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February 9, 1911.

Dear Mr. Rockefeller:-

I send you another installment herewith on homeopathy. If you get as much amusement out of this article in having it read to you as I did in writing it, you will be repaid, I think, for the few minutes which will be required.

Very truly yours,

Mr. John D. Rockefeller.

April 27, 1911.

Dear Mr. Rockefeller:-

You remember that I have been sending you some letters, beginning with some strictures on Dr. Biggar. We did not begin the matter. Dr. Biggar began it, first publicly in a curiously ill-informed assault on vivisection, and followed it up by still more astonishing misinformation regarding spinal meningitis and homeopathic experiences on the same. By the way, I was not surprised to learn from our friend, Mr. Oglebay, the other day that Dr. Biggar is not regarded as a well informed and able physician by thoughtful people in Cleveland, even though of his own medical school. I give you this for what it is worth. Mr. Oglebay, however, descended into particulars and was able to give me a number of incidents. All this accurately corresponds with what a stranger like me would gather from what he says publicly and in his letters.

I sent you two little memorandums, labeled No. 1 and No. 2, on Homeopathy. No. 3 has long been prepared. It goes a little deeper into medicine than either of the others, and for various reasons I hesitated to send it to you, fearing that it might not interest you and also fearing that somewhere I might have over-stated. I accordingly sent it to Dr. Flexner, and subsequently it was read by Dr. Welch. To my great surprise, both of these gentlemen, perhaps to flatter me, said it was the best popular statement of the present condition and progress of medicine they had ever seen. They not only urged me to send it to you, but they both suggested that it be published, and have both renewed the request.

I do not intend to offer it to one of the magazines for publication, as they urge, but I will confess that their flattery has enough influence on me to lead me to overcome my hesitation about sending it to you. This I now do, with the additional remark that you will, of course, feel under no necessity of having it read to you, as I shall be too timid to inquire whether you have read it or not.

Very truly yours,

F. T. GATES.

Mr. John D. Rockefeller.

of it, and that he can observe the effect of one drop of the final solution on a human being.

It was the reading of his works that led me to suggest the founding of the Rockefeller Institute. Dr. Osler has since then sent me all of his publications, including his recent great Cyclopedia of Medicine, representing the latest results of science. I have had also the inestimable advantages of frequent visits to the Institute and a great deal of association, for the past five or six years, with the gentlemen there, including Dr. Flexner. I may still further add that I am submitting to Dr. Flexner these little articles which I write, in case I should fall into error at any point.

Homeopathy originated with Dr. Samuel Hahnemann of Leipsic, 1775^{5 5} - 1843. Dr. Hahnemann has often been called the Messiah of Homeopathy. Carrying out this figure, Dr. Hahnemann's great book, in which he explains his principles, called "Organon of the Art of Healing," is universally recognized as the New Testament of Homeopathy. This book went through several successive editions, was revised and enlarged several times by the author during his lifetime, and is still being issued occasionally by the press. I have in my hand as I dictate these words an English translation of the fifth edition of Hahnemann's book. This was the last, I believe, from Hahnemann's own hand. The translation of this edition was made by Dr. C. Wesselhoeft and was published in 1881. I have another translation of the same edition by Dr. Dudgeon, published as late as 1906.

The first and most fundamental of Dr. Hahnemann's theories, the point from which his mind began its workings and on which he erected his entire theory of medicine, was, of course, the theory of the nature of disease. Precisely what disease was, of course, Dr. Hahnemann did not pretend to know. Of one thing, however, he was certain. It was not occasioned by any material thing. To him, disease is an immaterial thing, like light, heat, color. He says (page 23), "Diseases are and will not cease to be

immaterial modifications of our sensorial condition." He says, "The causes of our diseases cannot be material." Dr. Hahnemann is very insistent upon this. Disease is to him a subtle miasm, an immaterial, imponderable thing, like the subtle, immaterial imponderable thing which we call life but which we cannot define. He denies as false, absurd and misleading the idea that disease is a material substance, hid in the body. "Disease," he says (page 68), considered as a material thing hidden within is a nonentity, however subtle it is thought to be. It could have originated only in the minds of materialists." Throughout his book, Dr. Hahnemann again and again comes back to this fundamental theory and argues vehemently against any theory of medicine which supposes that disease is caused by foreign substances introduced into the human system.

A generation after Hahnemann died, Pasteur proved to the whole world the existence of living organisms or germs, both animal and vegetable, of microscopic size. Many of these germs float in the atmosphere and are taken in with every breath. Most of these germs are harmless; a few of them are injurious. These germs lodge in the human system. Sometimes they are drawn in by the breath; sometimes they are put into the skin by mosquitoes, fleas or other animals which pierce the skin. Sometimes they are taken into the stomach, or more often with the liquids we drink. Ordinarily, even the injurious ones are destroyed without the victim being conscious of the inoculation, but occasionally, where the system is run down or otherwise in a suitable condition, the germs find lodgement and they then begin to multiply with amazing rapidity. For a few hours or days, no effect is apparent, but at last, when the multiplication has become great enough, the patient begins to show and to feel symptoms of disorder. These facts are now, I think, universally conceded. There is, indeed, one homeopath in Montclair who is said to deny the germ theory of disease, and he claims to be the only real

homeopath in town. I suppose Montclair is typical in this respect.

Now, one cannot be too emphatic about these germs. Thousands of workers all over the world are now working with them and upon them every day. They are grown, multiplied, fed, cultivated, just like flowers in a garden, just like fish in an aquarium, in scores of laboratories. The Rockefeller Institute has a room maintained at exactly body heat, which I can only compare to a conservatory, in which every sort of germ is kept in stock and growing all the time. They are visible under the microscope. You may see them alive, swimming around in the serum of the blood, if animals. You may see them, if vegetables, under the microscope, and actually observe the process of the blood corpuscles swallowing them up and digesting them in the effort to kill them. Science has put this germ theory of disease to the most rigid possible test. It never admits a germ to be the author of a disease until that germ, isolated and injected into a human being or into an animal, does produce, repeatedly and invariably under proper conditions, the disease. The diseases that are now known to be caused by germs are extremely numerous and of the greatest possible variety. They form at least nine-tenths, I should say, of the practice of every physician. All the known fevers, for illustration, whether they are understood to be infectious and contagious or whether not so regarded, are germ diseases. Many other diseases not called fevers, such as tuberculosis, pneumonia, smallpox, cholera, measles, whooping cough, diphtheria, are caused by germs. We read of the great plagues of the world, plagues which have devastated nations, races, civilization itself, and carried off their victims by the million. Every one of the great plagues are germ diseases. There is another class of diseases like hydrophobia, lockjaw, meningitis in two or three forms, infant paralysis, African fever - these are caused by germs, part of them animal, part of them vegetable.

Colds, influenzas, the grippe and many other forms of disease of the throat, of the eye, of the skin, far too numerous to mention, are caused by germs. Pus is caused by germs, multiplying in open wounds. Usually several kinds of germs are found in pus. All of the diseases so terribly destructive occasioned by social sin are caused by germs. Then there are numbers of diseases and illnesses, sometimes chronic and long continued, sometimes very short and amounting to nothing more than a temporary inconvenience, that are caused by germs multiplying in the digestive tract. They manifest themselves by headaches, by indigestion and by various derangements of the bowels and intestines. The study of these germs has been the special province of the present head of the Pasteur Institute. He has written several books upon the subject, two of which I have read. He shows that it is these poisonous germs in the intestinal tract that poison the blood and cause the hardening of the walls of the arteries which produces old age and all the symptoms of old age, and he believes that if we could clean out entirely the digestive tract from all germs, men would live ordinarily from twenty to forty years longer than they do; indeed, he fixes the normal limit of human life at one hundred and twenty years and believes that it is reduced to eighty mainly because of these poisonous germs.

The diseases and ills enumerated above cover at least nine-tenths of the ills of mankind and the practice of the ordinary physician. Now, all these diseases are caused by material substances hidden in the body, living, indeed, and multiplying, but still material substances foreign to the body itself. It was the misfortune of poor old Dr. Hahnemann to have denied vehemently, with valor and with passion, all his life, that disease is caused by any material substance hidden in the body.

It is easy to see that this fundamental error of Dr. Hahnemann as to

the nature of disease itself must necessarily vitiate, if not destroy, any system of medicine built upon it. Starting in with a totally false idea of what disease is, Dr. Hahnemann could not be right as to its treatment at any point, except by accident, and such accidents must be very rare indeed; and so it proved, as we shall see.

NOTES ON HOMEOPATHY.

No. 2.

But while the good Dr. Hahnemann was confident that all diseases were of an immaterial nature, he made, as he believed, one great discovery of the cause of diseases, which he thought to be of enormous value to the human race.

There was in my boyhood up in Broome County a very prevalent disease of the skin, a cutaneous eruption of no particular significance, but causing some inconvenience. It was known as the "Itch." Of course, there are a great many kinds of Itch, but this was the king of all itches. It was emphatically known as "The Itch," the "Seven Year Itch." Now, I suppose that the Itch was far more prevalent in Hahnemann's time and among the people with whom he lived than it has been in later days. My children have never seen it, but Hahnemann was surrounded by it constantly and nearly everybody had it in his day, and so he came to the not unnatural conclusion that the source of pretty nearly all human maladies was the Itch. It would be impossible for me to exaggerate his notions of the terrible character of this disease. He thinks it worse than some of the very worst diseases known to mankind, as, for illustration, such diseases as No. 606 cures. He says on page 110:

Pora

"*Pora* (that is the Itch) is the only real fundamental cause and source of all the other countless forms of disease, figuring as peculiar and definite diseases in books on pathology, under the names of nervous debility, hysteria, hypochondriasis, mania, melancholy, idiocy, madness, epilepsy and convulsions of all kinds, softening of the bones (rachitis) scoliosis and kyphosis, caries of the bones, cancer, varices, pseudoplasms, gout, haemorrhoids, icterus and cyanosis, dropsy, amenorrhoea, haemorrhages from the stomach, nose, lungs, bladder and uterus; asthma and suppuration of the lungs; impotence and sterility; sick headache (hemicrania); deafness; cataract and galucoma; renal calculus; paralysis; deficiency of the special senses and pains of every variety."

(The italics are his.)

It is not enough, however, that the poor itch of our childhood should be guilty of all these crimes. With Dr. Hahnemann, the Itch is

hereditary and he adds to the above illuminating list the following terrible indictment:-

"Without doubt, this ancient, smouldering contagion has gradually passed through several hundreds of generations and many millions of human organisms, thus reaching an incredible degree of development. We may, therefore, comprehend in a measure how it became developed into countless forms of disease peculiar to the great human race."

It is interesting to note that the Itch is nothing in the world but a little bit of an animal, which burrows into the skin and creates an irritating pimple. The little animal is killed by rubbing a little sulphur into the pores of the skin.

It is pathetic that scientific medicine, with its microscope, has caught this little animal and described all his habits and characteristics, his likes and dislikes and the full limit of his activities, for science has thereby robbed the fame of poor old Dr. Hahnemann of one of its most splendid ornaments. The old gentleman prides himself not a little upon his great discovery that the Itch is the source of all the ills of mankind. He tells us with great pride in his works that this is his discovery; that it is his alone; that no one before him had ever dreamed of it and that he himself had worked patiently at it for twelve years before the great truth dawned on him in its full splendor.

I may say, in concluding, that his idea of the Itch was that it was a pervasive miasma which was hereditary, had completely penetrated the human system, and which when brought to its full development only manifested itself in this form of pimples. The terrible diseases which he names above were all due to the hidden workings of this dread miasma.

Please do not understand me as charging all homeopathy with this ridiculous vagary of old Dr. Hahnemann about the Itch. The fact is that very few homeopathic physicians, even Dr. Hahnemann's immediate personal

diciples ever accepted this fantastic notion.

But fantastic as this notion is, it is fairly and justly typical of the entire method of Dr. Hahnemann and the curious workings of his imagination. Of the spirit of scientific inquiry, he had not the slightest vestige. He was a dreamer. His mind worked as the mind works when asleep, in dreams. He had not the qualities of mind necessary to make the simplest observation with accuracy. The eye with which he observed was controlled and deceived by preconceived notions in the back of his head. He did, indeed, at times go through with what he termed the forms of scientific observation, and he did, in fact, repudiate mere theories, though himself the conspicuous victim of mistaken theories. To illustrate how completely dominated he was in every observation he made by preconceived theories, I will quote one or two instances, borrowed from Dr. Holmes, which occur in works of Dr. Hahnemann's which I do not possess. Dr. Hahnemann is watching the effect of a dose of acetate of lime. Substantially, this is vinegar and oyster shell, a neutral material. He has taken an infinitesimal dose of this. He now describes how he feels after the dose:

"After stooping for some time, a sense of painful weight about the head upon resuming an erect posture."

"An itching, tickling sensation at the outer edge of the palm of the left hand, which obliges the person to scratch."

Would you believe it that these alleged symptoms are felt twenty-eight days after the infinitesimal dose of this harmless stuff was taken ? And yet, he attributed these perfectly natural sensations to the dose he took a month before.

This is a specimen of Dr. Hahnemann's capacity to observe and draw correct deductions. It will be seen that his reflections regarding the itch are by no means more fantastic than are the ordinary workings of his mind.

NOTES ON HOMEOPATHY.

No. 3.

1.

The third fundamental error of Dr. Hahnemann which modern science has fully disclosed is his denial and neglect of nature as an agent in curing disease. There is nothing in Dr. Hahnemann's writings to indicate that he supposed nature to be an agency of much, if any, value in the cure of disease. With respect to chronic diseases, he says nature is of no sort of use. To him, disease is cured by medicine and practically by medicine alone. In his Organon (page 191), he goes so far as to say the following:-

"Every patient is, especially in his diseased part, capable of being influenced in an incredible degree by medicinal agents."

The underscore is his.

Dr. Oliver Wendell Holmes, in a lecture delivered more than sixty years ago, pointed out as one of the fatal defects of Dr. Hahnemann's theory of medicine that it ignored nature. This habit of mind was, one regrets to say, adopted almost without exception by his followers. No writer on medicine today, no well informed physician of any school, thinks of speaking of his medicines as curing disease, or himself, indeed, as curing disease. Such language will be found only in medical literature that is out of date, for scientific medicine, with its fearless use of the scalpel and its bold penetration into the secret processes of nature, has disclosed the fact that nature, so far from having no agency in cures, is the Great Physician, the Mighty Healer, whose agency and whose agency alone performs, it is fair to say, at least nine-tenths of all cures that take place.

Nearly all disease, as we saw in No. 1, is caused by living germs, animal and vegetable, which, finding lodgement in the human body, under favorable conditions multiply with enormous rapidity until they interfere with the functions of the organs which they attack and either they or their products poison the fountains of life. Science has now found means of

demonstrating to the eye that nature begins to fight these enemies from the moment they enter her domain. It is possible to see the fight actually in process under the microscope. When, for illustration, the skin is cut with a knife, nature at once begins to hurry to the point of disaster squadrons of the white corpuscles of the blood and other healing forces. Just as the fire engines start from all quarters on the dead run to a fire when the alarm is sounded, healing forces rush from every part of the body to the point of trouble, some to destroy any poisonous germs that may get into the wound, others to unite the wounded parts as before. Just so when disease producing germs find lodgement in any of the internal organs, a signal of distress is instantly put up at that point and nature rallies instantly all the forces under her control to destroy or expel the intruder.

It is interesting to note the striking comparisons between the human body and the safety and hygienic appliances of a great city. Just as in the streets of a great city we have "white angels" posted everywhere to gather up poisonous material from the streets, so in the great streets and avenues of the body, namely the arteries and the blood vessels, there are brigades of corpuscles, white in color like the "white angels," whose function it is to gather up into sacks, formed by their own bodies, and disinfect or eliminate all poisonous substances found in the blood. The body has a network of insulated nerves, like telephone wires, which transmit instantaneous alarms at every point of danger. The body is furnished with a most elaborate police system, with hundreds of police stations to which the criminal elements are carried by the police and jailed. I refer to great numbers of sanitary glands, skilfully placed at points where vicious germs find entrance, especially about the throat and mouth. The body has a most complete and elaborate sewer system. There are wonderful laboratories placed at convenient points for the subtle brewing of skillful medicines. There is a vast sys-

tem of dispensaries, suitably located, and there is a great physician, whom I shall call Doctor Nature, who has an office in every human organism, without exception, and who knows more about the cause and treatment of disease than all the doctors in the world put together. The fact is that the human body is made up of an infinite number of microscopic cells. Each one of these cells is a small chemical laboratory, into which its own appropriate raw material is constantly being introduced, the processes of chemical separation and combination are constantly taking place automatically, and its own appropriate finished product is constantly being thrown off, that finished product being necessary for the life and health of the body. Not only is this so, but the great organs of the body like the liver, stomach, pancreas, kidneys, gall bladder, are great local manufacturing centers, formed of groups of cells in infinite number, manufacturing the same sorts of products, just as industries of the same kind are often grouped in specific districts.

We are fearfully and wonderfully made. The human body thrived, developed, multiplied and arrived at its present perfection thousands and thousands of years before such a being as a human physician was ever dreamed of. All this was possible because nature, as I said, is a physician, with an office and all the apparatus of hygiene and health at her command, resident in every human being.

enter the body, nature herself becomes at once the Great Physician. Nature learns at the instant where the trouble is located; she diagnoses what the trouble is; she writes the anti-toxin prescription which is to destroy the intruding germ or render harmless its poisons; she sets the laboratories at work; she administers the doses, delivering them precisely at the right spot; and it is she that should have the credit, as I said, of at least nine out of every ten cures, for sometimes she is herself overcome and the patient dies.

Now, scientific medicine does not say that no drugs have been found that can kill germs in the body. It admits that there are three or four drugs which do have direct effect in destroying disease or neutralizing their poison. One of these is No. 606, which quickly kills the little, snake-like animal which causes syphilis. Another is quinine, which destroys the little, disk-like animal, which, floating and multiplying in the blood, causes malaria. There is a preparation of iron which generally cures certain forms of anemia. There are possibly one or two other drugs having specific effects, but this is all. Scientific medicine has not given up the quest for drugs. It is seeking, not without hope, for new chemical combinations, hitherto unknown. No. 606 is one such combination, and it represents 605 different attempts before the exact combination was found. Similar patience and perseverance by Dr. Ehrlich and by other great chemists will produce, no doubt, other drugs which will be specific for other diseases. For the present, however, the number of drugs which cure disease may be numbered on the fingers of one hand.

The anti-toxin used in the cure of diphtheria, the anti-toxin used in the cure of spinal meningitis, discovered by Dr. Flexner, the partly preventive and partly curative remedy for hydrophobia, the remedy for lockjaw and several other similar remedies are not drugs at all, but are cures borrowed from nature's laboratory, which no human chemist has ever

yet been able to compound. That is to say, they are drugs made by nature herself and taken from living animals in which nature has performed her curative process. Science has discovered the laboratories where she has stored her reserves and has robbed her of them for use on human beings. The only way in which we can manufacture these cures is by giving animals the disease or injecting into them the poisons of the disease and then, when nature has created the cures, robbing her of the cures so created and using them as helps to nature on man. The great scientific workers of today are busy, therefore, on two lines of discovery. First, they are working to create new chemical combinations that will cure. The chief of these workers is Dr. Ehrlich. Second, they are trying to break into and expose to the light many more of the secret processes in nature's laboratories. Perhaps the head of these workers is Dr. Flexner. This last so far has been by far the most productive method of inquiry.

It is only by means of experimentation on living animals with germs and with the knife that science can learn how nature performs her cures. Any disease which cannot be given to an animal is, for the present, practically beyond the reach of science. For illustration, the reason why scientific medicine has been unable hitherto to do anything for scarlet fever is because they have never yet been able to give it to an animal. They are still searching high and low for some animal that will take scarlet fever or for some hitherto undiscovered means of communicating the disease. Every one of the great cures has been found by means of animal experimentation. Every single step, without exception, in the progress of the amelioration of human suffering, made by modern science, has been made by means of animal experimentation. The hope, and the one hope, for the future of medicine lies in continued animal experimentation.

The fact that nature is the great physician and that it is she who performs cures explains both the origin and the persistence of quackery in all its many forms. Old Doctor Nature never advertises. Doctor Nature steps in silently and gets to work from the first without being called. He performs his diagnoses unseen. He writes his prescriptions in invisible ink. He compounds his own medicines. He administers them in an invisible spoon. When the job is done, he never asks for any thanks or sends in a bill. Since nature, the true healer, makes no claim for the cure, the field is open for anybody who administers a dose of medicine, whether homeopath or allopath, Christian Science, mental healer, osteopath, Indian herb doctor or patent medicine man, who has had access to the patient, to lay claim to the cure and send in a bill. Most people are so ignorant of the nature of disease and the nature of its cure that they are ready to acknowledge the claim, pay the doctor and swear by him ever after.

It would be a grievous mistake, notwithstanding that nature is the great healer, to imagine that the scientific physician is no longer necessary. For, in the first place, there are about a dozen diseases which can be cured, either by drugs or by vital fluids borrowed from nature, and the number is being increased each year. There are hopeful indications of two or three ~~and there are~~ new cures at the Institute. Then, too, the physician is very necessary in preventing the patient from making the mistakes he is almost certain to make at this critical and dangerous period. There are times when the patient will need soothing lotions, cooling appliances, special diets, particular stimulants. Many and many a time these helpful but by no means curative agencies save life which would otherwise be lost.

May 19, 1911.

Dear Mr. Rockefeller:-

I enclose No. 5 of my Notes on Homeopathy. This is the last. I admit that the story it tells seems utterly incredible. You will say within yourself, "How is it possible that any sane man could have put forth such insane notions, or any sane body of men, even of the humblest intelligence, have accepted them for one moment?" To this I reply,- Dr. Hahnemann was undoubtedly not sane. It is perfectly clear that toward the close of his life he had lost his mind. Homeopathic physicians have admitted this to me.

It is also true that the great body of homeopathic physicians have always repudiated Hahnemann's more extreme notions. The vogue which homeopathy once had is due to a sense of failure on the part of many so-called allopath physicians. They found in practical experience that their medicines seemed to be doing no good, that oftentimes they did harm, and they preferred to withdraw from the practice which they no longer believed in and enter a practice which, while the shrewder of them knew it could be of no medicinal value, at least had the advantage of itself doing no harm. The statistics of their practice under the homeopathic school, which is the school of substantially no medicine, disclosed, furthermore, that their no medicine was, in most cases, precisely as good as the much medicine of traditional practice. That, and not any value in the absurd theories of Dr. Hahnemann, has been the life of homeopathy.

But a new day has dawned on medicinal practice. Medicine is rapidly becoming a science, with demonstrated results similar to those of chemistry or astronomy or geology. With this slow dawn of certitude - not

yet arrived, to be sure, but slowly and surely coming - the darkness of the old medical schools is vanishing away and giving place to light and healing.

Very truly yours,

F. T. CATES.

Mr. John D. Rockefeller.

NOTES ON HOMEOPATHY.

No. 4.

The fourth fundamental error of Dr. Hahnemann consisted in a false theory of the way in which cures are performed, and, accordingly, a false method of selecting medicines. Dr. Hahnemann thought that the only method by which one disease is driven out of the system is by the introduction of another stronger disease at the same point or affecting the same part. This, he thought, would drive out the weaker disease. Let us suppose, for illustration, that a person had some disease of the liver. Dr. Hahnemann's idea was that the only way to drive out that disease is to give the person another stronger disease of the liver. This stronger disease could be given to the liver by some poisonous medicine. The poisonous medicine creating the new disease, having driven out the old disease, would soon lose its power of itself and the patient would then be well. Dr. Hahnemann says (page 63) referring to medicine:-

"In order that we may effect a cure, it is before all things requisite that we should be capable of producing in the human body an artificial disease as similar as possible to the disease to be cured."

Again, Dr. Hahnemann also says (page 60):-

"Each individual case of disease is most surely, radically, rapidly and permanently annihilated and removed only by a medicine capable of producing in the human system in the most similar and complete manner the totality of its symptoms, which at the same time are stronger than the disease."

Again (page 59):-

"A weaker dynamic affection is permanently extinguished in the living organism by a stronger one."

I have selected these sentences out of many pages in which Dr. Hahnemann discusses this subject, as stating in the concise manner his view. With these ideas, Dr. Hahnemann sought a drug for each disease

which, if administered to a healthy person, would produce in him symptoms similar to those of the disease in question. Such a drug, when he imagined he had found it, he heralded as the specific cure. In the course of a long life, he found or imagined he had found, some sixty drugs, each of which would produce, as he thought, administered to a healthy person, the symptoms of one or the other of the many diseases of mankind, and these he announced with the utmost confidence as cures.

Scientific medicine has now demonstrated with entire certitude that the good Dr. Hahnemann was wrong, both in his theory and in his practice. Not a single one of his medicines does cure or have the slightest influence toward curing any of the diseases for which he fondly thought them specifics. Moreover, scientific medicine has shown that the theory that one disease is cured by implanting another stronger disease on its site has not a shadow of foundation. Take, for instance, the direct specifics that have now been demonstrated, such as No. 606 and quinine. No. 606 will certainly cure syphilis and do so very quickly. It does so by killing the little, wriggling thing I call a snake that causes syphilis. When administered to a healthy person, No. 606 produces none of the symptoms of syphilis whatever. Quinine cures malaria by killing the germ which, during the chill, is released in the blood, but administered to a healthy person, quinine produces neither chills nor fever. Iron will cure anemia, but iron in similar doses administered to a healthy person will not produce the symptoms of anemia. Or, turn to the six or eight remedies which we have borrowed from nature's laboratories and of which I spoke in the last paper. These remedies cure disease, but if administered to a healthy person, they do not create it or anything like it. On the contrary, quantities of these anti-toxins are carried in the blood for many years after the disease is cured, as we now know, without causing the slightest evidence of the disease

in any way, shape or manner. I can illustrate this point. When nature cures a case of smallpox, the medicines which she brews in making the cure continue to be so effective in the system that it is impossible for the victim ever even to take smallpox again. This is certainly due to the continued existence in the system of the anti-toxins which originally cured the disease, though they produce no continuous symptoms similar to smallpox. ~~In other~~ words, ^{at} the dozen or so cures now known to exist with scientific certainty, for as many different diseases, not one of them, administered to a healthy person, produces any of the symptoms of the disease which it cures.

Thus has fallen the keystone of the homeopathic arch. Modern medical science has shown that there is not one vestige of truth in the sacred dictum of homeopathy, "Similia similibus curantur." Dr. Hahnemann was absolutely and wholly mistaken both in his theory of cure and in the selection of the drugs which he alleged would cure, and it is perfectly fair to say that no case ever treated by homeopathy was cured by the treatment. The homeopathic practice has simply claimed for itself the credit that belongs to nature and to nature alone.

But let us be fair. If homeopathy was wrong in claiming cures, so likewise have been any claims of medicinal cure put forth by other schools of medicine. The fact is that scientific medicine has as yet found cures for only about as many diseases all told as can be numbered on the fingers of the two hands. All the rest of the acute diseases simply run their course, as we say, which means that there is no medicine known to science which shortens the period which nature requires for curing the disease and extirpating it from the system.

NOTES ON HOMEOPATHY.

No. 5.

The fifth fundamental error of Dr. Hahnemann, and the last which I shall mention, consisted in his theory and practice of dosage. His error was threefold, like a building of which the foundation, material and construction are alike false. Dr. Hahnemann's errors in dosage are not only great, but ^{they are} as obvious as they are great, since his notions run counter to physical and chemical laws which are well known, or may be well known, to any child. I will mention his three errors in their order.

First, he insisted on infinitesimal doses. He was accustomed by dilution or trituration to reduce to a millionth, a quintillionth or a decillionth ~~fold~~, and of such dilution to give not more than a drop. That is to say, he reduced medicines to a point where it was utterly impossible for them to have the slightest effect upon the most sensitive nerve of the most sensitive being the Creator ever made, ^{even} or to be discovered in the mixture by the subtlest chemistry of man.

For illustration, he speaks (page 193) of administering "a drop of the decillionth fold dilution of the tincture of nux vomica," and also of "the effect of ^{a drop} the quintillionth fold dilution of nux vomica," and he claims that he observed the different effects of these doses on human beings very often. He argues long and earnestly, may, even passionately and defiantly, in many pages of his work, that these infinitesimal doses are the proper curative agents to be used by homeopathy. He angrily repudiates any alleged followers who do not accept this sublime doctrine and practice it.

Let us picture this thing to ourselves. What does it mean to dilute one drop of nux vomica in alcohol (which was the medium used by Hahnemann) one quintillion fold? I have made the computation several times with great care. Take 500 drops to make an ounce, although it makes a

little more; 16 ounces to the pint; 8 pints to the gallon; 7 1/2 gallons to the cubic foot. In round figures, I find that a quintillionth fold dilution of one drop of nux vomica would ^{mean} represent one drop of nux vomica put into a canal 1,000 miles long, 1 mile wide and 80 feet deep, a body of water that would extend from the Atlantic seaboard to Chicago.

Now, one drop of such a dilution would be much too large a dose for the ordinary practice of Dr. Hahnemann. He prefers a decillionth fold dilution, instead of a quintillionth fold, as above. For a decillionth fold dilution, it would be necessary to put 12 ciphers on the right of the above 1,000 miles. The dilution then would represent a canal 1 mile wide, 80 feet deep and one quadrillion miles long. ^(1,000,000,000,000,000) Such a body of water as this, of course, could not be measured by all the oceans of the world. It would probably extend from the earth to the Milky Way. And yet Dr. Hahnemann easily says, on page 193 of his work, that he has observed and measured accurately the effect on the human system of one drop of nux vomica mixed with a body of water in which all the oceans would be lost.

But I do him injustice. My imagination is not equal to the description. Let me quote his own language:

"I have very often seen a drop of the decillionth fold dilution of tincture of nux vomica produce pretty nearly just half as much effect as a drop of the quintillionth fold dilution, under the same circumstances and in the same individual."

(Italics Dr. Hahnemann's)

"Pretty nearly just half as much effect" is a flash of genius. I defy the world to match it in all its literature. The genius of Hahnemann is in its most daring flight soar to a height like this

I am perfectly willing to excuse any scepticism of the accuracy of my statements here, because they certainly do seem incredible. No sane mind could have written the above sentence that I quote from Dr. Hahnemann's works. But I have verified them in another translation. Let me assure you, therefore, that I do not exaggerate in the least. I am under-stating even yet, and not over-stating the dreams of this unbalanced mind. But, the sceptic may ask, "How could Dr. Hahnemann ever have made such a dilution?" I answer, it is perfectly simple. All he had to do was to put

thirty-three bottles in a row, put into each one nine drops of alcohol, put into the first bottle one drop of nux vomica, shake it until it was thoroughly mixed, then take one drop of the mixture and put it into the next bottle, and so on to the thirty-third bottle, which would contain one-decillionth of a drop of nux vomica. This was his method. But even yet I err by understatement, for the fact is that Dr. Hahnemann went much further than this. He strongly advocates that instead of giving this drop to the patient, it would be better to give him only a small part of the drop. Let him speak for himself (page 193):

"The diminution of the dose essential for homeopathic use will also be promoted by diminishing its volume, so that ~~it~~ instead of a drop of medicinal dilution, we take but QUITE A SMALL PART OF SUCH A DROP FOR A DOSE."

But you still think I am misrepresenting Dr. Hahnemann. If I misrepresent, I still misrepresent by under-statement. In his very latest practice, he goes even further than this and strongly advocates that the patient, instead of swallowing the medicine, shall smell of it, through one nostril, and if this is not enough, let him try the other nostril. I will no longer try to represent Dr. Hahnemann. Let him speak for himself (page 195):

"It is especially in the form of vapor by olfaction and inhalation of the medicinal aura that is always emanating from the globule impregnated with a medicinal fluid in a high development of power and placed, dry, in a small vial, that the homeopathic remedies act most surely and most powerfully. The homeopathic physician allows the patient to hold the open mouth of the vial first to one nostril, and in the act of inspiration draw the air out of it into himself, and then, if it is wished to give a stronger dose, smell in the same manner with the other nostril, more or less strongly, according to the strength it is intended the dose shall be. The globule, of which 10, 20 or 100 weigh 1 grain, impregnated with the thirtieth potentized dilution and then dried, retains for this purpose all its power undiminished, for at least eighteen or twenty years."

Again (page 196) Dr. Hahnemann says:

"I can scarcely name one in a hundred of the many patients that have sought advice of myself or my assistant during the past year whose chronic or acute disease we have not TREATED WITH MOST HAPPY RESULTS, SOLELY BY MEANS OF THIS OLFACTION."

I will not pursue further Dr. Hahnemann's dosage. His other two errors are so gross that they need take us but a moment.

He believed that shaking the bottle greatly increased the power of the medicine. He says in one place in his book that in a former period he used to shake the bottle ten times before taking out the drop for the next bottle. He found, however, that the medicine so shaken was too strong, and he finally fetched up by giving the bottle exactly two shakes, lest the medicine should be too powerful.

Dr. Hahnemann's third idea was that the minuter the dose, the more potent, not absolutely but relatively, it became. Here Dr. Hahnemann shall have the privilege of speaking for himself:

"Supposing one drop of a mixture that contains $1/10$ th of a grain of medicine produces effect equal to "A," One drop of a more diluted mixture, containing $1/100$ th of a grain of the medicine will only produce an effect "A2." If it contains $1/10000$ of a grain of medicine, equals "A4." If it contains $1/1000000$ of a grain, it will produce an effect A8."

In other words, squaring the denominator of a fraction reduces the value of that fraction by exactly one-half every time.

The world is built, and every manufactory in the world is built, on the invariableness of the law that the respective chemical values of different quantities of the same substances are precisely and accurately proportioned to their respective weights. It is because of this law that scientific medicine is administered to animals, children and men strictly proportioned to their weights.

I remarked when I entered upon this series of little articles which I now bring to a close, that Dr. Hahnemann's works were first handed to me by a homeopathic physician named Dr. Brazier. When I landed this

book back to Dr. Brazie twenty-five years ago, I said to him, "Dr. Brazie, old Dr. Hahnemann was crazy." To my amazement, Dr. Brazie coolly replied, "I think so myself."

Homeopathy

Of course, the vogue which ~~Hahnemann~~ at one time had, was based, not on the absurd theories of its crazy founder, of whom and his theories the general public has known very little, but on the fact that homeopathic physicians, with their agreeable medicines, have seemed to do about as much good as the allopath, with his large doses of nauseating stuff, which he has inflicted upon the already suffering patient. The fact is that when the homeopathic physician was called, nature had to fight only the disease, though she had no help from the doctor. Under the old school practitioner, however, with their ancient nostrums, their profuse bleedings and their *too often* nauseating physics, nature had to fight both the disease and the doctor.

Supplemental Note

Let us start with 1 quintillion drops of water. This is much smaller than 1 decillion and we can handle it easier. 1 quintillion is expressed arithmetically as follows: 1,000,000,000,000,000,000. Now the Rockefeller Institute tell me that 450 drops of water, at the ordinary room temperature, is an ounce. It will however be more convenient to divide by 500 although our result will thereby be made too small by 10%. Dividing the above number of drops by 500 we find that 1 quintillion drops means 2,000,000,000,000,000 ounces. As there are 16 ounces in a pint, we will divide these ounces by 16 and find that 1 quintillion drops contain 125,000,000,000,000 pints. Now there are 8 pints in a gallon. Dividing the number of pints, therefore, by 8, we have 15,625,000,000,000 gallons. Now there are $7 \frac{1}{2}$ gallons in a cubic foot. Dividing the above gallons, therefore, by $7 \frac{1}{2}$ we find there are 2,080,000,000,000 cubic feet of water on 1 decillion drops. This would mean a trench of water 1 foot deep and 1 foot wide and the above number of feet long. Let us divide this by 5000, which is close enough for our purposes. This will show how many miles long it would be. Now we are getting into figures that we can speak out. It is 416,000,000 miles. Now it will be convenient and we shall get a better idea of this if we get a little width to it. Let us see how much it would be if it was a mile wide. Let us divide by 5000 again. The result is about 80,000 miles, a little over, but we do not mind trifles of this kind. We will give the benefit of this to Dr. Hahnemann. Even this is pretty large to comprehend; besides it is only a foot deep. Let us divide by 80 so as to get a little depth to it. Now we have the result: It is a canal 1,000 miles long, 1 mile wide and 80 feet deep -- a

canal that would reach from New York to Chicago.

Now what does our good friend Hahnemann say: He says:

"I have very often seen one drop of the decillion fold dilution of nux vomica produce almost exactly half as great an effect as one drop of the quintillion fold dilution administered under the same circumstances to the same person."

That means he has seen one drop of nux vomica diluted to a point that would be equivalent to being placed in a column of water 1000 miles long, 1 mile wide and 80 feet deep, and has observed that the effect of this drop on the same person in the same condition, is about half as great as if this quantity of water was 1 decillion drops. Now 1 decillion drops would be represented by putting 12 ciphers on the end of that 1000 miles.

Don't imagine that Dr. Hahnemann is satisfied with a medicine so strong as this! In his latest edition he says that he has been experimenting and found that this is very much too strong; that the real way to do it is to take one drop of the decillion fold solution; put it in a hundredths part of a grain of sugar; dry out that grain; put it in the bottom of a bottle and put it to the nose of the patient, using at first only one nostril, but if a specially heavy dose is required, it is allowable to use the other nostril.