

POPULAR FALLACIES.

It is not true that sugar and candies are of themselves injurious to the teeth or the health of those who use them; so far from it, they are less injurious than any of the ordinary forms of food when employed in moderation.

A scientific dentist will tell you that the parts of the teeth most liable to decay are those which afford lodgment to particles of food; such particles being decomposed by moisture and heat, give out an acid which will corrode steel as well as teeth; but pure sugar and pure candies are wholly dissolved, there is no remnant to be decomposed to yield this destructive acid; we remember now no item of food which is so perfectly dissolved in the mouth as sugar and candy. When visiting the sugar plantations of Cuba the attention was constantly arrested by the apparently white and solid teeth of the negroes who superintend the process of cane grinding; they drank the cane juice like water, there was no restraint as to its use, and the little urchins playing about would chew the sugar-yielding cane by the hour. It is much the same in Louisiana, where the shining faces and broad grins of the blacks are equally indicative of exuberant health and "splendid teeth."

How does it happen then that there should be "the prevalent belief" that sugar and sugar-candy destroy the teeth and undermine the health? Perhaps the most correct reply is *tradition*, the father of a progeny of errors in theory and practice; of errors in doctrine and example, "too tedious to mention."

One of the common faults of the times is an indisposition to investigate on the part of the masses. We take too much for granted. A very common answer to a demand for a reason for a time-honored custom is, "Why I have heard it all my life. Don't everybody say so?"

It would be a strange contradiction in the nature of things if sugar and candy in moderation should be hurtful to the human body in any way, for sugar is a constituent of every article of food we can name, there is not a vegetable out of which it cannot be made, not a ripe fruit in our orchards which does not yield it in large proportions, and it is the main constituent of that "milk" which is provided for the young of animals and men all over the world. Perhaps the child has never lived which did not love sweet things beyond all others; it is an instinct, a passion not less universal than the love of water. A very little child can be hired to do for a bit of sugar what nothing else would. The reason of this is, that without sugar no child could possibly live, it would freeze to death; it is the sugar in its food which keeps it warm, and warmth is the first necessity for a child.

But to use this information intelligently and profitably, it must be remembered that sugar is an artificial product, in a concentration, and that, if used in much larger proportions than would be found in our ordinary food, as provided by the beneficent Father of us all, we will suffer injury. We should never forget that the immediate use of anything is destructive to human health and life if persevered in. The best general rules to be observed are two:

1st. Use concentrated sweets at meal times only. 2nd Use them occasionally and in moderation.—*Hall's Journal of Health.*

PROGRESS IN SCIENCE AND THE ARTS.

TECHNICAL BREVITIES.—The art of diamond-cutting is reported to have been developed to a high state of excellence in this country. The report of the special Census Agent on this subject has the statement that our dealers are receiving the best Amsterdam-cut gems from abroad to be recut here and returned.

—Apropos of the recent newspaper statements to the effect that De Lesseps had succeeded in interesting a powerful syndicate in behalf of his canal scheme, and that large amounts had been subscribed, later information received indicates that neither of these statements is reliable. On the other hand, it appears at present as though De Lesseps would not be able to get a sufficient amount subscribed to warrant him in commencing operations. It is semi-officially stated that parties in this country who had agreed to participate in the scheme now decline to do so until they are assured that the larger portion of the funds required has been guaranteed.—Dieulafoy has shown the presence of copper in the ashes of plants grown on primitive rocks. In many cases, the amount of copper found was considerable enough to give a distinct reaction with ammonia, from one grain of the ash.—It has been a favorite theory with some that the form of a lightning-rod had a decided influence on its electrical conductive capacity, the favorite notion being that, the greater the extent of surface, the better. This idea, though it never had

any scientific supporters, has been effectually disposed of by the English electrician, Preece, who has lately made a series of experiments with a number of conductors of various shapes—ribbons, tubes, and solid cylinders—all of the same weight. He found no appreciable change in the resistance, and the fact was experimentally proved that the extent of surface does not affect the rapidity of neutralization of an electrical discharge, and that, whether in the form of a cylindrical rod, tube, or wire rope, a lightning-rod is equally effective.—It is reported that works for the manufacture of glass from slag have been started at Poughkeepsie, N.Y., though with what success we are not informed. The process has met with considerable success abroad, and there should be no difficulty in making it profitable here.

—The iron-clad *Italia*, 14,000 tons, covered throughout with armour plating three feet thick, and said to be the most powerful vessel ever constructed, was successfully launched a few days ago.—Our neighbor, the *Sanitary Engineer*, makes the astonishing statement that the city of Paterson, N.J., has increased by emigration 15,000 during the past six months. It would be interesting to know how long it would take, at that rate, to depopulate the town.—The town of Leeds, in England, it is reported, is supplied with gas at a cost of 1s. 10d. per 1,000 cubic feet. This is said to be the lowest price at which gas has ever been sold in Great Britain—and we may safely add—or elsewhere. The cheapening of price, it is added, has greatly stimulated the general use, in the borough, of gas for fuel and for running gas-engines.—At the Düsseldorf meeting of the British Iron and Steel Institute it was stated, as the result of experience, that, although the plant as yet introduced is imperfect and unsuitable, the average waste in dephosphorizing is under 16 per cent., and in some cases under 12 per cent. This is bringing the figures very close to those of the waste in the ordinary Bessemer operation.—One of the industries that, within the past few years, has attained a position of great importance in the Southern States is the manufacture and refining of cotton-seed oil. This product is so admirably manipulated that it is largely used as a substitute for olive-oil, not only in this country, but also in Italy. Of the six millions of gallons of cotton-seed oil exported from this country during last year, nearly all went to that country, and most of it doubtless found its way back again in the guise of genuine olive-oil.—The *Railroad Gazette* of October 8th, reports the construction of 3,938 miles of new railroad up to that date during the present year, as against 2,328 miles constructed for the same period of 1879, 1,320 miles in 1878, 1,505 miles in 1877, and 1,719 miles in 1876. At the rate indicated, the year 1880 will not fall far short of 5,000 miles of new railroad.—The same journal has an editorial on the traffic of the proposed Panama Canal, in the light of the figures lately presented by Mr. Nimmo, the Chief of the Bureau of Statistics. The *Gazette* places a high value on the figures and conclusions in questions, and expresses the opinion that all other so-called estimates of the traffic that would use the canal have been merely guesses in comparison with these carefully collected and detailed statistics, the preparation of which is a service to the world, by which it is likely to profit, and is extremely creditable to the Bureau.—The Women's Silk Association of the United States, with headquarters in Philadelphia, shows signs of vigorous vitality. At the late State Agricultural Exhibition, held in the Main Building of the Centennial Exhibition, the Society had an admirable display of silk-worm, cocoons, and reeled silk, which attracted universal interest, and was properly acknowledged by the award of a number of prizes.—The *London Telegraphic Journal* editorially doubts the accuracy of the conclusions drawn by Professor Graham Bell, expressing the opinion that, while it is possible that Professor Bell may have made more numerous experiments than those described by him in his paper, those detailed are hardly conclusive on the point that the observed phenomena were due to the action of light-rays alone. The *Journal* is disposed to give Professor Bell the highest credit for the discoveries made, but at the same time remains doubtful of the accuracy of all the conclusions drawn from them. So far as we have examined Professor Bell's statements, the conclusions he draws from his experiments appear to be incontrovertible.—The use of the telephone in the collieries of the United Kingdom is extending. The latest issue of *Iron* contains an account of two collieries in which this instrument has been introduced as a means of ready communication to the miners.—The same journal conveys the information that Messrs. Bolckow, Vaughan & Co., who will be recalled by our readers as the first to test the practicability of the Thomas Gilchrist dephosphorizing process, have been very successful with the preliminary trials of their two new 15-ton converters, working on Cleveland iron. The quality of the