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WHAT IS TO BECOME OF OUR BROWN-STONE FRONTS?

One of the most striking features of modern American building is the great favor with which the material known as brown sand-stone or brown free-stone is regarded. It is a rich colored sand-stone admirably adapted to the production of fine architectural effects; it is cut with great facility and is not too expensive; yet notwithstanding these great advantages it lacks an essential quality of all good building stone—durability.

We have noticed lately several articles upon this subject, which would, independent of our own observation, have convinced us of this; but as long ago as 1854 we asserted that this stone could not endure our climate.

Since that time we have made numerous observations, all which have confirmed the opinion then formed. It is rare that the condition of brown stone exposed fifteen or twenty years to the action of weather cannot be expressed by the word "scaly;" and we were assured once by an extensive builder who has in his life erected a great many brown stone fronts, that in his opinion the life of the fronts would not without repairs, average over thirty years.

We have in mind a large building in which this material was employed and which has stood certainly not more than fifteen years, yet which now exhibits unmistakable signs of incipient decay. Nothing was omitted to make this building permanent but a proper selection of material. Fifteen years more unless the crumbling blocks shall be taken out and replaced by new ones will certainly make sad inroads into this costly and elegant structure.

A writer in *Appleton's Journal* has recently called attention to the condition of Trinity church in this city which he states to be in a state of incipient decay, though confessedly built of the best brown sand-stone this country affords. He also calls attention to the ultimate result of this decay as shown in the tablets and tombstones of old cemeteries, that of Trinity church in particular. Here, he remarks, "rough, unsightly slabs will be found, which once were tablets, recording the virtues of the mortals whose memory they were intended to perpetuate; yet now they stand, and that is all, a collection of scarcely cohering strata, ready to fall in fragments at a touch. The greater exposure of these stones has but accelerated a result which will be the fate of all things in which this material is used."

The writer of the article referred to, concludes as follows: "The present generation will scarcely see the palaces of our millionaires transformed into seamed and broken ruins; but what will be the condition of these buildings a hundred years hence, or even in fifty years?"

To suppose that our architects have been all along ignorant of the defective character of this stone would be scarcely more complimentary than to suppose they had encouraged its use in full knowledge of its deficiencies for the sake of gain. One or the other of these suppositions must, however, hold good. It can hardly be supposed that such material would have been placed in the many costly brown-stone churches to be found in this country in the face of an earnest protest from conscientious architects. Such protests would be likely to be regarded also by private individuals about to erect mansions for their own use, however little they might have availed when made in reference to buildings erected by the general, State, or city governments.

The history of the latter class of buildings has been one of shameful jobbing, in which private interests have nearly always been considered as paramount to the public welfare.

It is time that in American architecture the element of permanency should begin to be considered. Hitherto there has been some excuse for temporizing and there may still be the same excuse in new and rapidly growing cities, in which the changes twenty or thirty years will produce can hardly be predicted, but in older cities like New York or Philadelphia it would seem that no element of uncertainty need remain to interfere with the adoption of a solid and substantial method of building, in which mere outside display should not override every other consideration.

BOILER EXPLOSIONS.

So long as the use of steam continues to extend, and the causes which lead to explosions are permitted to remain, the number and frequency of these disasters must be expected to increase. In reading the reports of boiler explosions which almost daily reach us, we find a very large proportion of them referable to causes in no way connected with the original construction of the boilers, but to causes which have come into existence through carelessness or mismanagement. Here a valve is stuck fast, and there a piece of bungling patchwork has been applied, or a boiler has been altered in form and the stays removed in the alteration have not been replaced, although the change may have made them all the more necessary. In another case the boiler may have been over-heated, and so on through the entire category of causes of danger too well known to be dwelt upon at length. Now either the conditions under which a boiler may be safely worked are too manifold and complex to be complied with, or there is gross culpability connected with nine tenths of the explosions which occur. If, like nitro-glycerin, a boiler were likely to explode under the most ordinary circumstances of treatment, if it were a matter of extreme difficulty to secure proper care in their use, and when every thing had been attempted to secure immunity from explosion, the risk remained that there might still be something left undone, which, if undiscovered, would render the previous caution of no avail, there would be more excuse.

But this is not the case. A well-constructed boiler is not essentially such a terribly destructive agent as to endanger the lives of all who come near it. The conditions of safety are few and easily complied with. The care demanded in its use is not more than can be easily given, and the want of proper attention to the simple requirements of the case can be regarded in no other light than that of criminal neglect.

It is not our intention to enter upon the much-discussed topic of the ultimate causes of boiler explosions. There are certainly cases wherein all the conditions of safety seem to be fully supplied, and yet explosions occur. In such cases we must look for causes among those which have been treated by various authors and which we believe are mostly faults of construction. No amount of care can obviate dangers from this cause, but we have already said that cases of this kind are comparatively rare.

If, then, want of proper care in the management of boilers be admitted to be criminal, we submit that there should be a severer code adopted to enforce proper care. A proprietor should not be permitted to run a boiler which is in an unsafe condition, and ignorance should not be allowed as a mitigation of neglect.

There ought to be a system of rigid inspection adopted in this country, and it should be enforced by law, the expenses of which might be defrayed by paid licenses from the owners of boilers, who should be prohibited from running a boiler a single day after it is condemned by the proper authorities. Any violation of this law should incur severe penalties.

We have a system of inspection for marine boilers, but there are hundreds of boilers on land to one on water, and many of them are in charge of men who are utterly unfit for the work. Whatever of supervision exists under the present system—and, if we mistake not, there is something of the kind provided for on the statute books of most of the States—it is certainly very inefficient; so much so as almost to amount to nothing. This is not only evident from the number of explosions which occur, but still more evident from the condition of a large proportion of the stationary boilers scattered over the country.

It is time this matter was more vigorously taken in hand, and some efficient efforts made to reduce the number of accidents arising from this source. It would not, it seems to us, be difficult to draft a law providing for systematic inspection and summary action when compliance with its requirements should be refused.

IS THERE SUCH A THING AS SOCIAL SCIENCE?

There is a great deal said, now-a-days, under the captivating title of "Social Science;" but much of what is said and written warrants a doubt of even the existence of such a science. Still more does it warrant the doubt that those who attempt the discussion of social topics, have, even admitting the existence of such a science, ever mastered the first rudiments of it.

The wordy and weak discussions which have filled up the time of the so-called "Social Science Conventions," have not availed to fix public attention upon social evils more strongly than before they were uttered. The few suggestions made for reform, and the correction of acknowledged existing evils, have been of the most impracticable kind, and showed most glaringly superficiality of thought in those who offered them. If there be not now, it is high time there ought to be such a thing as social science.

It is painfully evident that society is, in some respects, going from bad to worse. We will not say that, on the whole, it is deteriorating; but granted even that it is growing in

virtue and increasing in knowledge, that its sanitary condition is improving and its moral health better than in the dark ages—all this is not enough.

It is sad to reflect that whatever progress has been made, or is now making, is the result of bitter experience to those who have gone before us, and whose blood and tears have stained the pages of history for ages.

Is there no way to adjust society on immutable principles? Must all progress be in the future as in the past secured by experiment? And must what we call social science be forever a mass of ill-assorted facts culled from history? Surely there is some more solid basis than this for social organization.

Did we want proof that nothing like social science exists among us, it is found in all that surrounds us. Very little that passes current in society will stand the test of reason. Our eating, our working, our dress, and even our sleeping, are alike performed with a general disregard to physical law. Pauperism has become a profession. Disease though on the average, perhaps, not so deadly as it was a century ago, is, if not more general, still not less diffused. Perfectly healthy people are the exceptions, not the rule. The professions of law and medicine still find enough in the misery and crime of humanity to amply sustain them. The administration of justice is too often a mockery, and legislation has become a matter of barter and sale. The drones of society are on the increase, and honest hard-working producers are compelled to contribute to their support.

Could these things be if social organization had been reduced to a science? Blackstone, in his "Commentaries," has laid down some general principles upon which all society must be based, and any departure from which is a step toward anarchy; but these principles underlie the civil rights of people united in a national compact. They leave untouched great and fundamental physiological and biological laws, the disregard of which has burdened society with the greatest evils under which it now groans.

Until some prophet arises capable of grappling with this subject from a physical and biological, as well as a political and legal point of view, and beginning down upon hardpan, shows how society may be constructed in harmony with all the conditions of pure living, regardless of creeds, conventionalities, or traditions, let us not flatter ourselves that such a thing as social science exists. A heterogeneous mass of facts does not constitute a science, any more than a rude heap of stones and sand and lime may be called a temple.

MICA BROCADES—A NEW PRODUCT OF ART.

No doubt all of our readers are acquainted with the mica which is so extensively used in doors of stoves. But it may be stated that under this term a whole group of minerals is comprised, either occurring massive or disseminated in rocks. They have all a more or less foliated structure and pearly luster. They are elastic, transparent, or translucent, and have a specific weight of 2.7. In Germany mica has recently found application for the production of bronze-like colors which bear the names "brocades," "crystal colors," and "mica bronzes." The mineral is to this end well crushed, boiled in hydrochloric acid, then washed with water, and assorted according to the size of the laminae. Mica scales thus obtained exhibit a glass-like luster combined with a silver-white appearance. The advantages of these brocades (which by the way may be colored) over the ordinary metallic brocades, are stated to be the following: 1. They do not contain any ingredient injurious to health. 2. They possess metallic luster like the ordinary brocades, and some surpass them even in liveliness of color. 3. Brown, black, blue, green, and rose are obtained in remarkable beauty, which is not the case with the metal bronzes. 4. They comport themselves with perfect neutrality toward sulphurous exhalations. 5. Their specific weight being very slight, their yield is consequently correspondingly great. In their application they may be fixed upon all kinds of articles of metal, wood, glass, plaster-of-Paris, and paper board. They are consequently well adapted to the preparation of artificial flowers, fancy papers, sealing-wax, in tapestry, furniture-making, and painting. Theaters may employ them for imitating gold-rain and snow, for which purpose they recommend themselves on account of their lightness and cheap price. In short, they may be used for almost all the purposes to which the ordinary bronze powders have been applied. In fixing these brocades upon articles of any kind it is advisable to paint them first with a color similar to that of the bronze; for silver, a ground of white lead is suitable; for blue, one of ultramarine, etc. They are equally suitable for oil and glue colors, which latter are fixed with a mixture of four parts of glue and one of glycerin. Upon this coat, when hard, the binding material for the brocade is spread, and after one quarter of an hour this latter is sifted over. As binding material a paste, consisting of four parts of boiled starch and one of glycerin, is recommended. If desirable, the powder may be finally pressed down with a roller. If the ground is formed by an oil paint, the binding material for the brocade should be constituted of a dammar, or pale copal varnish, upon which, when only pitchy, the powder is sifted over. When finally coated with a suitable spirit, dammar, or copal varnish, the so-prepared articles assume a luster which, in beauty and durability, far surpasses any heretofore obtained with the common bronzes. When small particles of mica-silver are spread over articles coated with asphalt varnish, the result is a good imitation of granite. The crystal colors are also suitable for calico printing, and fabrics upon which they are applied, surpass in brilliancy the heavy bronze and glass-dust fancy fabrics from Lyons. Employed between or on colored gelatin plates, they give rise to superb crystallizations, which are used as inlayings for buttons and various other articles. They may be spread over finished