

Lost in the Translation: Project Partnering as a Model of Collaboration in Design and Construction

BRIAN SCHERMER
University of Wisconsin-Milwaukee

Japanese architectural processes have been touted as a model of collaboration for architects, clients, and contractors that fosters innovation, flexibility, and a high level of commitment to the craft of building.¹ Conventional wisdom however suggests that Western-style design and construction is so fractured, confrontational, and driven by the bottom line that it inevitably leads to poor quality, hard feelings among the participants, and frequent litigation. Not surprisingly then, among large governmental and corporate clients in the West with a great deal of experience in commissioning architectural projects in an adversarial mode, there has been a notable rise in interest, and indeed, emulation of Japanese-inspired design and construction practices in the hopes of mitigating some of these problems. There is however some question about how well such an approach can be transferred to Western-style design and construction. It is tempting to assume that only the unique conditions of Japanese culture and political economy can foster collaborative design and construction management. A recent review in *Architectural Record* of Buntrock's book, *Japanese Architecture as a Collaborative Process*, for example, asserts that while there is much to be admired about the Japanese design and construction industry, it is a system that cannot be imitated elsewhere. Yet this has not kept some clients from trying.

This paper considers, through an ethnographic case study, the consequences and implications of one attempt by a project team in the U.S. to employ a more collaborative Japanese approach to the task of building. The specific strategy is known as project partnering, and it was employed by a group of client representatives and design and construction professionals in order to manage the construction of a very large and technically

complex building project. The research study suggests that while project partnering may offer certain benefits, including enhanced capacity for managing the technical complexity of the project and closer input from future occupants during construction, something is indeed lost in the translation from Japanese practice to project partnering, because considerable effort is required to overcome a long history of entrained institutional distrust among the participants, and because the approach, at least as practiced in the case study, did little to alter the traditional roles and power relations among the participants.

PROJECT PARTNERING

Project partnering is an extra-contractual strategy intended to foster trust and open communication, and to develop a shared vision of desired outcomes among participants.² The basic assumption is that cooperation rather than confrontation is the best strategy to achieve profitability, control costs, and satisfy long-term business relationships. The approach attempts to avoid the adversarial and litigious nature of most building projects by establishing formal processes to develop and maintain cohesive relations among the various partners, and align them in terms of culture, organization, training, and technology.³

Project partnering has its roots in management trends pioneered in the Japanese automobile industry, most notably lean production and total quality management (TQM). In promoting partnering, the Construction Industry Institute cited aspects of both as the model for the U.S. construction industry to emulate.⁴ Lean production was popularized for Western business audiences by

Womack et al in their widely read *The Machine That Changed the World*.⁵ While drawing a sharp contrast between Japanese and U.S. automobile production, the text defined a number of lean production concepts that have been incorporated into project partnering:

- Interlocking client-supplier relationships, or *keiretsu*, which emphasize long-term partnerships rather than pitting suppliers against each other on the basis of price.
- *Lean design*, or elimination of barriers among design, engineering, and production functions through the use of both interdisciplinary teams that work together throughout the life of a project, and articulating design and production goals in a formal project charter to which all team members are to adhere.
- Continuous improvement, or *kaizen*, is a central tenet of TQM that emphasizes quality control based on statistical process controls and identifying root causes of production problems and dealing with them effectively.
- *Simultaneous development*, or close coordination between design and production functions so that each is accomplished with an awareness of other's work processes.

The strategy of partnering was formally embraced in the U.S. design and construction industry in a booklet jointly produced by the Association of General Contractors and the American Institute of Architects, which also describes a typical process for establishing a partnering arrangement.⁶ The owner (or perhaps the contractor) calls together the leaders of all the firms and they participate in a partnering workshop, often facilitated by a consultant. The group produces a partnering charter that spells out specific goals and objectives. Performance according to these indicators is reviewed periodically throughout the life of the project.

CASE STUDY

This study reports on findings from an ethnographic study of a project partnering team assembled by Chrysler Corporation to manage the design and construction of a state-of-the-art, \$300 million research and development facility at the company's headquarters in Auburn Hills, Michigan. The case study provides a revealing example of how Japanese management practices have been adapted into the U.S. design and construction industry, and the efficacy and implications of the approach.

This research was conducted as a part of larger investigation of the design and construction practices of the Big Three U.S. automakers. The ethnographic portion of the study was conducted for a six-month period on site at Chrysler shortly after the beginning of the construction of the addition to its headquarters complex in 1997 and 1998. The members of the partnering community were observed during regularly scheduled meetings and impromptu interactions, both in the construction management office and on the job site. In addition, individual members were interviewed frequently throughout the data gathering, and the researcher shadowed several members as they went about their daily activities. Meeting notes and other impressions were jotted during the day, and then later recorded in extensive field notes, which were then coded and categorized into basic themes and findings.

There are a number of important parallels between the design of the partnering team and Japanese management practices that make it an appropriate example for this study.

Supplier Relationships

To manage the design and construction of the project, Chrysler assembled a team which consisted of its own in-house facilities and operations staff, architecture and engineering staff from Albert Kahn Associates (AKA), systems engineers from Sverdrup Technology (SVT), and construction managers from Walbridge-Aldinger (WA). While this partnering agreement did not exactly replicate the systems of interlocking partnerships or *keiretsu*, traditional boundaries and contractual relationships among architects, engineers, constructor, and client were redrawn along lines that are consistent with a lean production approach. Representatives from each firm worked together under one roof and remained together for the duration of the project.

Interdisciplinary Teams

Consistent with a lean design approach, the partnering community was organized into interdisciplinary teams that corresponded to different portions of the project. Participants within each team were interspersed without regard to discipline or firm affiliation. Initially, however, the participants were organized in zones that maintained territorial separation of each firm. After a few months, and this is key to understanding just how mindful this community was of Japanese management (*The Machine That Changed the World* had been required reading among Chrysler employees, including staff architects and engineers), the workplace was



Fig. 1. Logos from the participating firms were combined to emphasize a sense of partnership.

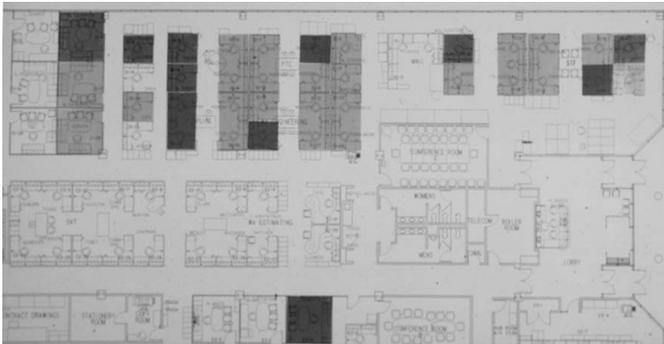


Fig. 2. The partnering participants were organized into interdisciplinary teams that were responsible for different portions of the project.

redesigned according to the interdisciplinary team model.

Partnering Charter

Also consistent with lean design, the partnering team was guided by a set of principles and formal pledges enumerated in a partnering charter. All members of the partnering signed their names to the document. A copy was enlarged to poster size and prominently displayed on a wall in the partnering team's workspace. The charter, in essence, established that actions and decisions made by the team must be primarily in service of the project rather than the individual interests of the team members. It emphasized, among other things, project objectives such as: (1) ensuring that construction documents are complete and meet the schedule, (2) changes are approved and processed in a timely manner, and (3) the members "strive for a zero punch list."

The charter also emphasizes the importance of communication and the quality of interpersonal relationships among team members, also a hallmark of lean design. The partnering charter principles therefore also included such statements as: "Promote 'can do' attitudes," "Maintain high job morale and cooperative attitudes among all project participants," "Enjoy and appreciate others' individuality and give them space," and "Respect and treat others and their work as you wish you and your work to be treated."

Continuous Improvement

The partnering community monitored its performance in a manner that resembles the total quality management principle of *kaizen*, or continuous improvement. The team used a member survey approach to assess its overall performance in terms of the objectives enumerated in the partnering charter. All team members, using the same communication software program, sent in their ratings using a five-point scale. These were computed and printed out on a set of graphs that were distributed and discussed at breakfast meetings held every six weeks.

Simultaneous Development

Finally, the partnering team was comparable to the lean production strategy of simultaneous development in which design and manufacturing proceed hand-in-hand. The partnering team workspace was located just a short walk from the construction site. When problems arose during construction, team architects, engineers, construction managers, and client representatives could be quickly mustered to address them. Design resolutions were considered and instructions to the builders were issued quickly. Coordination between design and construction was enhanced because the team members were unencumbered by physical distance, organizational boundaries, disciplinary lines, and formal communication channels.

INTERPRETIVE ANALYSIS

Through the mechanisms, expectations, routines, and procedures established by the partnering agreement, the members of the partnering community sought to manage the project through collaboration instead of confrontation. However, project partnering was no panacea for mastering the practical problems of managing everyday design and construction, and it is apparent that something was lost in the translation in implementing Japanese management strategies in a large

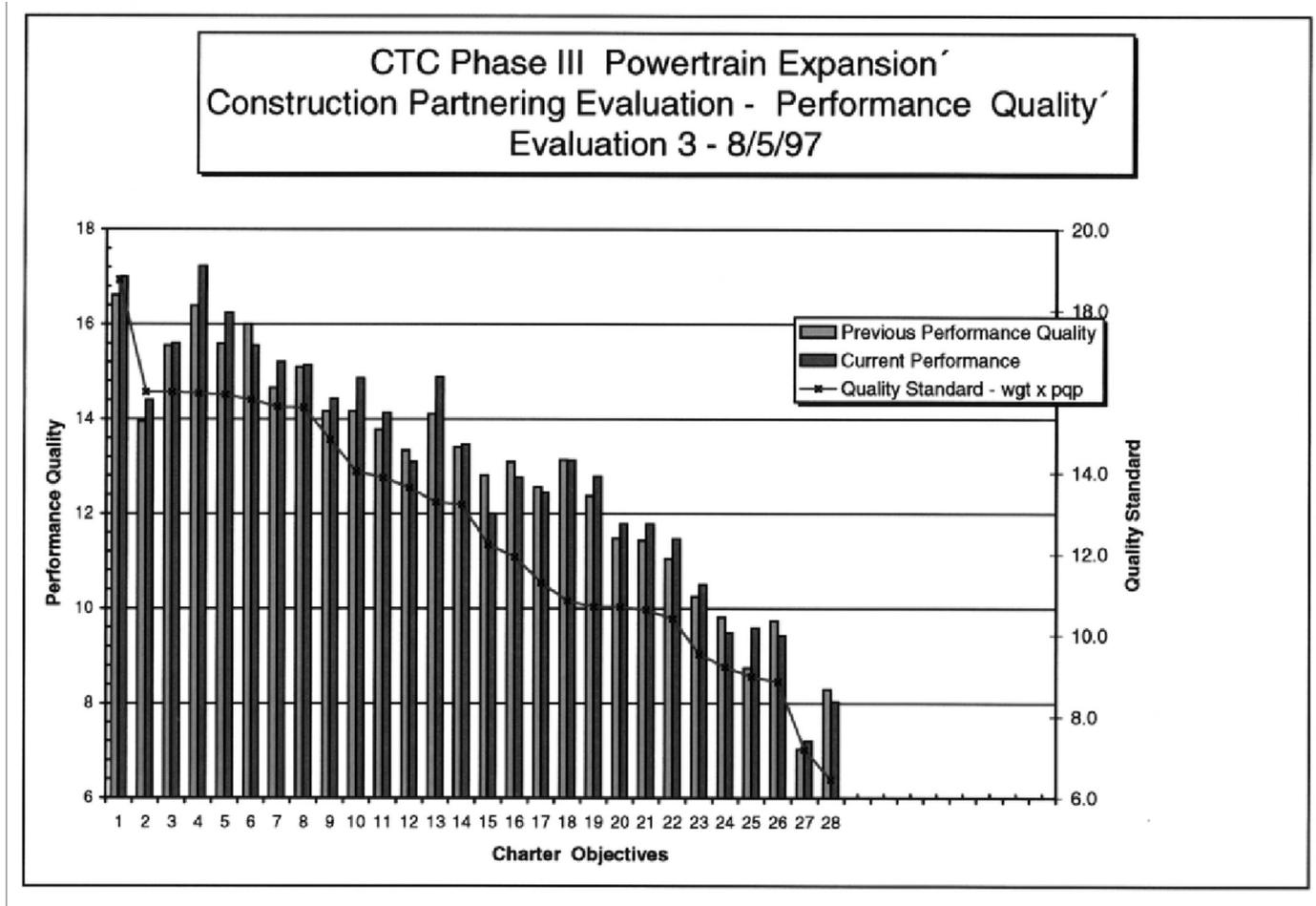


Fig. 3. The participants' assessments of team performance of partnering objectives were averaged and displayed on graphs.

and complex project in the West. There are two primary themes that emerge from this study.

- (1) There was an underlying distrust among the participants that was revealed by everyday challenges and circumstances in managing day-to-day construction and managing construction quality.
- (2) The partnering arrangement did little to alter traditional roles and power relations among the client, construction managers, and architects.

Underlying Distrust

Throughout the project, members of the partnering community encountered challenges that impelled some members to behave in ways consistent with the kind of distrust that characterizes much of traditional design and construction. How did the partnering charter influence the situation? It is tempting to dismiss the charter, particularly the portions dealing with social relationships, as having little consequence. Observation of the setting suggests, however, that while the level of trust and quality of social interaction called for in the

charter was not achieved, the goals of partnering were on the minds of many of the participants and this affected their interactions.

The significance of the partnering charter becomes clear when one considers what sociologist Harold Garfinkel describes as the essential moral bond that maintains order in any social setting.⁷ Garfinkel's concept of "ethnomethodology" emphasizes that order within a social setting is held together by an "interpretive trust" that is sustained and maintained through action and interaction of the setting's participants. Failure to behave in ways that make sense within the context of social expectations is met with reactions akin to outrage. It is therefore important to view the partnering charter as an idealized "code of conduct" that was morally rather than legally binding. In the case study, confrontational behavior frequently breached the idealized code of conduct represented by the partnering charter, and thus required ongoing repair to ensure the practicability of the partnering arrangement. This social dynamic is revealed in the following two vignettes.

Managing day-to-day construction required keeping track of the progress of the various sub-contractors and their activities on the job site. Weekly construction coordination meetings were an important venue for monitoring such activity and communicating important information to the work force. These meetings frequently resulted in confrontations over damaged or shoddy work, revealing institutionally entrained tendencies on the part of the participants to resort to a more adversarial approach to their work. Contractors, in particular, became defensive as they perceived complaints about damage as accusing them.

The following conversation during a routine construction coordination meeting with all the subcontractors present concerns a fairly typical incident of damage on the job site. Apparently, some electricians had stood on some newly installed furniture to reach the ceiling. This action caught the eye of a client representative who was appalled by the workers' cavalier attitude, and wanted the matter addressed. The excerpt demonstrates, despite WA's construction supervisor's concern for conveying the information without upsetting the subcontractors, just how sensitive the subject was to them:

Supervisor (WA): Very quickly. Something we need to talk about. Furniture in "D" wing. Let your people know that they aren't workbenches.

Client rep (Chrysler): It was an electrician and a ceiling guy.

Supervisor (WA): We aren't pointing fingers.

Client rep (Chrysler): I know, but it was electricians—

Subcontractor: You just offended three trades, and all three sets of electricians.

Client rep (Chrysler): If it's just three, then I'm doing pretty good.

Supervisor (WA): This is a touchy issue. It's going to be tight in there, and we need to leave room for people to work.

Despite the Supervisor's claim about not pointing fingers, it is apparent that both the client representative and offended contractor viewed it as such. In traditional construction, strained relationships are considered normal. For the partnering community, however, such strains constituted breaches of the partnering relationship and required ongoing maintenance and repair. In the construction coordination meetings, the source of this repair more often than not was the WA

supervisor. Despite his rather gruff demeanor, the supervisor exhibited considerable "relational skill" to defuse, or at least diminish, tensions as they arose.⁸ He was capable of discerning the signals of a discontented subcontractor, of backing quickly away from confrontation ("We're not pointing fingers"), and of validating their feelings ("This is a touchy issue").

On the whole, activities associated with managing day-to-day construction proved to be a difficult challenge for the partnering community. Actions of repair, except for the supervisor's meeting management, were too infrequent to fundamentally defuse the underlying tension. And, despite extensive training and participation of members of the partnering community in the art of collaboration, the construction workers themselves were socially and materially removed from it. This disassociation resulted in extensive and frustrating effort on the part of the partnering community to manage construction quality, as demonstrated in the next example.

Had this project been managed under the assumptions of traditional construction, it might have been easy to rationalize the lack of quality as the result of uncaring contractors and workers who were more concerned about getting paid than the success of the project. Expectations for the partnering community, however, ran higher. Written into the partnering charter was the objective of achieving a "zero punch list," or the absence of pending items at the time of substantial completion. This was an optimistic and perhaps quixotic objective, but it did not inoculate the project from quality problems. The most intractable problem was damage to already completed work, and it was pervasive enough that Chrysler's project director finally raised it in a meeting of the partners.

Director (Chrysler): They are the problem. It's not us. We are not doing the work. How can we rectify this?

Manager (WA): Toolbox talks, material storage, and third, if it's blatant, then—there's a superintendent for each trade who can deal with it.

Director (Chrysler): We won't accept damaged work. And you guys are the ones that are going to lose money. You know—I know it's hard enough to make money on a job. [Pause] We want you to make money. If you express the importance

of profit to your company; unfortunately... [Comment trails off]

The director's statement that "They are the problem," does not specify who "they" and "we" are, however, it is apparent that expectations of the client were not being met. He made clear Chrysler's position that damaged work was unacceptable, and that the contractors would ultimately bear the cost. WA's manager responded with possible options: admonitions to the construction workers to be more careful and keeping the construction site cleared for easier flow for material, equipment, and people. "Blatant" disregard would have to be dealt with more directly, although the specific means for doing so were not spelled out. Reports from field managers indicated that confronted workers denied responsibility ("Nobody said they knew nothing"). The damage issue was vexing enough for the Chrysler project director to pull rank as a traditional client would when he threatened financial consequences ("You guys are the ones who are going to lose money"). Once the threat was made, however, the director was compelled to backtrack and repair the breach he had just created ("We want you to make money"). The partnering arrangement thus provided only limited leverage for affecting performance and quality on the job site.

Traditional Roles and Power Relations

The partnering agreement did little to alter the traditional roles and power relations among the participants. In particular, the agreement highlighted in entirely unintended ways the different and sometimes conflicting roles of the architects and construction managers.

One key difference was that the construction management firm, WA, enjoyed a long-term relationship and a high degree of comfort with the client, while AKA was held in a different regard. WA had been a long-term partner with Chrysler since the beginning phase of its headquarters project in the 1980s. The client and construction managers were so close that Chrysler staff saw WA as an "extension" of their own organization. As construction managers, they even had a contractual mandate to act as a purchasing agent, that is to say, to spend money on labor and materials, for Chrysler. The architecture firm, AKA, on the other hand, was seen not as an extension of the client, but rather as possessing specific expertise that needed to be matched to the requirements of this particular project. While being recognized for one's expertise is certainly positive, it

made it difficult for AKA, or any other architecture firm to be seen as a long-term partner.

The architects were cast in their traditional role of creating detailed symbolic representations, drawings and specifications, of well-crafted and functional buildings. The downside of this is that glitches inevitably surface during the course of construction, because contrary to expectations, it is impossible to anticipate all problems. When an error or omission cropped up in the field, it was the architects who were likely to receive the glare of disapproval from the client, because they "designed" it. Meanwhile members of the construction management firm were in the enviable position of being the first to discover inconsistencies and errors in the contract documents, and to thus appear as primary guardians for quality control and the overall interests of the client.

Furthermore, as in traditional construction, the architects had little influence over the quality of construction work other than through their own drawings and specifications, and inspecting the work for conformance with the contract documents. When on the job site, the architects operated in a realm that was under the control of the construction managers and contractors. There were a couple of small, but telling signs. WA construction managers carried two-way radios so that they could communicate with each other in the field, while the architects were kept out of the loop unless summoned by WA. Another sign was that the architects normally wore street shoes when working at the construction management office and only changed into their work boots, which they kept stashed under their desks, when they visited the site. These symbolize Sutton's argument that an important reason for architects' loss of influence is their willingness to divorce themselves from the "dirty work" of building.⁹ The partnering agreement as, as implemented in the case study, did nothing to alter the traditional roles of architect and construction manager, and thus highlighted the relative powerlessness of the architects on the job site.

CONTRASTING PROJECT PARTNERING AND JAPANESE DESIGN AND CONSTRUCTION

As suggested by the case study, something is lost in the translation when Japanese management is translated into Western style project partnering. Partnering seemed to merely veil the underlying adversarial structure associated with traditional design and construction.

Given that project partnering aims to emulate aspects of Japanese management, and Japanese design and construction in particular, it is worth contrasting the authentic version with this Westernized adaptation.

In addition to similarities enumerated in the introduction, there is at least one other. In Japan, Buntrock notes, building design and construction draws inspiration from manufacturing industries, and construction itself proceeds in a manner akin to a large-scale assembly process.¹⁰ The view of construction as a process that might be improved by a manufacturing perspective has a certain appeal for a large client like Chrysler. In fact, in creating the partnering team Chrysler's in-house project managers drew inspiration from their own company's adaptation to Honda Motors' vehicle development. Beyond this, however, the differences between Japanese design and construction and project partnering outweigh the similarities.

One key difference has to do with the nature of construction contracts between Japan and in the U.S. In Japan, there is a high degree of flexibility to the process, as contracts are deliberately left open-ended to explore solutions during construction and there is a commitment among the parties to work collaboratively in order to resolve unknowns.¹¹ In project partnering example, however, construction documentation and the conditions of the contract were close-ended and restrictive. Open-endedness is eschewed in traditional construction as a failure of advance planning, and glitches that arise during construction, though inevitable, are considered anathema. Even when guided by a partnering philosophy, there is little tolerance for error and a tendency to place blame for them when they occur.

Another difference is that in Japan there is a lack of clear job demarcation, despite specific titles, that fosters opportunities for collaboration.¹² It is not uncommon, for example, for contractors and fabricators to have a role in setting conceptual goals for a project. In other words, the design team consisted of a wide variety of players. In contrast, members of the partnering team adhered tightly to their traditional roles, and the fragmentation underlying the process was never fully resolved.

Finally, there is also a basic difference when it comes to the aim of building in Japan and in the partnering arrangement studied here. In Japan, there is a basic shared commitment to the overall craft of building.¹³ The partnering agreement however was heavily weighted toward achieving the functional and operational goals of the project, construction quality, and minimizing punch list items; but was no mention about advanc-

ing the craft of building for its own sake. Instead, primary motives for the partners were service to the project and the successful completion of the contract.

IMPLICATIONS FOR PRACTICE

The assumption that Japanese design and construction practices cannot be emulated elsewhere therefore seems true to the extent that they cannot be directly transplanted. They are however being translated in the form of project partnering in an attempt to alleviate the perceived disadvantages of an adversarial approach in traditional Western practice. As demonstrated in the case study, however, it is evident that the approach is an extra-contractual overlay that, while of consequence, does little to fundamentally alter the basic dynamics of the process. As large clients and others in the design and construction industry consider the Japanese experience in managing their architectural projects, it behooves them to consider what would be involved in achieving the kind of flexibility and collaboration found in Japan.

A common theme in the literature on project partnering is the admonition that the approach requires an extraordinary degree of commitment and effort on the part of the participants.¹⁴ Among the necessary conditions, this literature suggests, is a change in the culture of the organizations that are assembled to bring partnering projects into fruition. The case study at Chrysler suggests however that such profound cultural change requires going beyond the insinuation of partnering meetings, seating arrangements, and charters into traditional processes. The deepest level of organizational culture is the taken-for-granted assumptions held by the members.¹⁵ Achieving this depth of cultural change, this study suggests, is indeed elusive. It is hard to imagine how the kind of collaboration and trust envisioned by advocates of partnering can be enacted without fundamentally restructuring traditional design and construction itself.

NOTES

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⁴ Construction Industry Institute Partnering Task Force. *In Search of Partnering Excellence* (Construction Industry Institute, 1991).

⁵ Womack, James P., Daniel T. Jones, and Daniel Roos. *The Machine That Changed the World: The Story of Lean Production* (New York: HarperCollins, 1990).

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⁹ Sutton, Sharon. "The Progress of Architecture," *Progressive Architecture*. 74: 10 (1993): 76-80.

¹⁰ Buntrock, 105-108.

¹¹ Buntrock, 66.

¹² Buntrock, 48-49.

¹³ Buntrock, 48.

¹⁴ See for example, Stephenson, Ralph J. *Project Partnering for the Design and Construction Industry*. (New York: John Wiley & Sons, 1996); and Bresnen, Mike and Nick Marshall. "Partnering in Construction: A Critical Review of Issues, Problems and Dilemmas," *Construction Management and Economics*, 18 (2000): 229-237.

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