and may be applying the intuition of the artist. The architect and engineer are designing different classes of objects, and perhaps see the balance between the objective and the intuitive differently in their own work, but are in fact at different points within the same range of activities. Where the idealized social models of the architect and the engineer are very different, and represent the competing values of artistic production versus efficient production, in practice the normative practice of architecture and engineering are more similar than different.

4 Architecture as a Modern Process

The architectural profession has changed dramatically since the nineteenth century. One way of describing this change is that the intuitive, "artistic" side, and the objective, "technological" side, have grown further and further apart. One reason this happened is that industrialization resulted in both the formalization of professions and the decline of craft traditions. This meant that the architect was put in the position of controlling the work of craftsmen who heretofore were not subject to such control, and these craftsmen were themselves disappearing, turning into construction workers who were taking someone else's orders. By converting skilled craftsmen into wage laborers, capital could more directly control the process.

I speculate that the design language within modern architecture that is often called the "International Style" – a language characterized by industrial components, simple details, and lack of ornament – was not only an artistic or social movement. It arose partly because the architect could not maintain control over the production of buildings that required details that could only be produced well through traditional craftsmanship. Since the culture of traditional craftsmanship was fast disappearing, the only way the architect could maintain control was through the development of a style that much better allowed for "control at a distance" than historical styles. The buildings that prevailed throughout most of the twentieth century are as much the result of a particular mode of architectural production as they are of aesthetic preference or social demand. This is of course connected to the industrial production of buildings, but the critical point here is that the imperative of building in this way may have come at least partly through the constraints of time and efficiency that were being felt in practice.

In the early 1890s, the prominent New York firm of McKim Mead and White designed a building called the Metropolitan Club on the upper East Side of Manhattan, at Fifth Avenue and 60th Street. McKim Mead and White were New York's most prominent practitioners of the Beaux-Arts style, an interpretation of classical architecture that seemed particularly suited for the new moneyed elite of New York, who built banks, houses, and rich men's clubs like the Metropolitan Club. The documents connected with the construction of this building are now housed at the New-York Historical Society. These documents include letters, contracts, estimates, bids, and communications of all kinds between the architects, and their clients, suppliers, builders, contractors and other players.

An examination of these documents has led to two general observations that are relevant to my argument. First, there were something on the order of 7,000 documents, and these were only those that had been in the archive of the architecture firm, that made it to the historical society. Second, what was going on to very large extent, is that the firm was attempting to maintain complete control over every aspect of the project. No detail escaped their authority, ranging from the design of the cigar cases in the office, to the blowers in the mechanical room, to the details of the handrails. In other words, aspects of authority that in previous decades might have been left to craftsmen or engineers were being consolidated under the all embracing purview of the architect.

The mode of architectural production exemplified by the Metropolitan Club was about to change. Two or three decades after its construction, articles with titles like "architecture is a business" or "how to run an architects office" began to appear in architectural publications. (Silverman, 1939) These articles made it clear that the era of the gentleman architect was over, that efficiency and profit was the new *lingua franca*, and that time was indeed money. At around the same time, buildings in the clean modern style, devoid of ornament, began to appear. The famous exhibition "The International Style," curated by Philip Johnson and Henry Russell Hitchcock, was mounted at New York's Museum of Modern Art in 1932 (Johnson and Hitchcock, 1932 [1966]). Although the modern movement in America lagged behind that in Europe, modernist sensibilities were beginning to take root in American soil.

A well-known San Francisco architect, Joseph Esherick, who was trained in the Beaux-Arts system at the University of Pennsylvania, but then went on to design simple and informal modern buildings, once described how, for the design of a house, he first met the client on a Saturday, designed the house over the next week, and put the drawings in for permit approval a week from the following Monday. (Esherick, 1977) Esherick's early buildings were very simple in their details, and his point in telling the story was that this level of efficiency could not have been achieved if the details had been more elaborate, neo-classical in nature, or requiring a high level of collaboration with craftsmen or subcontractors.

This relationship between simple process and simple form is not true only for small buildings, but permeates all scales of the environment. It is no coincidence, for example, that American zoning ordinances, which are written so that they can be administered without the need for any discretionary judgment, result in urban environments that are generally banal and simplistic. The rich complexity of traditional cities happened as the result of processes that were themselves culturally rich. The mechanistic processes of city planning, design and construction are not neutral with respect to their built result.

The simplification of practice described here is indicative of a more general trend in the development of contemporary architectural theory and practice. Coming to a climax in the twentieth century, there was a gradual separation in architectural thought between "art" or what was seen to be the exclusive creative province of the architect, and "science" which was the increasingly stringent context of standards, regulations, explicit constraints imposed by materials availability,