

BERLIN papers copy from the *Germania* the account of an important discovery in glass manufacture made by Friedrich Siemens, of Dresden. He has succeeded in casting glass in the same way as metal is cast, and obtaining an article corresponding to cast metal. This cast glass is hard, not dearer in production than cast iron, and has the advantage of transparency, so that all flaws can be detected before it is applied to practical use. It will be much less exposed to injury from atmospheric influences than iron. The process of production is not difficult, the chief feature being rapid cooling. The hardness and resisting power of this cast glass are so great that experiments are being just now carried out at the Siemens Glass Foundry at Dresden with the purpose of ascertaining whether the material could be employed for rails on railways.

A PARLIAMENTARY return has just been issued, showing the number of persons who voted as illiterates in the general election, in Great Britain last year, and specifying the constituencies in which their votes were recorded. From the summary figures published in the *Economist*, it appears that the percentage of illiterates to the total number of voters was in England and Wales 2·17, Scotland 0·88, Ireland 21·81. As was to be expected, observes the *Economist*, Scotland, where the educational standard has long been relatively high, comes best out of the comparison. But what is most striking is, the tremendous amount of illiteracy amongst Irish voters; and it is a significant commentary upon Mr. Gladstone's Home Rule proposals, that they sought to confer the most complete form of self-government upon far and away the most ignorant portion of the community.

LATELY in Switzerland a party of engineers and workmen had an opportunity of observing the way in which a thunder cloud discharges its electricity. They had just completed the fitting of a lightning conductor at the shelter hut on the Mythen, in Schwyz. A heavy storm was seen approaching from three different points, and they took refuge in the hut. Through a hole in the wall they could see the conductor. From time to time small bluish flames appeared hovering on it; then the lightning flash would be seen descending along the conductor into the earth, followed almost instantaneously by the thunder crash. More than twenty times they watched the phenomena regularly succeeding each other; then there was an electrical discharge of such violence that there seemed to be a recoil, and two of the party felt the shock from below up to their hips, and one fancied that both his legs were shot off. The party was so terrified that they quitted the hut and descended the mountain amid blinding snow, as thick as if it were the middle of winter, varied by thunder and lightning.

ON few subjects, writes the *Spectator* in a review of Baron Von Hübner's *Through the British Empire*, are current English notions so erroneous as on that of the position of women in the East. They are, as those who really know the East are well aware, very far indeed from being nonentities. A Hindoo husband said to the Baron at Benares: "It is quite a mistake to imagine that the Hindoo wife is a slave. If she seldom leaves the house, it is because she . . . is naturally timid . . . and shy. If a husband were to propose to his wife to accompany him in an open carriage, she would think him mad; she would probably tell him she would rather throw herself down a well. But this does not prevent her from being the mistress in the family and in the house, even more than the husband is the master." In Bombay, however, the Parsee women go about freely enough, recalling, with their bare necks and arms, and their graceful artistically draped figures, the masterpieces of Greek statuary. What is better, they not only talk and gesticulate with animation, but they laugh. And throughout all the wide East, laughter—true laughter—save in Japan, and perhaps in Canton, is among the rarest of human expressions.

BARON VON HÜBNER sees clearly enough that it is not the Russian question which is paramount in India, but the native question. Years ago, the decision was taken to give the youth of India a Western, and not an Eastern education. The result is, that every year the number of natives capable of political administrative office increases, their aspirations increase with their numbers, and the time is at hand, nay, has arrived, when those aspirations must in some measure be satisfied. Had England desired to hold India permanently by virtue of conquest, she should have kept Indian thought in that Oriental track in which the successive conquerors of India prior to the English were careful to keep it. But we agree with one of the Baron's interlocutors that, despite many difficulties that will have to be met and dangers to be won through, there is no reason to dread the ultimate result of the generosity which has prompted English administrators to aim rather at lifting the native to their own level, than keeping him eternally at his own. If the process of transition be accomplished with wisdom, with

patience, and with the necessary allowance of time for the desired modifications to effect themselves in, the Indian subjects of the Queen may come to feel themselves as much the citizens of a vast world-Empire as the inhabitants of the British islands.

THE Museum of the Berlin General Post Office received recently an interesting addition to its treasures. This is a parchment letter found in the city archives of Cologne, and which had been enclosed in a hollow bullet and fired out from the beleaguered town of Neuss in 1475, to let the friendly forces of Cologne know of the terrible plight to which the citizens were reduced. Charles the Bold, of Burgundy, was carrying on war against the town of Cologne and other Rhenish confederated cities, and had hemmed in Neuss so closely that the inhabitants were brought to the last extremity. An army of observation of the confederates, posted beyond the Rhine, watched Charles's operations, hoping to get an opportunity of relieving the town. The letter is from the commander, the Landgrave Hermann of Hesse, who describes how the besieged are destitute of food and ammunition, and only have stones for weapons, and water to live upon. They have no medicines or surgical appliances, and so the sick and wounded die without assistance. Some are for a surrender, and he fears that traitors may betray the place. They had a few days before lost 100 men in repulsing an assault of the Burgundians. The letter mentions that the besieged had previously fired off several other letters, some of which had fallen into the Rhine; and they were expending their last powder in firing off this one.

THE native question throughout South Africa becomes more difficult to deal with every year; every Governor in succession has his plan, which he carries out to a certain extent, and is then recalled in more or less disgrace; and so the condition of things grows constantly worse. The Colonists, left to themselves, would soon settle the difficulty, but only by doing what the Boers do,—namely, by establishing a system of serfage or forced labour, repugnant to English ideas. The problem is to prevent the Kaffirs from relapsing into interminable barbarism, without allowing great cruelty as well as such curtailment of their personal freedom as would shock British opinion. Whoever shall solve it will be the political saviour of South Africa, where the Boer question, though a considerable one, is of altogether secondary importance, notwithstanding the prominence given to it by Froude and by English politicians generally. Baron von Hübner shows that England might easily have retained the Transvaal had she not taken pains to disgust the Boers with English rule. His account of the Boers affords a vivid portraiture of this singular folk, slowly laborious rather than indolent, indifferent to all authority rather than disloyal to any particular form thereof, a survival of seventeenth century society modifying itself painfully and reluctantly under the stress of nineteenth century conditions and environment.

THE London *Spectator* thus concludes an article on "The Common-Sense of Imperial Federation":—There would be no paper-Union in a Fleet to which, at the thunder of the first cannon, contributory navies might pour from every quarter of the globe. From Australia and the Cape, from New Zealand and the islands of the Southern Sea, and from the Canadian ports that hold with either hand the Atlantic and Pacific Oceans, succour of attack or of defence might come at need. Every island, every settlement, however small—the Mauritius and Fiji, Honduras and the Straits—might have its quota, if but the tiniest of gunboats, to contribute,—tiny contributions from some, mighty help from others, making together a force such as the world has never seen,—invincible, nay, unapproachable by even the navies of the world allied. Not less splendid, nor less impressive, though at present much more visionary, is the idea of a commercial union by which the wealth and the resources of every continent and every climate should be as freely exchanged across the Pacific as across the Thames, and by which the looms of Lancashire should supply the citizens of Melbourne as unchallenged as they do the citizens of London. The vision of a tide of prosperity so mighty and so beneficial as that which might thus flow and reflow on the shores of the British Empire, is no mere materialistic ideal, for with the flood of commerce would not fail to flow the flood of fellowship and of love. Of course, we are fully aware that all these ties would be voluntary, none of them compulsory, and that the commercial union, at least, is probably far distant. But still the vision of an invincible and federated Fleet, and of all men who own the sway of the Queen selling to and buying of each other without let or hindrance, may have a distant accomplishment; nor could any political cynic dare to call it crazy or unreasonable to place such a goal before the eyes of the English race.