

haps by this circumstance really become so, from the habit of using a glass that thus unconsciously disfigures them.

The New York *Musical Gazette* says that when the idea of learning to sing by note was first introduced into New England, something more than 100 years ago, it was strongly opposed on religious grounds. It was regarded as nothing less than Popery in disguise. The New England *Chronicle* put it in this form:—"If the singing of songs by rule is allowed, the next thing will be to pray by rule, and preach by rule, and then comes Popery." In the town of Braintree, several members of the Church were expelled because they advocated singing by note.

CHESS EXTRAORDINARY.—On the opening night of the Brooklyn Chess Club, eight players (members of the club) inaugurated a feat at chess which has, probably, never been paralleled, which was to play a game of chess blindfold, four players on each side, and each player to make a move in his turn, without consulting with his colleagues. Three games were contested in this manner, and two of the number were beautifully played. The blindfold skill exhibited by every one of the eight players in these three games is deserving of great praise.

A close study of Spanish official reports, made by a person who had unusual means of information, shows that the Spaniards have lost in Cuba, since the war began, 13,000 men from disease, 9,000 in action, and 8,000 more disabled. They have now 2,500 men in hospital with wounds. This makes a total of 32,500 trained soldiers. To replace these, at such a distance, must be a serious drain upon the already bankrupt Spanish treasury.

More than 600 English Catholic ladies of distinction have signed an indignant protest against the idea of a commission being appointed to examine the convents in England. Among them are the Duchess of Norfolk, the dowager Duchess of Argyll, the Marchioness of Londonderry, Lady Victoria Hope Scott, Lady F. Tzalan Howard, the Countess of Portarlington, Lady Gertrude Douglas, Lady Alexander Gordon Lennox and many others of similar exalted station.

A correspondent of the London *Times* recently stated that in order to test to the utmost the endurance of certain bridge-piers, a commission of three eminent engineers is to sit upon them, whereupon *Engineering* waxes jocose and says:—"Surely this is a novel method of testing a bridge. The members of the commission are, no doubt, men whose opinions alone have great weight, but still we should scarcely have thought that their sitting on the piers of the Holborn viaduct would have tested the endurance of the latter to the utmost." Moreover, we are troubled as to how the test is to be applied. There are twelve columns and but three engineers, and the question arises whether these unfortunate gentlemen are to be quartered for the sake of obtaining an equally distributed load, or whether they are to squat fraternally on the summit of each column in succession."

The *Scientific American* gives an account of a new method of making castings which may result in a considerable saving of labour. Like most inventions worth anything it is very simple. In the first place the mould is made of fine potter's clay instead of sand, and this of course gives a smoothness of surface. The metal is then injected from below by means of a piston working in a cylinder, and as some pressure is applied, every part of the most difficult mould is reached by molten metal in a state of compression, and the result is that the casting is as smooth and burnished as if worked by hand. Messrs. Smith, of Philadelphia, who have made castings in this way, claim to be able to produce screws at the same expense as formerly incurred in merely manufacturing the wire. The effect of the invention upon art will be quite as important, if, at least, it should fulfil the promise of early experiments, and give with perfect smoothness every detail of the most elaborate mould.

Excavations that are being made at the queen of English watering-places, Bath, for the construction of the new Pump Room Hotel, have brought to light some very interesting Roman remains. The most valuable results are the determination of the south and west limits of the great temple, and the discovery of some ornamental stonework so similar in details to that which appears upon the temple of Jupiter Stator at Rome as to suggest the probable date of the Bath Temple. The plan of the forum and the course of its surrounding ways may now be traced with sufficient accuracy to enable the antiquary to construct a tolerably perfect plan of *Aquæ Solis*, at the time when it was the grand watering-place of Roman Britain. A great many fragments of flat sheets of Roman glass have been found, which bear all the appearance of having been rolled or cast. It seems impossible to doubt, with this evidence before us, that the Romans employed glass for the purpose of lighting their houses as well as in the construction of drinking vessels. The Roman glass has a peculiar blue tint and is semi-opaque.

A CALIFORNIA INDIAN'S DINNER.—Mr. Chever, who spent many years among the California Indians, and studied carefully their history, and manners and customs, gives the following illustration of their habits, in the May number of the *Naturalist*: He saw an Indian come to the banks of the Feather River, one afternoon. He was hungry, but had not a particle of food to eat. His first movement was to start a fire. He next turned over some old logs and hunted up some grubs. He then pulled up some dry reeds, and plucked a few hairs from his own head and tied the grubs to the bottom of the reeds, surrounding them with a circle of loops. The reeds were then stuck lightly in the mud, in the shallow water of the stream, and the Indian squatted beside them motionless. Presently the top of one of the reeds began to tremble, when the watcher put his thumb and finger upon it, and tossed a fish on the grass; and so he continued to watch and catch fish until he had enough for his dinner; all going to show, that the man who wants but little here below, may get that little easily—provided he knows as much as a California Indian.

A PECULIAR RAILWAY.—In the interesting book "Saddle and Sirlion," by the late Mr. Henry Hall Dixon—better known as the Druid—which has just appeared, the author displays an amusing affection for the Newcastle and Carlisle Railway, on account of its venerable age and other peculiarities. It is one of the oldest lines in existence between two important towns; there are no express trains; every train, bar one, stops at every station, and does its punctual 20 miles an hour. For years its up and down trains ran on the reverse side to every other railway. Lastly, it engaged as its guards and porters the coachmen and guards whom it had thrown out of work, and allowed them to wear white hats and scarlet coats. "A neighbouring railway elected a policeman with a wooden leg,

but our friend was not to be outdone, as it had, years before, selected a man with no legs as station master, and when the train arrived he rode about the Blaydon platform on a donkey collecting the tickets." Eccentric characters abound in this region. When John Hodgson, the parish-clerk of Wetheral, applied to the railway directors for a gate-keeper's place, he took care to remind them of his professional status by writing thus: "I and my stout sons can not only keep, but carry the gates; yea, even the gates of Gaza."

On Tuesday last a train of splendid new Palace cars, comprising dining, smoking, saloon and sleeping cars, occupied by representatives of the Boston and New-York Boards of Trade, passed through London, en route for San Francisco. This train has been specially equipped to accommodate a large party in a style of comfort and luxury hitherto unknown to railway travellers. Every convenience is contained in the cars, and ample means of amusement and recreation are likewise available. Among the novelties provided is a complete printing office, so that a daily diary of the journey may be printed.

Dr. Wallace, in an essay on "Church Tendencies in Scotland," gives the following as the number of churches belonging to all the bodies represented in Scotland. The Establishment has 1254 churches; the Free Church, 1273; the United Presbyterian Church, 600; the Scottish Episcopal Church, 157; the Roman Catholic Church, 132; the Congregationalists, 96; the Baptists, 83; the Evangelical Union, or Morisonians, 77; the Reformed Presbyterians, or Cameronians, 44; the Wesleyan Methodists, 34; the United Original Seceders, 25; the Reformed Presbyterians in Scotland, or True and Original Cameronians, 11; the Unattached Episcopalians, 8; the Unitarians, 5—in all, 3400 churches, to a population of 3,203,481.

The following table gives an idea of the increase of population of the principal European cities during the last 37 years:

	1832	1869	Inc. per ct.
London.....	1,624,000	3,214,000	98
Constantinople.....	1,000,000	1,500,000	50
Paris.....	896,000	1,350,000	118
St. Petersburg.....	480,000	667,000	37
Naples.....	358,000	600,000	67
Vienna.....	310,000	640,000	107
Dublin.....	300,000	362,000	21
Moscow.....	280,000	420,000	50
Berlin.....	250,000	800,000	220
Lisbon.....	240,000	340,000	44
Manchester.....	238,000	350,000	49
Amsterdam.....	230,000	250,000	12
Glasgow.....	202,000	401,000	99
Liverpool.....	190,000	520,000	174
Madrid.....	190,000	390,000	105

EXHIBITIONS AT NAPLES, TURIN, AND FLORENCE.—Italy is making active preparations for three great shows. The International Maritime Exhibition, which is to take place at Naples; the National Industrial Exhibition, at Turin; and, finally, the Exhibition of Female Work, at Florence, next autumn, are all three of them events which will be of the utmost importance to the industry of the country. The Minister of Agriculture and Commerce has lately sanctioned the regulations for the Maritime Exhibition, and the common council of Naples unanimously resolved to give £4000 towards it. The objects exhibited will be distributed into ten groups:—1. Naval architecture; 2. Steam engines; 3. Harbour and various marine establishments; 4. Timber, metal, and combustibles; 5. Various articles and materials used in rigging and fitting up ships and in navigation; 6. Nautical instruments, apparatus for saving life and arms for the merchant service; 7. Provisions for ships, sailors' clothes; 8. Fishery department; 9. Scientific section; 10. Principal kinds of export merchandise of Italy. The exhibition will be opened on the first of September, and closed on the 30th of November. As the Syndic of Turin has been nominated to the presidency of the commission of the Turin exhibition, and as he has lately been called to Florence, it is clear that the undertaking is favourably received by the present Government, in spite of the rigorous system of economy which it has introduced. It remains to be seen whether the exhibition can be carried out in 1872.—*L'Industriale Italiana*.

HOW TO USE GAS.—The editor of the Milwaukee *Journal of Commerce* gives his readers the following valuable and timely hints upon the use of gas:—

1. If your burners are of the common fish-tail or bat-wing form, you will observe in the centre of the blaze a dark spot of unconsumed gas. If you see this dark shadow extend to the top of the blaze, then there is more gas rushing through than what is really giving light. Turn down the gas until the shadow is half an inch from the circumference of the blaze, and you will have a steadier, better light, and will burn all the gas registered in the meter, but neglect this rule and your register will register twice as fast under the pressure, and you will pay for gas you do not burn.

2. At a certain hour of night, when churches, halls and stores put on their gas, the pressure is increased all over that district of the city; watch your burners, and reduce the pressure once more.

3. If you have burners in the chambers, and in the kitchen, and in your servants' rooms, instead of regulating the pressure at the burners, take the trouble to regulate it at the meter, so as to allow each burner only so much blaze after a certain hour, even if the burners are turned on full blast.

4. Don't think it too much trouble to turn off the gas every night at the meter, as this stops leakages all over the house, between the meter and the burners. More gas is paid for which is lost by leakage than by regular consumption.

5. If you have a leak in the house, search for it, and when found heat the metal with a lamp, or a spirit-lamp, and rub red cement (such as is used on fruit cans) into the crack. If the leak is at the screw joint, the fault lies in the thread: you should notify the company or gas-fitter immediately. It pays to stop leaks.

A PERILOUS VOYAGE.—There is now being fitted up in Liverpool, from which place she will sail in the course of a few days, a small boat, about 20 feet long, called the "City of Raguse." The vessel is the property of Captain Pimorez, but she will be sailed by Captain J. C. Buckley, her destination after leaving the Mersey being New York, from whence, should all go well, these adventurous voyageurs intend making the return trip. Both gentlemen appear confident that with the course they have planned out for themselves and fair weather they will be able to reach New York in about 50 days. The "City of Raguse" is being made as comfortable and as seaworthy as pos-

sible. She is covered over her whole length, and lined inside to the flooring, having a man-hole, or cock-pit, amidships. Down "below" is fitted up with as much comfort as the limited space would permit of. There is a patent stove for cooking the provisions—there being three months' supplies on board—on the voyage; and also the sleeping places for either skipper when he is not on "watch." The boat is rigged as a yawl, and can spread about 70 yards of canvas; her tanks are capable of containing 100 gallons of water, but should any accident occur by which it would be necessary to lighten the vessel, a tap can be undone, and the water, if necessary, allowed to escape. The "City of Raguse" is fitted up with a two-bladed auxiliary propeller, which can be worked by hand, on the same principle as a ship's pump; in fact, the working of the screw pumps the boat dry at the same time. The screw is not a permanent fixture, for when the wind is fair it can be hoisted out of the water, and thus there will be no drag on the vessel. Besides Captains Pimorez and Buckley—the latter gentleman having received the Royal Humane Society's medals for saving life at sea—the only living thing on board will be a fine Newfoundland dog. The little "City of Raguse" has its history. It formerly belonged to the ship "Breeze," which foundered in a terrific storm in the Channel. Into this boat fourteen of the crew of the ship succeeded in getting, and, after a gallant struggle against wind and sea, it landed them safe at Ramsay, Isle of Man, and was brought from thence to Liverpool for her present voyage.

The Petersburg *Golos* has a leading article on "one of the most burning questions of the day"—the union of the English and the Orthodox Greek Churches. It would appear that this highly important question has lately received a new impulse, through the movement in its favour in England. After recapitulating the various proceedings on the subject in this country, the writer states that a committee has been constituted, by order of the Holy Synod of St. Petersburg, for the consideration of the question, and the priest of the Russian Embassy at London, Father E. Popof, has been requested to attend a conference at St. Petersburg. The *Golos* adds that "the celebrated English theologian and doctor of philosophy and professor of one of the high colleges, Mr. Owerbek," who had lately undertaken a journey to Russia, has published at Halle a pamphlet, in which he says that "the circumstances of the present time are exceedingly favorable to the re-establishment of the Western Orthodox Church." The Russian paper promises a series of articles on the subject.

On the occasion of the visit of the Governor of New Zealand to Kaipara, in October last, the Maories presented the following address:—"Ornawhoro, October 18, 1869.—O friend the Governor! Salutations to you. When we met all the Europeans at Ornawhoro, our committee, which was composed of Maories and Europeans, discussed the subject of intoxicating liquors, that they should not be allowed to be brought into Ornawhoro, lest they should corrupt our bodies and our souls, and be like the word which was spoken by David, 'Lest our souls be torn asunder by Him as by lions, and like a man crying for his mother.' O friend the Governor! let your hand be strong to hold back this evil fire. Let us, the Maories and the Europeans, seek that the word which Christ spoke may be fulfilled: 'Seek, first, the Kingdom of Heaven and its righteousness, and all these things will be added to you.' O friend the Governor, we are in good health at the present time. Here end our words to you.—From Te Tatua, Homara, Rupuhu, Horomona, and all the Ngatichaua."

A TABLE OF A TRUMPET.—At one of the entertainments recently given to the Duke of Edinburgh in India, an old lady was present, who, being afflicted with deafness, carried an ear-trumpet. She had occasion to summon one of the table-servants, who was carrying a dish of peas, and put up her trumpet to hear his reply to her question. The unlucky *Khitmulgar*, misunderstanding her wishes, instantly transferred a bountiful helping of peas to the open mouth of her acoustic instrument.

A Cincinnati druggist declares that there are no less than a thousand arsenic eaters in that city and immediate vicinity, mostly young women, who take the poison for the complexion.

The Hon. A. Campbell, Postmaster-General, has purchased the estate of the Hon. Malcolm Cameron, on Sandy Hill, Ottawa.

Lieut.-Governor Howland is preparing to take up his residence in the new Government House at Toronto, the decorations of which are now all but completed.

It is reported that the Hon. Mr. Howe will succeed the Hon. Mr. Kenny in the Senate, and that Dr. Tupper will be appointed Secretary of State for the Provinces in place of the former.

Temperature in the shade, and Barometer indications for the week ending May 24, 1870, observed by John Underhill, Optician to the Medical Faculty of McGill University, 299 Notre Dame Street.

		9 A. M.	1 P. M.	6 P. M.
Wednesday, May 18.....		58°	69°	65°
Thursday, " 19.....		61°	74°	74°
Friday, " 20.....		65°	68°	64°
Saturday, " 21.....		54°	50°	47°
Sunday, " 22.....		50°	62°	60°
Monday, " 23.....		58°	62°	60°
Tuesday, " 24.....		50°	52°	46°
		MAX.	MIN.	MEAN.
Wednesday, May 18.....		72°	40°	56°
Thursday, " 19.....		76°	52°	64°
Friday, " 20.....		72°	40°	56°
Saturday, " 21.....		56°	38°	47°
Sunday, " 22.....		64°	36°	50°
Monday, " 23.....		68°	40°	54°
Tuesday, " 24.....		56°	40°	48°

Aneroid Barometer compensated and corrected.

		9 A. M.	1 P. M.	6 P. M.
Wednesday, May 18.....		30.32	30.25	30.18
Thursday, " 19.....		30.21	30.16	30.09
Friday, " 20.....		30.24	30.24	30.23
Saturday, " 21.....		30.40	30.30	30.20
Sunday, " 22.....		30.40	30.35	30.33
Monday, " 23.....		30.30	30.20	30.07
Tuesday, " 24.....		29.90	29.90	29.90