Journalism.

There are three papers published in this country, which, taken together, are adapted to furnish a liberal education to any person who will read them conscientiously and intelligently. These are the New York *Tribune*, the *Nation*, and The SCIENTIFIC AMERICAN. The first is distinguished as the very Bayard of newspapers—without fear and above reproach. Its news is accurate, comprehensive, well arranged; and it is written in excellent English. The *Nation* we admire as a literary journal. Though its political articles are admirable specimens of candid and able writing, its reviews of books are more characteristic and distinctive. The SCIENTIFIC AMERICAN is least known of the three papers mentioned, for the reason that it is popularly supposed to be designed for specialists. Nothing could be further from the truth. In the same sense that the *Tribune* is only a newspaper and the *Nation* only a literary journal, the SCIENTIFIC AMERICAN is only scientific. It is worth, to the man of common school education, twice over more than any rival journal in the United States, and it will teach no man to despise the English language, or to regard less the pursuit of knowledge—for its own sake, and for what it will bring. What we have written is wholly unsolicited testimony to the worth of three papers that come to this office; it is given from the purest motives, and without the slightest idea that it will be of service to anybody, except those persons whom it may induce to subscribe for one or all of three excellent journals.—*Interior.*

THE TURKISH TREASURE PAVILION AT VIENNA.

Among the one hundred and forty special buildings, in addition to the main exhibition edifice, pertaining to the Vienna World's Fair is the Treasure Pavilion of the Sultan of Turkey, or King of the Ottomans. The pavilion is in the form of an oriental kiosk. The domed within ceiling is painted in arabesques, and pendant from it are five large golden walls. Here may be read the history of the Sublime Porte from the days of the conqueror of Byzantium, Mahmoud II., to the present Padishah, Abd-ul-Aziz. The golden throne of Nadr-Shah is here, which was renowned in the East before the peacock throne of the Great Mogul at Delhi was dreamed of. It is marvelous in its workmanship, large enough for a coach, and weighs four and a half hundredweight. It is enameled in celadon, green and crimson, and its patterns of arabesquerie are in rubies, emeralds and pearls. Above it hang the turban and armor of Sultan Murad, heavy with gold and gleaming with jewels. Near it are the horse caparisons of Selim III., with the heavy Mameluke stirrups and Arab bit of solid gold, encrusted with diamonds. Scabbards, where nothing but diamonds can be seen; cinctures of diamonds; bowls of China porcelain, their patterns marked out in gold and reset with rubies; clocks encased in diamonds and glistening with crescent moons and stars; hookahs with golden bowls, and chibouques whose amber mouth pieces are encircled with rings of diamonds, gleam and glisten everywhere.

The value of the Turkish treasures contained in the pavilion is estimated at $27,500,000.

Finishing Stereoscopic Transparencies.

The method adopted by many, of fitting up transparent slides for the stereoscope by mounting them with a plate of ground glass is very far being a good one. The coarse granularity present in a picture when in juxtaposition with ground glass is totally subversive of the fine details.

Thin paper has been tried as a backing for stereoscopic transparencies, but no sample that we have seen is free from objection. It is true that when it is used the granular appearance peculiar to ground glass is no longer present; but paper has a kind of texture and unevenness peculiar to itself, which is very far from being pleasant; and when such a quality of paper is used as shall be homogeneous, it possesses so much "body" as to seriously interfere with the transmission of light.

The requirements of a body that shall act in the most perfect manner as a backing for stereoscopic slides are homogeneity, a requisite degree of translucency, and facility of application. The great manufacturers of transparencies in France thought they had provided a successful rival to ground glass by the introduction of "ground glass varnish," that is, a varnish which, instead of drying bright and transparent, dries dead and, therefore, more or less granular. A varnish composed of wax dissolved in chloroform is a type of this class of varnish. But none of these ground glass varnishes answer well for the purpose in question; while, however, they are quite as good as, in most instances better than, ground glass, they are still inferior to what they should be. A backing of a far superior kind to any of those now in general use may be made by means of white pigment, emulsified with one or other of several substances that we shall name presently.

Carbonate of lead forms a good pigment for the purpose. It is known as white lead, and flake white. The carbonate of commerce usually contains a large proportion of sulphate of barytes, which, however, does not affect it for this purpose. Some samples of carbonate are more opaque than others. It may be made of a fine translucent character by precipitating a solution of either acetate or nitrate of lead by a solution of carbonate of soda, by which carbonate of lead is precipitated and acetate or nitrate of soda left in the solution. When this is washed—at first with water, and then with methylated spirit—and is added to plain collodion, an emulsion is obtained which, when poured upon a plate of glass, forms a layer of great smoothness and uniformity, and as free from apparent grain or texture as a plate of opal glass.

Another fine white, known as "miniature painters' white," is obtained by adding dilute sulphuric acid to an acetic or nitric solution of litharge, and washing the white precipitate. There is a fine and permanent white known as "alum white," which makes a beautiful emulsion with collodion. It is known by some as "Baumé's white," and no difficulty ought to be experienced in obtaining it under one or other of these designations. Ordinary Spanish white we have not found to answer well; but pearl white, sometimes called "Fard's Spanish white," makes a useful pigment for our purpose. It is the trisnitrate of bismuth, and in he favourite pigment used by ladies who do not feel satisfied with the degree of whiteness imparted by Nature to their complexions.

When one of these pigments is mixed with collodion and is applied either to the picture itself (although, without an intermediate layer of gum or india rubber, this cannot be done) or the face of the protecting glass, next to the picture, the transparency will then have a charm it never previously possessed. The most delicate tints will be seen with even greater distinctness than if a backing of opal glass were employed; and the operation can be conducted with great celerity and at a trivial cost, for the quality of the collodion need not be taken into consideration.—*British Journal of Photography.*

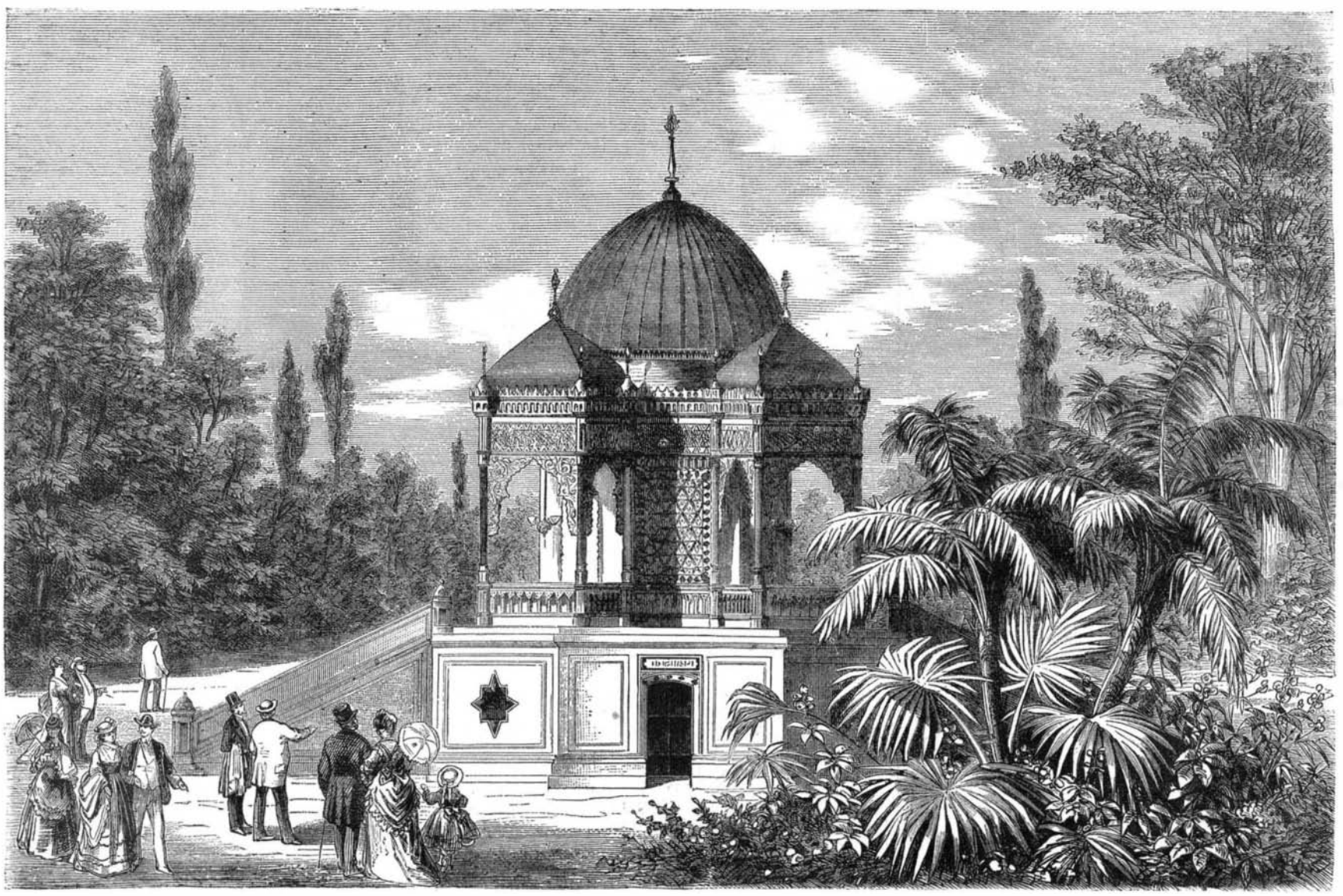
Boiler Explosions.

R S. H. writes to deny the possibility of the formation of an explosive gas in a steam boiler, and states his belief that the small quantity of water injected at a time, by a feed pump, could never cause an explosion, even if some of the plates were red hot. Further, a red heat would, he says, assuredly start the seams and cause leaks so as to extinguish the fire before water could come in contact with the plates. He asserts that high pressures are much more dangerous than people generally believe, even if the boilers are unusually strong; and he cites, as an instance of the manner in which safety valves are overloaded, a case on the Union Pacific Railway, in which the engineer tied down the valve lever of a new Baldwin ten wheeled engine; in a few seconds the boiler burst, and six inch axles were torn in two by the explosion.

Ship Canal through Syria.

T. L. F. writes to point out the possibility of constructing a ship canal along the valley of the Jordan, the advantage in the route being the low level, which is beneath that of the Mediterranean. There is no doubt or the possibility of such a work, but its magnitude, and the fact that the Suez canal is already in operation between the two seas, will probably deter capitalists from aiding the scheme.

CORK JACKETS FOR STEAM BOILERS.—M. Chevallier, a French engineer, has adopted cork for the jacketing of boilers and other parts of machinery. Cork is known to be an excellent non-conductor of heat, and these cork jackets are said to diminish the outward radiation by 15° C. The cork is cut in the form of staves, and these are united together by tongues, as in the case of flooring boards, so that the lines of junction are protected, while the cork staves are easily removed when the necessity occurs. Portions of one of these jackets, which had been on a boiler at work for fifteen months, were exhibited the other day at a meeting of the Paris Society for the Encouragement of the Arts, etc., and were not found to have been in any way affected by the heat of the boiler.



THE TURKISH TREASURE PAVILION AT THE VIENNA EXPOSITION.