ONLINE APPENDIX. Structural Analysis of Symbolic Systems and Material Practices.

Symbolic Systems: Institutional Logics. We employed a structural analysis of language to reveal the symbolic systems of the architects engaged in the theorization of "modern architecture" to create a new institutional reality (Breiger and Mohr 2004, Friedland and Mohr 2008, Krippnedorf 2004, Mohr 1998, Sausurre 2008,). Our approach is akin to Map Analysis (Carley, 1997; Carley, Columbus, Bigrigg and Kunkel 2010), a method that belongs to the family of Network Textual Analysis (Popping, 2000). It focuses on co-occurrences of words to build a network of concepts, bringing actors' meanings and symbolic systems to the forefront. When employing Network Textual Analysis, a researcher makes three critical decisions: filtering (the selection of the words to trace), windowing (the unit of analysis for calculating co-occurrences), and nature of the association (how to operationalize ties in the network). In detail, we followed these steps:

(1) We obtained PDF files for all the original texts, converted them into RTF files, cleaned them and then used MAXQDA (2007), a qualitative data analysis software program, to code and identify co-occurrences.

(2) We selected the words to include in our analysis (filtering) using a structural semiotic qualitative approach (Chandler 2007, Levi-Strauss 1963, Saussure 2008). The authors read the texts independently, identified and agreed upon 10 binary contrasts, encompassing 20 concepts and reduced these to the 12 most prevalent concepts (signs or symbols in semiotic terminology). To ensure uniformity to our narrative, we included only those symbols that occurred in at least two periods, leading to the elimination of eight concepts and focusing upon 12 concepts or 12 binary contrasts.

(3) We chose the paragraph as the appropriate unit of analysis (windowing), because concepts are contrasted and likened to one another to reveal meaning at this level of analysis (Krippendorf 2004).

(4) We built association matrices by coding the co-occurrences of the 12 symbols. We used an auto-code function in MAXQDA (2007) and focused on stems for each concept. For example, we included *industrial*, *industrialization*, *industrialism*, *industrialist*, *industrious*, *industries*, *industrially* when coding for *industry*. This created a matrix of words where the cell represented the relative frequency of co-occurrence of symbols across the texts' paragraph.

(5) For each architect, we standardized his association matrices by the total number of matrix co-occurrences. We then created group-level matrices by averaging the matrices of the architects belonging to each specific group. We identified and used groups of architects—*Revivalists, Mode*rn *Organic and* Mo*dern Functi*on*al*—based on architectural historians writings and confirmed these groupings with a prominent architectural historian and critic.

(6) We displayed the resulting group-matrices in a map, including only those ties that represented more than 3.5% of the total co-occurrences. To compare these maps across time, we created a single graph by period by uniting (Carley 1997) the groups' maps for that period. This resulted in the three graphs included in Figures 4-6 (top graphs), allowing us to highlight (a) when a particular group of architects used a symbol and (b) how different groups related symbols differently and across time.

Material Practices. To reveal the practices that defined modern architecture, we focused on the usage of building materials. We employed a structural network analysis of the materials used in the exemplary buildings categorized either as early modern or modern and built by the eminent architects in our sample. We followed these steps:

(1) We coded each building by identifying materials that comprised a significant part of the structure (excluding ornamental components). This led to the creation of a two-mode binary matrix of buildings-by-materials. We then affiliated the network to create a squared materials-by-materials matrix, where cells represented the dyadic relative frequency of the association between materials (similar to our symbolic analysis).

(2) We displayed the squared matrix in a network diagram, which represents the co-usage of materials. To ensure readability and to highlight differences, we included all those ties that accounted for more than 5% of the overall dyads.

(3) We repeated the two steps above for every group of architects across our three periods, and created the bottom graphs of Figure 4-6 by joining the resulting diagrams using the same rationale we used for step 5 and 6 of the symbolic analysis. Three comparable graphs across time periods emerged, which allowed for understanding the evolution of material practices by our eminent architects. They also allowed for comparability between the two main components of institutional logics, symbolic systems and material practices (Figures 4-6), showing how architects' interpretation and practices co-evolved.

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