

begin to propagate its species, and in a very short time this crystal clear fluid would become murky, and after awhile it was very offensive. The whole idea is that of a ferment. Therefore when we think of the subject of germs, we will simplify the subject and make it clearer to ourselves if we will, for the time being, get rid of the whole terminology of germs, bacilli, protococci, bacteria and what not, and simply say a ferment; and a ferment is, as I said before, an organized living cell, which is presumably vegetable, and which falling into organic fluid decomposes it for its own support and produces all these other phenomena.

Now, Pasteur communicated his ideas to Professor Tyndall who repeated his experiments. Professor Tyndall sought to verify his experiments by opening flasks containing these pure meat juices in an atmosphere which was free from pollen, free from ferments. So he went into the Alps, to the tops of the highest mountains, where the wind blew off acres and acres of snow, and brought no dust of any kind with it, and he would break the little end of a bulb and let air in, and found that it still fermented. Where did the ferment come from? He raised it above his head; it was the same thing, but when he turned around and faced the wind and then opened the flask, he did not get any fermentation; in other words, these dust cells, these germs, these ferments, were on his clothing, and as he stood there, his own living body being warm, and heating the atmosphere in contact, made currents of air which swept the ferments off his clothing and into the bulb. When the fluid was sealed up in the flask it was without atmosphere, and so when the bulb was broken the air rushed in, and in the sudden inrush it would take in a few fermenting cells with it, which would produce their effect on the fluid.

Then another step. Lister, taking the cue from Pasteur, introduced the idea of killing these germs, and he experimented with many substances, and finally settled upon car-

bolic acid as the means for killing them. He was able to perform operations of large extent without the same amount of suffering and the same percentage of death from septic poisoning. The explanation was, that these ferments in the atmosphere would fall upon the open surface of a wound and proceed to propagate themselves there, and they were killed by the action of the carbolic acid. Lister gave Pasteur the credit for all the improvements in surgery he (Lister) had introduced and wrote him letters acknowledging it, which have been published.

Then Pasteur started out on that line to investigate the chicken cholera. I have read the details of this inquiry in journals published at the time, which I am unable at present to lay my hands upon, though they are somewhere among my archives. He took chicken broth made from healthy chickens, and also a chicken dead of the chicken cholera and selecting from its blood a small drop that contained some of the ferment, introduced it into a flask of the chicken juice and caused it to ferment. Then he inoculated chickens with that and they all died. He took a drop out of this first flask and put it into some fresh chicken broth in a second flask and propagated again. He selected ten chickens and inoculated them, and it is reported that nine of them died. He then took out of that second flask a drop which was put into a third vial of chicken broth, and that was similarly propagated, and he inoculated ten chickens and eight died. He took a fourth flask and raised a culture in it derived from cells that had been grown in the third vial. The fluid in this flask was less virulent than that in the third. With it ten chickens were inoculated, followed by a lower death rate than in the case of the third flask. A fifth, sixth, seventh and eighth flasks were similarly prepared and tested with live chickens, the fluid getting constantly less and less virulent or I may say, weaker and weaker and the death rate in each case falling lower and lower, one chicken dropping

off, so to speak, from the death list, till he got up to the ten. That was not like the homœopathic attenuation at all. All that he did was to prepare fresh portions of chicken broth, perfectly clear and transparent, and into them in succession he dropped a cell which proceeded to propagate itself. The cell would divide in the middle like an hour glass and separate into two cells, and in that way there were two, then four, then eight, and so on infinitely, until the whole mass of the chicken broth was full of them and was murky. He finally got to the tenth of this kind of propagation or *culture*—the name he gave it and which has subsisted until this day was “culture”—and he was then enabled to inoculate ten chickens with it and they did not die. Then he attempted to inoculate these same chickens with chicken cholera, and they did not die of that, they all survived.

He next tried the charbon of the sheep, and he inoculated two hundred thousand sheep in the districts around Paris and had similar results, not so closely as those I have given with regard to chicken cholera, but something of that order, and so he went on from one thing to another until he struck the question of rabies, and there he has been following out the same idea. The whole intention is to find a *culture medium* and that culture medium had hitherto been chicken, or mutton or beef broth. Now he goes among living animals to find his culture medium, and he takes the germ or the ferment of hydrophobia, and puts it into the juices of a living rabbit or guinea pig or some such animal, and raises thus a fluid that is extremely virulent. I think that he had an immense temerity, a wonderful temerity, to dare to inoculate that substance into any human being; it was fully as dreadful as rabies. His pupil, Koch, of Berlin, used gelatine for a time, but he, too, came to the idea of seeking culture media in living animals. When Koch began his investigations he took the ferment of tuberculosis. I am giving you his own philosophy—I am not saying anything about the correctness of it—I am simply demonstrating the problem the

way it stands in the allopathic ranks to-day. He took the ferment of tuberculosis and put it into a culture medium. What that culture medium was he has never divulged. He came to a meeting of one of the scientific societies of Berlin and said he thought he had found the way to check tuberculosis, and the members wanted to know what it was. He would not tell the details, because he was afraid to; his investigations had not proceeded far enough, he merely intimated that it was in the direction of a culture fluid. Then it was that they requested the Emperor of Germany to ask, or rather to command him to reveal it. So he complied with the order of his sovereign, and gave a veiled description, which does not really explain this thing of the culture medium. Whatever the culture medium be, it is in the line laid down by Pasteur. It is a living being, and it is in the juices of that living being that the culture takes place and the ferment subsisting upon and decomposing the fluids of that body makes terrible poisons. It is simply frightful. The men that make these poisons do not realize the enormous power of them—the poisoning powers of a Borgia's secret preparations are nothing compared to them. That is what they are injecting into the human system, and we ought to know the rationale which leads to such astonishing and dangerous proceedings. They take what they consider to be the ferment of the diphtheria and propagate it in a culture medium. It is not mutton, beef, nor chicken juice, but it is the juices in the living muscular system of a horse, and that produces terrible ptomaines. We are terribly afraid of the poisonous juices from a dead body, and we know of the dissecting wounds that students are subject to. Now, what they do in the manufacture of anti-toxine is simply to produce those same juices, of ten-fold virulence, may be a hundred-fold, and they have entirely left Pasteur's original idea which was a constant deteriorated culture, a starving out of the cell, making it less and less strong, and

less lusty, so to speak, until he got to the tenth culture, when its virulence was least. They have gone away from that teaching. Instead of decreasing or diluting these ferments they have simply increased them enormously. And yet they recklessly inject them into the system, and it is a wonder that anyone lives after it is once done.

That, I think, is a review of the origin of this subject. It arose from the silk worm disease; the investigation of that phenomenon led to the discovery of fermentation. The need of imitating these fermentative processes led to the search for suitable culture media. These culture media, beginning with filtered broths of different animal tissues, have finally included the flesh juices of living animals. The new chemical compounds resulting from these various cultures are of unknown variety, composition, and virulence. The inquiry beginning with the disease affecting a worm, has advanced through chicken cholera and sheep rot to rabies and the whole field of contagious diseases, until we have it in the anti-toxine for diphtheria, and that is the reason I say that considered from the analogy thus presented they are so far from limiting this thing, that they are going to increase it, and every contagious disease will have its inoculation.

From the review thus presented, it will be apparent that the whole phenomena of contagion and infection depend upon the presence in the atmosphere of living cells, called variously bacteria, bacilli, germs and other names, but which may be included under the comprehensive and self-explanatory term, *ferments*, and from *this* consideration it follows that we have only to *prevent* the entrance of these ferments and the individual remains well. Or, if they succeed in effecting an entrance and begin to propagate their species, with the result of producing various phenomena of sickness, we have only to select some germicide, some disinfectant, some ferment destroyer, and the patient is cured. To that end all the energies of the whole membership of the

dominant school of medicine, are directed. They have resorted to the various agents derived from the mineral and vegetable kingdoms with the view of "killing" these ferments. Failing with these they have entered the animal kingdom and sought there the needed means of conquering the enemy. The object of this new process was originally to start in the system a fermentation of the same order as the disease to be cured, which should consume in advance the pabulum upon which the disease would otherwise feed, and starve it out so to speak. The ferment thus artificially introduced, according to the original design of Pasteur, was less virulent than the disease ferment, having been reduced and enfeebled by successive cultures as already indicated in describing the method of dealing with chicken cholera. Uniform success has not, however, attended this method of treatment, and so a movement toward a culture of increased power has been inaugurated. Thus the idea of a ferment, whose virulence should be confined within the safety limit by repeated cultures, has been lost sight of, and a cell of increased venom and danger has been substituted.

In attaining this object no account has been taken of the powerful organic poisons which are the result of the nutritive processes of these virulent ferments. The poisons so produced are of unknown number and variety; of unknown composition and of an unknown toxic power, quite independent of the cells which accompany them and from which they derive their existence. Yet they are introduced into the circulation of human beings with a confidence that is surprising in view of the foregoing considerations. As a matter of fact instant death in more than one case has followed the subcutaneous injection of anti-toxine into children, who were considered either to have diphtheria or to be in imminent danger of it.

The great error in all this philosophy, lies in the assumption that these germs or ferments will equally affect all

people and the results will be uniformly similar, and that the behavior of the cells in organic fluids like grape juice or flesh juice is an accurate type of the action of disease ferments in the human body. But those who adopt these views are confronted with the fact, constantly observed, that with equal exposure to the same disease one man will take the disease and the other will not.

Ordinary plants, dying and falling into the plashy soil of a swamp, and with the stimulus of a hot sun, soon decay. That is, a ferment is fostered by such conditions which feeds on the plant and produces the products well known as swamp putrefaction. These products in turn give sustenance to the germ or bacillus or ferment of malaria, which absorbed into the human circulation locates itself especially in the liver, and thus we have the whole series of malarial diseases from intermittent to yellow fever. Exposed to the miasm, one man takes the fever and another one escapes.

Animal fluids lying accessible to the air with varying temperatures form favorable beds for the development of the putrefactive cell. Extracting from these substances its own nutriment, the terrible products of putrefaction with the characteristic stench, are produced. These products in turn give sustenance to the bacillus, or ferment of typhoid fever and kindred diseases. Two individuals are exposed to this disease; one takes it, the other is exempt. Why this difference?

The animal economy is created with a fine resistance to every destructive influence that may find entrance within it. In the original scheme of creation this resistance must have been almost invincible. The presence however of psora, syphilis and sycosis has put a limit to this resistance, of varying degree according to the degree of activity of the inherited miasm. This resistance is still further limited by such deteriorating influences as bad or insufficient food, exposure to weather and mental anxiety.

Diminished resistance results in changed and weakened function, and that leads to perverted animal fluids which form thus a favorable soil for the propagation of the disease germs. These germs are then but the products of disease and that is the stand taken by Homœopathy concerning the question.

To treat the germs with germicides is simply treating disease products and that the homœopathist regards as futile. Therefore, there is no place in our therapeutics for germicides and antitoxines. The proper treatment is the selection of the similar remedy by which the influence of the inherited miasms is counteracted, the perversion of the animal fluids into food for the disease germs is suspended, and thus there being no sustenance for the ferment it ceases to propagate and finally is dislodged, and the patient is cured.

Dr. Fincke — I wish to say with regard to these accomplishments of Pasteur, that there are great doubts about these statistics. Many say that his efforts were not as successful as is claimed.

Dr. James — I want to say one final thing, and that is, while there is no essential difference in the principle involved between vaccination and inoculation, on the one hand inoculation is an educated way of applying these ferments, and vaccination on the other hand, is a blundering, haphazard, empirical method, and that is about all the difference there is between them.

Dr. Thatcher — I think, in reality, we have got to get at this matter through political power. Behind the whole thing it is a political scheme; you can look to political power for it largely, not wholly; but it seems to me that this thing is all legislated for, and in order to stop the whole affair, or in any way check it, we have got to get at it in a political way. I know that the vaccine physicians in my district go around to my patients and to those of all other

doctors, and make the families understand that it must be done. They have nothing special to say against the family physician, but of course it is a political job. The man gets paid for every vaccination he makes and it is to his interest to make as many as possible, and these men who have not a great deal to do are always glad to get the position of vaccine physician, for the sake of what is in it. They work it in the time they have at their disposal.

Dr. Fincke — If there is a smallpox scare how many dollars will it bring to the vaccine physicians in a city like New York and Philadelphia? That is a great item, and that forms a great objection to abolishing vaccination; besides, everywhere the vaccinists have their hands in behind the legislative bodies and the government; they are everywhere their private physicians and their clients believe what they say. People as a general rule are very stupid in medical matters, they believe what the doctor says, and for that reason there is no other way but to educate the people up to the great danger of vaccination, to talk and write and do everything to clear it up.

It was voted to have 5,000 copies of Dr. James' remarks printed for distribution.

THE DEVELOPMENT OF THE MATERIA MEDICA.

C. M. BOGER, M. D., PARKERSBURG, W. VA.

The future development of our Materia Medica is a subject that cannot fail to interest every true Hahnemannian; under the necessity as we are of holding ourselves aloof from the traditional school of medicine, it doubly becomes our duty to develop our art to the highest pinnacle of perfection, striving to do this step by step in the true scientific spirit, thus gradually making our position unassailable.

The legacy which Hahnemann left us is predominatingly one of principles; however much our pathogenesis may be augmented, the underlying laws of its formulation and application remain substantially the same; grounded as we are in these fundamental principles which admit of extension only, the question naturally arises, what can be done towards perfecting our healing art?

The answer must naturally come through a proper estimate of individual capabilities combined with the spirit of advancement. The pathogenesis as it stands to-day in its immensity is but a fragment of what the future holds in store, much as it worries the chaff chaser now, he can not but view the future with the gravest apprehension.

The lines along which development must take place can be but dimly foreshadowed; from many natural orders we have as yet not a single proved drug; provings show the close relationship existing symptomatically between drugs related botanically, and the botanical and chemical range of the original Hahnemannian provings demonstrate the master's wonderful foresight. To him as well as to ourselves all nature lay as a partly open book awaiting the turning of the leaves to behold the hidden treasures as instanced by the great polychrest, Pulsatilla. Since his time have come to us Apis, Cactus, Gelsemium, Glonoin, and many other remedies of great power; shall we now halt and rest the sleep of death? Nature has no rewards for drones; a body at rest is dead morally as well as physically.

Every day shows us the effects of remedies of great power, but as yet unproven; as pointed out before we must explore the as yet unknown natural orders if we expect to advance the cause of truth; we must prove remedies to fill up many gaps in our therapeutics.

If I comprehend aright the spirit of the fathers, it was one of devotion to a law which each recognized as universal, but limited and hampered only in its application because of

the smallness of their recorded provings; they therefore strove uninterruptedly to increase the store, thus enabling us to now frequently cure with the similimum what formerly necessitated several similar remedies; this process therefore while increasing the number of symptoms, will nevertheless finally simplify therapeutics. We are, as it were, only on the borderland of the pathogenesis of the future.

The dictum, great poison, great remedy, has not seemed to be well substantiated, many apparently mild drugs having been found to have a long and deep action when potentized; that however does not alter the general proposition that remedies are useful only in proportion to their known effects.

Often we meet symptoms not at present contained under any remedy, yet the symptom may be, often is, the keynote to the case in hand; after its removal by a remedy corresponding to the remainder of the disease picture, are we justified in adding it to the pathogenesis? This question takes us into deep water at once when we consider its many ramifications; in a general way it may be said that when the symptom is in consonance or harmony with the well known action of the remedy its incorporation seems proper, if however, it fails in answering this requirement 'twere better to hold the matter in abeyance. This manner of augmenting the materia medica has been largely followed and has indeed given us very brilliant records, but after all the fact remains that many prescriptions based on these indications, are often either palliative or directly suppressive, for it appears that high potencies can also have a suppressive action. The other way of augmenting the records by new provings is the old and tried as well as true way, worthy of being followed, and will finally overcome all obstacles, especially in that we may confidently look to it to develop the much desired symptoms which now often puzzle us.

Many of the now well known remedies had already previous to their proving given hints of their future usefulness, their pathogeneses have amplified and developed them as well as shorn them of supposed laurels.

Among the drugs needing proving is *Echinacea angustifolia*. The eclectics credit this remedy with powers over septic processes, indurated tissues and adhesions; the latter claim I have good reason to believe is correct. If this be true, although so far it is only a pathological hint, yet it may point the way to valuable ground, especially when we remember that not a few of our present remedies came to us through just such vague hints and this very school.

BUREAU OF CLINICAL MEDICINE.

ANNIE LOWE GEDDES, M.D., CHAIRMAN.

CASE OF MISS K. J.

WM. L. MORGAN, M.D., BALTIMORE, MD.

January 30, 1896—I received a long letter from Miss K. J., with a description of her condition and a partial history of her symptoms and sufferings. The following is an extract from the letter: "There is intense soreness at a point near the right side of the end of the backbone, which seems to extend into the hip joint. The soreness causes much trouble with bowels and bladder, and what is passed from the bowels shows much inflammation at times, gas collects in quantities and flies to the hip, or presses from above everything into the sore place, much neuralgia exists. Purgatives affect the place and also certain foods, such as sweet things and acids, sometimes rendering it very sore. The nerves and muscles seem to be enlarged through the right side, and I have not been able to lie on that side for some years as it would seem to start up the trouble again if I had been better of it."