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IMPORTANCE OF DOMESTIC HYGIENE.*

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THE growing importance attached to the subject of Hygiene by the most progressive and enlightened of the medical profession everywhere, as well as by the more intelligent and observing of the common people, renders it important that every physician who aims at true success in his professional labors should give this subject the attention necessary to become fully master of it, and render him competent to make a practical application of all its principles in his daily labors for the alleviation of human suffering. Our municipal authorities have long recognized the importance of public hygiene in the organization of local boards of health. Our State Governments have more recently taken an active interest in this matter in the appointment and maintenance of State Boards of Health, the members of which have, with other active sanitarians, organized a National Public Health Association.

The general Government also recognizes the important relation of hygiene to the public health in the maintenance, at large expense, at all our principal seaports, of a more or less efficient quarantine; and more recently in the appointment, at the suggestion and chiefly at the personal expense of a single philanthropic individual, a lady, of a special commission for the investigation of the nature and causes, and possible means of prevention, of the terrible disease which has visited some of the Southern districts of our country during the last few months, having yet scarcely ceased its ravages. Very recently a body of more than two hundred men, physicians, civil engineers, and State officers from all parts of the United States, congregated together in a Southern city and spent nearly four days in listening to the report of the commission mentioned, and in discussing the most feasible plan for preventing future visitations of the same character.

Every year marks a long stride in advance in the recognition and appreciation of the importance of public hygiene. It would now be utterly impossible for any of our large cities to suffer such a devastation by plague as visited the great cities of Europe during the Dark Ages, when sanitary regulations were unknown, and the plainest principles of sanitation were flagrantly violated. But while public health is receiving so much attention, and with such excellent results as to reduce the death rate twenty-five per cent in some countries, there is another branch of hygiene which, it seems to us, is deserving of a larger share of attention than it generally receives, and a proper regard for which is always attended with most excellent results. We refer to what may be termed domestic hygiene. Public hygiene will do much to conserve the health of towns and cities, by preventing the development of causes of disease which arise in consequence of the congrega-

*Report of the chairman of the committee on Hygiene presented at the last meeting of the Calhoun County Medical Association.

ting together of great numbers of people; but it does not so effectually remove the still more active causes of disease which exist in the domiciles of the several families which make up the population of a town or city. Defective drainage, bad sewerage, water and air contamination from organic decomposition, soil saturation, and other unsanitary influences, are well recognized as among the active exciting causes of fevers and epidemic diseases of various types; but there are other influences, still more potent, because more constantly and universally acting, which constitute the predisposing causes of these and other diseases. Every medical man is familiar with the fact that whatever deteriorates the vital forces of an individual increases his liability to disease. Whatever clogs the emunctories and so increases the accumulation of effete matters, the poisonous products of tissue metamorphosis, to the same degree increases the individual's liability to suffer when exposed to any of the specific causes of disease. How often have we all seen illustrations of this fact. The apparently strong and vigorous individual will fall an easy prey to the material causes of such diseases as typhoid fever, yellow fever, small pox, etc.; while one apparently far less vigorous will escape. An examination into the habits of the two individuals usually shows that in the first case they have been such as to impede the elimination of waste products and occasion the clogging of the vital machinery by the accumulation of effete matter, while in the second case they have been such as to encourage free elimination of the wastes of the system, and place no obstacle in the way of the vital activities of the body. There seems to be no room to doubt that in numerous instances the reception of fever germs into the system, with the violent febrile excitement which follows, is exactly like the application of an electric spark to a charge of gunpowder in a mass of combustibles. The system is already filled with noxious elements. The blood is gross with retained excretions, and the emunctories are but sluggishly performing their duties. Only a spark is needed to kindle an inflammation which all the art and science of medicine are too often powerless to quench.

The people need to be taught that what they eat, drink, and breathe, have an important relation to their health and happiness. Pure air, pure water, and pure food are the three great desiderata of human existence in its highest state. First of all is *purity of air.* Everybody knows that death results sooner from deprivation of air than from the loss of any other element which the system requires. Most poisonous substances, at least such as may be volatilized, will manifest their deadly properties sooner when received into the system through the lungs than in any other way. The reason for this is quite apparent. In the lungs the blood is spread out in a fine capillary network, over a surface of about 1,400 square feet, according to the estimates of some anatomists, being separated from the air within the pulmonary cavities only by a membrane of the finest degree of thinness. Through this membrane the gases taken into the lungs find their way with the greatest readiness; and beneath this delicate film the whole volume of the blood passes every few minutes. Thus the blood is literally bathed in the gaseous contents of the lungs. If these become foul and poisonous, how quickly must the vital fluid become contaminated. Yet, notwithstanding this fact, so patent and simple, the grossest neglect of air cleanliness everywhere prevails. People who are the most fastidious about the food they eat and the water they drink, who would as soon think of starvation as of eating what had once before been in a human stomach, will sit with utmost complacency for hours in a public assembly or in a private parlor, inhaling over and over again the vile products of respiration sent out from other human lungs as well as their own, to say nothing about the emanations from dyspeptic stomachs, the foul odors from decaying teeth, and the vile exhalations from retained catarrhal excretions in diseased nasal cavities.

Filth is no less foul because invisible, and is certainly more dangerous from its invisibility. Gaseous poison is the most fatal of all noxious agents.

A well-ventilated house is the greatest of rarities. Our churches, public halls, places of popular amusement, and even the lecture-rooms of our institutions of learning, not ex-

cepting even our medical colleges, are veritable nurseries of disease. When we reflect for a moment that every breath renders unfit to breathe again three cubic feet of air, and then make an estimate of the length of time required for an audience of 1,000 persons to contaminate all the air in a church or lecture-hall of ordinary size, and then consider what must be the intensity of the grossness of such an atmosphere after being subjected to continued contamination for one to two hours or longer! when we add to the consideration the fact now well recognized by the profession, that one of the most prolific causes of pthisis pulmonalis is the breathing of air which by previous breathing has become charged with organic poison, can we wonder that pulmonary tuberculosis, that dreadful scourge, annually sweeps away so many of the most promising and talented of our friends and fellow-citizens? Is it not, rather, marvelous that the mortality from this cause is not still greater?

But it is not only in public assemblies that this first law of man's nature is violated. At least ninety-nine families out of every one hundred are subjected to the very same conditions at home. Our modern dwelling-houses not only have no adequate means for regulating the air supply for the benefit of the inmates, but are so thoroughly built, so well constructed, architecturally, that there is no accidental provision for the constant supply of the great necessary of life. The less elegant edifices of olden time, fortunately, through their very imperfections, their loose joints, and airy attics, gave ample opportunity for the ingress of an adequate supply of life-giving oxygen; and the robust frames, ruddy cheeks, and long lives of their inmates, bore testimony to the advantages of thorough ventilation. Our modern dwellings are veritable hot-houses, in which are reared sickly human plantlets, which wither and wilt before the faintest breath of disease. The man who will discover a simple, cheap, efficient, and automatic means for removing foul and supplying fresh air, which can be introduced with small expense into all ordinary dwellings, and can secure its general adoption, will be a benefactor of the race.

The dire effects resulting from the use of contaminated drinking-water, are too well known to the profession to require even a statement here. The medical and sanitary journals are teeming with accounts of extensive epidemics which can be distinctly traced to foul water as a cause. A day or two ago, we noticed in a late medical journal an account of an epidemic of typhoid fever in Bristol, Eng., in which eighty cases have already occurred, all of which could be distinctly traced to the use of milk from cows which were watered at a well in a barnyard. Upon careful investigation, I have been satisfied that a large number of the cases of typhoid fever which occurred in the western portion of this city last fall, and which I reported to the society at the time, were due to a similar cause.

But it will consume too much of your valuable time for us to dwell at length upon the injuries inflicted upon the system by the use of water contaminated with mineral elements, the excessive use of stimulating condiments, of fats and of saccharine substances, with hasty eating, excessive eating, and the numerous other violations of the laws of digestion to which the great majority of people are addicted.

We are firmly convinced that in the personal habits of individuals, especially those relating to air, water, and food, we may find the most potent causes of disease; and with many others we fully believe that the physician does not do his full duty to suffering humanity unless he raises his voice against these prevalent evils whenever he has fitting opportunity. We were pleased with a remark of Dr. Connor, one of the editors of the Detroit *Lancet*, at the last meeting of the State Medical Association at Lansing. Said the Doctor, "I make it as much a part of my business to instruct my patients how to keep well, as to aid them in getting well." The physician who does this may, possibly, not amass so large a fortune from his practice as as the one who neglects this part of his work; but his real *success* will be greater just in proportion as he is thorough in fulfilling his mission as a conservator of the health of his fellow-men. The amount of money a man has made in a lifetime is not the true measure of his success. The criterion by

which the real success of an individual is determined by the great and the good who know him and who succeed him, is the amount of good he has done, the degree to which he has contributed to make the world better from having lived in it.

RESTRICTION AND PREVENTION OF DIPHTHERIA.

[On account of the great prevalence and fatality of this disease, the State Board of Health of Michigan have issued a very valuable circular under the above heading, and are circulating it by thousands through the State. The pamphlet is chiefly the work of Dr. H. O. Hitchcock of Kalamazoo. We are indebted to Dr. Baker, the able Secretary of the Board, for several copies, which we can use to excellent advantage. We publish below almost the entire circular.—Ed.]

NATURE OF THE DISEASE.

Diphtheria is, primarily or secondarily, a constitutional or blood-poisoning disease. It attacks persons of all classes and ages, but most frequently children under sixteen years of age.

In ordinary cases the poisonous principle of diphtheria probably enters the blood by way of the mouth and the air-passages.

The period of incubation of diphtheria, or the time from a person's exposure to the disease to his coming down with it, varies somewhat,—being usually from a few hours to seven or eight days; in some cases, it is twelve or fourteen days.

Its most frequent local manifestations are in the mouth, throat, and air-passages. When in the mouth or upper part of the throat only, the disease is, as a rule, less dangerous and fatal, but none the less contagious, than when in the air-passages below the fauces.

The specific contagium developed by the disease itself, and by which it spreads, is diffused by the exhalations (breath, perspiration, etc.) of the patient, through the air immediately surrounding him, as well as by clothing or other solid substances that have been brought into contact with the products of the disease.

As a rule, the virulence or malignancy of the contagium is in direct proportion to the severity of the case from which it emanates, though malignant cases may result from exposure to a mild case.

The more this contagium is allowed to accumulate in the room where the patient lies, the more powerful does it become.

RESTRICTION OF DIPHTHERIA.

Diphtheria is a contagious disease, and hence the strict observance of the following precautions is of very great importance:—

1. Every person known to be sick with this disease should be promptly and effectually isolated from the public;—one or two persons only should take the entire charge of the patient, and they should be restricted in their intercourse with other persons.

2. The room in which one sick with diphtheria is placed should previously be cleared of all needless clothing, carpets, drapery, and other materials likely to harbor the poison of the disease. This room should constantly receive a liberal supply of fresh air, without currents or drafts directly upon the patient. It will be well also to have the sun shine directly into the room.

3. The discharges from the throat, nose, and mouth are extremely liable to communicate the disease, and should be received on soft rags or pieces of cloth, which should immediately be burned.

4. The discharges from the kidneys and bowels are also dangerous, and should be passed on old cloths and burned, or into vessels kept thoroughly disinfected by nitrate of lead, chloride of zinc, or sulphate of iron (copperas), and then be *buried* at least 100 feet distant from any well.

Copperas, dissolved in as little hot water as will dissolve it, is a good disinfectant for this purpose,

5. Nurses and attendants should be required to keep themselves and their patient as clean as possible;—their own hands should frequently be washed and disinfected by chlorinated soda.

6. Soiled bed and body linen should at once be placed in boiling water or in water

containing chlorinated soda, chlorinated lime, or solution of chloride of zinc.

7. All persons recovering from diphtheria should be considered dangerous, and therefore no such person should be permitted to associate with others, or to attend school, church, or any public assembly, until in the judgment of a careful and intelligent physician he can do so without endangering others.

8. The body of a person who has died of diphtheria should, as early as practicable, be placed in the coffin, with disinfectants, and the coffin should then be tightly closed. Afterward, the body should not be exposed to view except through glass.

9. No public funeral should be held at a house in which there is a case of diphtheria, nor in which a death from diphtheria has recently occurred. No children at least, and it would be better in most cases that few adults, should attend such a funeral.

10. The room in which there has been a case of diphtheria, whether fatal or not, should, with all its contents, be thoroughly disinfected by exposure for several hours to strong fumes of chlorine gas, or of burning sulphur, and then, if possible, it should, for several days, be exposed to currents of fresh air.

To disinfect an ordinary room with chlorine gas: Having tightly closed all the openings of the room, place in it an open earthen dish containing four ounces of peroxide of manganese. Pour on this one pound of strong muriatic acid, being careful not to breathe the fumes. When certain that continuous evolution of chlorine is taking place, leave the room and close the door.

To generate sulphurous acid gas, put live coals on top of ashes in a metallic pan, and place on the coals sulphur in powder or fragments.

A convenient way is to place the coals and sulphur on a heated stove plate or cover turned bottom upward in a pan half filled with ashes. To disinfect 100 cubic feet of air requires the thorough burning of about one and one-half ounces of sulphur.

11. After a death or recovery from diphtheria, the clothing, bedding, carpets, mats, and other cloths which have been exposed to the contagium of the disease, should either be burned, exposed to superheated steam, to a degree of dry heat equal to 240° F., or be thoroughly boiled.

The foregoing methods of disinfection are applicable in all contagious diseases.

PREVENTIVE MEASURES.

12. Avoid the special contagium of the disease.

13. Beware of crowded assemblies in ill-ventilated rooms.

All influences which depress the vital powers, and vitiate the fluids of the body, tend to promote the development and spread of this disease. Among these influences, perhaps the most common and powerful are *impure air* and *impure water.* Because of this and as a means of lessening the danger of contracting almost all other diseases, the following precautions should always be taken, but more particularly during the prevalence of any such disease as this.

14. The grounds under and around the house should be well drained.

15. No vegetable or animal matter should be allowed to decompose on the surface of the ground near the house.

16. If any soap-factory, slaughter-house, rendering establishment, or other source of foul odors, contaminate the air which you and your children daily breathe, take immediate measures, through your local board of health or health officer, to have such nuisance abated.

17. Your *own privy* especially, should at all times be thoroughly disinfected, by dry earth, coal ashes, or copperas-water; and the receptacle should be so constructed as to be water-tight and to be tightly covered when removed to be emptied, as it should be often enough to prevent the air about it from becoming offensive, and in cold weather so far as possible.

18. Your whole *house*, and especially its sleeping-rooms, *should be well ventilated.*

19. Your *cellar should be dry* and well ventilated; it should frequently be whitewashed, and always kept clear of decomposing vegetable or other substances.

20. No cess-pool should be allowed near the house. If there be one, it should either be removed or be thoroughly and frequently

disinfected with sulphate of iron (copperas).

21. Your *house drains* should be looked to with scrupulous care, to see that they are well trapped, kept clear, and ventilated into the open air.

22. Your house should not have uninterrupted connection with a sewer. Be sure that the waste-pipes do not permit the entrance of sewer gas into the house, but that they enter the sewer through an open-air space, or at least through a space freely ventilated to the open air.

23. Be sure that your *drinking water* is not contaminated by surface drainage, nor by leakage from the drain, gas-pipe, sewer, cesspool, or vault.

TREATMENT OF CANCER.

No subject in therapeutics has received more attention from the ablest members of the medical profession than this, and none with less satisfactory results. Most persevering and most exhausting have been the efforts to discover a specific for the cure of this most formidable of diseases. Hundreds of times the discovery of a "sure cure" has been announced, but as often has the supposed discovery proved to be only an *ignus fatuus*, and often the potent remedy has been demonstrated to be utterly devoid of medicinal properties. The regular profession have at last abandoned the search for a *specific*, and no longer hope to neutralize the disease by any drug to be swallowed into the stomach, or any plaster to be applied to the diseased surface. Not so with the people, however. Being ignorant of the real nature of the disease, often regarding it as a malign entity of definite shape and form, an animal with fangs and other organs of offense, voraciously preying upon the body, "eating," "crawling," and stealing away the vital forces, they deem it proper to fight it as an enemy possessed of vitality, pertinacity, voracity, and almost exhibiting malicious intelligence. Hence it is that they fall so easy a prey to the cormorant quacks who fatten and thrive upon the agonizing pangs of the unfortunate victims of this disease. The quack, possessing neither knowledge nor conscience about the matter, pronounces every tumor which he sees a cancer, and warrants a cure. He invariably claims a specific. Usually he has at least two specifics. A specific "blood remedy" for attacking the roots of the disease and killing the germs in the blood, and a specific "plaster" for destroying the cancerous growth externally visible. Thus attacking the disease fore and aft, he is certain of success. A failure to cure is impossible, was never known. The remedy was the discovery of an old Indian doctor before the beginning of the Christian era, and has been handed down through a long series of lineal descendants till it chanced to fall into the hands of the fortunate possessor who holds it as a precious secret, which he with marvelous generosity is ready to dispense to suffering mortals for the moderate sum of ten dollars a drop, or half a hundred per square inch.

It is quite probable that the quacks have the largest share of the cancer business; nevertheless, the regular profession has had the privilege of treating a sufficient number of cases to discover that the pretensions of the quacks to cure a majority of cases is a vile falsehood which has no basis except in the desire of charlatans to enrich their pockets.

In the rational treatment of cancer there are two stages of the disease which must be distinctly recognized.

1. The incipient stage of the disease, while it is purely a local disorder, and

2. The more advanced stage of the malady, when it has become a general disease, through infection of the general system.

While the disease is still a local affection, simply being an erratic neoplasm, its irregularity consisting either in character or in location of structure, the proper remedy is such a one as will thoroughly remove the morbid tissue, leaving uninfected, healthy tissues in the surrounding parts. What this remedy shall be, the skillful surgeon will decide according to his previous personal experience and education. It may be the knife, or it may be some form of cautery, either a chemical caustic, the actual cautery, or the electro-cautery. The selection of the remedy will also in some degree depend upon the locality of the disease. If it is in a part which can be readily separated from surrounding parts without material damage, removal by the knife is undoubtedly the most rapid, the most precise, and the least pain-

ful to the patient, and in all respects the most satisfactory. This method has recently been rendered still more effective by a method suggested first, I think, by Dr. Geo. M. Beard of New York, called by medical electricians, "working up the base of the tumor." This method consists of applying electro-cautery to the wound by means of large needles after all visible portions of the morbid tissue have been removed. It is claimed that this method is remarkably successful in extirpating this fearful malady while it is purely a local difficulty.

When the tumor is so situated that its removal by the knife is extremely difficult, or perhaps impossible without serious injury to vital parts, as when large blood-vessels are involved, caustic remedies may be usefully and often successfully employed. The number of chemical caustics which may be thus employed are quite numerous. Nitric acid, chromic acid, iodine, bromine, chloride of zinc, arsenic, and numerous others have been thus employed. Probably the two last-named are the most commonly employed. They are usually mingled with acacia, flour, pulverized charcoal, or some other neutral pulverulent substance. Chloride of zinc is a very effective escharotic, but is exceedingly painful. Arsenic is perhaps equally effective, and is far less painful. The latter remedy is the one chiefly relied upon in the cancer hospital in London. Several eminent physicians of New York employ it constantly, and it is usually the chief constituent of the remedies employed by quacks.

Whatever remedy is employed, the great point to be aimed at is thoroughness. The morbid tissue must be wholly removed, together with all the infected portions of adjacent healthy tissue. When this can be done, there is good reason to believe that a cure will often be effected. Nevertheless, much encouragement cannot be given a patient even under the most favorable circumstances, since there is no means of determining that every single one of the morbid elements has been removed.

When the general system has become infected, so that the patient presents the characteristic cachexia of this disease, nothing can be done but to employ such remedies as will support the patient and alleviate his sufferings.

THE LATEST SENSATION.

BY J. H. WAGGONER.

SAN FRANCISCO has been the theater of great excitements of late. Stocks have "shrunk" as perhaps never before. Fortunes made in a day have been lost in an hour. How many people in comfortable circumstances, many of them really wealthy, have been reduced to poverty, cannot be told. Of course the influence of this is not confined to San Francisco.

Soon came another. It has long been more than hinted that the examination of candidates for teachers in California might safely be placed with that large class of things styled "humbugs." It was suggested that the questions were bought in advance of the examinations. The head of the State School Department grew indignant at the insinuation, acting upon the well-known legal maxim, to "deny everything and insist upon proof." It came all too soon. Before the time for the examinations, the San Francisco papers published in full the questions which, sent out by the Department, were supposed to be safely sealed in the hands of the officials. And now comes the proof that for years the questions have been matter of traffic, some receiving a high-grade certificate who not only bought the questions, but also paid scholars to work out the solutions for them! This, also, affects every district in the State.

But these are not the latest sensations. San Francisco has boasted some artisans of more than local celebrity. Among others is an Italian named Pizzola, who has enjoyed the enviable reputation of being the most scientific sausage maker in the land. Not an idle boast was this. He sports a diploma received at the Centennial Exposition in Philadelphia, as well as one received at the last fair of the Mechanics' Institute in the Golden Gate City. His sausages have been the pride of the most fashionable restaurants, and many dainty feeders have held up the savory links on silver forks with great admiration.

There are always some prying, meddling people who are not content to "let well enough alone." One of this class had his suspicions aroused by the needless observation that the proud artist procured more cats than are generally supposed to be required in one house. He "interviewed" the boys engaged

in the cat traffic, until Mr. Pizzola was brought into court. But as it could not be proved that he made an illegal use of the tabbys, he was charged with "cruelty to animals," because it was his custom to cut off their tails, which the boys carried away with them, the cats being thrown into a pen kept for that purpose.

One boy testified that he had sold to him two dozen; others different quantities; and bundles of tails were brought into court to give their silent testimony. Perhaps no case of greater interest has ever come before a San Francisco court. The papers report it as not among the common "catastrophes" of the day; there were more "tails of horror" than would fill a score of dime novels. He was fined $50 for cutting off cats' tails. "Only this and nothing more." But there is an impression that qualms of stomach had something to do with the assessment of the fine.

The "panic" in the sausage market is as great as that in the stock market. In fact, there is no demand for them at all. Even in the neighboring cities, if you barely speak about sausages there is a strong inclination manifested to kick the cat if one is unfortunately near. The panic in stocks affected the pocket; that was severely felt. The school panic pertained more directly to brains, and therefore may be endured by the larger class. But this latest and strangest sensation appeals to the stomach. This touches a vital point. Was ever city so afflicted?

Almost all great and important discoveries have been made by means of accidents or trifling circumstances. By this little incident it has become a fact of positive knowledge that cats, scientifically served up, make first-rate sausages. The best judges of the article, from Philadelphia to San Francisco, have so decided, and this after having eaten them. So there can be no mistake in this.

The panic in stocks did not affect my pocket, nor does the panic in sausages touch my stomach. I have so long been disgusted with the sight of sausages made of filthy hogs, that cat sausages appear tolerable by comparison. Only by sympathy for those who use such things am I interested in the matter, and I am not fully decided which most to pity, those who have eaten the cats, or those who eat the hogs.

But many are yet governed by prejudice. There were those of old who were accused of straining at a gnat and swallowing a camel. So here, right in San Francisco, there are people now to be found so strangely inconsistent that they will turn pale and place both hands on their stomachs at the sight of a sleek-coated pussy, and complacently swallow a hog! What a people! "O tell it not in Dupont street; let not the sound reach Chinatown!"

CLIMATE, HABITS, HEALTH.

BY J. N. LOUGHBOROUGH.

CLIMATE and habits have much to do in the development of good health; yet he who seeks to obtain relief from disease by simply changing climate, without a reform from bad habits of living, is destined, in the end, to brand his own course as one of folly.

While I was in Washington Territory, about one year since, I met one of those persons who are ever going from one place to another thinking, by change of climate, to be relieved from disease. This man was a dyspeptic; using tobacco, pork, and a profusion of spices. Already his disease had advanced to that state that the lungs were much affected, through sympathy with the stomach.

He did not like the climate on Puget Sound. It was too damp; it affected his lungs; so he came into the Walla Walla valley to get away from the fog and obtain a dryer climate. Changing from damp climate to dry did not destroy the effects of bad habits. He found, to his surprise, that he still coughed in a dry climate.

His next decision was that Walla Walla was "too great an altitude for his health," being 1,000 feet above sea level. The air was too light for his lungs. His next move was to go from the Walla Walla country to Anaheim, Los Angeles Co. The altitude was not so great there; and although it was an inland point, it was not so far from the sea but that the air would be moistened more or less by the fog in the sea breeze. That climate was just the place for him. How his case terminated I do not know; but if he went there with his habits unchanged, he was des-

tined to meet another surprise in that his cough would go with him to Anaheim.

As I looked upon this man, going from place to place, thinking to leave his disease while taking with him those habits which were producing the difficulty, I could but think of the word of the Lord to the prophet Amos, concerning those who thought to escape God's vengeance on their crimes while still cherishing those sins: "Though they be hid from my sight in the bottom of the sea, thence will I command the serpent, and he shall bite them."

There are, undoubtedly, benefits to be derived, in many instances, by change of climate; yet where one person derives benefit from such change, ten others receive no benefit because of inattention to proper habits of diet, clothing, etc.

In some instances, persons derive benefit by change from an extreme cold climate to a warmer one; still, in making change of residence, the heat or cold is by no means the only thing to be noted. One goes from a cold climate and settles where he must use, for cooking and drinking purposes, water that is infected with lime or holds alkali in solution. This new evil may destroy all the good he derives from the change. We must not take too limited a view of matters, but in seeking a healthful location consider that there are other hygienic conditions to be considered as well as the condition of the atmosphere.

Having spent the most of the last year in California, Nevada, Oregon, and Washington Territory, I found almost every climate to be had, hardly excepting that of the tropics; but in every locality I have observed that the same lack of careful attention to habits of eating, drinking, clothing, etc., produces about the same results.

After spending ten years and four months on the Pacific coast, I recently returned to the East. As I meet numerous friends, they at once inquire, "How do you like the climate of California?" My answer invariably is, "That depends altogether on what part of the State you are in." It undoubtedly sounds strange to them to hear of several kinds of climate in one State. This can hardly be comprehended by those who have not been there.

Persons who have lived in one part of California, come East and describe the climate of that part of the State to their friends. They, supposing the State is all alike, go and settle in some other part, and find the climate and everything so different from what their friend described that they cannot comprehend it, and until they learn for themselves how to account for differences of climate in different parts of the same State, they almost conclude that their friends have purposely deceived them. I think I can sympathize with such, having been somewhat disappointed in that way myself.

Just before I left Battle Creek, Mich., in June, 1868, for a sea voyage to California, I learned from a lady acquaintance in Battle Creek who had spent one summer near Marysville, Cal., that we would need no thick clothing or heavy bedding in the summer, as the weather was so warm that she had often heated water sufficiently hot for tea by setting her kettle on a flat stone in the sun. With such instruction I disposed of my thick overcoat and all heavy bed-clothing, and prepared for a tropical climate.

When we were on the train between Battle Creek and Detroit, a gentleman came to us saying that he had lived in California. He wished to know in what part of the State we were going to settle. On being informed that we were going to San Francisco, he said, "Well, I suppose you have got your furs along. Women wear their furs in July in San Francisco, and their muslin dresses in February." Of course, we set this man down in our minds as a deceiver. We knew where we were going, and what we were about. We thought it incredible that, in one State, two places only about 200 miles apart could present such extremes in climate at the same time. This seemed to be a candid man, and he confidently affirmed that, strange as it appeared to us, this difference in climate was even so.

In process of time, in our sea voyage, we crossed the isthmus. Leaving Panama behind, we were in a few days out of the "tropical climate." In sailing up the Pacific coast, after we had crossed the Gulf of California, we were surprised to find it growing colder each day. We met a strong cold wind from

the north-west that increased in strength every day. The waiter in charge of our rooms came with extra blankets for our beds and told us if we had underclothing we must put it on or we would take cold, for we would find that these "trade winds" would grow colder as we neared San Francisco. We put the waiter down as a deceiver, also. We thought we had seen wind enough in our lives to know that it did not blow strong in any one direction more than three days at a time. Then, did not our friend in Battle Creek tell us it was hot enough in California, in July, to boil water in the sun? We were not going to set aside the testimony of one we knew for that of a stranger.

Notwithstanding our wisdom about the wind, it blew stronger and colder from the same direction each day, for more than three times three days. For our self-confidence, we took the "colds" the waiter warned us of, and when we arrived in San Francisco, July 18, 1868, we met ladies with their furs on, even as our railroad friend had stated. On July 20, we met a man who left Marysville the day before. He said that up at Marysville he suffered with the heat, though dressed in the thinnest clothing.

The "trade wind" is the great cause of the difference of climate in different parts of California during the summer. This wind, which blows more or less nearly every day from May or June to near the last of September, feels as though it came from Sitka ice. When this wind is blowing down the sea coast, it makes it cold at all points directly on the coast.

The State itself is composed of mountain ranges running north and south, valleys and plains lying between these mountains. Near the coast range these valleys, varying in width from one to ten miles; and when you get into the interior, past the middle range, we find plains, such as the Sacramento and San Joaquin, from forty to sixty miles in width.

The climate of different parts of the State, in summer, varies just in its relation to the "trade winds," or its location relative to the coast. Points directly on the coast get the full blast of the "trades," and there, when these winds are blowing, you need to be well protected. Over the first range of mountains you get some of the effects of the wind, but its force is in a great measure broken by the mountain range. In these valleys the climate in summer is not very disagreeable. As you pass into the interior of the State, on the Sacramento and San Joaquin plains, where the sun shines daily for four months, with scarce a cloud to interrupt its rays, and where you are so far from the coast that the different mountain ranges entirely break the force of the "trade winds," it is very hot; the thermometer, on these plains, sometimes rising as high as 100° and 115° F., in the shade. But when the thermometer indicates so high a degree, the heat is not so oppressive as in the States east of the mountains at 90°. In my own mind I have accounted for this difference by the fact that when it is so hot on the plains in California, there is always a very perceptible breeze; while in the States east of the mountains this is often otherwise.

There is another advantage in California; although it may be very hot in the daytime, with the setting of the sun the cool breezes come down from the mountains, so that the nights are very pleasant. It is a rare thing to lose a night's rest in consequence of heat, even on the plains, where it is so hot during the day.

At points midway between the coast and the interior, the contrast between day and night seems greater than in the interior, because the trade wind is carried over the mountains into these valleys during the night. Some persons have said to me that they wanted to go to a climate that was more steady than that of these cold States. In the valleys just mentioned, the climate changes twice a day in summer.

There is another change experienced on the plains and valleys, which I will mention here. Sometimes the wind blows very fiercely for two or three days from the north down the valleys. As this wind passes over a long range of heated plains, it gets almost as hot as a blast from a furnace chimney. This wind is very prostrating in its effects, especially to those of weak lungs. Sometimes the whole season will pass with only one or two of these blighting blasts; but I have known one or two seasons in which we had at least half a dozen. It is the dread of the farmer

to have this wind come on about the time of wheat harvest, as it dries the grain suddenly and beats it out rapidly. If it strikes a field in which the berry is but partly filled, a man's prospects are quite suddenly reduced two-thirds by the shrinkage of the grain.

Thus far I have only spoken of the climate during the summer months; but now I will speak of the winter, one of the most trying seasons of the year, not because it has the excessive cold of some of the older States, but because of the dampness in both soil and atmosphere. The winters, in some respects, are the most pleasant season of the year. There is not so great a contrast between winter and summer as in snowy States; but there is an exact reversing of the order in the different parts of the State. While the rains are general over the entire State, the climate is varied almost as much in winter as in summer, except that there is nowhere the excessive heat of summer.

The sea coast, which was made cold by the trade winds of summer, is in winter the warmest part of the State; and the plains, which were so hot, are now the coldest habitable parts, being near to the Sierra snow-clad peaks on the east, and being affected more or less by snow on high points of the middle ranges a part of the winter. In these valleys we seldom see frozen ground; but for ten or twenty days, from about the last of December to the tenth of January, we see ice from the thickness of glass to one-half inch, according to the severity of the cold. On the coast, in the vicinity of San Francisco, as a general rule it never freezes.

While the prevailing wind of the coast in summer is from the north-west, that of the winter is from the south. The wind of summer is tempered by the northern ice, and that of winter by the heated air from the tropics. The rains of winter are almost invariably brought on by south-east winds. While it may be cold before a storm, the moderation of the atmosphere is almost a sure index to rain. It is a rare thing to see a cold rain in California.

The most even climate, the year round, is likely to be found, not on the coast nor in the interior, but at proper points in valleys midway between the coast and the interior. There are some pleasant nooks, like San Rafael, Marin Co., just back of the Coast Range. And one of the most desirable spots in midway valleys is Dr. M. G. Kellogg's Rural Health Retreat, at St. Helena, near the base of Howell Mountain, Napa Valley. There are, however, points even in these midway valleys that are exposed to winds blowing up or down the valleys. It would be difficult to establish a rule to fit all of these points. We can only speak in general terms, as neither the mountains nor valleys are regular in their formation.

Some persons of means have a winter residence in San Francisco and a summer place at some point away from the trade winds. Those wishing to make a permanent residence in California do better to make haste slowly, and learn the climate of a given point the year round before deciding upon a place for a home. A very few miles sometimes makes a great difference in the climate. It is only seven miles across the bay from Oakland to San Francisco, and yet, in the summer season, there is a marked contrast in the climate of the two places. While San Francisco may be suffering from the bleak trade wind, with a cold fog hanging over it, Oakland may have a beautiful sunshine with only a fair breeze. The way I explain the matter is this: While the trades and fogs drive up the Golden Gate channel (two miles wide and twelve miles long) from the sea, and spend their force on San Francisco, there lies in the bay, directly in line between this channel and Oakland, "Goat Island," which breaks the force of the breeze. Often I have noted the heavy fog driving north and south over this island, going over Berkeley north, and Alameda south, leaving Oakland almost free from fog.

Having spoken of the variety of climate, and some of the causes producing the same, in my next I wish to speak at greater length respecting the mistakes people make in trusting in climate alone for the restoration of health, and why many are disappointed in not being benefited by the mild climate of California.

—The transgressor of Nature's laws will surely suffer punishment. Nature is a master that knows nothing of pity.

LITERARY MISCELLANY.

Devoted to Mental and Moral Culture, Social Science, Natural History, and other Interesting Topics.

IDLENESS.

THE keenest pangs the wretched find
Are rapture to the dreary void—
The leafless desert of the mind—
The waste of feelings unemploy'd—
Who would be doomed to gaze upon
A sky without a cloud or sun?
Less hideous far the tempest's roar,
Than ne'er to brave the billows more—
Thrown, when the war of winds is o'er,
A lonely wreck on fortune's shore,
'Mid sullen calm, and silent bay,
Unseen to drop by dull decay;
Better to sink beneath the shock,
Than molder piecemeal on the rock.

—*Byron's Giaour.*

THE DARK DAY.

[THE following article, though written for a juvenile magazine, is so vivid a description of one of the most remarkable phenomena of modern times that we present it to our readers.—ED.]

Of all the wonderful stories that my great-grandmother used to tell my mother when she was a little girl, the most wonderful was about the dark day in New England, Friday, May 19, 1780. This was during our revolution, you will remember, and the same year in which the traitor, Benedict Arnold, attempted to betray his country to his enemies.

For several days before the nineteenth, the air was full of vapors, as we often see it when fires are raging in the woods near us, and the sun and moon appeared red, and their usual clear light did not reach us, especially when rising and setting. The winds blew chiefly from the south-west and north-east, and the weather was cool and clear. The morning of the nineteenth was cloudy, and in many places slight showers fell, sometimes accompanied by thunder and lightning; but as the sun arose it did not increase the light, and the darkness deepened and deepened, until the children standing before the tall clocks could not see to tell the time, and the older people peering over the almanac, were not able to distinguish the letters.

The birds sang their evening songs and flew to their nests in the woods, the poultry hurried to their roosts, while the cattle in the fields uttered strange cries and leaped the stone fences to gain their stalls, and the sheep all huddled together bleating piteously.

Color, which you know depends upon the light of the sun, filled many with astonishment by its unusual appearance; for the clouds were in some places of a light red, yellow, and brown, the leaves on the trees and the grass in the meadows were of the deepest green, verging on indigo, the brightest silver seemed tarnished, and everything that is white in the sunlight bore a deep yellow hue.

The shadows, which before noon fall to the westward and after noon to the eastward, were observed during the darkness to fall in every direction.

The rain, also, was unlike any other rain, and it set all the people to wondering as they dipped it from tubs and barrels; for a scum formed on it resembling burnt leaves, emitting a sooty smell; and this same substance was seen on streams and rivers, especially the Merrimac, where it lay four or five inches thick, for many miles along its shore.

Another peculiarity was the vapor; in many localities it descended to the earth from high in the atmosphere; but at one point a gentleman saw the vapors, at 9 o'clock, rising from the springs and lowlands; one column he particularly noticed rapidly ascending far above the highest hills, then it spread into a large white cloud and sailed off to the westward, a second cloud formed in the same way from the same springs, but did not rise as high as the first, and a third formed fifteen minutes afterward. At a quarter of ten the uppermost cloud was of a reddish hue, the second was green, indigo, and blue, and the third was almost white.

So unwholesome was this vapor that small birds were suffocated in it, and many of them were so frightened and stupefied that they flew into the houses, adding to the fears of ignorant people, who considered it a bad sign for a bird to enter a dwelling.

The commencement of the darkness was between ten and eleven in the forenoon (when the men were busy in the fields and offices and workshops, the women spinning, weaving and preparing dinner, and the children at school, or helping their fathers and mothers at home), and it continued until the middle of the following night; but the degree of darkness varied; in some places the disk of the sun was seen when the darkness was the most dense.

Lights were seen burning in all the houses, and the people passing out-of-doors carried torches and lanterns, which were curiously reflected on the overhanging clouds.

Thousands of people were sure that the end of the world had come; many dropped their work and fell on their knees to pray; others confessed to their fellows the wrongs they had done, and endeavored to make restitution.

The meeting-houses were crowded, and neighborhood prayer-meetings were formed, and the ministers and old church members prayed long prayers, mentioning the nations and individuals of Bible times who had been destroyed on account of their sins, and begging that as God spared the great city of Nineveh when it repented, so he would forgive them, cheer them again by the light of the sun, and give victory to their armies.

It is said that the Connecticut Legislature being in session, the members became terrified when they could not see one another's faces, and a motion was made to adjourn, when Mr. Davenport arose and said:—

"Mr. Speaker, it is either the day of Judgment or it is not. If it is not, there is no need of adjourning. If it is, I desire to be found doing my duty. I move that candles be brought, and that we proceed to business."

All the shivering, frightened people began now to look forward to evening, hoping that as the moon rose full at 9 o'clock, her light would penetrate the gloom; but all the children who coaxed to sit up and see her, grew very sleepy, their strained eyes were not rewarded by her beautiful beams, for at eight in the evening the darkness was total; one could not distinguish between the earth and the heavens, and it was impossible to see a hand before one's face.

Then all the weary children were sent to bed after the most honest prayers that they had ever prayed, and the older people sat up to watch for the light that never before had appeared so glorious.

And never dawned a fairer morning than the twentieth of May; for the sun that opened the flowers and mirrored itself in the dew-drops, brought the color again to the children's faces, and filled every heart with confidence.

The birds sang joyously, the cattle returned to their pastures, the places of business were opened, and every one went about his work more gentle toward man and more grateful toward God.

After the darkness was past, several persons traveled about to gather all possible information concerning this memorable day, and Dr. Tenney wrote an account of what he learned while on a journey from the East to Pennsylvania. He says the deepest darkness was in Essex County, Massachusetts, the lower part of New Hampshire, and the eastern portion of Maine (where my great-grandmother lived). In Rhode Island and Connecticut it was not so great; in New Jersey peculiar clouds were observed, but the darkness was not uncommon, and in the lower parts of Pennsylvania nothing unusual was observed.

It extended as far north as the American settlements and westward to Albany, but its exact limits could not be ascertained.

In Boston, the darkness continued fourteen or fifteen hours, varying in duration at other places.

As it was impossible to attribute the darkness to an eclipse, the wise people formed many theories respecting it; being convinced that it was due to immense fires in the woods, winds blowing in opposite directions, and to the condition of the vapors; but Herschel says: "The dark day in Northern

America was one of those wonderful phenomena of nature which will always be read with interest, but which philosophy is at a loss to explain."

THE DEVIL-FISH.

VICTOR HUGO, the great French writer, has drawn the most graphic pen-picture of this curious animal of any author. Though not quite correct in every particular, the portrait is so strikingly vivid that everybody ought to read it. He says:—

"To believe in the existence of the devil-fish, one must have seen it. Compared to it the ancient hydras were insignificant. Orpheus, Homer, and Hesiod *imagined* only the chimæra—Providence *created* the octopus. If terror was the object of its creation, it is perfection. The devil-fish has no muscular organization, no menacing cry, no breast-plate, no horn, no dart, no tail with which to hold or bruise, no cutting fins, or wings with claws, no prickles, no sword, no electric discharge, no venom, no talons, no beak (?), no teeth. It has no bones, no blood, no flesh. It is soft and flabby, . . . a skin with nothing inside of it. Its under surface is yellowish; its upper earthy. Its dusty hue can neither be imitated nor explained; it might be called a beast made of ashes which inhabits the water. Irritated, it becomes violet. It is a spider in form, a chameleon in coloration.

"Seized by this animal, you enter into the beast; the hydra incorporates itself with the man; the man is amalgamated with the hydra. You become one. The tiger can only devour you; the devil-fish *inhales* you. He draws you *to* him, *into* him; and, bound and helpless, you feel yourself slowly emptied into this frightful sac, which is a monster. To be eaten alive is more than terrible; but to be *drunk* alive is inexpressible!"

A specimen of this horrid creature was caught at New Foundland, some time since, and is now preserved in alcohol at the New York aquarium. This specimen measures forty feet; yet others have been discovered in the same locality which were much larger. The sperm whale of the North Pacific Ocean feeds upon these immense mollusks, as New York epicures feed upon clams and Baltimore oysters. When captured, these whales often have large portions of the bodies of devil-fish in their throats, or stomachs, some of which indicate the existence of species at least fifty times as large as the New Foundland variety.

In many countries a variety of the devil-fish known as the squid, is eaten as food. The members of the Greek church, who are not allowed to eat either flesh or fish during Lent, eat the squid, maintaining that it is neither. The Indians of Vancouver's Island eat them as a dainty, as do also the Chinese.

The cuttle-fish, which furnishes a bone for canary birds to pick, is another near relative of the devil-fish.

Ancient and Modern Eyesight.—A curious controversy has lately sprung up in Germany as to whether the eye in the human race has always possessed the same delicacy as at present, and whether men at all epochs have perceived colors as we now distinguish them. Dr. Magnus, an oculist, asserts that primitive man had only a confused notion of tints, and even did not recognize them at all. Thus the ancients saw only three colors in the prism, instead of the seven which exist, and the sages of the North only speak of three colors in the rainbow. The most luminous in the spectrum—those which act with most intensity on the retina—are red, orange, and yellow; blue, indigo, and violet only make a feeble impression; green occupies an intermediate rank. White, throughout the records of antiquity, only the red and yellow, so to say, are spoken of. According to Pliny, painters only employed these two colors, with black and white, to produce their finest effect. The most valued tissues were dyed solely in red and yellow. The knowledge of green does not exist either in Sanscrit literature or in Homer, who in describing the verdure of the country, used epithets relating to other colors. A savant, M. Oelger asserts that he has proved that neither in the poems of the Rig Veda nor the Aresta, the Bible, the verses of Homer, the Koran or the ancient literature of Finland and Scandinavia, is any mention of blue to be found. In fact, no word is to be traced in any of

them to designate the color. Therefore some people must have existed for whom the verdure was not green nor the skies blue. Even at this day the inhabitants of Burmah have great difficulty in distinguishing between blue and green.—*Sel.*

Old Philadelphia.—An amusing incident which has never got into print occurred at Philadelphia during the Centennial year. We were visiting the United States Mint one morning, and were looking over the curious old coins there exhibited among other curiosities. We were observing with much interest an ancient coin which was described as having been cast at the Old Philadelphia Mint more than 2,000 years ago. Just at that moment a couple of Chinese commissioners who were visiting the mint on the same morning, happened to see the same coin and inscription. Their celestial eyebrows were instantly elevated several fractions of an inch, and one of them exclaimed with much incredulity in his voice, "What! Philadelphia so old?" The gentleman in charge of the room explained that the place referred to was Philadelphia of Greece, not the American city of brotherly love, and the almond eyes grew perceptibly smaller, and the tone of voice indicated that the commissioner's faith in American veracity was again intact.

The Dream of the Alchemists Realized.—The wonders of modern chemistry surpass the wildest flights of imagination. The old alchemists wasted their lives in cellars and caves, plying the then secret arts of chemistry in the endeavor to change one metal into another, to effect what has been termed the transmutation of elements. They had an idea that there was some process by which this might be effected, so that gold and other precious metals could be produced from the baser metals, as lead and copper.

Modern scientists have laughed at the presumptuous folly of the alchemists; but now we are told that the seemingly impossible feat of transmutation has actually been accomplished by so noteworthy a scientist as Prof. J. Norman Lockyer, the renowned English astronomer and spectroscopist. According to the report, Prof. Lockyer by means of a powerful battery volatilized a small portion of copper in a glass tube, and after dissolving the deposit formed, by hydrochloric acid, found by spectroscopic examination that the copper had been changed to another metal, *calcium*. By a similar process, nickel was changed to cobalt, and other metals were made to undergo equally remarkable changes. It thus seems entirely possible that the time may speedily arrive when gold will be manufactured as well as mined; but unless some less expensive process than that employed by Mr. Lockyer can be devised, the new discovery will be of no practical value. We are now prepared for the next wonder.

Chinese Dentistry.—The native dentists of the Celestial Empire are the merest charlatans, and practice as magicians and cure-alls. They insert artificial teeth of the sea-horse, which are kept in place by copper-wire wrappings or fastenings to the adjacent teeth, and charge about three cents per tooth for the operation. Teeth are extracted by a hocus-pocus process which the dental imposter calls "coming up." The method of extracting is this: The dentist applies a white powder, represented to be the salt extracted from the sweat of the horse. Dr. Eastlack found this white powder to be nothing more or less than arsenic, which causes the gum to slough, when the tooth is easily removed by the operator's fingers.

But the Chinese method of curing the toothache was what puzzled him most, and longest defied detection. The operations, it should have been stated, are all performed in a temple or in the space in front, under a large umbrella, the idea being that religious ceremony is in some way connected with them. Toothache is caused by a maggot which gets into the tooth somehow or other while the patient is asleep, or while he is laughing immoderately. It must be removed alive or the patient will go mad. He is therefore placed on a seat and his head thrown back. The dentist inserts a long pair of forceps, and after fumbling around for a few seconds, produces between the nippers a little black maggot—the cause of the whole trouble.

Dr. Eastlack witnessed this operation repeatedly, but it was only after obtaining surreptitious possession of the forceps that he discovered the trick. He found that one arm of the forceps only was of iron; the other was of bamboo, painted to resemble the other. In the hollow of the bamboo were found a number of little black maggots, probably obtained from decayed vegetables or decomposing matter. When necessary to do service, the operator simply squeezed the bamboo above and the maggot was ejected from the small end of the instrument to the mouth, and then adroitly taken between the nippers and held up triumphantly before the gaze of the astonished and grateful patient. Dr. Eastlack could never satisfy himself on the point of the patient's relief. The operations he witnessed were dispatched with astonishing rapidity and the patients hurried away, as that part of the performance was essential to the success of the operation.—*Sel.*

Matrimony in England.—At the beginning of the present century, marriage was considered a very trivial thing in England, and was often performed in the most hasty manner possible. A place called "the Fleet" was particularly famous in this respect. Unprincipled clergymen were allowed to make a business of performing the marriage ceremony, or at least pretending to do so, making their headquarters at the saloons and taverns. One of these villains confessed that he had married thousands of persons who had only known each other half a day. He married an average of six thousand couples a year, many of whom were intoxicated at the time. Another married one hundred and seventy-three couples in a single day.

Rapidity of Thought.—By way of ascertaining just how fast we can think, experiments, with the use of several forms of apparatus, have been made by scientific men. In all the experiments the time required for a simple thought was never less than a fortieth of a second. In other words, the mind can perform not more than 2,400 simple acts a minute, 1,500 a minute being the rate for middle age. From these figures it will be seen how absurd are many popular notions in regard to the fleetness of thought, how exaggerated are the terrors of remorseful memory that moralists have invented for the moment of dying. And we may reasonably "discount" also the stories told by men saved from drowning, cut down before death by hanging, or rescued from sudden peril from other causes. No doubt a man may think of a great multitude of experiences, good or bad, in a few minutes; but that the thoughts and emotions of a long life may surge through the mind during the seconds of asphyxiation is manifestly impossible.—*Sel.*

Early Inhabitants of Japan.—Prof. E. S. Morse, the eminent American zoölogist, now a professor in Japan, has discovered traces of an early race in that country, quite different from the present inhabitants. The present race, according to Japanese history, displaced the former inhabitants and occupied the country in the first century of the Christian era. Whence the present race came, is a question not well settled among ethnologists. Some suppose them to be the descendants of the ancient Babylonians. Others suppose them to have come, originally, in company with their nearest neighbors, the Chinese, from the western part of South America. At the last meeting of the American Association for the Advancement of Science, a very intelligent young Japanese called attention to the resemblance between many Japanese and Hindoostanee words. Who is right, no one can tell.

But the special discovery of Prof. Morse concerns the predecessors of the Japanese of to-day, specimens of whose rude pottery work he represents in an illustrated article contributed to the *Popular Science Monthly*, which he found, with numerous other fragments of crockery, in a shell-heap near Tokio, which had been exposed by the excavation made through it in the construction of a railroad.

The pottery is curiously wrought and carved, and some is of such strange form that no use for it can be conjectured. The most that is at present known of these ancient people is that they were a barbarous, hairy

race, and were cannibals. The fragments of crockery are found amid great numbers of bones of deer and other animals as well as man, which have been broken to allow of the extraction of the marrow.

A Natural Tooth-Brush.—The native of Jamaica certainly ought to preserve his teeth intact for a hundred years, if there is any virtue in careful cleansing, since nature has furnished him with a natural tooth-brush as perfect as can be made by any artificial process. In that Island grows a curious vine, the stalk of which is about the size of a lead pencil. When the end of a portion of them is chewed, the strong fibers of which it is composed separate, making as perfect a brush as could be desired. The nature of the plant is such that when the teeth are rubbed with the brush prepared as described, an aromatic, saponaceous froth is produced, by which, with the rubbing, the teeth are perfectly cleansed.

This sort of dentifrice is called a "chew-stick" in Jamaica and neighboring islands, where it is much used.

Mischievous Mussels.—Of all living creatures one would least suspect the stupid clam of any proclivity to play practical jokes, or of a malicious disposition to harm other creatures without advantage to itself; but if a story told in the *American Naturalist* is true, we must no longer regard the clam and kindred mussels so innocent. It is stated that at a point on the Pamunky River in Virginia it is found impossible to raise ducks, for the reason that at low water the young ducklings are caught by the mussels and are held until drowned by the rising waters of the tide.

Mystery of a Drop of Water.—To the chemist a drop of water, though colorless and structureless, having only a form, and insignificant in size, is a most interesting study. With more than microscopic sharpness the eyes of his scientific imagination peer into its interior constitution and see there the atoms of hydrogen and oxygen, arranged in trios, and whirling in an endless waltz, each tri-atomic molecule so nicely poised that while gliding in and out among its fellow molecules no misstep ever interrupts its merry dance.

Could one of these small drops be magnified till its apparent size were equal to the earth, the atoms would no longer be invisible, but would appear as large as oranges or cannon-balls.

The force which holds together these infinitesimal motes of existence is almost incredible in amount. Most refined scientific investigations made upon this point show that the force required to tear apart the atoms in a single drop of water and convert them into their original gaseous state as oxygen and hydrogen, exceeds that necessary to cast a thunderbolt. To convert a pound of water into its constituent gases requires a force equal to that with which a rock weighing a ton would strike the ground after falling from the top of a perpendicular precipice half a mile high.

Thinking Aloud.—Prof. Hughes entertains the hope, or rather thinks it possible, that we shall one day be able to "tap the brain of its thought" by means of the microphone! He holds that all thought is accompanied by an unconscious action of the articulating organs, and that therefore it may come to pass that by a highly-sensitive microphone the articulate vibrations of the head will be made audible. Of course, the theory that unconscious articulation always accompanies thought is purely hypothetical; but in these times it is best not to pronounce anything impossible unless it clearly implies a contradiction in terms—an absurdity.—*Sel.*

Greek Fire.—The re-introduction of Greek fire into warfare—its effect, of course, increased by modern science—would not be an inappropriate, if ghastly, accompaniment of the "New Crusade." It was during the crusades of the Middle Ages that this destructive agent came into general notice; and the vaguely quaint description of the historian will be remembered. He described it as flying through the air, about the bigness of a hogshead. At a recent meeting of the Institute of Naval Architects, a paper was read suggesting that a jet of crude petroleum might be thrown upon the deck of an iron-

clad with excellent results. The crew would be so scorched and smothered by the smoke as to be forced to retire from working the guns, when a launch with a spar, or other torpedo, could approach and deliver the fatal blow. It was calculated that such a jet could be thrown 300 feet with accuracy, apparently much after the fashion in which water is directed from a hose on a conflagration, only with precisely the contrary intent. Already the necessary apparatus has been designed; and it is believed that a single gallon of petroleum would render 100 square feet of surface uninhabitable by man for some little time.—*Sel.*

Talk at Home.—Endeavor always to talk your best before your children. They hunger perpetually for new ideas. They will learn with pleasure from the lips of parents what they will deem it drudgery to study in books; and even if they have the misfortune to be deprived of many educational advantages, they will grow up intelligent if they enjoy in childhood the privilege of listening daily to the conversation of intelligent people. We sometimes see parents who are the life of every company which they enter, dull, silent, and uninteresting at home among their children. If they have not mental activity and mental stores sufficient for both, let them first use what they have for their own households. A silent home is a dull place for young people, a place from which they will escape if they can.—*Sel.*

—"At a Somersetshire agricultural meeting lately, one of the toasts was, 'The medical profession—and less need of them.'"

Evidently the farmers have not learned that the real business of the doctor is to prevent disease rather than to cure it only.

—Statistics show that fifty out of every one hundred of our insane, and sixty-five out of every one hundred paupers, became so from the use of liquor.

—The amount annually paid for strong drink is $1,000,000,000.

—Three-fourths of the murders are caused by whisky.

Novel Uses of Paper.—A visitor at the Berlin Paper Exhibition enumerates the following paper novelties on exhibition there, most of which are the work of American artisans: Masks, models of animals, a full-rigged ship, Chinese lanterns, hats, bonnets, skirts, suits of clothes, pocket handkerchiefs, *serviettes*, baths, buckets, wash-hand basins, water-cans, straps, floor cloth, carpet, urns, bronzes, flowers, window-blinds, curtains, asphalt roofing, garden-walk material, imitation coral, jewelry, belting for machinery, and a complete house with all its furniture, chairs, tables, gas chandelier, and even a stove containing a briskly burning fire, but not consuming, being composed of asbestos paper.

POPULAR SCIENCE.

—20,000 fossil insects have been dug up at the great insect bed in Colorado.

—An inventor has found a way for tanning sheep's stomachs, and they are now made into leather bags.

—There are now known 190 asteroids, or minor planets, of which Dr. Peters has discovered 30, and Prof. Watson 23.

—Gas was not used until the beginning of the present century. The electric light now threatens to displace it as an illuminator.

—Prof. Watson, and Prof. Swift of Rochester, think they have discovered four small planets between the sun and Mercury, in place of the supposed planet Vulcan.

—Two pounds of coal will generate steam sufficient to do as much work as a man can accomplish in a day; that is, it will do work equivalent to lifting 1,000,000 pounds one foot high.

—Dr. Henry Draper's announced discovery of oxygen in the sun is disputed by some scientists, while accepted by others. No other explanation has been offered, however, for the facts upon which his announcement was based.

—Wendell Phillipps is giving his lecture on the "Lost Arts" in various parts of the country this winter, and is drawing large audiences. He offers evidence of the existence of opera-glasses in the time of Nero, and of microscopes and telescopes long before their modern discovery.

—Prof. Cope advances the theory that the large cavities found in the cervical and dorsal vertebræ of some of the enormous fossil reptiles of Colorado were not filled with cartilage or other animal substance, but were air cavities, and were connected with the lungs of those monster living forms.

Locusts at Sea.—A ship was recently boarded in mid-ocean by a swarm of American locusts *en route* for Europe.

Map of the Moon.— Through the arduous labors of Dr. Schmidt of Athens, the world now has a more accurate map of the visible portions of the moon than of many parts of the earth's surface.

The Stone Age.— The period denominated by ethnologists as "the stone age" seems not to be very distinctive in character, since there are portions of the world inhabited by barbarous tribes which are in the "stone age" still. Classifications of such a character must be considered as relative rather than in any degree exact.

Alcohol in Plants.—Pasteur, the renowned French scientist, announced some time since that any plant may be made to produce alcohol by exposing its growing cells to nitrogen, or any other gas not containing oxygen. Muritz has confirmed this theory by experiments with beets, maize, geranium, cabbage, and other plants.

Coal.—This useful product was first used as a fuel 300 B. C.; but it is only in the present century that it has become of great importance on account of its combustible properties. The amount now annually produced by this country and England, the two great coal-producing countries, if piled up in a regular wall ten feet thick and fifty feet high, would extend across the Atlantic and connect the two continents.

Ant Live-Stock Culture.—The industry and sagacity of the ant has long been proverbial. Some time since, a gentleman discovered in Texas a variety of agricultural ants that actually cultivate a seed-producing grass, and harvest an annual crop of grain. They were seen to carefully tend their food plants, pulling up other kinds of grass and weeds.

It has also been observed that some species of ants make friends with the aphides, a species of plant-lice, and carefully rear and tend them for the purpose of securing a little drop of honey-like substance, which the aphide emits at the solicitation of its sugar-loving little master. It has recently been discovered that the aphide is not the only creature employed in this way, the larvæ of the blue butterfly being employed in a similar manner, the ant using the larva as a cow, and almost literally milking the tiny drops of nectar from a peculiar protuberance on the eleventh segment of the creature's body.

Sugar in Flowers.—Prof. Wilson, the great English botanist, has presented to the British Association some curious facts concerning the amount of sugar in flowers. According to his observations it requires 500 florets of clover to produce a single grain of sugar. There are about 60 florets in a head of clover, consequently it would require nearly 60,000 heads to produce a pound of sugar, or about 3,600,000 florets. Honey is about three-quarters sugar; hence, to produce a pound of honey would require 2,700,000 florets. These figures give a faint idea of the enormous labor performed by the industrious honey bee in producing the large quantities of this sweet commodity which every year finds its way into the markets of the country.

Another curious fact observed by Prof. Wilson is that the clover florets only secrete honey when its anthers are opening, evidently as an attraction for the insects by whose visits alone its flowers can be fertilized, and seed produced.

GOOD HEALTH.

BATTLE CREEK, MICH., JANUARY, 1879.

J. H. KELLOGG, M. D., EDITOR. TERMS, $1.00 A YEAR.

GOOD HEALTH.

No commodity, no matter how rare, how desirable or how useful, is in better demand than *good health.* Men leave their homes, their friends, with all the comforts and pleasures of home and its associations, and travel far and long in quest of health. They visit foreign climes, and face the numberless dangers of sea and land incident to travel, and then at last, perchance, lie down to die away from friends and kindred, strangers in a foreign land. Men spend the hoarded treasures of a lifetime for that one comfort, health. Gladly they part with all the riches they possess to feel again though but a feeble trace of youthful buoyancy and strength. Good health is certainly in good demand.

No name could be more strikingly appropriate for such a journal as this purports to be than that which we have chosen for a second christening, "GOOD HEALTH." As everybody wants good health, the journal must be popular. If we do not in this journal actually supply the precious boon itself, we hope to tell the way to find it, and once gained, hope to teach our patrons how to keep it. This is our work, and during the coming year, whose work has just begun, more earnest than ever shall our efforts be to work efficiently and well. We shall try to inculcate the principles of hygiene, in all the departments of life, in language comprehensible to all who may be interested in the subject. Especial attention will be devoted to those branches of hygiene which are of practical importance in every household. In addition, we shall give our readers every month a choice selection of general literature, and condensed scientific items representing the most recent advances in the scientific world. A farm and household department, with condensed news and miscellaneous items of interest, will add to the value of the journal as a family magazine.

We feel sure that every one of our old patrons will want GOOD HEALTH for 1879; and we hope that we shall have our present patronage increased by several thousand within the next few weeks.

SHALL WE EAT THE SCAVENGER?

THE suspicion is of late years becoming quite prevalent that the hog is an animal totally unfit for human food. Whatever may be said of animal food in general as the natural diet of man, swine's flesh may well be rejected as neither a natural nor a proper article of diet for human beings under any circumstances except those of extreme necessity and in the absence of better food.

A rule to which there is no exception unless it be in the case of the hog—we believe there is none—requires the rejection of all animals as food which themselves subsist upon flesh. Carnivorous animals, as dogs, cats, wolves, lions, etc., are never eaten unless necessity compels the sacrifice of taste to hunger. The principal reason of this, undoubtedly, is the fact that the flesh of carnivorous animals is unpalatable. It has also been observed that the flesh of vegetable-eating animals, like the ox, sheep, etc., becomes equally unpalatable when those animals subsist upon animal food, as they may be trained to do, and as they will do when deprived of their natural food. This interesting fact is evidence that the employment of animal food is deteriorating in quality to the flesh of animals.

It is a well-known fact that hogs are not at all notional about their dietary. They have not infrequently been known to kill and

devour small children who came within their reach. They are not in the least particular about the state of their food. It may be very filthy; but they do not mind the dirt. It may be foul with putrefaction; but their taste is not at all disturbed by the vile odors. If a dead rat, cat, or other dead animal comes within their reach, they seize it and devour it as a dainty morsel. They will even rend and eat one of their own kind which becomes weakened by disease. In this way a whole herd of hogs has been infected with trichinæ, one of the number dying of trichinosis and being eaten by the rest.

A Missouri correspondent sends us an account of an occurrence which happened in his neighborhood recently. It seems that a man was killed, whether by intent or by accident we are not informed. He was found by hogs before seen by men, and was by them mangled and eaten beyond recognition. Our correspondent calls attention in this connection to the repulsively significant fact that all flesh is composed of what is eaten by the animal; and further suggests that it would be just as well to eat a man at first as at second hand. Certainly it cannot be supposed that human flesh would be in any degree improved by passing through the filthy body of a hog. We do not wish to be understood as advocating cannibalism; but rather as deprecating pork-eating.

If it be asked, What shall we do with the hog, if we do not use him for food? our reply would be, "Let the scavenger rot, rather than eat him."

HEREDITARY EFFECTS OF ALCOHOL.

RESPECTING their opinions of alcohol, there are distinctly two classes of physicians. One class regards it as one of the most important and almost indispensable of remedies; while the other regards it as a powerful drug to be used only with the greatest caution, and avoided whenever it can be.

To the latter class belongs Dr. Willard Parker, one of the most noted surgeons of New York City, who is the author of the following excellent paragraphs on the hereditary effects of alcohol:—

"The hereditary influence of alcohol manifests itself in various ways. It transmits an appetite for strong drink to children, and these are likely to have that form of drunkenness which may be termed paroxysmal; that is, they will go for a considerable period without indulging, placing restraints upon themselves, but at last all the barriers of self-control give way; they yield to the irresistible appetite, and then their indulgence is extreme. The drunkard by inheritance is a more helpless slave than his progenitor, and the children that he begets are more helpless still, unless on the mother's side there is engrafted upon them untainted stock. But its hereditary influence is not confined to the propagation of drunkards. It produces insanity, idiocy, epilepsy, and other affections of the brain and nervous system, not only in the transgressor himself, but in his children, and these will transmit predisposition to any of these diseases.

"Pritchard and Esquirol, two great authorities upon the subject, attribute half of the cases of insanity in England to the use of alcohol. Dr. Benjamin Rush believed that one-third of the cases of insanity in this country were caused by intemperance, and this was long before its hereditary potency was adequately appreciated. Dr. S. G. Howe attributed one-half of the cases of idiocy in the State of Massachusetts to intemperance, and he is sustained in his opinion by the most reliable authorities. Dr. Howe states that there were seven idiots in one family where both parents were drunkards. One-half of the idiots in England are of drunken parentage, and the same is true of Sweden, and probably of most European countries. It is said that in St. Petersburg most of the idiots come from drunken parents.

"When alcoholism does not produce insanity, idiocy, or epilepsy, it weakens the conscience, impairs the will, and makes the individual the creature of impulse and not of reason. Dr. Carpenter regards it as more potent in weakening the will and arousing the more violent passions than any other agent, and thinks it not improbable that the habitual use of alcoholic beverages, which are produced in such great quantities in civilized countries, has been one great cause of the hereditary tendency to insanity."

FRESH AND STALE BREAD.

EVERY dyspeptic knows that new bread is not easy of digestion. The reason why has not been clearly stated heretofore by any scientific authority; but recently, the celebrated French chemist, Boussingault, has concluded a series of experiments which show beyond question that one of the great reasons for the indigestibility of new bread is not its newness, but its temperature. This he proved by placing bread which had been baked six days previous and dried during the whole interval, in the oven again, when it reacquired all its original properties.

The process of baking produces various mucilaginous substances which, if eaten when warm, form a pasty mass which in the stomach is formed into small compact masses which are impenetrable by the gastric juice. These portions of food remain in the stomach undigested, and occasion all the inconvenience and irritation which would result from the presence of other foreign bodies in the stomach. The results may be pain in the chest and stomach, disturbance of the circulation, cerebral congestion and pain in the head, irritation and even inflammation of the membranes of the brain, attacks of apoplexy, and even cramp and delirium.

ARE SHADE-TREES HEALTHFUL?

A WRITER in the London *Lancet* takes the ground that the general custom of planting shade-trees in the streets and lanes of cities is to be deprecated, since it undoubtedly interferes with the free circulation of air. It might be supposed that trees would aid in purifying the air by freeing it from carbon di-oxide, with which it becomes contaminated by the respiration of animals, the combustion of wood and coal, and vegetable and animal decomposition; but a moment's consideration will be sufficient to convince any one that for such a purpose the few trees which could be made to grow along the sides of narrow streets would be wholly insufficient. A few of the great furnaces in our cities would supply a whole forest with carbon di-oxide.

More than this, in all cities there are produced in large quantities numerous gases which are alike injurious to animal and vegetable life. Trees would certainly be no help in this regard.

Again, tall trees, with dense foliage, cast a shade upon the houses, and so prevent the entrance of sunshine into dwellings, thus depriving the inmates of one of the most potent of all disinfectants, and the most effective of tonics.

Furthermore, it is evident that a large number of trees in a city with narrow streets will very seriously obstruct the free circulation of air. The gentle summer breeze, as well as the stronger winds of fall and winter, is kept above the houses by the numerous obstructions, so that the city is not well ventilated. Town and city ventilation is a matter of as much importance as house ventilation. It is, indeed, of greater importance, since house ventilation is useless unless the outside air is free from contamination.

Cities located in a tropical or semi-tropical climate, should have wide streets; then they may also enjoy the luxury of shaded walks during the heat of summer.

The objections urged against trees planted along the sides of streets does not, of course, apply to trees in parks. The more parks filled with trees and other forms of vegetation a city can have, the better.

Chemical Causes of Disease.—The occurrence of chemical causes of disease in the shape of mineral poisons of various sorts is becoming daily more frequent. The effects of these poisons, which often operate insidiously and unobserved, are such as to be a just cause for alarm. "It has been determined that a great many mysterious cases of illness, among physically weak persons especially, are due to the diffusion of carbonate of lead, common white paint, and of the arsenical or antimonial coloring matter of paint and wall-paper in the atmosphere. Dress stuffs are often charged with poison. Even green venetian blinds have been found to send clouds of arsenical dust into a house when the paint on them is dry and when they are thrown up violently."

It has been found by a careful medical examination that "certain cases of what had been taken for chorea were really *paralysis*

agitans, which could be traced to this kind of lead poisoning. Other cases have been brought to light in which children have died of meningitis, fits and paralytic affections, caused by milk kept in such vessels, the acid in the fluid having dissolved the lead. Malic, citric, and other fruit acids are of course quicker and more energetic in their action upon the pernicious alloy. The danger is the greater, because the lead salts are cumulative poisons. The effect of one or two doses may not be perceptible, but infinitesimal doses, constantly repeated, will in the end prove injurious, if not fatal. Analysis of a large number of specimens of tin plate used in culinary utensils showed the presence of an alloy with lead in almost every instance, and often in large quantities. It is safe to assert that a large proportion of the tinned wares in the market are unfit for use on this account."

Dr. Kedzie has called attention to the fact "that a peculiar kind of tin plate, the coating of which is largely made up of lead, is coming into general use for roofing, eave troughs, and conductors; and it is suggested that much of this lead will be dissolved and find its way into household cisterns. Susceptible persons may be poisoned by washing in the lead-charged water, and all who drink it, even after it is filtered, are in danger of chronic lead poisoning. There is also risk in the use of glazed earthen vessels, if, as is often the case, the glazing contains oxide of lead."

The Home of Cholera.—Evidence has been accumulating for years that cholera originates in India. When the habits of the lower classes of the people there are understood, this will not be wondered at. The warm climate, together with the abundance of vegetable and animal life, favors the production of filth, and sanitary measures are altogether neglected. An example of this fact is seen in the invasion by cholera of a small town in the presidency of Madras. More than half the population suffered with the disease, and two-thirds of those who had the disease died of its effects. A messenger who was sent to render assistance to the stricken village "found the natives washing the clothes of the cholera patients in a large well that supplied drinking water for the town. Examples of this sort are constantly occurring. Ignorance slays many more than disease does in every part of the East."

Poisoning by Burning Gas.—Though we have often called the attention of our readers to the evil effects of illuminating gas, yet the facts are so well set forth in the following paragraphs from the *London Lancet* that we cannot forbear presenting them:—

"To have our rooms pleasantly illuminated with gas is to undergo a process of poisoning, the more disastrous because, instead of directly producing the characteristic symptoms of defective blood-oxygenation, the gas polluted atmosphere insidiously lowers the tone of vitality, and establishes a condition favorable to disease. It would be difficult to overrate the importance of this household peril. Pictures are spoiled by gas, gilt moldings are tarnished, the colors of decorated walls and ceilings fade, and men and women of delicate organization are enfeebled and injured by the foul air in which gas is discharged and supposed to burn innocuously.

"The extent to which this evil works in the midst of families, during the long evenings, is not adequately appreciated. After the first few unpleasant experiences are over, the physical insensibility becomes inured to the immediate results of breathing an atmosphere charged, more or less heavily, with the products of combustion and unconsumed coal gas. It is not creditable to the ingenuity of practical men that no method has yet been devised by which the advantages of gas as an illuminating agent may be secured without the drawback of slow poisoning, with the host of maladies a depressed vitality is sure to bring in its train."

Pare the Apples.—Many people have the habit of eating apples and other fruits without removing the outer skin. Sometimes this is done with the idea that this is the more healthful way. This is certainly an error. The outer covering of most fruits is of a woody, indigestible nature, and hence of no use as an aliment. In many cases it is a

mechanical irritant, if not injurious in any other way. But it can be shown that the eating of the skins of fruits, especially of apples, is often decidedly dangerous. Dr. Tschamer, of Graz, has discovered that the black specks which are often seen on apples and oranges are clusters of fungous growths. They are of a character similar to those which give rise to diphtheria. Dr. T. scraped from an orange some of these black specks and inhaled them. In the course of a week the unpleasant symptoms first experienced had developed into genuine whooping-cough, which led him to believe that this is one of the causes of that disease. Whether the conclusion be correct or not, it is pretty certain that fungi ought not to be eaten, and so fruit skins should be discarded.

Beer or What?—With thousands of others we read with deepest regret the recent announcement of the death of Bayard Taylor, the world-renowned author, recently appointed foreign minister of the United States to Germany. Mr. Taylor was to his immediate acquaintances as famous for the prodigious quantities of lager beer which he consumed as for his brilliant literary productions. We wondered, as we read the announcement of his death, if there was any connection between that event and the fact announced but a few weeks ago that just previous to Mr. Taylor's recent departure for Europe he boasted of having drunk a hundred glasses of lager in a single day. The cause of death was not mentioned in the announcement; but we strongly suspect that beer was at the bottom of it.

Orange Peel a Poison.—The habit of chewing orange and lemon peel is a very bad one which is much to be deprecated. The little follicles contained in the rind of the orange and the lemon contain a poisonous acid of a very irritating character, as is evidenced by the sensation produced in the eye when a drop is projected into it by the bursting of one of these follicles. The slight headache which often follows the eating of orange or lemon peel is doubtless due to the effects of this poison.

Leprosy in California.—For some time it has been asserted that the horrible disease known as leprosy was becoming not rare in San Francisco, Cal. Dr. O'Daniell of that city, making an assertion to that effect not long since, was disputed. To prove the truth of his assertion he loaded a wagon with lepers and exhibited them in the streets. Upon being arrested and taken before a justice, he declared that he could fill the court-room in two hours. He was not allowed to do it, however, but was promptly discharged.

Yellow Fever.—The terrible epidemic which has devastated a portion of the South during the present season is not a new nor a strange malady to Southern cities in this and other countries. The earliest record of the disease is found in a "History of Barbadoes." The historian states that the disease broke out in that city "early in September, 1647, and that before the expiration of a month 'the living were scarcely able to bury the dead.' Thereafter it did not attain any very remarkable severity until 1793, when it destroyed no less than 6,000 men of the garrison of Port Royal in the course of a few months. In 1804 it was brought to the south of Spain, and visited Cadiz, Malaga, and Carthagena. But its greatest force fell upon Gibraltar, where out of the civil population of the town, amounting to nearly 14,000 persons, only twenty-eight escaped attack."

A New Condiment.—One of the most mischievous tendencies of modern cookery is toward the perversion of the natural simplicity of taste by the injurious admixture of condiments. Salt, pepper, vinegar, mustard, ginger, spice, flavoring extracts (chemical abominations), are only a few of the articles thus employed. Even asafœtida, a drug sufficiently disgusting, we would suppose, to prevent its use as such, in some parts of the world forms a very essential part of the most approved *cuisine*.

The latest novelty is the use of the rose for the same purpose. This custom originates in Egypt, in ancient Alexandria. The new condiment has the advantage of being less harmful than many others, at least.

Sulphuric Acid in the Air.—One of the great objections to the use of coal is its contamination of the air. This is much greater with coal than with wood. This fact seems to have been recognized as long ago as the first introduction of this kind of fuel into England. The outcry against its use at that time was so great that a royal edict was issued making its use a capital offense. It is said, indeed, that a man was actually executed for using coal in violation of the law.

The great injury from the use of coal arises from the sulphur which it contains. By the process of burning, this is converted into sulphuric acid. It is stated by good authority that the coal annually burned in England sends into the air by its combustion 3,500,000 tons of sulphuric acid. It is needless to explain to any one familiar with this terribly corrosive acid the exceedingly injurious effects of such a powerful chemical substance upon both animals and vegetables.

Parasitic Cause of Influenza.—Dr. J. H. Salisbury, of Cleveland, Ohio, who has already attained notority as the claimant of the discovery of the germ source of malarial diseases, now becomes again prominent in medical literature through his alleged discovery of a peculiar microscopic organism always present in the acute catarrhal attacks usually called influenza or catarrhal fever. This peculiar little creature the doctor believes to be the cause of diseases of this class, including cases in which whooping-cough occurs a second time.

Dr. Salisbury claims to have examined and treated more than 1,000 cases of this form of disease, to which he has given the name "infusorial catarrh." Most of these cases are usually considered as colds. The disease begins in the nostrils, being accompanied by great irritation of the nasal cavity and also of the eyes. It extends downward to the throat, and finally into the lungs, inducing violent cough, and even asthmatic attacks.

Dr. Salisbury employs as appropriate remedies for these cases such agents as are well known to be destructive to infusorial life. A saturated solution of salicylic acid with borax is an excellent local remedy. It may be used as a gargle, diluted as a nasal douche, or inhaled as a spray.

The air is more or less filled with germs of these minute parasites, and drinking water often contains them in abundance, especially such as are contaminated by even a trace of organic matter, so that the cause of these affections is sufficiently common to account for their frequency.

Turkish Cleanliness.—Americans can learn two wholesome lessons from the Turk. First, a Mussulman never drinks whisky; second, he keeps his skin clean. These excellent habits are required by his religion; and there is no reason why they should not be considered an essential part of any man's religion. They really are a part of genuine religion, whether mentioned in the church creed or not. The Bible enjoins both as religious duties. There is a terrible amount of sinning in these two directions in this country; and it may never be known how much crime and misery are due, directly or indirectly, to whisky and dirty skins.

The Turk is required to wash not only his head, face, neck, ears, and feet, but also his teeth, at each of the five daily calls to prayer.

Left-Handedness.—It is not generally known that left-handedness is due to the fact that in persons possessing that peculiarity, the right side of the brain takes the lead in controlling the activities of the body. When once begun in a family, it is quite likely to continue through the influence of heredity. By early training, children might become ambidextrous, when this peculiarity would disappear.

Sensible Monks.—According to the *Sanitarian*, the Buddhist monks, who spend their lives in rigorously conforming to absurd religious requirements which make them the poorest people in the world, "religiously restrict their worldly possessions to eight things: One *water-filter;* one dish to hold the food they beg; one razor; one belt; three articles of clothing, and one needle with which to mend their clothes. They are said to be singularly exempt from filth diseases."

Purification of the Blood.—The various periodicals of the day are becoming more and more attentive to the subject of health, and while many paragraphs appear which are as opposed to health as to common sense, yet now and then we are delighted to find a paragraph which we can heartily indorse, and which commends itself to the good sense of every one. Of such a character is the following from the *Watchman*:—

"The most important means of purifying the blood—whatever venders of 'purifiers' may say—are the free use of pure air, a clean skin, a sound liver, active kidneys, exercise, and getting the system into its natural state. One may purify the blood more in a single day while breathing pure air than by taking sarsaparilla for a month. More of effete matter is thrown off by exercise and perspiration, in one day—more than one-half of all taken into the stomach, solid and liquid—than by a year's dosing with some of the nostrums of the groceries. A free use of fruits will stimulate the liver to filter out more waste or 'bile' than some suppose; while good, plain and wholesome food will make good blood, the old and worn-out materials pass off by the means referred to, soon leaving the body in a good state. Pure air and water for cleansing are cheaper than the 'patent blood purifiers,' and will effect far more."

Medical Value of Soap.—The scientific investigation of Prof. Tyndall on air-dust, spores, fever germs, etc., has been of great value to sanitary science. They demonstrate the value of cleanliness as a preventive of disease. In a recent lecture reported by the Philadelphia *Press*, Dr. Richardson called attention to this fact, and remarked as follows:—

"It is worth while for common people to learn that 50,000 typhus germs will thrive in the circumference of a pin head or a visible globule. It is worth while for them to note that these germs may be desiccated and be borne, like thistle seeds, everywhere, and, like demoniacal possessions, may jump noiselessly down any throat. But there are certain things spores cannot stand, according to the latest ascertained results of science. Soap chemically poisons them. Here sanitary and microscopic science come together. Spores thrive in low ground and under low conditions of life. For redemption, fly to hot water and soap, ye who live in danger of malarial poisoning. Hot water is sanitary. Soap is more sanitary. Fight typhus, smallpox, yellow fever, and ague with soap. Soap is a board of health."

A Sporting Doctor.—During the time of Charles II. a certain Dr. Cardogan who was very fond of shooting was thus satirized by a waggish acquaintance:—

"Doctor, all game you either ought to shun,
Or sport no longer with the unsteady gun;
But, like physicians of undoubted skill,
Gladly attempt what never fails to kill—
Not *lead*'s uncertain dross, but physic's deadly pill."

Origin of Yellow Fever.—The Yellow Fever Commission reported in favor of the idea that the disease did not originate in this country; but many persons are of a different opinion. Last September a prominent New Orleans journal declared that the disease originated in a part of the city where "four thousand loads of kitchen garbage, which had been hauled to the dumping grounds by the city carts, had been brought back by the contractors and used to fill up the streets."

The Mayor of the city appointed a committee to investigate the matter, who reported that the horribly offensive condition of the filled-in portion of the city from the cause mentioned is such that "if the fearful pestilence did not originate there, it was largely fed by the evils made known, until the material was exhausted, when the roll of death added new victims to the feast."

The Medical Ice-Hat.—We quote with pleasure the following from the *Scientific American*, a journal which has a wide reputation for its promptness in keeping pace with the most recent advances in all departments of science and art:—

"Mr. Spencer Wells, in his lecture on the diagnosis and treatment of abdominal tumors, states that, as a means of lowering temperature in cases when it has risen after ovari-

otomy, he has tried aconite in small doses, quinine in large doses, salicylic acid in the form of salicylate of soda, in fact almost every medicine that has been suggested as effecting this purpose, but all these trials have ended in disappointment. He has, however, succeeded distinctly in lowering temperature, and in keeping it low, by the application of ice or iced water to the head. The first trials were made after a suggestion of Dr. Richardson, by putting an ice-bag round the neck. Dr. Richardson believed that by icing blood that went through the carotids to the brain, and blood that came back through the jugulars, we should directly lower the temperature of the brain itself; and probably it may have been done experimentally, but in practice it was not found easy to do. It was difficult to keep any kind of cravat or collar that was tried, filled with ice, round the neck of the patient; it slipped off, and the old India-rubber bag or ice helmet, so well known in lunatic asylums, had to be resorted to. After a time Mr. Thornton combined a particular form of cap which answers the purpose extremely well.

"A pail of water with a large lump of ice in it is placed above the bed of the patient, and the stream of iced water runs through the cap, which is formed of a coil of India-rubber tubing covered with linen. This is placed upon the patient's head, and it is made of different sizes and shapes to fit the patient. The other extremity of the tube is put into a second pail at the side of the bed, and by this means the head is iced. The effect in lowering temperature is very marked, the thermometer in almost all instances indicating a fall of temperature within an hour. If the temperature be rising, it is checked; and if very high, it can be lowered, and so time is gained for the recovery of the patient."

A Strange Accident.—At a recent meeting of medical gentlemen in New York, a physician presented the entire scalp of a young woman which was torn off by a revolving shaft in an oleomargarine factory. The accident was so sudden that the young lady was unaware of the occurrence until she felt a sensation of coldness at the top of the head. Upon placing her hand upon the spot, she discovered her loss. The scalp is to be tanned, and will be worn as a wig, so that the lady will wear only her natural hair, if not in the natural way.

The wound made by a similar accident several years ago, in the case of another young lady, was healed in four years by the use of twelve thousand skin-grafts.

Chemistry and Health.—Chemistry is daily becoming of greater practical importance as an auxiliary to hygiene. Chemistry furnishes our most valuable disinfectants, and teaches their use. The subject of chemistry is now so simplified, and chemical apparatus is furnished so cheaply, that it ought to be taught more extensively in our schools. Especial attention should be given to the practical part of the subject.

Adulterations of all sorts are now so numerous that one's life is endangered in many ways, and often when danger is least suspected. So common are these dangers, in food, clothing, candies, wall-papers, window curtains, cooking utensils, etc., every individual ought to be sufficiently a chemist to be able to detect these dangers and take the necessary precautions to avoid them.

A Chinese Dainty.—One of the articles shipped from India to China is salted rats, which are, as is very well known, highly appreciated by the Celestials as an article of food. We would suggest that China would be a good market for the San Francisco manufacturer of cat sausages, recently fined for cruelty to animals because he cut off the tails of his feline victims before he ground them up.

—Physicians' wives are usually their severest critics. "A lazy physician, who had been out hunting, on coming home complained that his luck had been very bad, and wound up by saying, 'I didn't kill anything.' 'That's because you didn't stay at home and attend to your legitimate business,' spitefully retorted his wife."

—Avoid colds. A cold is much more easily avoided than cured.

FARM AND HOUSEHOLD.

Devoted to Brief Hints for the Management of the Farm and Household.

Wall Wash.—A very excellent one is composed of a solution of soap in alcohol. May be applied with a brush. It may be colored with aniline colors or yellow ochre.

Lightning Protection.—Tall trees near a house or barn are good protectors from lightning. A tall poplar tree is as good as any lightning-rod, being a good conductor of electricity.

Water-Proof Cloth.—Cloth which is water-proof and air-proof can be made by compressing between hot rollers two sheets of muslin, between which is placed a smooth sheet of gutta-percha paper.

To Prevent Chapped Hands.—Chapping of the hands, which is one of the most disagreeable inconveniencies of cold weather can be easily prevented by rubbing the hands with powdered starch.

Poison Vinegar.—According to a scientific journal, "half the vinegar now sold is rank poison; and a Massachusetts chemist states that out of twelve jars of pickles, put up by different wholesale dealers, he found copper in ten of them."

Preservation of Wood.—A French railroad engineer recommends lime as a preservative of wood. In practice, he digs a large hole in the ground, in which he places the wood to be prepared, and covers it with freshly burnt lime, which is slowly slaked by the addition of water. About eight days are required to fully complete the process. The wood becomes so hard that it has been used for hammers in factories.

Economy of Fuel.—Our present modes of using fuel are generally understood to be exceedingly wasteful. In making steam for manufacturing and other purposes, where a powerful draft is required, less than one-tenth of the heat generated by the burning of the coal is utilized. In cooking, the draft required is less, and so there is less waste; but there is no doubt that under ordinary circumstances four or five times as much heat goes up the chimney as is used. A great saving can be made even with ordinary appliances, if the cook will keep careful watch of the damper. Many times, the reason why "the oven will not bake" is that the draft is too strong. After the fire is going well, the damper may be turned so as to delay the escape of the heated gases, and thus much heat may be saved.

Count Rumford declared that a dinner for 1,000 persons could be cooked with ten cents' worth of fuel, a statement which people were slow in believing, but a Frenchman has recently invented a cooking apparatus by which five cents' worth of coke can be made to cook a meal for 1,500 persons.

Ventilation of Closets and Cupboards.—A writer in the *Carpenter and Builder* calls attention to the importance of thorough ventilation of closets and cupboards, which are usually neglected even in houses which are the most perfectly ventilated in all other parts. Closets which contain soiled garments, and cupboards which receive bread, cakes, pies, fruits, sauces, perhaps fresh or dried meats and cold victuals, furnish choice locations for the development of mold and germs of all sorts. It is no wonder that such a place has an unpleasant odor, and that food placed in it quickly becomes tainted. Garments placed in these unventilated closets, if the season is at all damp, are very likely to mildew. Indeed, on account of the condensation of moisture on the interior walls, these unventilated places are certain to be damp, and so mold and mildew are sure to develop.

A ventilating flue connected with the main shaft by which the house is ventilated, or running to the garret, should be placed in connection with every closet and cupboard in the house.

A Simple Test for Foul Water.— Dr. Kedzie, the distinguished professor of chemistry, of the State Agricultural College at Lansing, Mich., suggests the following simple plan of detecting organic impurities in water :—

"The delicacy of the sense of smell and of taste varies greatly in different individuals; one person may fail to detect the foul condition of a given water, which would be very evident to a person of a finer organization. But if the cause of a bad smell or taste exists in the water, the injurious effects on health will remain the same whether recognized or not. Moreover some waters of very dangerous quality will fail to give any indication by smell or taste. Heisch's test for sewage contamination or the presence of putrescible organic matter is so simple that any one can use it. Fill a clean pint bottle three-fourths full with the water to be tested, and dissolve in water half a teaspoonful of the purest sugar—loaf or granulated sugar will answer—cork the bottle and place it in a warm place for two days. If in 24 to 48 hours the water becomes cloudy or milky, it is unfit for domestic use. If it remains perfectly clear, it is probably safe to use."

PRACTICAL RECIPES.

Furniture Polish.—Put three gills of cold drawn linseed oil into a quart bottle with sixteen drachms of aquafortis, and fill up with vinegar. This mixture is invaluable for furniture that has been French polished, but is getting the worse for use, or, it may be, abuse; and also when wood, having been only partially seasoned, the resin rises up through the polish, causing unsightly cracks and spots. This the aquafortis in the mixture eats down, and restores the work to something of its original brightness. To use it, first wash the furniture thoroughly clean with a sponge and lukewarm water, shake the bottle well and rub on the polish, being careful to use only very clean cloths. Old rags do best, as they will not wash after being used with this mixture, and are only fit to be thrown away. For furniture that has never been French polished, nothing is better than the old-fashioned beeswax and turpentine melted together by a gentle heat, and applied with plenty of elbow-grease.

Polish for Patent-Leather.—The following is given by the London *Chemist and Druggist:* Whites of two eggs; one tablespoonful of spirits of wine; two large lumps of sugar; finely powdered ivory-black, as much as may be sufficient to produce the necessary blackness and consistence. To be laid on with a soft sponge lightly, and afterward gently rubbed with a soft cloth.

To Polish Steel.—Mix half a pound of fine emery powder with the same quantity of soft soap, and add a small piece of soda. Simmer this over a slow fire for two hours, to extract all the moisture. Rub on with flannel, and finish with plenty of dry whiting.—*Journal of Chemistry.*

To Make Cleaning Easy.—An exchange offers the following good hints to housekeepers :—

The pantry shelves are getting grimy, or finger-marks around the door-latches are looking dark and unsightly. For lack of time they are left day after day, for it is hard work to scour all the time, and it wears off the paint, too. The husband keeps his bottle of oil, or perhaps a large can holds it, for he never stints in that. Now suppose his wife had her bottle of spirits of ammonia to use; she takes her basin of water and clean cloth, just puts on a few drops of the fluid and wipes off all the dirt; it is worth more than half a day's labor, and does not hurt the paint either. She could put a few drops in her dish-water and see how easily her dishes could be cleaned; a few drops on a sponge would clean all the windows in the sitting-room, making them shine like crystal. It would take the stains off the teaspoons, and a teaspoonful in the mop pail would do more toward washing up the kitchen floor than ten pounds of elbow grease applied to the mop handle. A housewife has just as much right to make her work easy and expeditious as her husband has. If she does not, the fault is her own in a great measure.

—What we wish to do, we think we can do; but when we do not wish to do a thing, it becomes impossible.

NEWS AND MISCELLANY.

—England has 2,759 periodicals.

—It is proposed to hold a world's fair at New York in 1889.

—The city of Marseilles has issued a general amnesty to all communists.

—More carpets are made in Philadelphia than in any other city in the world.

—The hereditary protector of Juggernaut has been arrested and thrown into prison, and the famous car of the idol is for sale.

—The shakers claim to have been the inventors of metal pens, and to have first made them of brass in 1816.

—$2,904.000 was the price paid to Portugal by Great Britain for a little inlet of the Indian Ocean in South-eastern Africa.

—In a mound recently opened in Florida, the ashes of a cremated body were found in the skull, which was thus utilized as an urn.

—An Irish lady living at Flushing, Long Island, is over one hundred and nine years of age, and is as hale and hearty as ever.

—A single draft for $5,500,000 was paid over to the British Government by the United States Minister, being the amount of the Halifax fisheries award.

—A gentleman in Pennsylvania has a coin which has been pronounced by antiquarians to be a shekel which was current coin B. C. 335.

—The United States appears, by the statistics of mortality in various countries, to be the healthiest country in the world.

—Cannon were first used in 1338, stone balls being employed as missiles. Eastern nations used stone balls until the beginning of the present century.

—An English gentleman is raising a crop of peas from seed taken from the folds of an Egyptian mummy, where they had lain for 3,000 years.

—The gross earnings of the railroads of the United States was $24,000,000 less for 1877 than for any previous year since 1862.

—An exchange says that a thousand different industries are involved in the production of a loaf of bread.

—A Chinese astrologer predicts that in fifty years San Francisco will be a Mongolian city under the name of "Choo Kiang," and ruled by a prince of the dynasty of China.

—The only mine of graphite in this country is at Ticonderoga, N. Y. There is a great demand for this kind of material, not only for lead pencils, but for electrotyping, for stove-blacking, and for a number of other purposes.

—Englishmen are rivaling Yankees in their sharpness in speculation. A couple of Londoners have sold several tons of rock as fragments of Cleopatra's needle, yet that wonderful monument is still unbroken.

—One of the advantages of being raised in Russia is the certainty of having a good trade. Every young man, no matter what his station in life may be, must become independent by learning how to gain a livelihood with his own hands.

—The commissioner of agriculture has ordered a large number of shoots of the bamboo plant from Japan, for the purpose of introducing the plant into this country. He is confident it can be successfully grown here.

—The United States sent out an entomological commission this year to investigate the Rocky Mountain locust and other insect pests in the far West, which reports that there will be no general invasion of the Western States and Territories during 1879.

—The Ameer of Afghanistan repulsed an English envoy whose visit had been notified, and a war between the two countries is imminent. At the same time a Russian embassy was formally received, which action tends to increase hostility between Great Britain and Russia.

—The Oxford institutions of learning are now talking of admitting women to all the advantages there offered. Just one hundred years ago a woman was taken down to the market place of that enlightened city, by her husband, with a rope tied about her waist, and sold to another man for a few shillings.

—A solid or cubic inch of gold weighs 10.15 ounces troy, and is worth $209.84. A cubic foot of fine gold is worth $362,600. United States coin is nine-tenths fine. A cubic inch of this in gold weighs a little more than nine ounces troy, and is worth $169.28; a cubic foot of this standard gold is worth $292,500.

—During the recent war Russia was able for the first time to do without the aid of foreign surgeons. During the Crimean war the military authorities had been imposed upon sadly by scores of quacks with bogus diplomas from Germany or America, some of whom would not touch the sick or wounded with anything but a walking stick as they strolled through the hospital.

—The Paris Exposition, opened last May, finally closed on Nov. 10. The total receipts were 12,653,746 francs, about $2,530,749. The marked superiority of American to foreign manufactures was confessed by all visitors. In one instance an Austrian manufacturer, despairing of successful competition, purchased several locks made by a New Haven firm, and removing the trade-mark, exhibited them as his own. The fraud was detected by one of the jurors, and the award of a medal canceled

LITERARY NOTICES.

QUALITATIVE CHEMICAL ANALYSIS. By John H. Appleton, A. M., Philadelphia: Cowperthwaite & Co.

The third edition of this work has just come to our table, and we are delighted to find in it the most comprehensive treatment of qualitative analysis which we have ever seen. The explanations are concise and easily understood; the classification is admirable; the typographical appearance of the book leaves nothing to be desired. It is printed on fine paper, and tastefully bound in cloth.

For those who wish to obtain a good, practical knowledge of qualitative analysis, we know of no book which we could recommend in preference. It is deservedly popular.

THE YOUNG CHEMIST. John H. Appleton, A. M., Philadelphia: Cowperthwaite & Co.

The title-page describes this little work of some more than one hundred pages as "a book of laboratory work for beginners." We have given the work a careful examination, and to say that we are pleased with it does not half express our appreciation of it. It is beautifully gotten up in every respect, and abounds with illustrations and descriptions of interesting experiments. Indeed, the whole aim of the author seems to be to teach the subject of chemistry through practical experimentation. The directions are so simple, and the apparatus necessary to employ so inexpensive in character that any body with this work in hand can secure a very good knowledge of elementary chemistry without a teacher. We can heartily recommend it.

AMERICAN MEDICAL REVIEW AND INDEX. E. D. Wilson & Co. Anna, Ill.: Jas. I. Hill, editor.

This journal contains little original matter, nevertheless it is one of the most useful medical periodicals published, since it contains in condensed form lists of all the most valuable contributions to medical and sanitary science which appear in the medical journals for each month. The enterprise is certainly a novel one, and one which few would undertake with anticipations of success; yet the advantages which it offers to the busy practitioner are so evident and so great that we feel certain it will meet with a ready reception from the profession everywhere. The subscription price is one dollar a year.

PLUMBER AND SANITARY ENGINEER.

This splendid monthly, now in its second volume, is one of the most valuable additions which have been made to sanitary literature within the last few years. The prospectus states it to be devoted to public health, drainage, water supply, ventilation, heat, and light. Every number is replete with useful and interesting information on these subjects. This journal is almost indispensable for every plumber and architect who expects to keep abreast with the constant advance in sanitary science.

MOTHER TRUTH'S MELODIES. By Mrs. E. P. Miller. New York: G. W. Carleton & Co.

This handsome volume, containing three hundred illustrations, is described by its author as being "a kindergarten of common sense for children." It is a presentation in rhyme of many interesting and useful facts in physiology, natural history, geography, astronomy, etc. It is indeed a splendid substitute for the absurdly simple "Mother Goose Melodies" which have been so popular for the last two centuries. The author, Mrs. E. P. Miller, of the health establishment at 41 West Sixth street, New York, has written much for children, and succeeds well in winning their attention. We can heartily commend the book.

SANITARY JOURNAL. Edward Plater, M. D., editor, Toronto.

We are glad to see that notwithstanding the hard times which are felt oppressively in all parts of the country, this excellent periodical still survives, thanks to the editor's pluck and ability as a journalist. The number before us is filled with most valuable instruction on various subjects pertaining to hygiene. The journal is published at one dollar a year, and ought to be in every family in Canada.

INDEX MEDICUS. 37 Park Row, New York: F. Leypoldt.

It is generally known to the medical profession and those interested in bibliography that Dr. John S. Billings, Surg. U. S. A., in charge of the National Medical Library, at Washington, is now ready to print his great "National Catalogue of Medical Literature," as soon as Congress grants an appropriation for the purpose. This indexes under subjects, and by authors, books, pamphlets, and original papers in nearly all the medical periodicals of the world; including over 400,000 subject entries, and making ten volumes royal 8vo of 1000 pages each. This will be of the greatest value to physicians the world over, as it enables them to find analogues for peculiar and difficult cases, and thus often to save lives. In continuation of this work, it is now proposed to publish monthly under the editorship of Dr. Billings and of his assistant, Dr. Robert Fletcher, M. R. C. S., a current medical bibliography under the title of the *Index Medicus*. It will be issued by F. Leypoldt, the bibliographical publisher, 37 Park Row, New York, at $3 per year, and will enter all medical books and index the leading medical journals and transactions in English and other languages. A full list of the latter, numbering over 600, will form a part of the specimen number of the *Index* soon to be issued.

Publishers' Page.

☞A package of eight temperance tracts sent post-paid on receipt of 10 cents.

HEALTH TRACTS.—Ten tracts on health, put up in a neat package aggregating nearly 200 pp., sent free by mail for 25 cents.

☞No one can afford to be without GOOD HEALTH. No other journal will supply its place. It is not a partisan journal in any sense. Is the organ of no party and of no institution.

☞The beautiful GOOD HEALTH CALENDAR, noticed in last number, will be ready for subscribers by Jan. 15. All who send in their renewals of subscriptions before that time will receive a copy free.

☞Steps are now being taken in this city for the organization of a National Health and Temperance Association. We shall be pleased to receive communications from all who may be interested in the subject.

☞We would call the especial attention of canvassers, and of all interested in the extension of sanitary knowledge, to the prospectus of GOOD HEALTH found on the opposite page, and the inducements offered to subscribers.

WORK FOR CANVASSERS.—One hundred good canvassers can find profitable and paying occupation in obtaining subscriptions to this journal. A liberal commission is allowed to agents. A complete outfit, with terms to agents, etc., sent for $1.00.

NEW TRACTS.—We are now putting through the press four new tracts on the following subjects: Ventilation, Disinfection, Animal Food, and Salt. There has been a constant call for tracts on these subjects, and we shall now be able to supply the demand.

☞Subscriptions are coming in rapidly. Remember our terms are, strictly, $1.00 in advance. Nevertheless, any one who is poor, and can give evidence of good faith, need not have his journal stopped because he cannot pay down. Write at once, stating facts, and the journal will be continued.

☞Dr. J. H. Ginley, who has for several years been located at La Fayette, Ind., has now commenced practice in Coopersville, Mich. We are glad to learn that the Doctor is enjoying good health again, after a somewhat protracted illness, and wish him abundant success in his new field of labor.

☞We are pleased to learn that the new Sanitarium at St. Helena, Cal., under charge of Dr. M. G. Kellogg, is in a very flourishing condition. During the summer it has been overcrowded, and a large addition to its building is being made. The location and other natural advantages are such as to make it a very desirable place for invalids.

A NEW PAMPHLET.—We are now preparing a new pamphlet on the subject of dyspepsia. The tract on this subject, which has had a very wide circulation, has been out of print for some time, and will not be republished, as the subject cannot be treated satisfactorily in so small a space. The new pamphlet will be ready soon, and will be a very practical treatise, a common sense guide to the prevention and cure of the disease. The price will be 25 cents.

SANITARY SUPPLIES.—For a long time there has been a growing demand for all kinds of sanitary and hygienic supplies, such as ventilators, disinfectants and disinfectors; efficient filtering apparatus, etc., etc. The Sanitary Supply Co. is now prepared to supply all these and many other excellent and necessary articles which contribute to the health and sanitary protection of the people. Their advertisement will be found on page three of the colored advertising sheet.

☞Our new pamphlet on Diphtheria is now ready. There have been numerous orders for the work, which will be filled immediately. The delay has been caused by a very great press of work in the stereotype foundry, making it impossible for the printers to get the plates ready sooner, though the copy has been in their hands for some time.

The work is a very complete and practical treatise on the subject of Diphtheria, one which interests nearly everybody at the present time, and it will probably have a very large circulation. Price, 25 cents.

TO OLD SUBSCRIBERS.—Before deciding not to renew, just glance over the index to the last volume contained in the December number. Have you not had far more than your money's worth? If we may judge from the letters we receive, many of our subscribers think that the knowledge which they have gained from the journal during the last year has been worth to them a hundred times the meager sum charged for the journal.

Again, before parting company with us, look over the prospectus of GOOD HEALTH for 1879. The editor will have more time to devote to the interests of the journal during this year, and is determined to make each number sparkle with gems of practical truth.