

# “Masonry and Our Architecture”

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(The following unrelated articles are included in the scans of this article: (1) Plea for Use of Carolina Granite; (2) Why Italians Prefer Stone for Building; & (3) “Ground Pumice in Building Work.”)

## Masonry and Our Architecture

**ONE** of the Italian commissioners now on a war mission to this country, Signor Arlotta, made a plea before the Merchants' Association of New York that this country aid the Allies in the most needed way by the building of ships. Signor Arlotta suggested that if we could "not furnish iron for both ships and for skyscrapers, we should for a time at least cease to build skyscrapers."

This has formed the text for an extremely interesting letter to the public press by Mr. Cass Gilbert, the eminent American architect. Mr. Gilbert says:

"We have been perhaps extravagant in America in the use of structural steel for building work. There are hundreds of buildings erected in this country every year which could be just as well erected without steel, and in hundreds of others the amount of steel could be greatly reduced. An enormous tonnage could be saved if reinforced concrete, masonry, or other material was used. Practically all buildings of moderate height can be erected without the use of large quantities of structural steel. Reinforced concrete or old-fashioned masonry can take its place, and for a time at least we could well forego the erection of buildings of excessive height. The architects and engineers of America have ingenuity enough to meet our building problems along these lines if they must, and if the owners of prospective buildings will adapt their views a little to the practical conditions of masonry and concrete there is no reason why we should not in the end have even better and more substantial buildings for all structures of moderate height."

Mr. Gilbert then adds that he one time made the jesting suggestion that we might be forced eventually to destroy our skyscrapers in order to utilize the steel they contain in other ways. The time may come, he says now, and may not be far distant, when this prophecy, spoken in jest, will be realized.

Mr. Gilbert does not think it will be altogether a misfortune if we curtail our steel construction. He says: Our architecture will not suffer for it, and if it did we can wait to remedy that. The greatest archi-

ture the world has ever known was built of masonry and concrete. Vast spaces were vaulted, vaster, perhaps, than any we now build, and far more enduring. The Baths of Caracalla and of Diocletian, the Pantheon in Rome, the Dome of St. Peter's in Rome, the Mosque of Santa Sophia in Constantinople, all spanning great distances, were built of masonry. The great cathedrals in France and England were vaulted with masonry. Certainly no more dignified and imposing buildings were ever built. The floor construction of the earlier buildings in our own country, such as the old section of the Treasury Department and the older portion of the National Capitol, was vaulted masonry. In Italy and France, in our own time, it has been the custom to construct floors of concrete or masonry vaulting, and should we return to these methods of construction we would develop an architecture more substantial and more imposing than anything that we can construct of steel.

The use of the timbered arch construction, as in the



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A suite in the new Equitable Building. Architect: A. F. Gilbert, New York. Walls of Tavernell and floor of Tennessee marble, cut by J. H. Shipway & Bro., New York.

Boston Public Library, the Hall of Fame of New York University, the Cathedral of St. John the Divine of New York, the Capitol Building at St. Paul, and the elliptical "rotunda" of the United States Custom House in New York, are examples of what can be done in wide-span construction, practically without the use of steel, the dimensions of the last-named vault being 86 feet in its minor axis and 126 feet in its major axis.

A great number of other examples of recent constructions, such as loft buildings, office buildings, warehouses, and factories from five to ten stories in height, have been erected entirely in concrete in various parts of the United States, and show that Americans can build and build well without structural steel. Viaducts, bridges across broad rivers, and culverts almost without number have been built in this country practically without steel. The great bridge of the Great Northern Railroad across the Mississippi at Minneapolis, that of the Pennsylvania Railroad at Harrisburg, the viaducts in the Borough of Queens, all of concrete or masonry.

There are, of course, certain practical considerations of economy of space, which we cannot fulfill always quite as well in certain kinds of buildings without the use of structural steel, but there is no reason why our people should not change their requirements, if necessary, to meet war conditions, and if they are willing to do so it would be greatly to the advantage of architecture as a fine art.

#### Plea for Use of Carolina Granite

The newspapers of Columbia, S. C., are making a strong effort to have South Carolina granite used in the construction of the new postoffice in that city. As a general rule when newspapers and commercial bodies fight for the use of local stone in a Federal Building, their demand, first of all, is that the Government should make an increased appropriation in order that a native industry be encouraged. It is refreshing to find that the *Columbia Record* seems to think that the local quarries should keep their prices down in order to meet competition. The article is worth reading, even if the writer does not know that the famous Indiana product is limestone and not sandstone and is flagrantly unjust to that stone. The editorial says:

Has something gone wrong again in the plans for our postoffice? We understand that all of the bids submitted were beyond the limits of the appropriation made, and that the cost of stone work may have something to do with the delay. Granite is a difficult substance to handle, but cannot granite be quarried and shaped and pointed in Columbia at as low a cost as sandstone may be quarried in Indiana—plus the freight? On the west shore of the Congaree River, directly opposite the State Penitentiary, are acres of virgin granite. There are quarries within the corporate limits of the city of Columbia. Why could not this granite be used, at even a lower cost than the imported sandstone? It will not be possible to get an increased appropriation for the postoffice. We were lucky to have received this appropriation before war times.

It will not be possible to use granite from distant quarries and have a building of the size and dignity that Columbia, the State capital, deserves. The demand for this new building is due to Columbia's hav-

ing outgrown the present environments. We must sacrifice something to get the Carolina stone used in the building, or we must sacrifice the building. Our suggestion is not prompted by sentimental reasons. We wish to see the payroll expanded. For more than two years we have been fighting to make Columbia the granite headquarters of the country, and now we face that casualty of losing a big job which should be given to our local stone cutters. The granite around Columbia is susceptible of a beautiful polish, and the appearance of the building would be greatly improved by having a granite of delightful lustre used in place of a lifeless, dull limestone.

#### Why Italians Prefer Stone for Building

The average Newarker is often prone to wonder why natives of Italy, now residents of this city, prefer to build stone houses instead of the usual frame structures, says a Newark newspaper. The reason for this lies in the fact that in Italy the most common material for building is stone, and that the Italians are more accustomed to work on this material than on wood.

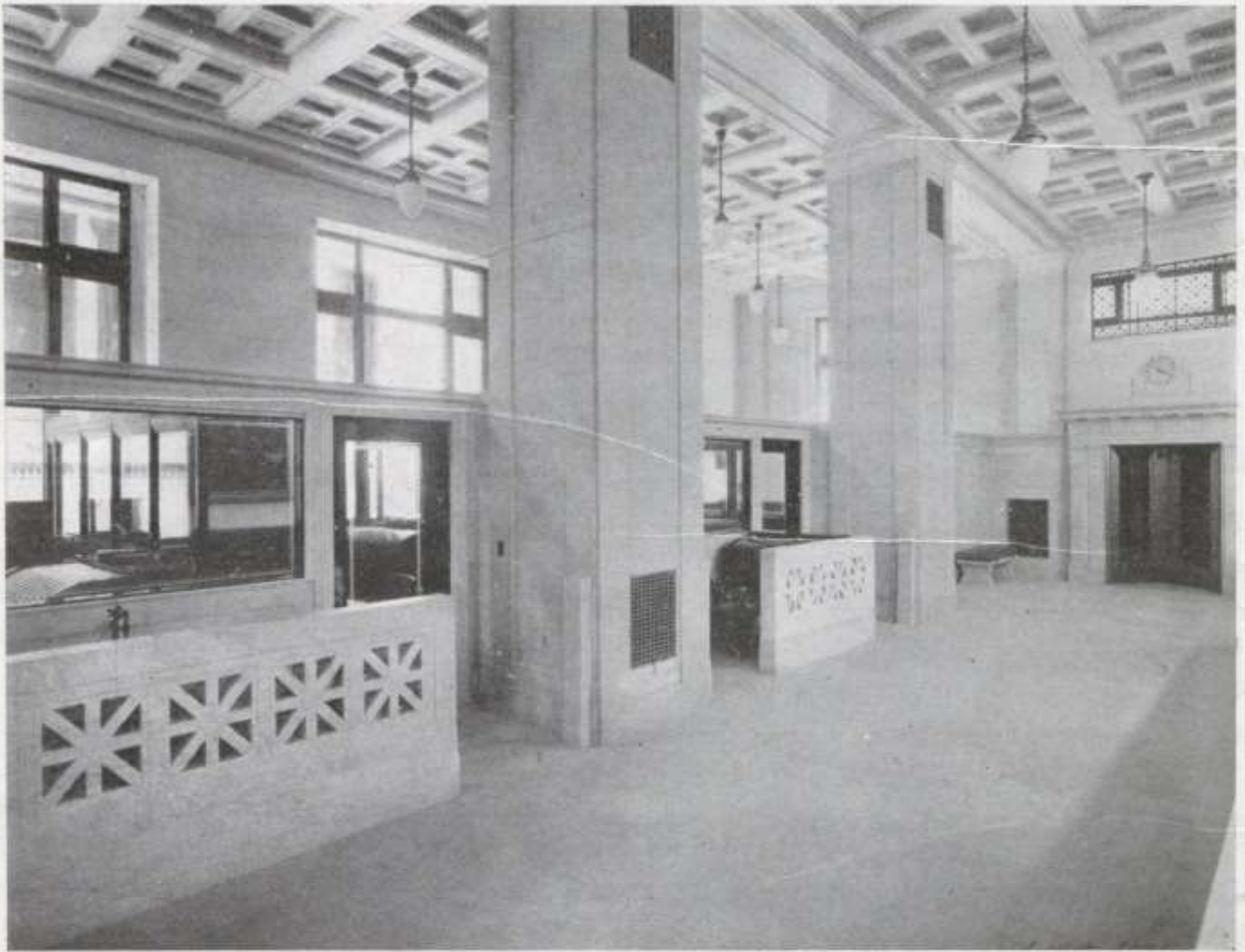
That is why so many stone houses are to be seen in the Italian quarter, and often in isolated places, although the most popular and least expensive building material here is wood. There are fewer carpenters than masons in Italy, which is also partly responsible for this condition.

Another interesting fact is that Italians, as a rule, are very careful about the foundation and exterior of their homes. No matter what grade of finish the interior may be the exterior is usually excellently well done, special attention being given to the stonework and trimming.

#### Ground Pumice in Building Work

Construction work in Aden, both public and private, has been very much curtailed on account of the abnormally high prices for all sorts of building materials. An interesting though not entirely new practice has developed in the execution of small but necessary pieces of work which would ordinarily involve the use of cement. In place of cement concrete, a mixture called lime concrete is being used. It is composed of equal parts of lime, sand, and pumice. The pumice is ground fine and is obtained in unlimited quantities from the volcanic deposits that form the peninsula of Aden.

Lime concrete takes much longer to set than cement, but the results have so far been quite satisfactory. This material also is comparatively inexpensive. The chief engineer of the Aden Port Trust is now using it in a small and experimental way for construction which is covered by and consequently exposed to the action of sea water.



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