Risky Business: How the New Economy Can Create a New Ecology for Architectural Practice

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In *Risky Business*, the cynical 1983 comedy that made Tom Cruise a star, his character, a high school senior named Joel Goodsen, guilessly ruins his parents' most precious possessions when they leave him home alone. The plot unfolds as he desperately tries to repair and recover the elaborate treasures of upper class suburban life while carrying on an increasingly futile attempt to get accepted to Princeton. He succeeds, almost still guileless, haven gotten the girl and an acceptance letter. Along the way, he's run a brothel out of the family home and he's had a few encounters with his girlfriend's 'manager' [she's a prostitute]. In the end, it's not exactly clear what's more important, the girl or the letter or his parents' forgiveness. It's a telltale post-modern narrative; sex, success, love, all caught together.

The Goodsen family home, a Dutch Colonial in suburban Chicago, is oddly similar to the pink house Frank Gehry would deconstruct in Santa Monica in 1979. That 80s architectural icon, which marked Gehry's emergence as the ultimate architectural form-maker for the end of the century, looked as if it had collided with the detritus of a dying industrial culture. Some kind of chaos seemed to be threatening American life. If Gehry's house depended upon an aestheticization of that chaos, the fragile, restored tranquility of the Goodsen household depended upon the chaotic flux of risky [or, risqué] business.

As Joel, Cruise learns the lessons of the post-industrial economy, and exploits his guilty innocence to gain access to those institutions that would brand him as an elite worker in the knowledge economy. He discovers that experience is more important than substance, and financial success depends upon a network of relations [here it's intimate relations] not production. Inventing opportunity, adjusting objectives and intentions along the way, transferring and transforming experience and information, becomes the operative strategy an economy that's become a great collective network of desire. Clearly, value is produced in a manner that defies the rational, push pull Newtonian physics of the industrial economy. Cruise operates through systems of exchange that are far more complex than the 'entreprenuerial' training offered to him by his high school's business club.

A NEW RELATIONSHIP BETWEEN ARCHITECTURE AND THE ECONOMY?

As computers began to invade architectural offices in the 90s, there was a glimmer of hope that architecture as a discipline might finally move away from its persistent attachment to guild-based production, and become part of an economy where information transformed into knowledge is the most potent form of value creation. Finally design expertise, with its instrumental ability to invest materials with the intelligence, could gain a sense of intimacy with the forces that drove the economy at large and determined the production of buildings.

At the close of the decade, after a predictable period of fascination with the representational potential of digital technologies, various practitioners began to call for the invention of new practices that 'rode the wave' of social and economic forces. This desire to abandon the distancing position of critique had its beginnings in an exhaustion with the idea of autonomous practice, but also reflected new opportunities presented by the advent of digital fabrication. Four years ago, in an article published in

Architectural Record, "Tales from the Avantgarde: How the Economy is Transforming Theory and Practice," (Speaks, 2000) Michael Speaks announced the emergence of the 'post avant-garde' entrepreneurial architect. Speaks asserted that theory and its caretakers, the architectural avant-garde, were too 'slow' to compete with 'change managers' of the new economy and called for a practice defined by "conceptual athleticism", opportunism and risk-taking. The demands of new technology and the new economy it created had opened up a new way to practice architecture that was fluid and 'market driven.'

However, Speaks's attempt to systematize that strategy in the form of entrepreneurship opened up a new set of risks, since it implied a restrictive and superficial relationship between architectural practice and its markets. His entrepreneurial architect was framed in language straight out of popular business literature from the 1980s--namely, the first 'blockbuster' best-selling business book, *In Pursuit of Excellence,* by Tom Peters. Peters' book 'branded' a new mode of post-industrial corporate management, where the risk-adverse corporate manager would be supplanted by the risk-seeking entrepreneur. Its success was an indicator of the crisis faced by many American corporations at time when post-war industrial growth and optimism had died in the mire of endless recession. American corporations appeared to be in their death throes, starving for ideas and opportunities, and the new management paradigm suggested by the 'entrepreneur' was an answer that seemed revolutionary on the one hand, and familiar, even a return to a kind of authentic manner of American business, on the other. We would become better than ourselves by becoming more of ourselves--a post-modern narrative that echoes Joel's coming of age story.

Now, after the burst of the tech bubble, it is easier to discern the actual position of the entrepreneur in the 'new economy' that emerged out of the 80's recessions and the 90's boom. When business writers attempted to make a champion out of the entrepreneur, they were desperate to find alternatives to the hierarchical organizations that had been created by an industrial economy. With hindsight we can see that those efforts to promote entrepreneurship were merely nostalgic. A post-industrial service-based economy encouraged networked mega-organizations that tended to wipe out the small operators who profited by seeking risk instead of managing it. The most remarkable market agents of the 80's and 90's turned out to be Microsoft and Wal-mart, which succeeded, in part, by distributing risk through wide networks of suppliers or distributors. The rise of the e-economy entrepreneurs hardly compares. E-bay, one of the few exceptions, worked because it literally made a market for itself by finding a new way to organize exchange, a distinctly non-entrepreneurial strategy. Instead of following risk, E-bay created a market.

Now, as the new economy matures, the entrepreneur is not dead, but instead plays a minor role. A risk-seeking entrepreneur always follows the market instead of leading it. Like the risk-adverse corporate bureaucrat, the entrepreneur responds rather than provokes. And that means always working at a small scale, realizing the possible instead of expanding its realm, innovating without inventing, playing out the classical industrial model of progress, working in much the same fashion as many conventional architectural practices. In contrast, networked post-industrial economic agents, which seek to generate value through the manipulation of knowledge, change the operation of the system by finding or building new relations. At this point, it may be worth noting that the notion of economy presented here has a cultural and pragmatic import, with a greater complexity and flexibility than orthodox micro- and macro- economic models [see various discussions of the New Institutionalism in economic theory, including Evensky cited below]. Increasingly, markets are understood to be complex cultural and social networks (Barabasi, 2002) that simultaneously produce and reflect the values of the societies they move through and connect, rather than Newtonian mechanisms for achieving optimal resource allocations (Friedman, 1953).

In any market-driven model, whether an organization is corporate or entrepreneurial, the market is given a controlling or regulative role. All feedback is linear, uni-directional, often working through a closed system. The potential for efficiencies in information exchange produced by a healthy market are constrained. Industrial mass production, the model upon which conventional theories of business practices are founded, has peculiar qualities and dynamics. 'Market-driven' models of economic organizations depend upon the machinic dynamics of industrial production, positing linear, unidirectional causal relations between economic entities.

Its organizations are bureaucratic, hierarchical systems designed to command and control, and its production process is rationalized—broken down into repetitive, narrowly defined tasks that result in standardized low cost commodities and services.

For architectural practice, this model produces three problematic conditions. First, the architectural practice, as a 'firm,' limits its primary form of engagement with its context to a narrow definition of the 'economic.' Second, there is no possibility for a positive or creative connection to its social or economic context because the firm's relationship to its context is passive and reactive. Third, architectural practice limits its opportunities to make any special claims to expertise because it follows the direction of market forces instead of introducing distinctive knowledge or resources into the system.

Given the considerable evidence that a new mode of corporate management, grounded in highly refined modes of information processing, catalyzed the unprecedented growth in the American economy of the 1990s (Farrell, 2003), architects and designers are still left with the task of understanding how their work might engage the modes of production associated with the 'new' economy. The notion of a 'market-driven' practice, with its implication of a direct, unilateral and lineal relationship between the information generated in markets and the practice of architectural design, has to be examined in light of new understandings of the organizations of markets, and in the profession's traditional constructions of it's own economies—that is its 'proprietary' habits of determining and assigning value.

CONVENTIONAL MODELS OF THE RELATIONSHIP BETWEEN ARCHITECTURAL PRACTICE AND THE ECONOMY

'Professional practice' in architecture and discussions of the economics of architecture has tends to be marginalized in the discourse and education of architects. Clearly, critics such as Speaks have a legitimate concern for architects' lack of interest in the dynamics that shape resource allocation and valuation in the production of buildings.

An examination of the profession's own construction of the norms and values of its practices makes this concern particularly clear. *The Architects Handbook of Professional Practice*, published by the American Institute of Architects, is the standard reference for matters pertaining to the business of architects for most practitioners. It is a repackaging of materials developed for corporations, essentially consultant boilerplate, that lacks any analytical assessment of the field or of the economic engine of practice. Structured and presented as a static (read: timeless) body of knowledge, instead of a contingent collection of practices (despite the derivative and out-of-date nature of the information presented), it emphasizes a 'client-driven' model of practice. This 'client-driven' model is a variation on the market-driven model, with the 'client' standing in for the forces of the market. This model for practice originates with the emphasis on services that emerged in 1980s business discourse (even the old chestnut example of a heroic service provider, Nordstrom's, is mentioned), and is just as mechanistic as market driven practices. However, the client-driven model does permit a discussion of business practice that is politely and 'professionally' removed from the economies of building. In fact, economics have no place in the AIA's discussion of business practice, a striking indication of the intense interiority of the profession.

This notoriously introverted approach to practice is reinforced by the intellectual gatekeepers of the discipline. In a recent essay, "The Profession and Discipline of Architecture," Stanford Anderson proposes a model for research that effectively divorces practice from knowledge production. He calls for a separation between the practice of knowledge production and building production, a separation that echoes the rationalization of work in industrial settings. He opposes the vertical, analytic, timeless knowledge production founded in the academic discipline of architecture with the horizontal, synthetic, and time-bound process of building design, the realm of the professional. For Anderson, the 'business' of practice' is not 'intrinsically' architectural, and "certain forms of architectural knowledge are strategically excluded." (Anderson, 2001, 293). While the myopic habits of many practioners can't be argued or excused, the most worrisome implication of Anderson's position is the extent to which he refuses to admit that the discipline's design techniques produce knowledge as rigorous and important as the analytical practices of scholars.

However, Anderson correctly observes that the business of architecture has not been intrinsically architectural. Throughout the 19th and 20th centuries, the manner in which architects produced their products—design and construction manage-

ment—largely maintained a pre-industrial model, as evidenced by the persistence of apprenticeships, craft-based production processes, and patronage.[1] It is difficult to see how the profession's expertise in solving non-linear, complex design problems has been brought to bear on the organization and conduct of its work. Certainly, there has been little effort do date to address the issue by practitioners and scholars.

'NEW ECONOMIES' AND NEW PROCESSES

When architects rely upon markets (or clients) to present solutions, they undermine their claims to professional status, as well as narrowing the scope of their work. The monopoly powers of professional status are grounded in the assumption that markets fail—specifically, that they are incapable of appropriately calculating the value of professional knowledge. Architecture exists as a profession *because* markets are thought incapable of reliably accounting for the full costs and benefits of building production (for example, think of classic 'public good' problems such as health and safety issues). Since the fallibility of markets is the precondition for conventional architectural practice, we cannot reify the market or the client as a limit condition. The actual relation between architectural practice and the economies it inhabits is a reciprocal one, where our work is simultaneously shaped by the forces of exchange, and participates in the formation of those forces. The market can present opportunities, but it does not define the limits of the real.

The 'new economy' is a term that first appears in business and economic literature around 1985, and is used to describe the market conditions created by "machines that once externalized our muscles, now... externalize our minds." (Paul Hawken, quoted by Katz, 1985). Over time, the term has acquired a range of meanings, but most business theorists use it to describe economic models based on the operations of post-industrial production, which produced a productivity revolution through new techniques for managing and exploiting information. (Farrell, 2003) These new systems of realizing value and governing exchange are complex sorting networks with discrete but intense feedback loops where abstract data and concrete material merge.

The characteristics of this post-industrial regime are the following:

- A preference for non-linear solutions rather than optimizing or efficient solutions; optimizing to a single variable gives way to multivariate solution spaces where information is the critical resource.
- Production processes that are conceptual rather than mechanical, combining efficiency and flexibility; ideally, there is a horizontal integration of market feedback and production; work is no longer rationalized into linear step-by-step processes (Drucker, 2000).
- Factories are replaced by 'knowledge organizations' that work like ecologies; these flat, networked systems focus on efficient information management and effective linkages between people, processes, and materials.
- An anticipation of the customer's or user's needs; a tendency to provide customized services or experiences (mass customization).

In this manner, the market becomes a social organization, rather than a mechanistic and determining abstraction. It is a directed network, where reciprocity and reliance over time brings more sustainable rewards than optimizing profits per transaction (Barabasi, 2003). As Esther Dyson describes it, the new economy reflects a "fundamental shift in business thinking--and behavior--today: the economy is not a mechanism, businesses are not machines. They are co-evolving, unpredictable organisms with a constantly shifting business ecosystem that no one controls." (quoted by de Geus, 1997)

A HEURISTIC FOR PRACTICE GROUNDED IN EXCHANGE: A NEW ECOLOGY FOR PRACTICE

Many business theorists trace the remarkable success of 'new economy' organizations, such as Microsoft, to two decisive factors: an information driven management paradigm, and a relentless attention to the ways in which digital technologies can transform production processes (Farrell, 2003). We can look to practices such AMO and Massie Architects for examples of how forms of practice emerging from within the discipline engage these strategies.

AMO's promotional literature defines its work as producing "new models for thinking about systems" and the creation of "blueprints for change" (OMA 2004). They do not design buildings; instead they offer the techniques of architectural projection and analysis as a form of knowledge. Their

work depends upon 'information processing' and a 'discursive shift' that uses the simultaneity of visual presentation instead of the linearity of explanation and argument (quoting Inaba, Speaks, M. 2003a, 132). Finally, they abandon the notion of the objective consultant, making 'bias' a product or brand, that offers "our clients an informed point of view to improve their cultural or political presence." (quoting Inaba, Speaks, M. 2003a, 132)

Known for keeping his CNC milling machine on the back of his truck, Massie's practice proceeds from an analysis of site that is materialized through integrative digital techniques. This smooth process, where the digital and analog exist as complementary generators of force and matter, creates a continuum from formal study through construction and dissemination. Built projects are presented over the web as prototypes for new projects, the built becoming, in turn, the argument for potential, as yet unbuilt projects. Digital renderings and photographs are indistinguishable, having equal weight in making the case for future work.

There is a small but telling connection between AMO and Massie Architecture. Both practices have a witty and persistent habit of referencing Marshall McLuhan. AMO's graphics are indebted to McLuhan's collaborator, Quentin Fiore's cinematic and low affect graphic design. And Massie relies upon McLuhan's analysis of media to substantiate his construction techniques—treating all of building production, from design to construction—as a singular architectural medium. AMO's graphic logics, and Massie's maniacal continuities between abstraction and matter, demonstrate the distinctly analogic capacity of information to yield both affective and material transformations in culture. Both practices make work that is explicitly architectural, while they each construct the context of their work through a considered understanding of the forces that realize its economic value. To date, neither AMO or Massie exploit both streams of potential emerging from the new economy; AMO preferring to network and process information, Massie focusing on connecting data to matter. Other practices—Gehry and FOA, for example—also find points of contact between their design expertise and larger forces of production. In each case, the working out of these active and inventive relations to wider economic forces is necessarily contingent and incomplete.

What's clear is that there is an emerging tendency to view digital fabrication [whether it is material or informational] as holding the potential for mapping out new terrains for architectural practice. And whether that potential is found in processing information or materials, this simultaneous extension and compression of design and production has a direct and complementary relation to design as a model of knowledge. Digital fabrication suggests an organization of practice where knowledge production and building production are part of a continuum that unites information and matter. Here the model of practice posits the economy as a relational device, where economic forces become mediating agents with the capacity to inform both the producers and users of architecture. In this manner, economic forces, as vectors produced by overlapping cultural fields, become "an engine of experimental production" (Zaera Polo, 2002b, 114). The discipline of architecture moves from its old concern with autonomy (or, 'interiority') and process, to engage with force and effect (Somol, Whiting, 2002, 74).

Communication, design and production processes begin to overlap, as simulations and prototypes generate feedback on project performance as the design process unfolds, and design documents become manufacturing protocols and promotional materials. With the emergence of digital technologies and their ability to capture and exploit feedback, classic hierarchies with their linear assembly of parts into wholes have taken second place to more refined and complex processes that depend on simultaneous, non-linear manners of creating and assembling products and services (Kieran, Timberlake, 2004). For example, studies of product modularity in computer production (Ulrich and Tung) have found that designing effective modular systems requires "building a complex product or process from smaller subsystems that can be designed independently, yet function as a whole" (Baldwin, 2000, 35). What emerges from these investigations is a notion of the relation between part and whole where "whole exists simultaneously in every one of its parts" (Pine II, 1999, x). The simple linear equation of a whole equaling the sum of its parts does not apply. This simultaneity between part and whole, analogous to the simultaneity between part and whole created by genetic material at the cellular level, allows designers to rethink the character of the relations found in buildings. Joints are no longer mechanical connections, but are reconceived as interfaces,

designed with the production process, enabling rather than constraining production. Ideas about feedback and reciprocity broaden our time horizons, and notions of flexibility and sustainability combine to engage new collectivities in the design process (Kieran, Timberlake, 2004). Design practices become open systems where clients can engage the design process directly, and 'mass customization' becomes a type of cultural production rather than a marketing strategy.

Underlying the discourse on the 'new economy' is a persistent reference to ecological processes as well as digital technology. Long a marginal field, in contrast to modern chemistry and physics, ecology began to emerge as a systematic source of knowledge with the development of systems analysis and digital information processes in the middle of the 20th century. The transformation of ecology from a marginal form of knowledge to a critical constituent of the 'new' sciences of complexity could serve as a model for architectural practice. The combinatorial logics of new ecological and economic models, directing a focus on types, qualities and effects of forms of interconnection, echo the loopy reciprocities that characterize architectural design processes. Ecological understandings of productive and robust systems, and the obvious interdependencies between biological and human environments, amplify the potential for new conceptions of practice by extending the time horizon and spatial extension of economic decision-making.

RISKY BUSINESS: CONSTRUCTING NEW NICHES FOR PRACTICE

Understanding our position as architects in relation to the forces which drive the valuation of our work may seem like mere housekeeping that is at a far distance from creative endeavor. But, as the examples of AMO and Massie Architects demonstrate, this concrete engagement with the technologies and dynamics of post-industrial economies, when it is founded in a tactical, experimental practice that finds form in the techniques and organization of architectural knowledge, can produce innovations that extend the scope of architectural practice. If we think of markets as networks that respond, process and disperse information, producing intelligence that is as useful as it is contingent, there is no reason why architects should hesitate to devise practices which use economies to actualize the value of our disciplinary expertise. Just as markets fail, markets can be created and developed in a nervy and pragmatic exploitation of the 'materials of a situation.' It's as good bet as any that this risky business could rescue architectural practice from the paralysis induced by that endless oscillation between the contradictory epistemological models offered by art and science, industry and craft, critique and commodity. Likewise, the emerging resonance between economic and ecological systems offers a new niche for practice, one where architecture becomes a mediating agent between the flows of value and resources that move between human and non-human environments.

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ENDNOTES

[1] Even now, the typical architect-designed building in the US is a hybrid assembly of standardized industrialized parts connected by joining processes derived from craft traditions. This synthesis of craft and industrial production effects a degraded form of 'mass-customization' at a high cost, serving a narrow, elite market segment.