

on our modern meals. The first is called breakfast, and should be partaken of about eight or nine o'clock. If we have been temperate the evening before, this meal, which *ought* to be a hearty one, will indeed be *break-fast*; if not, it will merely be a sham, sat down to for fashion-sake. If you have been out of bed and in your bath by seven or half-past, if you have not slept in a stuffy room, and if you have had a turn round the garden and a glass of pure spring or filtered water, you will be able to do justice to your breakfast. Coffee I think is better than tea, and good cocoa more nutritious than either. Eat whatever you have a mind to, at this meal—that is, if you are in good health; but (and I speak from experience) there is no better breakfast dish than good oatmeal-porridge, with new milk, for giving stamina to brain and muscle. You may, if you feel inclined, partake of a relish after it, a kidney nicely done, a little ham or a fried egg, with a cup of tea and a slice of toast, but woe is me for the man who needs to shiver over his tea *before* he can pass on to something solid!

From eight o'clock till two is quite a long enough interval between breakfast and dinner—no, I will not call it luncheon; and you may call me old-fashioned if you like. Now to dine well and comfortably one needs first and foremost to have a good appetite. This I will presume you have obtained without the pernicious aid of sherry and bitters, or brandy and Curaçao. One needs, too, to sit down to this most important meal with as quiet and calm a mind as possible, and to have a period of fully half an hour's rest beforehand, for heat, hurry, and fatigue will spoil the best dinner in the world, and spoil the *diner* too. Shall we take soup? In my opinion it is, especially in summer, quite unnecessary. I am well satisfied, however, that a plurality of dishes is hurtful. Change your dishes every day and you do a good thing, but abjure a variety of viands at a single meal—that is, if you care to live long and *comfortably*. There is economy also in what I advise, for the poorest man can thus afford to have one favourite dish daily. I do not think, however, that two kinds of vegetables hurt, viz., potatoes always, and something green and seasonable to go along with them. Never

hurry at your meals, for if you eat slowly you will stand less chance of eating too much. This chance of over-eating is also greatly favoured by having a variety of dishes and different flavours to tempt the palate. A nice, clean, well-laid table-cloth, with sparkling glass, a cool room, and a pleasant companion, are, methinks, essentially accessory to dining well. When I advise you to dine off one joint, I by no means forbid the use of light puddings, or tarts, nor of salad in summer time, or a few walnuts and raisins to wind up with in winter. What I do wish the reader to remember most particularly is that over-eating is most injurious, and that too many dishes do not agree with each other, and consequently produce languor, listlessness, and dyspepsia. The habit of taking brandy soon after dinner is also hurtful. I assure you that if the stomach needs any fillip of this kind, it is because far too much has been put into it.

An interval of rest, say half an hour, should be taken after dinner, before resuming work, whether mental or bodily—but do not sleep. If your dinner makes you sleepy there is some error somewhere, and you cannot be in perfect health.

I approve of tea or coffee partaken of three or four hours after dinner, but taken as a refreshment, not by any means as a meal. I do not think I ever *sat down* to an afternoon tea in my life, and I shall alter very much if ever I do.

Now as to the last meal of the day, namely, supper; you must, I think, study your own peculiar constitution with regard to it. It should not be partaken of too late, neither should it be a heavy meal, for if you lie down to rest with the stomach filled with undigested food, it cannot do you good, and your sleep will not be refreshing. On the other hand, no one, and more especially the nervous, should go to bed fasting, for nothing more effectually banishes sleep than hunger.

In conclusion I may add, that I know well enough that my proposal to change the national dinner-hour from seven to two, and to limit the number of dishes to a single joint, will be far from palatable to many; but I presume I am addressing not those who live to eat, but those *who eat to live*.

THE GATHERER.

A Gun-Cotton Rocket.

Fog-signalling has within recent years occupied a good deal of attention, and among other methods the firing of a gun—a 5½ inch howitzer charged with 3 lbs. of powder—has met with some approval, though it has been shown that 1½ lbs. of gun-cotton discharged in the open is decidedly more effective. It is, however, obvious that there are some situations, such as rock-lighthouses and lightships, where it is not possible to use either means, and it has been proposed to employ gun-cotton rockets for signalling from such places. A charge of gun-cotton is enclosed in the head of a rocket

which is projected to a height of, say, 1,000 feet, when the cotton is exploded, and the sound dispersed on all sides over land and sea. Rockets containing 12 oz., 8 oz., and even 4 oz. of gun-cotton have proved their superiority over the howitzer, and it is noteworthy that large charges have not so great advantage over small ones as might have been expected. Some of the rockets in an experiment were audible at a distance of five-and-twenty miles. The gun-cotton rocket having originated with Admiral Sir Richard Collinson, Deputy Master of the Trinity House, Professor Tyndall proposes to call it, appropriately, the "Collinson Rocket."

Epidemic Diseases.

Considering that one-fourth of the annual death-rate of this country is due to zymotic diseases—diseases, namely, which are *endemic* (that is, which have reference to the nature of a locality), *epidemic* (that is, which attack people without regard to locality), and *contagious*—too much importance cannot be attached to any proposal for counteracting, remedying, or limiting their terrible ravages. It is stated that the spread of scarlet fever and small-pox may be prevented by the use of the peroxide of hydrogen, as it contains a large amount of oxygen, one-half of which is loosely combined and in a highly active condition, ready to combine with any organic matter with which it may be brought into contact. Therefore it would appear to be well adapted for destroying the poison-germs of these and other epidemic and contagious diseases. It is also recommended as a disinfectant, and may be sprinkled over clothing, letters and papers, and mixed with perfume—such as *cau-de-Cologne* or toilet vinegar—in the proportion of about a drachm to the ounce. If further experience should show that the peroxide has all the virtue which is now claimed for it, it will be a valuable adjunct to the art of healing.

Flooding the Sahara.

Explorers and missionaries contend that there is a brilliant future in store for Africa, when the continent shall have been opened up to commerce and civilisation. In many important particulars, they tell us, the country will compare with any the most favoured quarter of the globe; but that part of Africa known as the Sahara or Great Desert does not, one would imagine, enter into their calculations. That vast region, inhospitable to man and beast, has chiefly been regarded as utterly barren and irreclaimable. Opinions, however, seem to differ even on such a point as this, for a project has actually been started for ascertaining the practicability of admitting the waters of the Atlantic into the dry and thirsty land. It is stated that in the Sahara there is a remarkable depression, covering an area of some 60,000 miles, which was called *Eljuf* and was said to extend from within twelve miles of the sea-shore to the neighbourhood of *Timbuctoo*. The *Eljuf*, according to both ancient and modern geographers, was originally filled with water in communication with the ocean, but a bar having gradually formed at the entrance, the inward flow was stopped and the heat of a vertical sun caused the interior water to evaporate. What the gentleman who in all seriousness has taken up the proposal suggests should in the first instance be done, is the establishment of a missionary and commercial station at *Cape Suby*, on the seaward side of *Eljuf*, and the raising of a fund of £2,000 for exploration purposes and for testing the practicability of re-opening the old channel. In support of this project, it is claimed that climate, soil, and sanitary conditions would be improved by the admission of the ocean, that the sterile sand might grow the tamarisk, palm, sugar-cane and the like, that civilisation would be served, and that ships might go from *Southampton* to *Timbuctoo* without breaking

bulk. But to our thinking the plan seems visionary, and we fear that many generations must elapse ere jolly tars will be seen camel-riding on the plains of *Timbuctoo*, while their ship is safely moored at the quay.

Sitting for your Portrait.

How comes it that a photograph, which ought to present the sitter in a thoroughly easy and natural *pose*, often exhibits him in a constrained and awkward attitude? This is generally the fault of the photographer, who, with very vague notions of effect and art, usually places his subject, doubtless with the best intentions, in a most uncomfortable position. The head is fixed against an iron stand, the hands disposed in any but an ordinary way; the body is, so to speak, distorted, the eyes are directed in a stolid gaze, and then elaborate instructions are issued—all ending in the discomfiture of the sitter, who is nevertheless requested to "look pleasant." Dr. Thomas Buzzard suggests a remedy by which the painfully strained appearance that frequently follows from the photographer's instructions to look at a certain spot might be got rid of. His method is to take a piece of paper and to draw upon it a circle of, say, four inches diameter, on which he places at the usual intervals the Roman figures of a clock-dial. The paper is to be nailed to a post, and when the sitting begins the eyes are fixed upon the figure XII., then upon I., II., III., and so on, the gaze moving leisurely from one figure to another. In this way great relief is obtained, and a subject can sit for a considerable time without any sense of fatigue. For children, a disc with a single aperture towards its edge may be made to revolve in the direction of the hands of a clock in front of another disc prepared with pictures, one picture being displayed at a time, and each in turn. This hint will no doubt be found useful, though it is only fair to state that the high-class excellence of several photographers' work shows that they, at any rate, have nothing to learn in taking a portrait.

Key to Mesostich on p. 574.

OPHELIA.

L O t	
P a P e r	
A t H o s	(A mountain in Macedonia, out of which Dinocrates offered to cut a statue of Alexander.)
T e l E s t o	(One of the Oceanides.)
C a l L i a s	(An Athenian appointed by his countrymen to make peace between them and Artaxerxes.)
I x I o n	
A s c A l o n	(Anciently famed for onions.)

A Substitute for Corks.

We are all well aware of the annoyance caused by a bad cork, and we have to thank an eminent chemist of New York for inventing an excellent substitute. He has, we hear, discovered a method of preparing wood, so as to render it so soft and elastic as to be available for all the uses to which the bark of *Quercus suber* is now applied. We are not told of the exact process which the wood undergoes, but it is believed

that the glutinous matter or sap is extracted, and that it is subjected to pressure. The principal advantage which this prepared wood has over the ordinary cork is that it is more durable, being proof against the corrosive influence of ammonia and other chemicals. A large manufactory has been already erected, we understand, so that doubtless before long this latest product of American ingenuity will become well known. We are not told, however, if the majority of woods can be effectually treated in this way, and whether in truth it is a new discovery, as for years past it has been a well-known fact that the woods of various foreign trees possess the cellular sponginess, lightness, and elasticity of cork. If, however, this manufacture of wooden corks be only the carrying into effect of a discovery already known, it will be most useful as increasing the supply of an article so valuable in many ways on account of its buoyancy.

Heating a Town by Steam.

A most interesting experiment was last winter brought to a successful issue in the town of Lockport, N.Y., when 200 houses were heated from a central supply, through three miles of pipes radiating from a boiler-house containing two boilers 16 feet by 5, and one boiler 8 feet by 8. The pressure is 35 lbs. in winter and 25 lbs. in summer, and is maintained throughout the entire system of pipes to the points of consumption, where there is a cut-off under the control of consumers. Besides this cut-off tap, there is a pressure-valve regulated to a 5 lbs. pressure under the control of the company, and a metre which shows the total consumption in cubic feet of steam, and also the quantity of steam used in each apartment. The pipes are laid down like gas-mains, and are covered first with a thin layer of asbestos paper next the iron, then with a wrapping of Russian felt, and finally with Manila paper—the whole being inserted in timber bored three-fourths of an inch larger than the clothed pipes. The steam has been used within half a mile of the boilers for motive-power, and has also been utilised for cooking, boiling, and baking. The working expenses consist of little more than the price of coal, and the wages of a couple of firemen, but the first cost of course includes the central plant, the system of pipes, and the labour involved in laying them down. Could not this method be applied to the heating of some of our own cities and towns next winter?

New Guinea Plantations.

Such friendly spies as Mr. and Mrs. Brassey and the Rev. S. Macfarlane have recently brought back a good report from the far-distant South-Sea Islands. We dare say there are a few misguided people who still think that every dark-skinned man is a savage, and every chief a cannibal king, but these are old-fashioned notions, as most folk know. The truth is that the pictures of the manners and customs of the natives are so pleasant and hopeful, as to lead one to wish that Mr. Mackenzie Wallace would take up his residence among them for a number of years, and then come home and give us Europeans the benefit, *more suo*, of

his experiences. New Guinea is tolerably new ground yet. The island itself in point of size ranks next to Australia, and over so wide an area there is abundant scope for explorers, observers, and missionaries. Information about this region reaches us periodically, and for such piece-meal knowledge we must, in default of a more regular supply, be thankful. Some districts of New Guinea are more favoured than others. The people of Kerepunu and Hula are considered by Mr. Macfarlane to be the finest-looking natives of the island, and the most industrious of the whole South Seas. Their villages are neat and clean, their houses and canoes well built, and their plantations like the cultivated gardens of England. In preparing the land for produce, the men stand in rows and turn over the soil with pointed sticks, which are plunged into the ground simultaneously and used as levers. It is then broken and levelled by women, and afterwards planted, in lines straight as an arrow, with bananas, yams, sugar-canes, &c. Square miles of these gardens may be seen, all neatly fenced in and carefully weeded. The people are very methodical in their system of labour, working for two days and resting on the third. They devote themselves to agriculture, using the word in its widest sense, and to fishing. History records some bitter memories in connection with the South Seas, but the tidings that every new-comer brings from these Isles of the Pacific make amends for the misdeeds of the past and are full of promise for the future.

Old Paint.

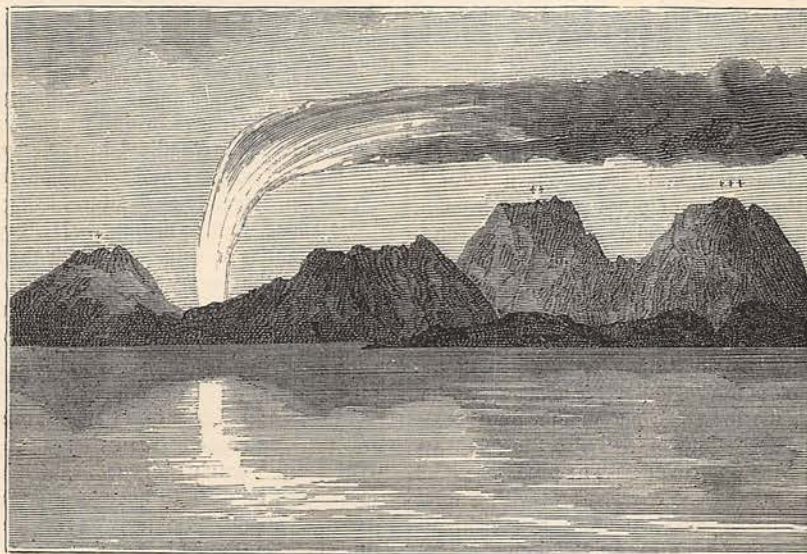
At those odd times when the house is undergoing renovation, and among other things the warning words "Wet paint" catch the eye—usually a moment too late—it may be open to question whether there is no place like home. A painter in the domicile is always a nuisance, and prudent housewives doubtless call him in only in dire necessity. Many a little piece of painting can be managed without his assistance. The materials are to be had at any oil-shop, and the mode of applying them needs no explanation. Perhaps the only knotty point, apart from the wood to be operated on, is the getting rid of the dirty paint. This may, of course, be painted over, but it is said that the old coats will come clean off by using a solution of vinegar and washing soda in water. The proportions of the mixture will depend upon the amount of paint to be removed, but as a gallon will not cost two shillings, it is so cheap that a little excess won't much matter.

Coal in China.

A few years ago the Coal Question was a very prominent topic of discussion, with reference specially to the probable exhaustion of the British coal-fields. Whether that period will ever be reached, and whether, when reached, we shall make national shipwreck, we cannot pretend to say; but putting aside all such melancholy vaticinations, it is very evident that in some other countries a prophet who turned his attention to the failure of their coals would have no honour. In China, for example, Cassandra's occupation would be gone. It appears that that land of marvel and of

mystery is immensely rich in coal. All the provinces contain coal, and though the extent of the fields and the age and quality of coal vary, the Celestial Empire must be considered as one of the first coal countries of the world. Indeed, with the bed of the province of Shansi no other region could compare in the combination of fortunate conditions as regards position, quality, and quantity, while brown iron ore is also found in abundance. It is calculated that, with a yearly output of 300,000,000 tons, this enormous field of anthracite would alone cover the present demand of the whole world for 2,400 years. But the working of the fields is still in its infancy, so much so that the present output is only about one-fifteenth that of Ger-

terious subject of hallucination. This distressing disease, it has now been shown, arises either from an idea on which the mind has long and exclusively dwelt, appearing as something exterior, or from an excited condition of the nervous system. It is almost impossible, in some instances wholly so, to convince patients that the objects they see, or sounds they hear, or smells they perceive, have no real existence, and are only creatures of their imagination. It often happens that persons suffering in respect of one sense have their other senses quite free from baneful influence, and are in all other matters perfectly clear-headed. Hearing is most frequently affected, and sight next. Hallucination is thus evidently a species of insanity.



many or the United States. Chinese labour is, however, cheap, intelligent, effective, and practically inexhaustible, and with improved methods of mining and accessible centres of industry, the coal supplies of China must in a few years be vastly developed.

The Latest Eruption of Hecla.

In the spring months of the present year, while a Danish mail steamer was coasting along from Reykjavik, *en route* for the Faroë Islands, the passengers were fortunate enough to witness a great volcanic eruption. It appeared to originate in a valley about five miles from Hecla, at a point 1,500 feet above the level of the sea, or 3,500 below the summit of Hecla. The flames ascended to an enormous distance, apparently about twice the height of the mountain itself. A fresh wind blew from the north, driving the ashes and flames in a southern direction. Our illustration represents the singular appearance which this, the most recent Icelandic eruption, presented from the sea.

Hallucination.

Some very interesting observations have recently been made by Dr. H. Maudsley upon the rather mys-

Oatmeal.

It is more than piper's news to say that oatmeal-porridge is a highly-esteemed dish in the "land o' cakes," and a long summer's day might be spent by a brawny Scot in singing its praises. But passing from considerations of a sentimental nature, English readers will be glad to hear the testimony of a witness at once so unprejudiced and so eminent as Liebig, who has demonstrated chemically that oatmeal is nearly as nutritious as the very best English beef, and that in tone and muscle forming qualities it is richer than wheaten bread. Some twenty years ago a professor at one of the Scottish universities measured the breadth and height, and tested the strength of the arms and legs, of his students, a numerous class of all nationalities, who were attracted to the seat of learning by the fame of the professor. He found that in height, in breadth of chest and shoulders, and in strength of arms and legs, Belgians stood lowest; a little above them came French; very much higher English; but Scottish and Scottish-Irish from Ulster were highest of all. These last students were fed, in their early years, with at least one meal a day of good oatmeal-porridge.