Columbia University
Graduate School of Architecture, Planning and Preservation
A4003: Core Studio 3, Fall 2014
Robert Marino Studio

Cementitious Architecture

Cementitious, adjective, "*Of the nature of cement",* Webster's New Collegiate Dictionary

Manhattan House, Gordon Bunshaft, 1950

The construction of large scale housing in New York City invariably involves *cementitious* materials. An unusual confluence of factors, some technical and some sociological, have led to this culturally determined reality. Portland cement, sand, aggregate materials, steel reinforcing rods, modularized brick materials, precast lintels and sills, coping stones: These are the labor-intensive materials of New York City Housing. They are heavy, somewhat crude, and in the case of cast-in-place concrete, require preparation, (formwork), that is very complex and costly.

A labor force that knows cementitious materials and techniques is also required. This labor force exists here in New York City. It is the product of several centuries of immigrant worker influx, newly arrived in America with skills already honed in other places. These basic skills then had to be re-considered because of the special adaptations needed for New York City sites, special limitations of New York City transportation, and the vagaries of local union rules and regulations. In all, we can state that housing construction in New York City is at least partially a sociological phenomenon, a unique combination of local practicalities and exigencies.

A painter's palette is a myriad of color possibilities. A New York City housing architect's palette is made of materials of this genre and the workmen and women who can manipulate these materials.

Cementitious architectural constraints predict the most basic of architectural rhythms: The construction module. Beneath every housing façade an order has been determined. The structural requirements of reinforced concrete, operating economically, determines the spacing of vertical structure, by default also determining the size of habitable rooms. This is a determination that will affect our daily lives, the spacing of our activities, and our sense of interior space in New York City.

The common masonry brick and its modular size will determine much of a housing project's external appearance. The very dimensions of common brick, 4" wide, 8" long, and 3" high, become the multiples of New York City housing exteriors, to an extent that dimensioning is often given in "bricks", rather than feet and inches.

Imperial House, 69th St. and Lexington Avenue

The preference of compression, (cementitious), materials for New York City housing suggests verticality as a predominant aesthetic, and this is the basic device of much of the older building stock. Beginning in the 1930's and 1940's, in order to be congruent with the modern movement, architects tried to defeat this innate material tendency, and emphasize the horizontal. This led to a remarkably tense situation in design, and the results, still efficient, still employing the materials and workmanship at hand, are significant and unique solutions.

It is the aim of this studio to continue this research and to challenge the use of the traditional materials and techniques with the necessities of contemporary life. We will initiate a studio discussion and research of cementitious topics to be used as a semester long palette of possibilities.