How We Take Cold.

Years of study and observation have forced me to the concluusion that the disease which manifests the symptoms popularly supposed to indicate that a cold has been caught is to all intents and purposes a filth disease, arises largely from indigestion, and forms the basis, so as to say, or is in fact the first stage of all the so-called filth diseases. Whatever interferes with digestion or depuration, or depraves the vital organism in any manner, produces an impure condition of the body—a condition of the disease; and a continuance of disease-producing habits must inevitably result in periodical or occasional "eruptions," the severity of which will depend upon the degree of one's transgression. Among the causes of this impure bodily condition are (1) impure food, (2) excess in diet, (3) impure air. Our homes, offices, shops, halls, court houses, churches, and, with rare exceptions, all living rooms, private or public, are insufficiently or not at all ventilated; and, except while in open air, a very large proportion of our people, in all the walks of life, habitually breathe an atmosphere vitiated by being breathed over and over again; they are starving for the want of oxygen, and are being poisoned by carbonic acid. In default of sufficient oxygen the best food can not be transformed into pure blood—there will always be a corresponding indigestion; nor can the carbonic acid be eliminated freely in an impure atmosphere. We have, then, serious "interferences with the digestion and depuration," whenever we remain even for a single hour of the twenty-four in an "indoor" atmosphere, *i.e.*, an atmosphere that is not intolerably free communication with the great body of air without. The only offset for restriction in oxygen is restriction in diet and exercise; but a combination of this character would produce enfeeblement of the system, though if a proper balance were maintained there would arise no febrile symptoms such as we are considering. We have plenty of people living in unventilated rooms who, so far as exercise is concerned, live a well-balance life! but seldom do these, any more thon the robust and active, practise any sort of voluntary restriction as to quality or quantity of food—nausea and lack of appetite being the only safeguards. Persons of this class are great sufferers from colds.

Manual Training in Public Schools.

Supt. Sever, of the Boston public schools, says: Education through apprenticeship to trades has disappeared, and the time has been filled up with larger amounts of school-book instruction, and the consequence is that through lack of opportunity, the native aptitute of many boys for handcraft is thus ignored. There doubtless is in our city boys an ample fund of latent mechanical ingenuity, which only awaits proper treatment to bring it out and lead its possessors to the right occupations for using it.

My hope is that a public free school on the plan of the school of mecnanic arts may be established in Boston. The place for it in our system is side by side with the high school. This can be done as soon as the taxpayers and their representatives at the City Hall see the wisdom of it. Let it not be supposed that the manual training proposed as a part of general education consists in learning this trade or that trade, nor yet in learning the fragumentary beginnings of a dozen trades; but rather that it consists in developing manual skill and mastering the fundamental processes applicable in many trades. For example, one who can use well the common wood-working tools—the hammer, saw, plane, auger, chisel and try square—is ready to enter several different trades with immediate advantage to himself, although he may not yet have learned the special details of any one of them.

Now, I am sanguine enough to believe that the introduction of the manual training element into school work would promote still more a salutary reform which seeks to abolish mere nominal teaching and replace it by real teaching, that is, a teaching that trains mental power rather than loads the memory that fills the mind with solid merchandise of knowledge and not with its empty packing cases. The one branch of our present school instruction, most largely to be improved by joining it with manual training, is drawing. Not many years ago drawing was made obligatory by statute. The reason was that drawing was important as a branch of industrial education, and industrial education was much needed by the people—especially the people of cities. Well, drawing has been introduced at great trouble and expense, and in spite of no little passive opposition. Is this expenditure of money and effort justified? Yes I think so. And the results satisfactory? No. not yet. And why? Because industrial education, through drawing alone, is work only half done. The other half, modelling, carving, anything having in it the constructive element, has hitherto been wanting. Delineation and construction are two parts of one whole; neither has full educational value without the other. As work in the chemical laboratory is needed really to possess one's self of the chemical knowledge which is only symbolized in the formulas of the books, so work at modelling and construction is needed to give precision and endurance to that knowledge of forms which drawings merely symbolize.

Gum Arabic.

In Morocco, about the middle of November a gummy juice exudes spontaneonsly from the trunk and branches of the acacia. It gradually thickens in the furrow down which it runs, assumes the form of an oval or round drop the size of a pigeon's egg, of different colors, as it comes from the red and white gum trees. About the middle of December the Moors encamp on the border as the forest and harvest lasts a full month. The gum is then packed in large leather sacks, and transported on the backs of camels and bullocks to the seaports for shipment. This is the gum arabic of commerce.

He Hit Him Hard.

"I met X on the avenue with his bride. They had just returned from their wedding tour."

"Where are they going to live?"

"I don't know. He told me he had been house-hunting since yesterday morning, and intended to take a flat."

"Ah! indeed! He has decided to follow his wife's example."

CHINESE SMUGGLERS.

Ingenious Devices for Eluding the Custom House Officers.

The Custom House searching force detalied for duty on the Caina steamers is an interesting study. Their suspicions are awakened by the most trifling circumstance. They have found opium in the soles of Chinese shoes, in pails which had false bottoms and hollow staves, in logs of wood, hollow broom handles and other unexpected places. The water-pail plan for a while was a favcrite with Celestial smugglers. The pail was used for washing off the outside of the vessel or the decks, and filled with dirty water it did not look much like an opium receptacle. After being used it was allowed to stand on the mail dock until it was, as the result of an apparent accident, placed on some waggon and carted away. Then the Chinese tackled the chocking logs or blocks usually placed under the freight gangplank. One day the end of one of these blocks attracted a searcher's attention. It had been sawn off and smeared with grime, and looked like any other log which might naturally find its way to a ship, be used in rough service and then tumbled about the dock. But the peculiarity which attracted the attention of the searcher was a bright screw-head in the end of a log. Several blocks or logs of similar shape were at once taken in charge by the Custom House officials. The happy thought resulted in the discovery of a wooden box filled with opium fitted into the middle of each of the logs and held in place with a screw. The broom trick was near to that. A cargo of brooms went to Honolula and were thrown on the wharf. The consignee, a China merchant, came down and saw them on the wharf. A charge for freight was made on them which the consignee refused to pay. There is where he made a mistake. The brooms lay on the wharf over night. Some one stepped on the pile and broke one. That revealed the trick. The lower end had been hollowed out and filled with opium and then the brush part was made over it.

A monotonous duty which sometimes comes to the searchers is to sit on the roof of the long shed over the mail dock for hours or on the elevated "bridge" of a steamer, to see that no opium is thrown on the shed roof from the ship. While the Peking lay at the dock, one attempt to smuggle the drug ashore in this way was detected. But if the searcher who sits on the "bridge' has a weary time, much more monotonous is the lot of the men who stand at the foot of the gangplanks, hour after hour, to search every one who comes from the ship, paying attention especially to the Chinese. This monotonous watch is maintained from the time the vessel first touches the dock until it sails again. To prevent any smuggling by water another searcher is compelled to sit, with relays, in a boat moored eff the steamer some rods. Persistence cannot be better exemplified than by the Chinese attempts to smuggle fabrics ashore. How the traders wear several coats of silk, one outside of the other, over the gangplank, has often been alluded to of late. One or more of these coats is invariably taken from the "trader" by the searchers and a protest is always made, but about every trader tries his luck.—*San Francisco Call.*

New York State Statistics.

The Governor of New York State has just sent his annual message to the legislative. The *Sun* publishes the following statistics of the State, gleaned from the message—The figures tell the story. For education the State Government received last year $13,000,000 and spent nearly $12,000,000. In the 115 active savings banks in the State a million depositors have accounts aggregating $420,831,000. There is the sum of $114,000,000 on deposit in the 84 State banks of discount. The increase during the year in the deposits in the 200 banks coming under the supervision of the State authorities has been more than $50,000,000. Two hundred insurance companies, fire, marine, life and casualty, have assets amounting to $646,000,000, of which $134,500,000 belongs to the respective surplus accounts. In its National Guard the State has an efficient army of nearly 12,000 men. There are 2,828 convicts in our prisons, less than for several years past, while the total population of all the State penal, reformatory, and protective institutions is about 15,000. There are 11,000 insane. The various charitable institutions own property amounting to $42,935,000, and they expended $10,291,000 last year in the relief of the unfortunate. During a season more than a month shorter than usual 5,778,631 tons of freight passed through the free canals. At Castle Garden, the chief gateway to the continent, there arrived last year 390,000 immigrants. In taxes from corporations, the Treasurer received $1,935,000 The debt of the State, less the amount on the sinking fund, is only $5,978 301, nearly all of which is on the old canal construction account. The tax rate last year was three mills and a quarter; this year. with economical management, it can be made smaller than at any time for a quarter of a century past. The assessed valuation of personal property and real estate in New York is almost three thousand million dollars.

How to Detect Oleomargarine.

There is much difficulty experienced by grocers in judging oleomargarine from butter. We here give two methods for so doing and we are sure they will be welcomed. Procure a vial of oil of vitriol (sulphuric acid) which will cost about five cents. Use a glass rod, and put one drop on the article to be tested. Pure, fresh yellow butter will turn almost white, while tallow turns to a crimson red. Lard gives diversified colors, showing all the colors of the rainbow. Here is another, and a very simple test: Melt a very small quantity in a shallow dish, which should be only large enough to hold the quantity, and put a piece of wick in the fluid. Now light the protruding end of the wick above the surface of the liquid, and after it burns a few minutes extinguish the flame. By inhaling the ascending smoke from the wick the odor of fried butter will designate pure butter, but if the odor is similar to that of a smoking candlestick you may rest assured it is oleomargarine.—*Philadelphia Grocer.*

The man who married a girl because she "struck his fancy," says she strikes him anywhere that comes handy now.

What the Khedive Says.

The Cairo correspondent of the London *Telegraph* reports an interview with the khedive at the Abdin palace. His highness was, as ever, affable and courteous, and spoke English, at his own desire, very fluently.

He expressed himself convinced that England was the best friend of Egypt, and said that personally he never could forget the consideration shown for his great difficulties. As for the present situation, it would have been good but for the mehdi's sudden successes. It was a gratifying fact that the people were prospering and contented. I asked what his highness thought of the character of the mehdi. The khedive declared him an obvious impostor. All Mussulmans did indeed expect a leader or reformer toward the end of the world, but the Koran said the true mehdi would appear at Mecca or in some city of the east, and that at first he would not be recogaized. but finally met with universal acceptation. According to the teachers of Islam, he would not be of negroid extraction, nor a destroyer of moslems; but this false mehdi imposes upon the ignorant by specious gifts and personal marks and excuses, cruel massacres of the faithful; by pretending that the Turks are in reality Christians, and declaring that *the Egyptian power has ended.* His highness confeseed ignorance at present of the mehdi's movements. The Mudirs, however, he told me, of Lenaar, Khartoum, and Berber have dispatched many spies, and the news received is that they are unable to trace the march of the main army. Detached bodies of about 10,000 have certainly been sent in various directions, and they may possibly have gone from Obeid to Darfur, or might be advancing direct on Dongola by the land route. "If," said the khedive, "such a force should reach the first, or even only the second cataract, it would become easier for Egypt to strike a decisive blow." His highness has received no message directly from the mehdi, and does not know what projects the pretender harbors. He has certainly been sending emissaries to every quarter and no doubt the revolt of the tribes to the eastward of the Nile, which were previously loyal and contented, is due to this propaganda. "If they have risen," said the khedive—"the tribes and sheiks—it is because they have been afraid and distracted between the mehdi and myself, and have been obliged to obey whichever authority seemed uppermost." Regarding the future policy of the government of Egypt, his highness remarked that they *never could or never would withdraw* from the Soudan. It had become the "back-gate of our house; a great portal by which the wealth of equatorial Africa would eventually enter."

Apropos of Sir Samuel Baker's suggestion, he himself was anxious to treat with Abyssinia in a friendly spirit, and would make large concessions with a view to rectify the frontier, but he would certainly not yield Missowah; it was a harbor essential to Egypt. On the west he had personally wished to restrict his country to her natural limits, and as a prince he had disapproved herein of his father's schemes of annexation. He was even now willing to make Darfour a tributary province under a native ruler, but must undoubtedly keep Kordofan.

Immediate operations would necessarilly be limited, continued his highness, to holding the chief positions along the Nile. He felt confident that before very long Baker Pasha would be be able to clear the road from Saukin to Berber. What might afterword be determined upon it was at present impossible to foresee, but while holding the channels of the Nile strongly he and his supporters could afford to wait.

This, said the knedive, still quietly conversing, is mainly a religious revolt, but one fomented by the principal slave-dealers and by Soudanese traders who desire to monopolize the ivory traffic now so profitable. These unscrupulous people have fanned the flame of superstition, and to surrender territory to the mehdi would be to play their evil game. The khedive said he had greatly coveted the glory of giving its *death blow to slavery*, but that I was probably aware it formed a most profitable business in Central Africa, and that for its sake many degraded speculators retarded all progress. "God knows," his highness went on, "I am anxious to spare my subjects the cost and misery of war and to leave the fellaheen in quiet to till our soil. The wars with Abyssinia and Darfour have cost us seven millions! How much better if they had been spent for the development of Egypt! Our country is not rich; nevertheless, with all these troubles, it is very well able to pay the interest on its debt, and that, too, with £180,000 sterling of surplus to devote as a sinking fund. I have the highest desire, notwithstanding, to reduce the debt, and to relieve our fellaheen of their load of taxation and usury."

The khedive expressed no opinion as to probable necessity of help from England, but professed himself assured of her good will. I hear from another source that frequent messages are passing between the khedive and Mr. Gladstone's government.

Cheshire Underground Salt Fields.

The activity in the salt trade of Cheshire, Eng., for some time past has produced its inevitable consequence. Throughout the district, houses and public buildings have been sinking, water pipes bursting and gas-mains constantly snapping. Christ Church, Winsford, was badly cracked, and then began to sink. Immediately steps had to be taken to save it from utter destruction. Gangs of men with huge jacks were engaged and have lifted the west end quite a foot; and the east end having a tendency to bow down, had to be got into perpendicular at once. The displacement taking place underground may be imagined when it is stated that in September sufficient brine was pumped to manufacture 108,000 tons of salt. The returns issued for October show an increasingly active demand has kept the stocks of Cheshire salt very low. Many works which had shut down pans in consequence of the brine being quite pumped out, have since made temporary arrangements to take their supply from deeper brine shafts belonging to other proprietors. The United States purchased during October 25,850 tons, against 19,719 for the corresponding month last year; the East Indies, 31,418, against 25,336; British North America, 5,087, against 2,959; Africa, 3,256, against 2,823; and Belgium, 2,838, against 5,438. Total exports from Cheshire to all parts of the world during October amounted to 96,706 tons, against 68,853 tons last year.

LITTLE KNOWN CITIES.

Some of the Marvels of the Magnitude of India.

The English are beginning in a vague way to realize the magnitude of India, and to comprehend that it contains some 50,000,000 more people than all Europe west of the Vistula. Few, however, are quite aware of the number of its cities, or believe that it includes sixty-two with more than 50,000 people, and twenty-two with more than 100,000, namely, Bombay, Calcutta, Madras, Hyderabad, Lucknow, Benares, Delhi, Patna, Agra, Bangalore, Umsitsur, Cawnpore, Lahore, Allahabad, Jeypore, Rangoo, Poona, Ahmedabad, Bareilly, Surat, Howra, and Baroda. We give them in order of population; but, properly speaking in the English way of counting, Howra, the Southwark of Calcutta, should be included in the capital, which with it contains above 866,000 souls, and it is the greatest, as it is by far the wealthiest, city in the Empire. Below the limit of 50,000 the towns become much more numerous, and there are hundreds with populations above 20,000. The majority of the latter are quite unknown to Europeans, an active magistrate or two excepted; and, so far as we are aware, there is no book in English which gives the slightest account of their organization, or of the life and people in them. Yet many of them have histories of 2,000 years, and in all flourish families which think themselves noble, and have long pedigrees and stirring tales to narrate. We hear every now and then much of Indian princes who, in India, are hardly mentioned, and of "educated natives," a scarcely perceptible class, but of the true "British India" as little is known at home as of the eastern provinces of Peru.—*London Spectator.*

The Defense of Khartoum.

Khartoum is naturally marked out by its situation as the capital of the Soudan. Built in the angle formed by the junction of the Blue and White Niles, the meeting point of the roads from Dongola and Egypt on the northwest and north from Suakim and Berber on the northeast, from Darfur on the west, from Kordofan, Sennaar, and the equatorial provinces on the south, it is the commercial centre of the whole region, and has ever since the conquest of the country by Egypt been the chief seat of the Egyptian power, and the residence of the governor-general of the Soudan. The town, near which are some ruins of the time of the Pharaohs, is built along the left bank of the Blue Nile, with the White Nile in its rear, in a wide, barren, and stoneless plain, and protected by dikes against inundation from the two rivers. It is 1,400 feet above the sea, and has some 50,000 inhabitants, of whom about two-thirds are slaves, for Khartoum was at one time the head-quarters of that iniquitous traffic, which, after the subjugation of the country by Egypt, rapidly supplanted the legitimate trade in ivory and other natural products of the Soudan, and is the *fons et origo mali* in all the wars which have constantly disturbed the country.

Khartoum is, from a military point of view, a position of great strength. It is protected by five ditched earthwork forts, but these are said to be weakly armed, and its most efficient protection are the broad rivers on either side of it. A force coming from the west would find it a matter of great difficulty to cross the White Nile in the face of an enemy; and, even if the movement were effected, the approach to the town across a plain which affords no shelter whatever to an attacking force, would be a very difficult operation in face of defenders armed with weapons of precision. The garrison of Khartoum is estimated at 4,000 men, all thus armed. It is true that the mehdi, since the capture of Obeid, must have a good many weapons of precision himself, but his troops are said, whether from fanaticism or ignorance, to be averse to using them. Col. Stewart, writing from Khartoum on Feb. 20, soon after the fall of El Obeid, declared that it was "very improbable the mehdi should venture" to Khartoum. In the course of the spring, however, the mehdi did venture, but was easily repulsed. It is likely, therefore, that after so great a success he will make another attempt on the capital, but it is not likely that he will do so without loss of time. The present season indeed is favorable to military operations, whereas the summer, and especially the months from June to September—the time of the rains and floods—greatly interfere with them.

But his movements hitherto have been characterized by anything but rapidity. It was two months after his victory over Yussuf Pacha in the spring of last year before he appeared at El Obeid, and seven months before he took it. One circumstance may cause him to hasten his movements. According to one of the mehdi's prophecies he would be proclaimed at Khartoum prophet and ruler of the Soudam on the 12th of this month, which was the beginning of the new Mussulman century of 1300 after Hegira. He may not wish to let this brophecy remain long unfulfilled.

Old Shoe Leather.

You probably think, if you look very sharply at an old shoe when you throw it away, you will know it again if it ever comes back to you. But that doesn't follow. One of these days you may button your dress with an old pair of slippers you once owned, comb your hair with a boot, or grasp a cast-off gaiter while at your dinner. This is not romance, for old shoes are turned to account by manufacturers in the following manner:—They are cut into very small pieces and kept for a couple of days in chloride of sulphur. The effect of this is to make the leather hard and brittle. Next the material is withdrawn from the action of the chloride of sulphur, washed with water and dried. When thoroughly dry it is ground to powder and mixed with some substance like glue or gum that causes it to adhere together. It is then pressed into molds and then shaped into buttons, combs, knife handles, etc.

A European who was about to start to America was asked by an acquaintance: "And do you think fried pigeons will fly into your mouth over there?" "Oh, no, I don't believe that; but if one should fly there I'll have the privilege of eating him myself. I'll not have to give two-thirds of the pigeon to the nobility and gentry, and the rest to the robbers."

YANKEE SARDINES.

How Small Herring are Made to Resemble the Famous Little French Fish.

Nine-tenths of the sardines consumed in the United States come from Maine. Very few of the real French fish are imported now. These Yankee sardines are nothing but small herring put up in boxes with gaudy lables and French inscriptons. In Eastport there are ninteen places where they turn out sardines, besides three at Lubec, two at Jonesport, and one each at Milbridge, Lamoine, and Robinston. In 1876 a New York firm did a lucrative business packing "Russian sardines" in Eastport. These were little herring packed in small wooden kegs and preserved with spices of different kinds. It occured to one member of the firm that these little fish might be utlized to better advantage by cooking them and packing them in olive oil, like the French sardines. The experiment had been tried several years before without success. The difficulty was to eradicate the taste of the herring. This gave rise to the couplet: You may spice and and may call it sardine if you will, but the taste of the herring will cling to it still.

It was easy te cook the herring, pack them in olive oil in tin cans, and seal them air tight, but when they were opened they had not the rich, spicy flavor of the regular French sardines. After a great many experiments, one of the manufacturers succeeded in producing a mixture of oils and spices which removed the difficulty.

The herring used for making sardines are about four inches long, and are taken in great quantities along the Maine and New Brunswick coast. They can be bought of the fishermen for about $5 a hogshead, although when the fish are scarce, as they often are in the spring, they bring as much as $15 a hogshead. To catch the fish small trees or bush are thrown into the sandy bottom of the sea, arranged in a line running out from the shore some seventy-five or one hundred, feet, and then curved back like a horseshoe. Inside this trap is a net. When the tide is falling the net is raised, and the fish are taken out with hugh scoop nets. The catch is always very uncertain; sometimes only a bushel or two will be taken, and often so many are caught as to endanger the net.

There is another way of capturing the fish. Herring, like mackerel, go in schools, and, for some reason, always follow a light. Two or three fishermen provide themselves with torches made of cotton batting saturated with kerosene, and on dark nights row along the shores with a torch in the bow of the boat. When a school is found the herring dart after the boat, coming so close that they are dipped up in nets attached to short poles.

After being captured the fish are taken immediately to the factory and laid in heaps upon long tables. The first thing is to decapitate and clean the fish. The dexterity with which this operation is performed by the children who are employed, is remarkable. On an average seventy-five fish are cleaned and decapitated every minute by each child. Both operations are performed with one stroke of a sharp knife. A box holding about a bushel lies at the feet of each operator, and as the cleaning is completed the fish slides into this box. The pay for this work is ten cents a box, and some children make $1.50 a day.

After being washed, the herring are pickled for half an hour, and are then laid upon trays and placed in a large drying-room heated by steam. After the fish are dry they are thrown into large, shallow pans of boiling oil and thoroughly cooked. They are then packed in tin boxes by girls and women, and in each box is poured a quantity of the patent mixture of oils and spices. Covers are then fitted to the boxes and sealed on by men. As air must be excluded, the cans, when sealed, are placed in a tank of boiling water where they remain half an hour and are then removed and placed on an inclined plane so that the air inside rushes to one corner of the box. This corner is punctured with an awl, the hot air escapes, and the can is made air-tight by a drop of solder. The boxes are then ornamented with attractive French lables, saying that the inclosed are *Sardines a la Francaise;*" some are labelled "*a l'huille d'olive.*" The oil used is cotton-seed oil, such as is made in South Carolina. It is not always the best quality of oil. The best oil is used, however, for fish sold as "prime."

There are prepared at these factories other varities of fish known as "mustards," "maranees," and "sea trout." The mustard are prepared like the sardines until they are put in the cans. They are packed in a preparation made of mustard, vinegar, and oil, with a *soupçon* of spice. The mustards are larger fish than the sardines. The maranees are packed in a sauce made of vinegar, spices, lemon, and sugar, and the sea trout are large herring put up in oval boxes with still another sauce.

Almost the entire product of these factories is shipped to New York, whence it is sold to retailers all through the country. One of the Lubec houses prepares about 4,200 boxes a day. The actual cost per box, including all expenses, is about 5 cents, The profit made by the packers is from 5 to 7 cents. The difference between these prices and what the consumer pays for the fish at the grocery goes into the pockets of the grocery man.—*New York Sun.*

The Industrial Census of India.

British journals bring interesting details of the census of India in 1881. The total population of the country is 253,891,821, and of this enormous number only 85,544 persons are British-born subjects, and 56,646 are 12,088 females. Practically less than 17,000 male civilians, wielding an army of 57,000 men control the vast empire. The whole number of Europeans returned is only 140,612. The occupations of 102,629,000 persons are defined, and of these 71,199,000 are engaged in agriculture or the care of animals In industrial occupations 21,041,000 persons are engaged, 12,859,000 males and 8,182,000 females. The workers in cotton and flax number 5,485,452; in clothing, 2,815,280; in vegetable food, 3,165,429; in stone, clay and earthenware, 1,850,974; in houses and buildings, 835,453; in guns and resins, 672,526; in bamboo, cane, rush, straw and leaves, 680,732; in gold, silver and precious stones, 472,956, and in iron and steel only 473,361. Engaged in work of government national, local and municipal, are 1,843,000 persons, of whom 315,000 are classed as belonging to the army. The professional classes embrace 1,451,000 persons.