENTAL INSTRUMENTS,

210 JEFFERSON AVENUE,

DETROIT, - MICHIGAN.

I have now on hand a full assortment of

INSTRUMENTS OF THE FINEST QUALITY.

Having had years of experience in France, Germany and America, I am prepared to make any style of instrument to order.

Express attention paid to the manufacture of

Apparatus for Curvature of Spine, Wry Neck, Anchylosis, Club Feet and Bow Legs, Splints for Dislocations, etc.

Also, dealer in Pessaries, Steam and Bulb Atomizers, Syringes, Elastic Stockings, Trusses, Supporters, Crutches, etc, and

G. TIEMANN & CO.'S SURGICAL INSTRUMENTS,

Which I sell at manufacturer's price.

AGENT FOR BABCOCK'S UTERINE SUPPORTER

All kinds of Surgical Instruments Repaired.

SEND FOR PRICE LIST.

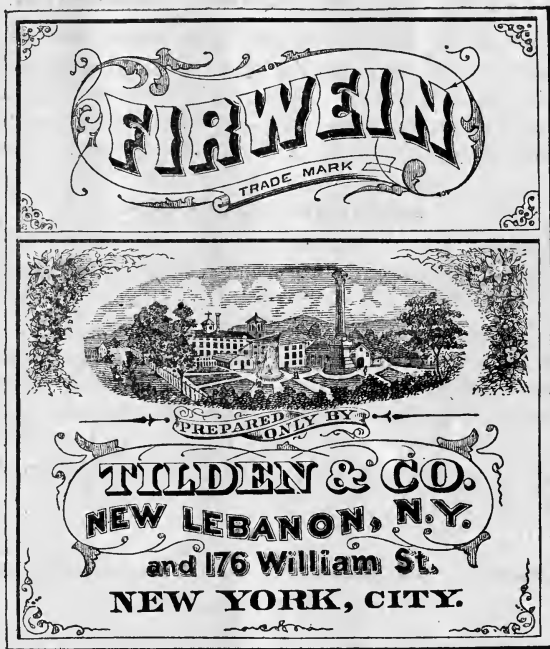
New Remedy

FOR

*Bronchitis, Catarrh, Asthma,
Consumption,*

AND ALL DISEASES OF

Each fluid dram contains Phosphorus, or one-hundredth of a grain;



THE THROAT AND LUNGS.
Iodine, one-sixth of a grain; Bromine, one-sixth of a grain.

Ulceration and Catarrh of the Bladder, Chronic Diarrhœa, and Affections of the Mucous Membrane.

The value of the plants of the orders of Balsamaceæ, Ceriferæ, Leguminosæ, Pinaceæ, Styraceæ, has long been understood by the Profession, as well as recognized in domestic use as possessing great medical virtues. Each order yields a principle peculiar to itself. an oleo-resin or balsam, associated with an acid also peculiar to itself, with more or less of volatile oils.

In Chronic Bronchitis, Phthisis Pulmonalis, and Consumption, their use has been attended with the best results, allaying the cough, and preventing a waste of tissue. Associated with Phosphorus, Bromine, and Iodine, these elements have a wide range of adaptability. Long experience has demonstrated that these elements have a peculiar affinity for mucous membranes, causing the morbid secretion to be replaced by a more natural one.

This preparation which we have called "Firwein," combines all that is valuable in the plants referred to, all that is found in the usual preparations of tar, and is entirely devoid of the nauseating taste and unpleasant odor which makes them repulsive and often quite impracticable, even when their virtues are imperatively demanded.

The beneficial effects derived from the use of this remedy depend upon the association of these elements, in which state they appear to produce results which cannot be obtained by the elements disunited.

FIRWEIN IN BRONCHITIS.

Letter from Dr. D. A. STEWART, City Physician, Winona, Minn., Dec. 13, 1876.

"I received the "Firwein" and have prescribed it with positive satisfaction both to my patients and to myself. In the case I referred to you of our Chief of Police, who had been suffering all summer with Bronchial Affections, it met the requirement of the case promptly, and decidedly, and I take pleasure in prescribing a remedy so meritorious as I believe the Firwein to be, wishing it the success it deserves."

SUB-ACUTE AND CHRONIC BRONCHITIS.

Extract from letter of EDWARD A. TODD, M. D., Bennett Medical College, Chicago, Ill.

"I take pleasure in informing you that during the early part of last winter I had occasion to make trial of your new remedy "Firwein" in several cases of Sub-acute and Chronic Bronchitis, both uncomplicated and connected with Asthma and Emphysema, and the majority were entirely cured by its use. I take great pleasure in recommending it to the profession."

BRONCHIAL CATARRH.

Extract from letter of JAS. H. ETHERIDGE, M. D., Associate Editor Chicago Medical Journal and Examiner, Prof. Materia Medica and Medical Jurisprudence, Rush Medical College, Chicago, Ill.

"I have made an impartial trial of "Firwein" in a case of bronchial catarrh, of about seven month's standing, in a female patient æt. 27 years, single, poorly nourished. The expectoration was profuse in the course of the twenty-four hours, notably the most so mornings upon rising. No other lung lesion existed than that above indicated. No other remedial measure was instituted than Firwein. I used two bottles of it. The first was followed by no particular change, unless I except a lessened visciditv of the expectoration. While she was taking the second bottle, rapid amelioration took place till every symptom vanished, and health was restored."

CATARRH, BRONCHITIS, AND TUBERCULOSIS.

Extract from letter of S. F. MAYHAM, M. D., Fond du Lac, Wis.

"For nearly one year I have been prescribing your medicinal preparation "Firwein" for Catarrh, Bronchitis, Tuberculosis, and in short, in nearly all sub-acute and chronic diseases of the lungs and air passages. I have abstained from saying anything about the remedy, until I had had sufficient experience with it to justify my recommending it to my professional brethren."

"That time has now arrived. I have given it a thorough trial, and am frank to say that, in my judgment, it is the most valuable remedy for the treatment of the diseases above indicated, that has ever been offered to the profession. It acts as a direct tonic by increasing the appetite, and improving the powers of digestion and assimilation. It acts as an alterative and a stimulant to the mucous surfaces of the lungs and air passages, by causing a change in the character of sputa, and by lessening the vascularity of the mucous surfaces, thereby promoting resolution."

"Mrs. J.—aged about 26, contracted bronchitis March, 1875. About the first of April, 1876, I was called to see her. Found her entirely bed-ridden. Pulse 120, respiration 30 per minute, countenance pinched and anxious, with that characteristic glassy brilliancy of the eyes, which points too plainly to the last stages of consumption. Cough very harrassing, more so during the night than during the day. Expectoration copious and purulent, streaked more or less with blood. No appetite, night sweats with œdema of the lower extremities. Not a very encouraging train of symptoms I assure you. Diagnosis, tuberculosis of the bronchial glands which had existed prior to the date of this illness."

"Prescribed "Firwein" in 3j. dose four times a day with Tr. Ferri mur in doses of 20 drops in water after each meal. Improvement commenced in a very few days, and since the first of June the patient has never coughed, having been, since that date, in perfect health."

"Case 2. Mrs. G., aged 33, a confirmed epileptic, on the 10th of July, 1876, I was summoned to see her. Found her suffering severe pain in the right side of the chest; pulse 130, respirations 30, temperature 102. Up to this time there had been no cough. Auscultation disclosed that the lower and more than half of the middle lobe of the right lung were consolidated. July 11th—Evidences of a large abscess unmistakable. July 12th—Abscess burst into some of the large bronchi and evacuated by expectoration more than a quart of fetid, unhealthy pus, which had evidently been manufactured from gangrenous tissue. At this juncture a violent and harassing cough commenced, which prevented sleep at night, with copious expectoration. She had several attacks of profuse expectoration, when it was evident a new abscess had opened. On the 12th I prescribed Firwein and Cod Liver Oil teaspoonful of each four times a day, and no other medication except 1-6 grain morphine at bedtime to insure rest. On the 18th had severe hemorrhage from the lungs which thoroughly prostrated her. Continued the Firwein and Oil and prescribed Fl. Ext. Ergot (Tilden's Formula, 1874,) 30 drops every 3 hours, which I followed for three or four days. Hemorrhage not returning, discontinued the Ergot. Followed the other prescription till the 15th of September, when the patient was discharged cured. There is still a little dullness in the base of the lung, but no cough and no expectoration. In every other regard health more perfect than it has been for years."

CHRONIC BRONCHITIS AND PHTHISIS PULMONALIS.

Extract from letter of BARNES BROTHERS, Physicians and Surgeons, Fairbury, Ill., Aug, 10th, 1876.

"We are using "Firwein" in chronic Bronchitis and Phthisis with the most marked results. One case of chronic Bronchitis of 15 years standing, with night sweats and great emaciation, is rapidly recovering. We combine it with Oleum Morrhuæ."

INCIPIENT PHTHISIS.

Extract from letter of J. G. BARNEY, M. D., Brockport, N. Y., Aug. 20, 1876.

"Having a case of Incipient Phthisis in practice which resisted ordinary treatment, I resolved to try your "Firwein," and am pleased to say that the cough, chills and night sweats have ceased, and the patient is well. I am also using it in cases of Chronic Bronchitis, and the results are all that could be desired. Dr. Chamberlain is using it in his practice, and is well pleased with its effect."

DIABETES MELLITUS.

Journal Materia Medica, Dec., 1875.

Dr. BATES says:—I am also using the Firwein in a very obstinate case of Diabetes Mellitus, under its influence both the quantity of urine and saccharine element have greatly diminished, the former by nearly one-third, and the latter nearly fifty per cent. My patient has, up to date, been taking the medicine only about one month, I am confident a cure will be effected. I hope to report the result in due time, in several cases.

January 15, 1876. The case of Diabetes referred to, has progressed favorably, the quantity of urine, to a normal state, the saccharine element almost entirely disappeared. Patient so far recovered that I have dismissed her with injunction to continue the remedy.

June 1st, 1876. One month since my patient ceased taking the Firwein, having so far recovered that the medicine was considered unnecessary. She has completely regained her former strength, and appearance of perfect health. She indulges her appetite to its full extent, scarcely excepting a single article of diet. She has increased in weight from about 95 lbs. to which in the progress of the disease she had been reduced, to a weight of 175 lbs. I regard her case entirely cured. She had consulted several physicians of eminence and they gave her no encouragement; but thought that in a very short time it would prove fatal.

Several other cases have come under our observation which have been greatly relieved. One case of a gentleman, a banker, residing in Indiana, we desire to mention particularly, as we were supplied with the urine weekly, and tested the same by FEHLING'S test, and the gradual and decided change in the percentage of sugar, decreasing from *eleven per cent. plus to less than four per cent.*

Having reason to believe that this gentleman's system was affected with scrofula, we suggested the use of the Elixir Iodo-Bromide Calcium Comp., as an alterative, and with decided improvement, as will be observed from the following note received May 24, '76.

"I have taken the 'Elixir Iodo' once or twice daily, 'Firwein' three or four times a day, and have to say that I must certainly be improving, my strength is better, my appetite is now good, and the distressing symptoms of thirst very much abated, and the quantity of urine is lessened."

I had the pleasure of an interview with this gentleman in July, and learned that the distressing thirst which had so long afflicted him had nearly abated. In a letter afterwards he remarks: "I am feeling quite well, and ascribe it generally to the remedies you have recommended to me, and am greatly encouraged."

These results are submitted that the profession can make a trial of the remedy.

He writes Sept. 17th, 1876.—Since I wrote you last, I have been improving in health, and now, thanks to you. I ascribe my improvement to the persistent use of "Firwein" and "Elixir Iodo-Bromide of Calcium Compound." I think I can safely say that the quantity of urine discharged, is almost, or quite down to normal amount for men of my age, and the desire for water or liquids is very greatly relieved. I am feeling so well that I intend making a trip to the mountains in Colorado, on a hunting expedition this fall.

This case now shows only an appreciable quantity of sugar.

LARYNGITIS STRIDULUS, WITH LOSS OF VOICE.

By S. R. NISSELEY, M. D., Pemberton, Ohio. The patient, Mr. F., aged 23, who had been subject to attacks of Laryngitis for the last six years—on the least exposure "he takes cold;" and concomitant therewith, complete loss of voice. These attacks generally last about ten days, before he can get any relief from remedial treatment. I prescribed for him the new compound, for *pulmonary affections*, "Firwein," a teaspoonful every three hours, and, much to my surprise and gratification, in the course of twenty-four hours I found that the inflammation had subsided, the voice had regained its normal resonance, and he expressed himself as being not only relieved, but cured. He wished to know what kind of a preparation I gave him, it was so pleasant to the taste and acted like a magical charm.

I have tried it in several cases of *bronchitis and incipient pulmonary consumption* with the best results. I regard it as an expectorant, diaphoretic and tonic. Its specific influence on the lungs is marked, by increasing the expectoration and lessening the frequency and severity of the cough. It is certainly another valuable addition to our therapeutical list.

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THE PRELIMINARY AUTUMNAL TERM for 1876-'77 will open on Wednesday, September 13th, 1876, and continue until the opening of the Regular Session. During this term, instruction, consisting of didactic lectures on special subjects and daily clinical lectures, will be given, as heretofore, by the entire Faculty. Students expecting to attend the Regular Session are strongly recommended to attend the Preliminary Term, but attendance during the latter is not required. *During the Preliminary Term, clinical and didactic lectures will be given in precisely the same number and order as in the Regular Session.*

THE REGULAR SESSION will commence on Wednesday, September 27th, 1876, and end about the 1st of March, 1877.

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FEES FOR THE SPRING SESSION.

Matriculation (Tickets good for the following Winter).....	5 00
Recitations, Clinics and Lectures.....	35 00
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Students who have attended two full Winter courses of lectures may be examined at the end of their second course upon Materia Medica, Physiology, Anatomy, and Chemistry, and if successful, they will be examined at the end of their third course upon Practice of Medicine, Surgery, and Obstetrics only.

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Is made with scientific care at a low temperature, in order to insure its palness, sweetness and freedom from unpleasant flavor. It contains less solid fats or stearine, and is therefore digested by delicate stomachs, which cannot tolerate the coarser oils which are put upon the market. Each bottle contains a full pint. None genuine without our firm name blown in the bottle. We also make **Emulsions of Norwegian Cod Liver Oil**, with **Phosphate of Lime**, **Hyposulphite of Lime** and **Soda**, and **Norwegian Cod Liver** with **Lacto-Phosphate of Lime**. Also, **Ferrated Norwegian Cod Liver Oil**.

In each of these preparations we hope to fill a desideratum long felt by the professional public. Often the mineral foods are as essential in the building up of serofulous, or strumous constitutions, as the Cod Liver Oil itself, and in these preparations you have the Mineral foods pleasantly emulsified with the Oil, thus rendering the whole palatable, as well as nutritious and curative. The Iodine and the other curative properties inherent in the free Oil, are in no wise impaired by this process; and the Oil itself is rendered more digestible from its combination with LACTIC ACID (one of the important ingredients of the digestive fluids of the stomach), in the case of the **Lacto-Phosphate** combination. Of the beneficial effects of **Phosphorus** in these strumous cases, where Cod Liver Oil is indicated, it is unnecessary to speak.

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A **Grateful Stimulant** and **Tonic**. Is an excellent preparation for **Dyspepsia**, **Flatulent Colic** and the feeble state of the alimentary canal. As a **Summer Medicine** in the house it has no superior.

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A remedy for all **Summer Complaints**. Cures **Diarrhoea**, **Dysentery**, etc. Is a **Corrective**, **Preventive** and **Restorative**. Should be kept in every household.

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A **Liver Remedy**, **Cathartic** and **Blood Purifier**. Without doubt the best **Cathartic** and **Liver Pill** in the market. Can be had either **Sugar-coated** or **plain**.

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PRELIMINARY SESSION opens Wednesday, September 6th, 1875, and continues one month. The Clinics are held and the Lectures delivered by the Professors of the regular Faculty, and in the same order and frequency as during the Winter Term. Opportunity is given to dissect or work in the Chemical Laboratory.

THE REGULAR SESSION opens Wednesday, October 4th, 1875, and continues five months. During this term all the branches of *General Medicine* and *Surgery*, both scientific and practical, are taught with care and thoroughness. All students are daily examined on the subjects of the lectures and on their dissecting and laboratory work.

Senior students have *daily practice* in the art of examining patients, in forming their own diagnosis, prognosis and treatment. As this is done under the direction of the professor holding each clinic, and in the presence of the class, it constitutes an invaluable course of training.

THE RECITATION SESSION begins second Wednesday in March, 1877, and continues four months. Daily during this term there will be held a lecture, recitation, and one or two clinics. The lectures will be upon special subjects of medical or surgical interest.

The recitations will embrace the general subjects of the Regular Session, viz., Anatomy, Surgery, Midwifery, Diseases of Women, Physiology, Practice of Medicine, Materia Medica and Chemistry.

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