



CATCHING COLD.

At a time of the year when sudden changes of temperature are frequent, Professor Rosenthal's researches on the effects of such changes cannot fail to be useful and interesting to our readers. An account of his investigations was originally published in the *Detroit Review of Medicine*, and a synopsis of his results has been published in the *Popular Science Monthly*.

It has long been known that colds are produced by sudden changes from a higher to a lower temperature and not by lowness of temperature. Cooling the surface of a healthy animal causes the cutaneous vessels to contract, and the blood is then prevented from circulating in the skin, and confined to the interior of the body, where it does not readily lose its heat, but serves to supply warmth to the vital organs. If the animal be exposed to heat, the cutaneous vessels become dilated and remain so after exposure to cold. The blood thus largely exposed over a wide surface becomes rapidly cooled, even though the temperature of the surrounding medium is not very low. A sudden passing from a heated room into the cold outer air rapidly cools the blood below the normal degree. On its return to the internal organs they are cooled much more quickly than they would have been were not the vessels dilated by previous warmth. Thus the sudden cooling of the blood produces an irritating effect, or induces inflammation in a way that a gradual alteration would not do.

According to these investigations of Professor Rosenthal, it appears that to produce the evil results the change must be from above to below the normal temperature. This is contrary to what we suppose to be the generally received opinion, that a sudden change of temperature from lower to higher, as well as from higher to lower, may produce these effects. It has been advanced by many that colds are contracted quite as often in passing from the cool outer air into a warm room as in any other way. In other words, that we "catch heat" quite as frequently as we "catch cold." Professor Rosenthal's researches seem effectually to have disposed of this idea.

The effect of a chill in causing inflammation may be due partly to the effect of cold on the tissues themselves, and partly to the congestion (hyperemia) which will occur in some parts when the fluid is driven out of others by the contraction of others. The first of these effects is, according to Professor Rosenthal, of most importance. From these considerations it is easy to understand why it is that frequent bathing or sponging with cold water enables one to bear sudden changes of weather with impunity. The tone of the vessels is improved by these cold applications, and therefore, when exposed to heat they are not so relaxed that they cannot sufficiently contract when necessary.—*Christian Union*.

A LADY SEES THE ECLIPSE.—You speak of the eclipse as almost a total failure. Not so in the lively little town of Gouverneur. The sun set on the evening of Sept. 28th with more than usual splendor, betokening his determination to rise in befitting style notwithstanding current innuendoes circulated by almanac-makers and others, that Mrs. Luna and himself were to have a falling out on the morrow. Our better half charged us eleven times to have "those glasses smoked," brought out his handsome telescope and set it sun-wise in the garden, and retired early to bed, sagely remarking, "You'll forget to smoke those glasses yet." Occasionally he roused during the night, just enough to murmur, "Are you sure those glasses are all right?"—after which the household were permitted to rest until 5:30 a. m., Sept. 29th. With a hasty toilet, hidden by innumerable wraps, we repaired to the chosen point of observation, where, with a few invited guests in equally picturesque costume, we awaited the grand event. The air was frosty, but the sky was bright as on creation's morn, and the eastern heavens were lighted with unwonted glory. A few moments before six, a rim of gold appeared above the horizon and rapidly disclosed as perfect a crescent as ever Mrs. Luna presented. Black and sullen the moon hung in mid air, while a flood of light poured like flame about her. For a time every voice was hushed and silence reigned; we were looking upon what few of us will see again, an annular eclipse of the sun. Some of us had witnessed the one of May 25, 1851, when the ring was complete; but that was late in the afternoon and a smoky atmosphere detracted from the general effect. Now the view was glorious; higher and higher rose the sun, leaving his discomfited adversary to her gloomy reflections, and before the

breakfast hour he was quietly speeding on his way, as many a lesser light has done after the morning spat with his spouse over a new dress or hat which his high mightiness claims the right of selecting.—*N. Y. Observer*.

ESCAPE OF SEWER-GAS IN HIGHEST TOWNSITES.—Closely allied to the malarious influences of saturated soils (especially in densely built districts) are those which attend the escape of sewer gas. The pernicious action of this gas is especially felt in the higher districts of sewered towns. As a rule, sewer air finds its escape in the higher-lying districts, and often conveys the germs of diseases originating in the lower and poorer parts of the town. The medical officer of Glasgow says: "It has been conclusively shown that houses presumed to be beyond suspicion of any possible danger from this cause—houses in which the most skillful engineers and architects have, as they believed, exhausted the resources of modern science—have been exposed in a high degree to the diseases arising from air in contact with the products of decomposition in the sewers. And this for a very obvious reason. Such houses are usually built on high levels, where the drains have a very rapid fall." Thon says that in Cassel, in the higher part of the town, which one would suppose the healthiest, typhoid fever was brought into the houses by sewer gas which rose to them by reason of its lightness. In Oxford, in 1850, cholera, by the same action, appeared in several houses in the higher and healthier parts of the town. In Berlin, in 1866, in those parts of the city where there were no sewers or water-closets, the deaths amounted to 0.37 per cent. of the population, while in the Luisenstadt, where sewers and water-closets were in general use, the deaths reached 4.85 per cent. Owing to errors in the construction of the sewers of Croydon (England), their early use was followed by a violent outbreak of typhoid fever, which attacked no less than eleven per cent. of the population.—*Atlantic*.

[Our drains seem likely to be no better than highways made for the convenience of the infectious diseases until through every house they have free connection with the upper air.—*Ed. Wit.*]

UTILIZATION OF COBWEBS.—Cobwebs have been applied to various uses. The delicate cross-hairs in the telescopes of surveying instruments are fine webs taken from spiders of species that are specially selected for their production of an excellent quality of this material. The spider when caught, is made to spin his thread by tossing him from hand to hand, in case he is indisposed to furnish the article. The end is attached to a piece of wire, which is doubled into two parallel lengths, the distance apart exceeding a little the diameter of the instrument. As the spider hangs and descends from this, the web is wound upon it by turning the wire around. The coils are then gummed to the wire and kept for use as required. About a century ago, Bos of Languedoc succeeded in making a pair of gloves and a pair of stockings from the thread of the spider. They were very strong, and of a beautiful gray color. Other attempts of the same kind have been made; but Réaumur, who was appointed by the Royal Academy to report on the subject, stated that the web of the spider was not equal to that of the silkworm, either in strength or lustre. The cocoons of the latter weigh from three to four grains, so that 2,304 worms produce a pound of silk; but the bags of the spider, when cleaned, do not weigh above the third part of a grain, so that a single silkworm can accomplish the work of twelve spiders.—*Appleton's American Cyclopaedia, revised edition, article "Cobweb."*

THE BITE OF A RABID ANIMAL NOT ALWAYS FOLLOWED BY HYDROPHOBIA.—When a man is bitten by a rabid dog, the wound does not differ in any visible character from that inflicted by a healthy animal. It is seldom severe, and often slight, the animal frequently making only a single momentary attack. The wound thus made heals without difficulty, and is not especially painful or otherwise troublesome. In a majority of instances no further trouble comes of it. The danger from the bite of a rabid dog consists in the inoculation of the animal's saliva, which, owing to the disease under which he is suffering, contains a subtle but communicable organic poison. But there are various circumstances which may interfere with the poison's taking effect. First, the individual may be, habitually or at the time, insusceptible to its action. There is reason to believe that the human species, as a whole, are decidedly less susceptible to the poison of hydrophobia than dogs; and, according to the experiments of M. Renault, at the veterinary school of Alfort, the proportion of dogs themselves bitten by a rabid animal, which afterward become rabid, is not more than thirty-three per cent. Secondly, when the bite is inflicted upon parts of the body covered with clothing, the saliva, which is the only vehicle of the poison, may have been arrested by the garments, and may not have come in

contact with the wound at all. Thirdly, the poison may have been extracted from the wound immediately afterward by the free discharge of blood, or by the instinctive manipulations of the wounded person, or may have been neutralized by surgical appliances. At all events, statistics seem to show conclusively that the bite of a rabid animal by no means invariably causes hydrophobia.—*Appleton's American Cyclopaedia, revised edition, article "Hydrophobia."*

HOW THE SUN MOVED A BRIDGE.—During the recent building of a bridge in Holland one of the traverses, 460 feet long, was misplaced on the supports. It was an inch out of the line, and the problem was how to replace it. Experiments proved that the iron work expanded a small fraction of an inch to every degree of heat received. It was noticed that the night and day temperature differed by about twenty-five degrees, and it was thought this might be made to move the bridge. In the morning one of the pieces was bolted down securely and the other end left free. In the heat of the sun the iron expanded and toward night the free end was loosened. The contraction then dragged the whole mass the other way. For two days this experiment was repeated and the desired place reached. The contraction and expansion of iron bars by fire heat has frequently been used to move heavy weights over short distances. Broken walls and strained roofs and arches have been brought into place by simply heating iron rods until they expand, then taking up the slack by screws and nuts, and allowing contraction by cold to pull the wall into place.

POISONOUS WALL-PAPERS.—A family of a gentleman suffered so severely from symptoms usually produced by arsenic that the gentleman was induced to get the wall-paper of his house examined. Out of seven kinds of paper six were found to contain arsenic. No. 1, an olive-green paper, with deep green flowers and gold-like lines, contained an immense amount of arsenic in the two green colors and the "gold." No. 2, a faint lavender watered paper, contained arsenic in large amount. No. 3, a white paper with green flower, contained a very large amount of arsenic. No. 4, a paper with red and green flowers on a grey ground, was highly arsenical. No. 5, a dark olive-colored paper with gilding, did not contain much arsenic. No. 6, a pale green and white paper, also contained only a small amount of arsenic—much less than was put on the lavender paper. The family had not suffered from symptoms of arsenical poisoning until shortly after the house was papered with the above; and the symptoms disappeared shortly after they left the house preparatory to the removal of the paper.—*English Medical Press*.

—The advantages of a solution of chlora as a substitute for alcohol for the preservation of specimens of natural history is urged by Dr. W. W. Keen. The special advantage claimed for it is that it does not discolor the specimens. It is also said to preserve the natural consistency of the object, to be free from any deleterious effect upon the experimenter or his instruments, and to be particularly antagonistic to fungi and infusoria. It may be used by injection into the vessels of a subject or for immersion of an object. For specimens of natural history a solution of ten or twelve grains to the ounce of water is said to be sufficient; thus rendering it cheaper than alcohol. If only one of the advantages claimed—namely, preservation of the natural colors of specimens—be proven, the substance is likely to supersede various other preservative fluids now in use.

—House flies often die late in the summer from the attack of a fungus (*Empusa Musca*). "The flies may often be seen," says a writer in *Nature*, "settled in a natural position on window-panes, but with the abdomen much distended, and surrounded by a collection of whitish powder, extending for a few lines in all directions on the surface of the glass. The whole of the interior organs of the abdomen are consumed by the plant, nothing remaining but the chitinous envelope, on which the mycelia of the fungus form a felt-like layer; the fructification showing itself externally as filaments protruding from between the rings of the body." Our house fly is the same species as the European, and without much doubt the fungus (*Empusa Musca*) is of the same species, while the above account of the appearance of the dead fly applies as observed to those in this country.

—Salicylic acid, which a few years ago was only known as a curiosity, obtained in small quantities from the oil of wintergreen and the leaves of the willow, is now made on a large scale artificially from carbolic acid, and is being largely used in surgery and the arts. It prevents the decaying of meats, the curdling of milk, the mustering of wine, and the putrefaction of wounds, and destroys the fungus-growth in beer and the living organisms that make drinking-water unhealthy. It is taking the place of creosote in dentistry, and, in fact, seems, to a certain extent, bound to supersede carbolic acid for many purposes, having the

advantage of being odorless and less poisonous, and acting even in very small quantities.

—The members of the Geographical Congress were invited to explore subterranean Paris before they left the city, and about two hundred of them made a trip through the famous sewers. It is a moist journey, and somewhat trying on account of lack of good air, but otherwise is not as disagreeable as would be supposed. The sewers are lighted, and bear the names of the corresponding streets above, so that one can know where he is. Half the distance is performed in little railway cars, drawn by men on either side; the other half is made in barges, towed by men. Both cars and barges are brilliantly lighted, and the trip, which occupies about half an hour, is an interesting one.

—A French scientist has invented a new fish-bait. A bottle is lowered into the water and lighted by electricity, and the fish are to follow it into the net.

DOMESTIC.

WHY SOME PEOPLE ARE POOR.

Silver spoons are used to scrape kettles. Coffee, tea, pepper and spice are left to stand open, and lose their strength.

Potatoes in the cellar grow, and the sprouts are not removed until the potatoes become worthless.

Brooms are never hung up and are soon spoiled.

Nice handled knives are thrown into hot water.

The flour is sifted in a wasteful manner, and the bread-pan is left with the dough sticking to it.

Clothes are left on the line to whip to pieces in the wind.

Tubs and barrels are left in the sun to dry and fall apart.

Dried fruits are not taken care of in season and become wormy.

Rags, strings and paper are thrown into the fire.

Pork spoils for want of salt, and beef because the brine wants scalding.

Bits of meat, vegetables, bread and cold puddings are thrown away when they might be warmed, steamed and served as good as new.

COURTESY AT HOME.—It is a great and shameful want of courtesy to children to be continually "nagging" at them; to treat every little fault as if it was an habitual one, and irritatingly declare, "Yes, that's your way." "You never do anything right;" never to trust them; never to believe that even when they fail they may have done their best to succeed. Isaac Barrow has written many noble and touching words, but none more touching than the little glimpses he gives us of his own gloomy childhood. "That's the fault I find with thee, Isaac," the wearisome, continual prelude to lectures upon his quaint but innocent ways. It was running painfully in his mind, doubtless, when he reproved so forcibly this aggravating rasping of many parents and bid them "affect not to be reprehensive—reprove not for slight matters; reproof is too grave and stately a thing to be prostituted on mean things, and derogate from its weight when there is considerable reason for it." Yet who does not know parents who are always on the watch for faults, and who are hourly saying, "I've talked till I'm tired." "I've told you so a hundred times." They remind a calm, considerate person of those troublesome clever house dogs, whose life is one continual act of perking, pleased vigilance, and who are lost if they have nothing to bark at.—*By Mrs. Amelia E. Barr, in S. S. Times*.

BARLEY AND ONION STEW.—Wash half a pint of pearl barley, and soak it over night or for two hours in warm water, boil it from two to three hours in a good deal of water, filling up with boiling water as often as it thickens much, so that it will always preserve its soupy character. An hour before serving it, add four or five sliced onions, and soon after salt to taste. At the last add half a pint of cream or milk, and boil up together. More milk and salt may be added, and the whole poured over slices of bread, if preferred. The "crotons," over which most of our soups are poured, are simply small slices of sweet light yeast bread, and these are always welcomed by the little folks. Gems are more crusty and not so spongy.

—It is from eight to sixteen that boys begin to break away from parental control and the restraints of the fireside. It is then that they seem to feel that they know more than they who bore them: it is then that they begin to assert the liberty of the street and taste its delusions, its vices and its crimes. Said an English jurist of great distinction, "A large majority of all the criminals who are brought before me have been made what they are by being allowed to be away from home of evenings, between the ages of eight and sixteen."—*Dr. Hall*