

Fun and Games: The Suppression of Architectural Authoriality and the Rise of the Reader

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It is hard to tell exactly when the conception of the architect as 'lone author' or 'creative genius' first emerged. Perhaps we have Vasari to blame, structuring his book *The Lives of the Most Excellent Painters, Sculptors, and Architects* (1550) – considered by many to be the very first art historical text – around thirty-four individual biographies, largely ignoring the workshop structure of production at the time. More recently, the emphasis seems to have shifted from the Howard Roark caricature, which foregrounded the architect's rejection of collaboration as the key to the purity of his design, to the figure of the starchitect, exemplified by the *character* of Frank Gehry in Sydney Pollack's 2006 film *Sketches of Frank Gehry*, whose singular creativity obviates the contributions of his many employees who appear to simply carry out his directives. Between the heroic modernist and the contemporary *visionnaire*, there was a time when the architect's *authoriality* – his status as author and the authority conferred by that role – was widely challenged by practitioners, architectural theorists and researchers, and educators. One of the most explicit challenges was issued through the use of gaming and simulation in architectural education and practice in the 1960s and the 1970s, particularly in the work of Juan Pablo Bonta and Henry Sanoff – both of them architectural scholars, educators, and game enthusiasts. By tracing the importation of gaming and simulation techniques from war and planning games into architecture, this paper will show how architectural games sought

to refigure the architect as a collaborative figure embedded in a network of experts, participants and constituents, and to modulate the architect's design authority by foregrounding the contributions of viewer-interpreters – of *readers* – to the creation of meaning.

Any conversation about authorship must acknowledge a debt to Roland Barthes and Michel Foucault. Their seminal essays, 'The Death of the Author' (1967) and 'What is an Author?' (1969), radically criticised traditional notions of authorship, forever complicating the figure of the author in three key ways. First, their work revealed the *historicity* of the author, demonstrating how dramatically the definition of the author, the authority accorded to him, and the intellectual rights he retained, changed over time.¹ Secondly, Foucault pointed out that 'the author' was less an individual of any real dimension than a constructed figure that functioned to enforce a series of interpretive assumptions, such as the conceptual coherence and stylistic uniformity within a body of work.² Finally and most importantly, Barthes sounded the death knell of the author in order to make room for the *reader* as an active participant in the formation of the meaning of the literary work.³

Despite these revelations, when the idea of 'authorship' is extended to other creative non-textual endeavours such as architecture, we seem to fall back on the myths that Barthes and Foucault

worked so hard to dispel. Thinking of the architect as an 'author' allows certain assumptions to be projected on to the work of architecture that deeply affect how we understand and interpret it, and ultimately serve to obscure its reality. First, the work of architecture that is produced becomes *authored*. That is, its attribution to its creative source is highlighted as one of its most important qualities and a key to understanding it. The clarity of the architectural idea and the quality of the resulting built work are figured inversely to the number of authors understood to have contributed creatively to the project. Secondly, the work is grouped and placed in a dialogue with the other works of the same authorial origin, which then downplays the other possible groupings in which it might participate, such as those based on locale, style, type, or programme. Third, and most crucially, the origin of the work is assumed to lie in a singular creative mind, when in fact the circumstances around the creation of architecture are always complicated, involving multiple groups and structures interacting in a complex web of relationships. Architectural gaming and simulation explicitly took aim at this paradigm of architectural authoriality, targeting one root of the phenomenon: architectural education as a prime site of professional enculturation in which the design studio model conspired to convince the student not only of his or her own authority as the architect, but also of design itself as the foremost concern in the production of building.

The American context of architectural education and production in the years leading up to the late 1960s and the emergence of gaming in architecture was one in which the conception of creative architectural work as solitary and highly individualistic was only starting to be reassessed. The architect's role was increasingly understood to be situated within a network of professionals, including landscape architects and engineers, who worked together under the direction of the architect to produce building. The development of a modernist architectural pedagogy

at Harvard under the leadership of Joseph Hudnut and Walter Gropius, for example, emphasised not only collaboration between architects – requiring design proposals to be created in teams – but also between the disciplines of architecture, landscape architecture and city planning.⁴ The locus of creativity and authorship was dispersed into the corporatised team, though architecture retained its primacy within the professional hierarchy, while the public and the client continued to be discounted as active players in the design process.⁵ Even some of the most experimental attempts to encourage community participation in the late 1960s, such as Lawrence and Anna Halprin's Take Part workshops, distinguished between the productive capacities of 'collective creativity' and professional expertise.⁶ Community participation was designed to generate ideas and grow consensus around a particular decision, but it was the professional who was called upon to implement that decision, bringing his or her training and experience to bear on the particulars. Instances in which architects utilised the workshop format to elicit the client-community's ideas and develop consensus around the proposed design, such as in Moore Ruble Yudell's project for St. Matthew's Parish Church in the Pacific Palisades (1979–83), were rare and driven by the client rather than the architect.⁷ At mid-century, the Roarkian caricature of the architect persisted in the public imaginary amid challenges in education and practice, where the continued insistence on the primacy of architecture in the network of players involved in producing building functioned to maintain architectural authoriality.

Dissatisfactions with the outsized view of the architect's role were broadly felt in educational institutions across the country. A 1967 report published in *Progressive Architecture*, 'Revolutions in Architectural Education', was assembled from the responses to a survey the journal circulated to the deans and chairs of architecture and environmental design schools, and it revealed the magnitude of

the growing backlash against the architect's heroic figuration.

There is a whole new generation of students learning that questions are more important than answers, that process is more important than product, that the architect is more than a form-giver, that architecture is more than a series of individual monuments. What now exists primarily as a revolution in the schools could well become a revolution in the profession.⁸

In its place, a new conception of the architect was posited that framed him as deeply embedded in a network of collaborators.

There is at least lip service given to the idea of the architect as only one among many involved in creating and changing the physical environment, and while his exact position on "the team" is not clear – as catalyst, coordinator, colleague, or leader – many feel that he can no longer claim to be the only person responsible.⁹

This notion of the 'architect as form-giver' was challenged through a shattering of the myths surrounding the design process, foremost among them the perceived necessary isolation of the architect's creative activities. Broadly, this occurred through a turn to the social sciences born of a desire to root design decisions in quantifiable data and recognised forms of expertise, relying heavily on psychology and sociology to understand the needs and desires of architecture's inhabiting subject. A corollary to the turn to the social sciences was the rise of 'environmental design' programmes, recoding architecture through a rejection of aesthetic, symbolic and historical concerns in favour of viewing the building as but one point on a scalar continuum of design that stretched from the object to the city. In practical terms, this required changes in curriculum, and the leadership of some schools even envisioned a phasing out of the traditional design studio in favour of the interdisciplinary design laboratory, where teams made up of architects, sociologists, political

scientists, psychologists, and urban economists would collaboratively design. The most powerful corrective, though, was the simplest one: the exposure of the student to the 'reality' of the design and building process. This included exercises that 'approximate the actual working conditions of the professional', that expose the student to 'the people, agencies, site, and all other parameters involved in the existing problems', allowing them to 'experience a totally different system of values from their own'.¹⁰ The use of gaming and simulation as an instructional technique followed precisely from these intentions.

War, commerce and planning: the origins and influences of architecture games

The source of gaming and simulation in architecture has been traced by some to martial origins in war games, particularly to the gridded board games developed post-war by the RAND Corporation.¹¹ Others have suggested that their influence was routed through the intermediary of business management games used by corporations from the mid-1950s on for purposes that ranged from inventory control logistics training to the development of business strategy.¹² The immediate precedent for architecture games, however, was unquestionably those developed in urban and regional planning, where the lessons of war and business games were adopted as a heuristic method of instruction rather than a tool for the formulation of strategy. Beginning in the early 1960s, planners realised that war games, by virtue of their ability to play out various scenarios while accounting for complex conditions, could be adapted for growth rather than destruction. From military games, urban planners took on the goal of *optimisation* rather than solution in the face of competing objectives, such as the negotiation between cost and public benefit. However, while military gaming proceeded from von Neumann and Morgenstern's game theory and its paradigm of the zero-sum game, in which one side's loss was the

other's gain, urban planning games were designed with an ethos of *cooperation*, promoting dialogue and encouraging empathy and understanding of other stakeholders' perspectives.

Impressed by the tactical complexities and ability to test multiple strategies offered by war games, by the mid-1960s planners had begun utilising gaming and simulation to explore solutions to the complex problems of declining American cities as part of a larger use of systems analysis and other social science methods in governmental policies and programmes.¹³ Indeed, the turn to gaming and simulation was part of a much wider turn to the social sciences in architecture, urban design and urban planning that had emerged post-war.¹⁴ Initially developed in the academy by planning scholars, researchers such as Richard Duke founded laboratories to create and test urban planning games, such as the Environmental Simulation Lab in the College of Architecture and Urban Planning at the University of Michigan.¹⁵ Gaming and simulation was an interdisciplinary endeavour at the time, and it prompted the development of formalised curricula. One such programme was the Graduate Certificate in Gaming/Simulation created by Duke in 1982 for masters and doctoral students at the University of Michigan, supported by no fewer than nine departments across campus.¹⁶

Emboldened by their planning colleagues, architectural educators at Cornell University, Ball State University, and the Universities of Michigan, Cincinnati, Miami of Ohio, and Wisconsin at Madison began creating pedagogical games to simulate real-world conditions in the classroom.¹⁷ Furthermore, game designers, both in academia and in the private sector, began to create games specifically for public and private clients *outside* of the university in order to structure the programming and design processes of complex large-scale projects, to negotiate contentious planning issues, and to promote cooperation across constituencies.

Indeed, gaming and simulation was one of the primary methods that architects used to facilitate community participation in design and planning processes.¹⁸

While some have described the conventional representational practices of architects as 'simulations',¹⁹ and others have argued (if speculatively) that architectural design discourse is itself a game to be played,²⁰ the games and simulations discussed here are games defined more concretely – codified with such typical accoutrements as clearly defined objectives, rules, procedures, game boards, team structures, scoring schemes, and winners and losers.²¹ These games simulate aspects of the real world by abstracting and simplifying the complex phenomena they model. Unlike research-oriented games and simulations, which are used to study the system under examination or played for their predictive capacity, architectural games were teaching-oriented *operational games*, used as heuristic devices wherein learning occurs through the participants' engagement in the decision-making process.²² Whether played in an educational context or elsewhere, the purpose of gameplay is instructional, both explicitly in terms of the informational content relayed by the game and implicitly through the experience of playing itself.

Architectural games and simulations challenged the authority of the architect in two ways: first, planning simulations were designed to reveal the complex web of people, interests and relationships that are necessary to produce and realise a design, exposing the agency and authority of the architect to be provisional, limited, and modulated by others, such as the client, the city, neighbourhood groups, and regulatory agencies. The building is thus understood as the outcome of a complex process rather than as the result of an architect's decisions made in isolation, thus downplaying the singularity of the architect's role in the design process. Secondly, following the planning games, a series of games

emerged that focused on issues of architectural aesthetics, foregrounding the reading of architecture by the *receiver* rather than the intentions of the designer. These games exposed the wide latitude with which architectural readers could understand and interpret designs, demonstrating the importance of reception in the creation of meaning.

METROPOLIS: the first land-use game

One of the first urban planning games was Richard Duke's METROPOLIS (designed 1960–64), based on East Lansing, Michigan, where Duke taught as a professor of urban planning at Michigan State University.²³ METROPOLIS was designed to train 'university students or young professionals in the basic decision processes involved in urban land use changes'.²⁴ [fig. 1] Players were assigned to one of three roles – city administrator, politician, or speculative developer – and game play occurred in three cycles, each representing a calendar year. Presented with general information in the form of news headlines, a budget of limited funds, and a series of proposals that outstripped available resources, players had to negotiate with one another and decide what programmes to invest in. At the end of each cycle, points were awarded or deducted based on the pressures of each role, encouraging fidelity to the assigned perspective: the administrator earned points for a balanced budget, while the politician earned them for high spending in his ward, for example. The consequences of the players' decisions were served in the forms of changing tax rates, population growth, school expenditures, and discretionary fund availability, thus setting the stage for the following cycle.

Urban planning games sought to simulate reality, to abstract from the complexities of the real world in order to simplify and essentialise it by focusing in on the structures and mechanisms in question. Richard L. Meier, an important urban thinker active in the latter half of the twentieth century often referred to as 'the grandfather of gaming',²⁵ stressed the

dependency of the simulation on its model:

The task of simulation is invention in reverse. When an inventor conceives of a new product or process, he is often forced to construct a model to demonstrate to all doubters that his new principle really works. The simulation builder, on the other hand, is conscious of the fact that the institution he is modelling has functioned for a long time; he hopes to capture the essential elements and produce in miniature a sequence of outcomes that strongly resembles the original.²⁶

As such, urban planning games treated the existing conditions of reality, particularly its structures, as rigid, permanent, and unchangeable. Action within the game, as in real life, was only possible within predetermined rules and procedures.

The point of playing METROPOLIS was not to test out real decisions facing the city it simulated, but rather for players to come away with an appreciation for the complexities of decision-making at the urban scale, including the types of information that come to bear on such decisions, to understand the motivations and values that drive various constituencies, and to realise the value of communication and negotiation. Meier elaborates:

The most significant advantage is that gaming-simulation rapidly enhances the sophistication of the players regarding the factors at work and the relationships between the key roles in the real world. Players come to the games with imperfect concepts of community, and they leave it with shattered myths. Usually they achieve a sense of what kind of action, when coordinated, yields what kind of outcomes. A well-constructed game and its environment should yield a more realistic mental impression about how a large system (like a metropolis) works. It offers a low cost substitute for experience in the most responsible decision-making roles.²⁷

Filling a gap in professional education that left

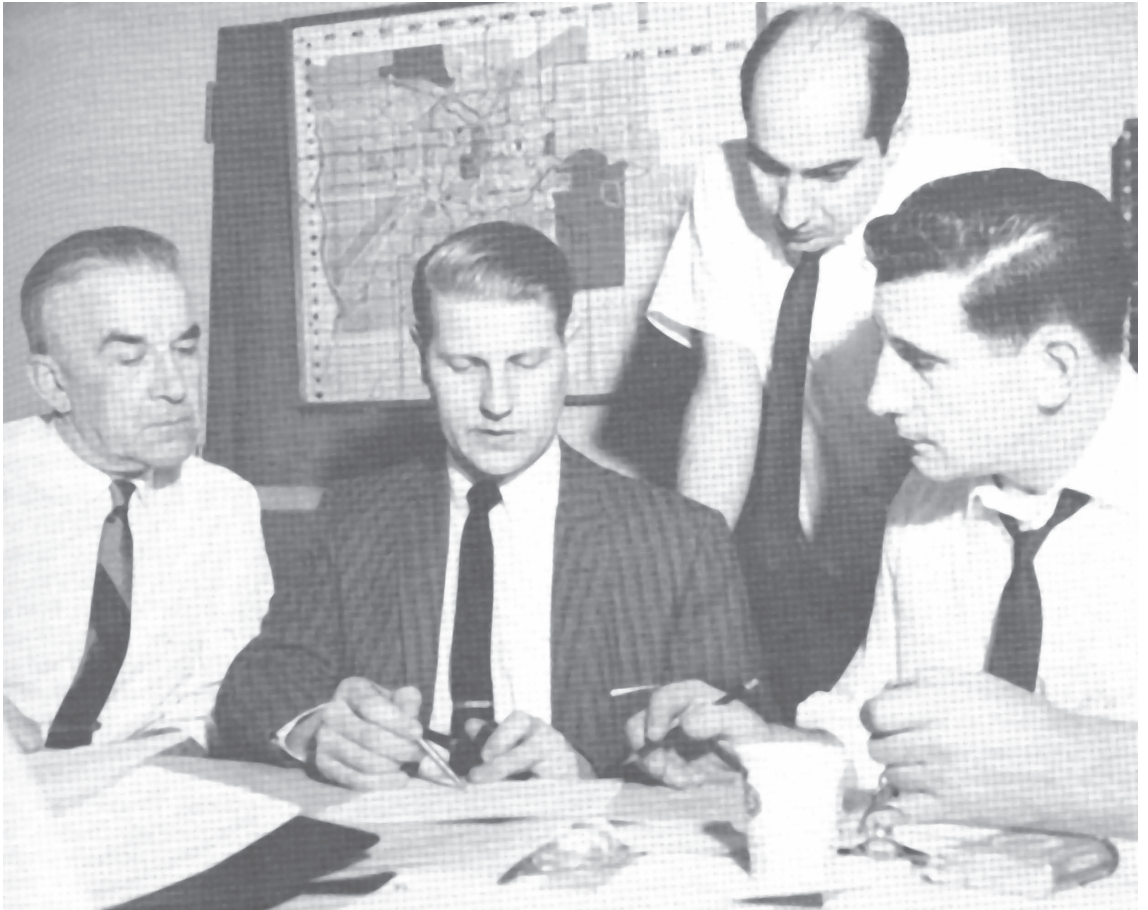


Fig. 1: METROPOLIS at play. Courtesy: Richard Duke.



Fig. 2: Cover, *Journal of Architectural Education*, Vol. 33, No. 1 (September 1979). Guest-edited by Juan Pablo Bonta. Photograph depicts an outcome of Bonta's game, AWARDS. Courtesy: Association of Collegiate Schools of Architecture.

students with an oversimplified view of the agency of their future role as planners, and perhaps seeking to temper a rigid idealism in planning students, Duke's game exposed its players to an abstracted simulation of the real world in preparation for actual engagement in similar processes in the future.

From planning to design games: Juan Pablo Bonta at Ball State University

Following the development of gaming and simulation in planning, the interest in applying such techniques to the design process, especially in the educational context, grew in both the United States and in Britain, prompting the study and development of games, the convening of conferences, and wide publication, including not only a special topics issue of the *Journal of Architectural Education* but even write-ups in *Newsweek* and *Playboy*. [fig. 2] One of the most enthusiastic developers of architectural games and simulations was Juan Pablo Bonta, an architectural theorist, educator, and game designer.²⁸ Best known today for his 1979 book *Architecture and its Interpretation*, Bonta was a professor of architecture at the University of Maryland, College Park from 1980 until his death in 1996.²⁹ Prior to that, Bonta taught at Ball State University in Muncie, Indiana, where he became interested in the potential of gaming and simulation for architectural education. During that time, he taught a series of seminars in which students designed games after playing and studying established ones.

Two early planning games were very influential for Bonta and his students. The first, CLUG (Cornell/Community Land Use Game), was designed in 1965 by Allan Feldt, then a Professor of City and Regional Planning at Cornell University.³⁰ CLUG utilised a gridded game board and Legos to simulate the development of an industrialising city, with each team of players cast as developers in competition for the most profitable sites, while considering the impact of location, infrastructure, zoning

regulations, among other variables.³¹ [fig. 3] Given a limited amount of funds, teams were charged with securing land and constructing buildings with programmes appropriate to the zoning of that land, while negotiating with both the municipality and other teams for cooperation.³² The scale of CLUG was quite large, with each grid unit approximating one square mile that could only be designated for one type of use.³³ Seeking to model the realities of such development, each round of the game included both rule-mandated activities, such as paying for property assessments and taxes, as well as time for extra-regulatory negotiations in the forms of bribery and collusion. For the students, playing CLUG foregrounded the complex economic logics that drive urban development patterns, as well as the deeply interpersonal nature of both the competition and cooperation embedded in the development process.

The second, INHABS (Instructional Housing and Building Simulation), was designed in 1970 by Cedric Green, then a practising architect and Senior Lecturer in the Department of Architecture, Landscape Architecture and Planning at the Gloucestershire College of Art and Design (UK). Attempting to address the scalar problems of CLUG, Green modelled a neighbourhood-sized area at a finer grain, the acre, rather than the square mile.³⁴ INHABS also utilised Legos, but in this case they represented programmatic building elements, such as a kitchen, living room or bedroom, rather than whole buildings. [fig. 4] The game was reconfigurable and could be used to simulate real-world situations, such as Bonta's utilisation of the game to simulate a Scottish fishing village whose traditional way of life was threatened by a group of speculators interested in developing the town as a tourist destination. Students were assigned to play the roles of the various interest groups, each with a specific stake in the conflict. The game exposed its players to the complexities of housing and neighbourhood development through exposure to the competing



Fig. 3: Allan Feldt at the CLUG gameboard (ca. 1966). Courtesy: Allan Feldt.

interests of the multiple constituencies involved. In fact, Green believed that groups embroiled in real-world conflict over building and planning decisions could diffuse animosities by playing the game,³⁵ the abstraction of the simulation providing the critical distance that was impossible in real-world dealings. Green was concerned with demystifying the design process, which he felt was still in thrall to the modernist concepts of functionalism and creative genius.³⁶ Objecting most strenuously to the latter, Green believed that the activity of design had for too long been held hostage by specialists and was, in fact, a basic human impulse. In his view, games were a way to facilitate the exercise of a cognitive faculty – design – possessed by everyone.

While CLUG and INHABS were both useful as examples of urban-scale games, Bonta himself was interested in developing games that addressed the architectural scale of the single building and its aesthetic concerns. In a series of seminars at Ball State University in the mid-1970s, Bonta worked with students to invent and develop games of their own. [fig. 5] Some of the games they produced were meant to simulate the complexities of an architect's professional activities. For example, in THERMAL DESIGN, players competed to minimise the costs of heating and cooling a single-family house on an assigned site.³⁷ [fig. 6a, 6b & 6c] The game accounted for variables such as HVAC system type, climatic region, local site conditions, and even family size, assigning some values by chance – a roll of the dice – while others were negotiated by students through the purchasing power of their limited funds. In playing to achieve the lowest yearly conditioning costs, the game play revealed to students the variables' interrelationship and the impact of the architect's design choices on the long-term costs of heating and cooling a home.

Another game, the CONSTRUCTION MANAGEMENT GAME, exposed students to the competing economic interests at play between

construction managers and individual contractors.³⁸ Players were divided between these two roles. Construction managers had to balance the cost of hiring contractors and the speed at which the work proceeded with the revenue that the completed building would produce. Contractors, on the other hand, carefully priced their bids while accounting for the inflation of labour and material costs. Game play centred on negotiations between construction managers and contractors, but individuals were actually competing against players in the same roles – the winners were those who netted the highest gain in each category. The game thus exposed students to the perspective of the building trades, particularly the complexities of negotiation and organisation between general and subcontractors, by offering a glimpse into the often conflicting aims that drive their decision-making over the course of the construction process.

The theme that unites THERMAL DESIGN and CONSTRUCTION MANAGEMENT with games like CLUG and INHABS is the emphasis on the complex interplay of forces and interests, whether these are physical, interpersonal, or economic. The lesson for students is exactly this awareness of other perspectives and their underlying motivations, culminating with the revelation that the designer's perspective is simply one of many involved in the production of buildings. Indeed, Bonta was explicitly critical of the authority claimed by architects, taking aim at the traditional model of the design process that assumed what he called 'the heroic image of the architect'.³⁹ In his Prologue to the 1979 special issue of the *Journal of Architectural Education* on gaming, which he guest-edited, Bonta elaborated:

Architects and architectural educators are becoming interested in gaming. There is a philosophical reason: since the collapse of the modern movement, we are no longer sure that the architects' values, stylistic preferences or prejudices are better than anyone else's. In abandoning the messianic role we fabricated for

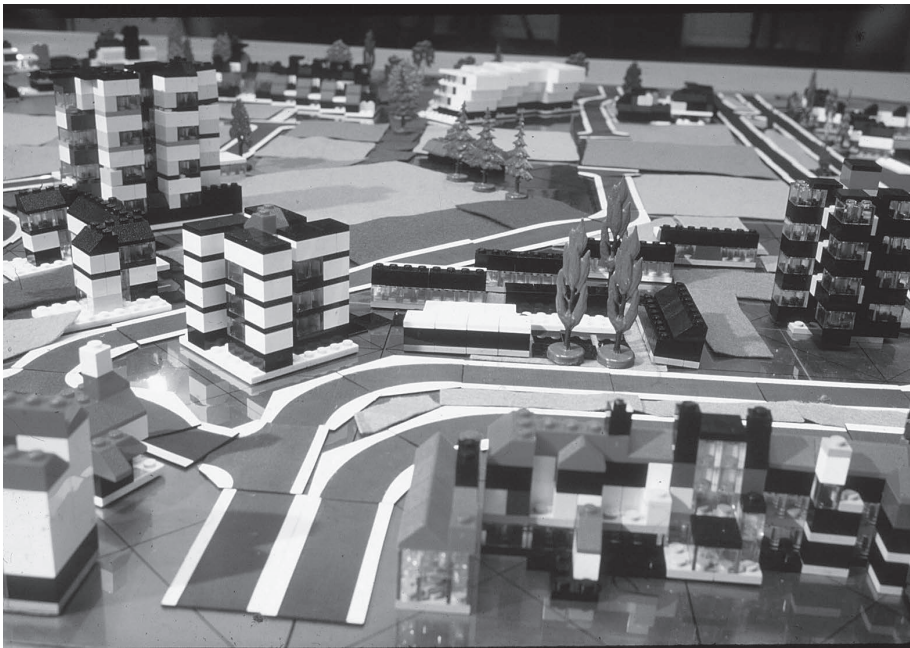


Fig. 4: The result of a typical game of Cedric Green's INHABS (ca. 1973). Courtesy: Cedric Green.



Fig. 5: Juan Pablo Bonta (far right) and students playing THERMAL DESIGN (ca. 1979). Courtesy: Diego Bonta.



Fig. 6a

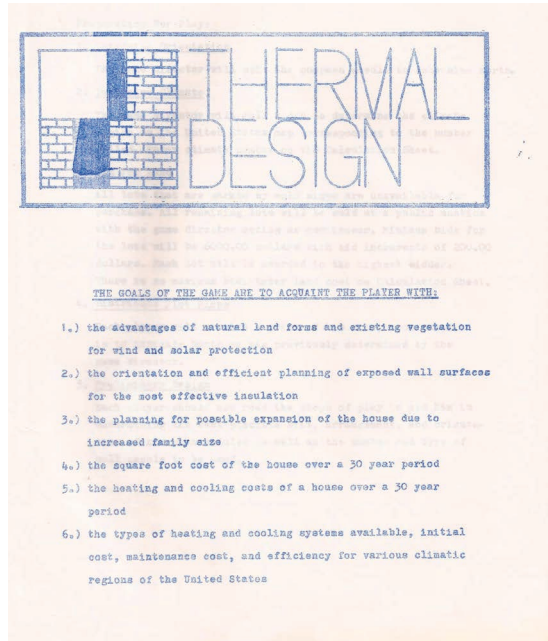


Fig. 6b

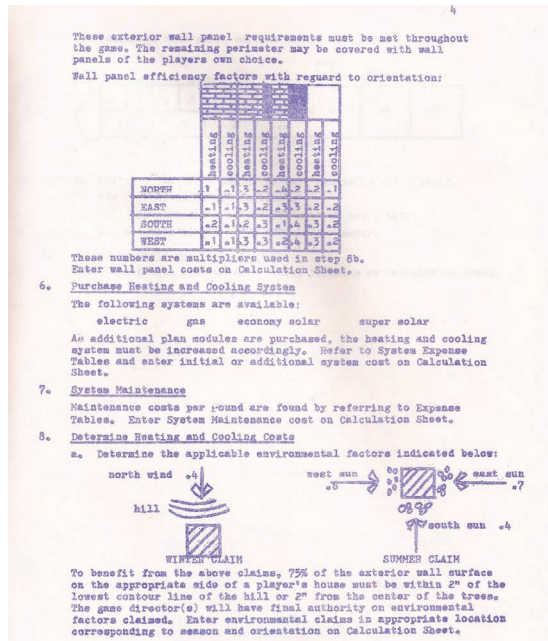


Fig. 6c

Fig. 6: Juan Pablo Bonta, THERMAL DESIGN game; Photo of a game set (6a), Cover (6b), Page (6c). Courtesy: Diego Bonta.

ourselves, we can see architecture as a transaction between groups with different goals and values – the users, the owners, government, labor, industry, public opinion, architects themselves.⁴⁰

The use of these games was thus an attempt to reform this image and remake the architect as a collaborator and facilitator. And it is no accident that the games were aimed at architects in training, at a time when their professional identity was just beginning to form. At a moment when the avant-gardist elements in the discipline increasingly figured architecture as hermetic and self-referential, in some quarters going so far as to reject building as the culmination of the architect's labours, Bonta sought to re-centre the design process by articulating it as bounded by externally defined restrictions within which the designer sought to achieve the greatest utility. Bonta's invocation of 'reality' through role-playing the transactions between various groups, however, did not persist across all of the games he created with his students. Whether Bonta was influenced by the growing interest in architectural semiosis, or whether he was simply confronted with the necessity of teaching design to architecture students, some of Bonta's games specifically focused on the potentialities of architectural aesthetic expression and experience.

If many of his games proceeded from the crisis of architectural authority, another set went a step further by positioning the experiencing subjects of architecture and their interpretation of the work as an active force in the creation of its meaning. To this end, Bonta's students developed games that focused on the formal and communicative aspects of architectural design. One of the most interesting examples of this game type was called SEMIOTICS. [fig. 7] Players were assigned a building type and chose a set of three adjectives from a deck. These included terms such as 'functional', 'traditional', 'bold', 'modern', and 'vernacular'. The players then created assemblages using a kit of assorted blocks

to reflect the type and its modifying terms. [figs. 8a & 8b] After the designs were complete, players reviewed their competitors' work to guess the terms that motivated it. SEMIOTICS thus imparted a lesson about the limits of designerly intention and the agency of interpretation, something that was reinforced through its scoring mechanism. When the game was first invented, points were earned when the interpretation conformed to the designer's intentions. Later, the scoring rules were changed: all of the interpretations were tallied and points were awarded to those that made up the majority consensus. Bonta explained, 'We live among buildings whose intended meaning has long been forgotten; their continued, successful endurance can be explained only by accepting that what we think those buildings are matters more than what they were meant to be.'⁴¹ By reworking the scoring mechanism, Bonta sought to teach students about the limits of their designerly agency, placing the viewer's interpretation on a par with the design itself as responsible for creating its meaning.

Indeed, Bonta also pursued this argument from the other side of design – reception, interpretation, and criticism – in his 1979 book, *Architecture and its Interpretation*. Carefully examining decades of reception (from popular criticism to academic histories) of canonical works of architecture such as Mies van der Rohe's Barcelona Pavilion (1929) and Adler and Sullivan's Carson Pirie Scott (CPS) department store (1903), Bonta demonstrated how the formal, compositional and discursive interpretations of these buildings – how they were *read* – changed dramatically over time. For example, earlier architectural histories couched the CPS in terms of its horizontality in comparison to Sullivan's earlier work, while later readings viewed the building's verticality as dominant, particularly in contrast to modernist European projects such as Mendelsohn's Stuttgart Schocken department store.⁴² These readings, he argued, depended on the 'expressive systems' that their readers brought to the buildings and by



Fig. 7: SEMIOTICS discussion time (ca. 1979); From Juan Pablo Bonta, 'Simulation Games in Architecture,' *Journal of Architectural Education*, Vol. 33, No. 1 (September 1979): 14. Courtesy: Association of Collegiate Schools of Architecture.

which they evaluated them. Including such categories as 'horizontality / verticality' and 'ornamented / unornamented', Bonta's 'expressive systems' – or what we might call 'interpretive lenses' – reflected the contemporaneous context and concerns of the readers rather than the historically situated interests of the designers. Ultimately, Bonta rejected the conception of architectural design as a form of *communication*, which views the work as the architect's utterance to a passive audience. Instead, he favoured an interpretive paradigm that recognises the reader as an active force in the formulation of meaning – a reader whose historicity and context is just as important in producing interpretation as the work itself.⁴³

Henry Sanoff and the introduction of the readerly into design

By foregrounding the interpretation process, Bonta's SEMIOTICS game enculturated students into design as a form of *reading*, thereby teaching students not only that interpretation takes place actively and consciously, but that a design can elicit a range of interpretations both near and far from the designer's intentions. Just as one can be a more or less sophisticated reader of poetry or literature – and indeed hone one's reading skills through practice – the same holds true for the reader of architecture. Aiming not only at students, but also lay people who might participate in a community design workshop, Henry Sanoff, Professor of Architecture at North Carolina State University, designed a series of 'evocative games' which he collected and published in his 1979 *Design Games: Playing for Keeps with Personal and Environmental Design Decisions*.⁴⁴ These explicitly addressed the problem of reception by teaching players how to read and interpret the built environment. They did so by directing players' attention to the affective nature of space and asking them to describe their impressions in direct language.

One game, *Spaces that Connect*, asked players

to consider three scenarios of travelling from one place to another: a rushed walk from Point A to Point B, a more leisurely stroll with a destination in mind, and an aimless wander around a neighbourhood.⁴⁵ [fig. 9] Players were then asked to examine a series of twenty-four photographs of hallways, corridors and passages, and choose the spaces they most closely identified with each form of travel. In this way, the players were asked to read the spaces depicted by the photos in terms of the kinaesthetic experience they associated with them. This game asked its players to consider how the architectural cues facilitated or reflected certain types of travel over others, leading to a greater conscious understanding of how the inhabitant's frame of mind interacts with the design of the spaces it experiences. Students could undoubtedly imagine dashing through a silent reading room or taking a leisurely stroll through a bustling train station, but gained a deeper understanding of how architectural design could style certain behaviours as appropriate or transgressive.

Another game called *Descriptive Words* sought to enlarge its players' spatial vocabularies. It provided an extensive list of descriptive terms in binary form, such as 'efficient-inefficient', 'plush-austere', 'rickety-stable', and 'resonant-flat'.⁴⁶ [fig. 10] Players could utilise these terms to describe photographs or drawings of interior spaces or even the space they found themselves in during the game. The players' enlarged vocabularies empowered them to articulate the meaning of their environment for themselves. As the instructions for the game elaborate:

Meaning can be very precise and descriptive; for example Mr. Webster states that a house is a building to live in. Meaning can also be associated since Mr. Webster's house can be roomy, old, liveable, urban and beautiful. We believe that the environment has an important meaning for each of us although our associations about the environment may be different. Sometimes it is possible to understand an environment

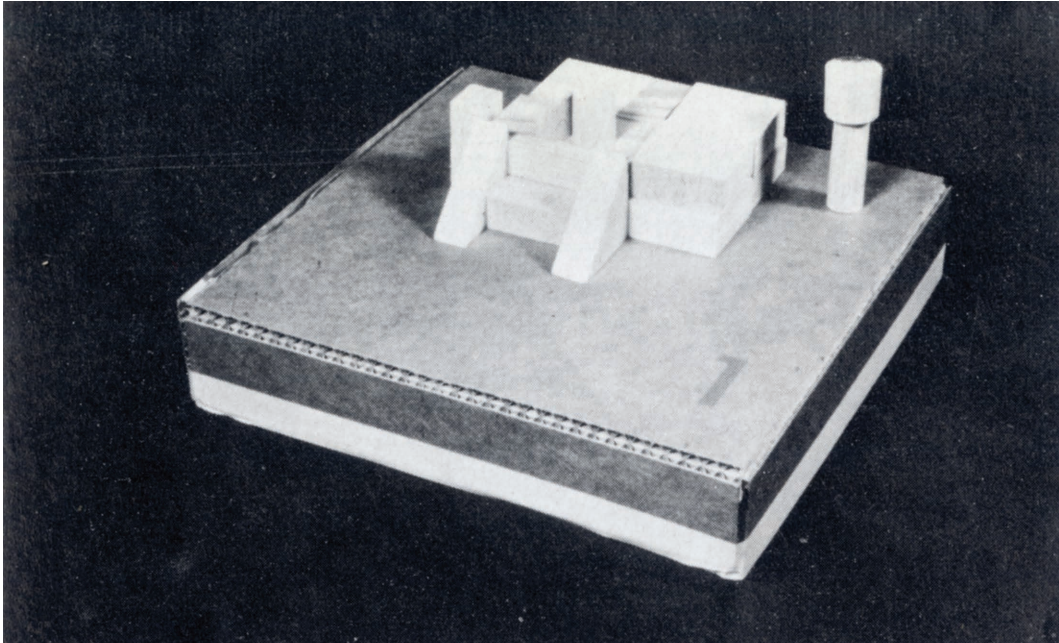


Fig. 8a

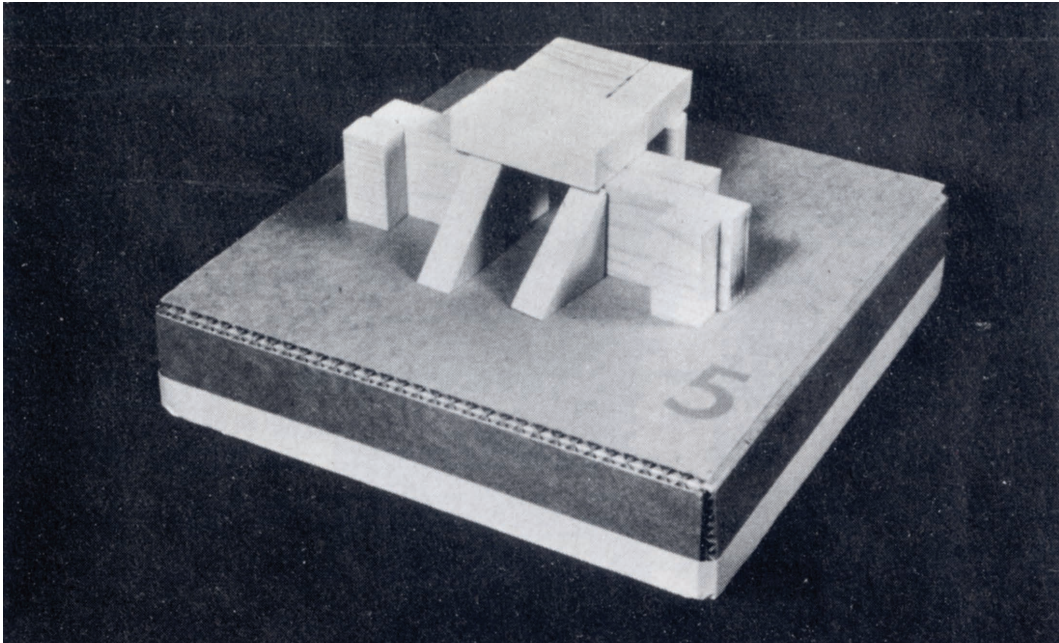


Fig. 8b

Fig. 8: Example of design assemblage from SEMIOTICS gameplay (ca. 1979). From Juan Pablo Bonta, 'Simulation Games in Architecture,' *Journal of Architectural Education*, Vol. 33, No. 1 (September 1979): 15. Courtesy: Association of Collegiate Schools of Architecture.

better if we free-associate or generate as many descriptive words that we can identify. [...] This new vocabulary can help you see and understand subtle and varied qualities about your built environment.⁴⁷

In both *Descriptive Words* and *Spaces that Connect*, there were no right or wrong answers, nor any scoring mechanisms. The payoff, rather, was a discussion between players about their interpretations, the point of which was ultimately to hone their visual acuity and descriptive abilities – that is, to make them better readers of architecture and space.

This emphasis on reading and interpreting the aesthetic and spatial qualities of architecture that the games engendered was a form of attack on architectural authority, taking aim at the privileging of designerly intention as the locus of meaning that is the corollary of the paradigm of ‘architect as author’. Sanoff explicitly designed the games to be used by the layperson, often as a warm-up exercise for the participants of a community design meeting. The games’ pop-influenced graphic design, simply worded instructions and step-by-step procedures styled the activity of architectural interpretation as fun and accessible by narrowly circumscribing an otherwise open-ended activity. While Sanoff’s focus was on enabling the community by ‘transferring power from the designer to the user through a social technology’, his games crucially functioned to empower the lay designer *as a reader*.⁴⁸ By placing reading at the beginning rather than the end of the design process, Sanoff’s games completed the loop by positing the language and procedure of interpretation as the *basis of design* – something implied but not made explicit by Bonta’s SEMIOTICS. Reflecting on his students’ experience of the game, Bonta reported that after becoming familiar with the game, students developed a formal shorthand or a private language of associations between certain compositions and adjectives. The structure of reading – indeed, the ability of the design to be read


in a particular way – became the prime determinant of form. While in Bonta’s game this was an interesting and unintended consequence, in Sanoff’s games the structure of architectural reception preceded design, thus framing the design process in its terms by placing interpretive language at its starting point.

Reading, readings, and readers: architecture and reader-response

In order to end where we began, we might return to literary theory to consider what came after Barthes’ declaration of the death of the author and the corresponding birth of the reader. In the discourse of literary theory at the time, there emerged a number of developments that explored the nature of the reader’s experience, that framed reading as a transaction between reader and text, and that emphasised the agency of the reader in creating the meaning of the literary work. Those developments included the American discourse of reader-response theory by Louise Rosenblatt and Stanley Fish, the German *Rezeptionsästhetik* (aesthetics of reception) of Hans-Robert Jauss and Wolfgang Iser, theories of the reader’s agency by Harold Bloom, as well as inquiries into the semiotics of reading from theorists such as Umberto Eco.⁴⁹ While there is little evidence to suggest real points of contact between theorists of reader-response and architectural thinkers and educators (aside from Eco), the temporal synchronicity and the conceptual resonance in the turn to reading in literature and architecture suggest further investigation into their points of connection.

A detailed account of the reader as described by literary theory is beyond the scope of this article.⁵⁰ However, the coincident emergence of similar concerns in literature and in architecture suggests that we might revisit the terms of architectural production of that period, particularly postmodernism and its framing of architecture in terms of *language*, through the related but distinct lens of the *reader* and his or her activity of interpretation.

from American Institute of Architects, *Built Environment Guidebook: How to Conduct Environmental Education Workshops for Teachers and Architects*, Washington, D.C., 1973



See pages 98-101 for enlarged versions of these photos of connecting spaces.

A psychologist friend of ours, Robert Sommer, made an interesting observation; he noted that the built environment "affects most people just beyond the focus of their awareness." Here is a game that can help to sensitize people about an important element of our built environment, spaces that connect.

Each day we spend time going from one place to another. And, whether it is during school time, for business or for pleasure, we tend to be more aware of the places we are going to than the places we use to get there.

Our daily walking behavior takes us through a wide variety of indoor and outdoor passages. We decide upon the appropriateness of a particular route from the cues or subtle bits of information embedded in the path features. Whether we are hurried or desire to take a leisurely walk we look for those features, such as ground cover, amount of enclosure, path width, traffic and visual variety to aid us in making the best decision.

The route we choose to a destination is often influenced by the purpose of the trip. We are all familiar with the famous "short-cut" or the shortest route to a particular destination. The short-cut is a way to reduce the time to reach a destination, particularly if we are late. Often it permits the time saved to be budgeted for other activities. Each selection we make is based on the particular features of the route or how interesting it appears to be.

There are three typical situations that we frequently encounter in our walking behavior. They are destination oriented but rushed, destination oriented but leisurely and exploratory, or leisurely with no particular designation in mind. For each walking situation there might be an appropriate route. Let's use the set of pictures to select different walking routes.

Destination	Group	Qualities of the space which influence your decision
1 Destination Oriented, and Rushed. "Taxes. I've got only five minutes to get there."		
2 Destination Oriented, but Leisurely. "I've got to get there by nine and its only seven-thirty."		
3 Exploratory, and Leisurely. "I've got some extra time, why not find some interesting places along this route."		

B SORT FOR SIMILARITIES

Group	How they are similar

Lock through the pictures and group them according to the similarities you find in them. Record the letters within each set of pictures in the box titled GROUPS. Then, examine all the pictures in each group and record why you think they are similar, in the appropriate box.


C DESIGN YOUR OWN ROUTE

From the origins and destinations listed below, sort through the set of pictures to find the connector spaces you would prefer to use for each situation. For each pair of locations select at least three connecting spaces.

Home	School
Classroom	Cafe-teria
Home	Best friend's house
Terminal entrance	Entering airplane
Parking lot	Destina's office

Fig. 9

DESCRIPTIVE WORDS



How we behave in a specific place depends somewhat upon how that place "feels" to us. But often, if we want to say what something feels like or means to us, we can have difficulty putting feelings into words.

Description can be very concrete and general; for example, Mr. Webster states that a house is a building to live in. Description can also be associative and specific since Mr. Webster's house can be roamy, old, fraile, urban and beautiful, dark and cramped or whatever.

We believe that the environment has an important meaning for each of us although our associations about the environment may be different. Sometimes it is possible to understand a specific environment better if we free-associate or generate as many descriptive words that we can identify.

We have collected a large list of words and their opposites that are good environmental descriptions. Each pair of words can be used to describe your classroom, your house, your place of worship or any other environment you may choose. This new vocabulary can help you see and understand subtle and varied qualities about your built environment. Add to the list as you need—the possibilities are endless!

WHAT WORDS DESCRIBE THESE PLACES?

1 2 3 4 RESTRICTED SPACE ● FREE SPACE 1 2 3 4

1 2 3 4 UNPLEASANT ● PLEASANT 1 2 3 4

1 2 3 4 CHEERFUL ● GLOOMY 1 2 3 4

1 2 3 4 SINGLE PURPOSE ● MULTIPURPOSE 1 2 3 4

1 2 3 4 COMFORTABLE ● UNCOMFORTABLE 1 2 3 4

1 2 3 4 NOISY ● QUIET 1 2 3 4

1 2 3 4 UNIMAGINATIVE ● IMAGINATIVE 1 2 3 4

1 2 3 4 BUILT ● NONBUILT 1 2 3 4

1 2 3 4 INTERESTING ● SAD 1 2 3 4

1 2 3 4 HAPPY ● INTERESTING 1 2 3 4

1 2 3 4 FRIENDLY ● FRIENDLY 1 2 3 4

1 2 3 4 ORDINARY ● DISTINCTIVE 1 2 3 4

1 2 3 4 SIMPLE ● COMPLEX 1 2 3 4

1 2 3 4 INVITING ● REPELLING 1 2 3 4

19

Fig. 10

Fig. 9: Game instructions for 'Spaces that Connect' in Henry Sanoff, *Design Games: Playing for Keeps with Personal and Environmental Design Decisions* (Los Altos, CA: W. Kaufmann, 1979), 12–13. Reproduced courtesy Henry Sanoff. Fig. 10: Game instructions for 'Descriptive Words' in Henry Sanoff, *Design Games*, 18–19. Courtesy: Henry Sanoff.

The turn toward the reader that manifested itself in architectural games appears to be the tip of the iceberg. Indeed, concern with interpretative procedure – specifically with articulating *how* interpretation would and should be performed – was widespread in postmodern architectural discourse. For instance, Charles Jencks' *The Language of Postmodern Architecture* (1977) was less concerned with identifying a new visual, formal or compositional language for designers than it was with equipping its readers with new categories and terminology of interpretation that allowed them to better understand postmodern architecture. Robert Venturi's *Complexity and Contradiction in Architecture* (1967) might be better understood as less a revisionist history of Mannerism than a detailed manual for how to read and understand his own design projects, examples of which are helpfully included at the close of the book. However, like Sanoff's games, one might also productively understand both Jencks' and Venturi's texts as advocacy for a design process that takes the categories of interpretation (i.e. metaphor, complexity) as the starting point of design. While the planning and architecture games discussed here took explicit aim at the architect's authoriality, they also were symptomatic of a broader postmodern condition in which the reader's interpretive activities – in reality and as imagined by the architect – became a constitutive force in design.

Notes

An earlier version of this paper was delivered at the Creating_Making 2014 conference held at the University of Oklahoma College of Architecture, November 5–7, 2014. I am grateful for the comments and questions that I received there, which were generous, helpful, and encouraging. I also acknowledge Dr. Christian Sandvig and Joss Kiely, whose suggestions were invaluable in the development of this article.

1. Michel Foucault, *Language, Counter-Memory, Practice: Selected Essays and Interviews*, Cornell

Paperbacks (Ithaca, NY: Cornell University Press, 1980), 124–25.

2. Ibid.
3. Roland Barthes, 'Death of the Author', in *Image, Music, Text* (New York: Hill and Wang, 1977), 148.
4. Anthony Alofsin's 2002 book *The Struggle for Modernism* details the history of architectural education at Harvard University. He distinguishes an earlier notion of collaboration, involving students from the disciplines of architecture, the fine arts, landscape architecture and urban planning, from Walter Gropius' later version that emphasized teamwork between architects.
5. Michael Kubo has written about the collaborative design processes of The Architect's Collaborative in the context of increasing corporatisation and bureaucratisation of the profession. See Michael Kubo, 'The Idea of Anonymity in Postwar Architectural Practice', *Proceedings of the Creating_Making Conference, November 5–7, 2014 at the University of Oklahoma College of Architecture* (2014), 131–35.
6. Lawrence Halprin and Jim Burns, *Taking Part: A Workshop Approach to Collective Creativity* (Cambridge, MA: The MIT Press, 1974), 96–97.
7. The congregation of St. Matthew's was unique in that they required a two-thirds vote of approval for the adoption of any design proposal. Moore Ruble Yudell was one of the few firms willing to take on a project with such a requirement, but even they were unaccustomed to the process of gaining such consensus. Moore brought on Jim Burns, a colleague of the Halprins, to implement the Take Part workshop process to develop a proposal that would win approval. See Charles Willard Moore, 'Design by Congregation: St. Matthew's Parish Church, Pacific Palisades, California', *Architectural Record* 172, no. 2 (1984).
8. 'Revolution in Architectural Education', *Progressive Architecture* 48, no. 3 (March 1967): 136–47.
9. Ibid., 137–38.
10. Ibid., 141.
11. Richard D. Duke, 'Operational Gaming in Urban Planning', in *Selected Papers on Operational Gaming*,

- ed. Allan G. Feldt (Division of Urban Studies, Center for Housing and Environmental Studies, Cornell University, 1966). While these origins were not particularly significant to him, Juan Pablo Bonta pointed to war games as a distant precursor of his own endeavours in 'Simulation Games in Architectural Education', *JAE* 33, no. 1 (1979). For a brief and enlightening history of military gaming, see Roger Smith, 'The Long History of Gaming in Military Training', *Simulation & Gaming* 41, no. 1 (2010). For scholarship that links military game history with contemporary developments, see Dr. Sheila Seitz and Courtney Uram, 'Gaming and Simulation', in *Instructional Design: Concepts, Methodologies, Tools and Applications* (Hershey, PA: Information Science Reference, 2011).
12. Richard D. Duke, *Gaming-Simulation in Urban Research* (East Lansing, MI: Institute for Community Development and Services, Continuing Education Service, Michigan State University, 1964), 8–10.
 13. Jennifer Light has written on the Model Cities program developed by the U.S. Department of Housing and Urban Development in the 1960s and 1970s, a national program involving 150 cities that used gaming and simulation to empower citizens to engage the urban planning process. See Jennifer Light, 'Taking Games Seriously'.
 14. Brendan Moran and Joan Ockman have attributed this direction in architectural education to a rejection of the aestheticism of the Beaux-Arts model after WWII, and the desire to inject a measure of rigour and certainty into the design process. See Joan Ockman and Avigail Sachs, '1940–1968: Modernism Takes Command', in *Architecture School: Three Centuries of Educating Architects in North America*, ed. Joan Ockman and Rebecca Williamson (Cambridge, MA; Washington, D.C.: MIT Press, Association of Collegiate Schools of Architecture, 2012). See also Brendan Daniel Moran, 'Sociological Imagination and the City: Encounters between Architecture and Planning Education in America, 1933–1957' (PhD diss., Harvard University, 2009). Joy Knoblauch has written on the collaboration between design and social science, particularly U-C Berkeley and the remaking of their architecture and urban planning school into a school of environmental design. See chapter 4, 'Transcendence: The National Institute of Mental Health and the Production of Architectural Theory (1963–1974)', in Joy Ruth Knoblauch, 'Going Soft: Architecture and the Human Sciences in Search of New Institutional Forms (1963–1974)' (PhD diss., Princeton University, 2012). Unfortunately, most of the scholarship in this area has tended to focus on East Coast Ivy League schools, and more work has yet to be done on the social-scientific turn in other institutions. While gaming and simulation was undoubtedly understood to be a social-scientific method of inquiry by its users, ironically the games themselves could not be utilised to evidence the superiority of any particular solution with any scientific certainty, and indeed they demonstrated just the opposite – the necessary plurality of interpretation.
 15. The lab was founded in 1968. Richard D. Duke, 'Origin and Evolution of Policy Simulation: A Personal Journey', *Simulation & Gaming* 42, no. 3 (2011): 344.
 16. *Ibid.*, 349.
 17. Indeed, many of these institutions were centres of the social-scientific turn in architecture and planning.
 18. Henry Sanoff, *Designing with Community Participation* (Stroudsburg, PA: Dowden, Hutchinson & Ross, 1978).
 19. Ernest E. Burden, *Design Simulation: Use of Photographic and Electronic Media in Design and Presentation* (New York: Wiley, 1985); Roderick J. Lawrence, 'Architectural Design Tools: Simulation, Communication and Negotiation', *Design Studies* 14, no. 3 (1993): 299–313.
 20. Wesley C. Jones, 'Architecture Games', *Log*, no. 19 (Apr 2010).
 21. Computers, however, were not central to the endeavour. Because the focus was on participant interaction, computers would eventually be utilised as a tool to calculate the consequences of decisions made in gameplay, but the simulation itself did not take place in the computer's virtual space. For instance, the instruction booklet for Feldt's CLUG included code for the computer's optional use. Allan G. Feldt, *The*

- Community Land Use Game: An Heuristic Gaming Device* (Ithaca, NY: Division of Urban Studies, Center for Housing and Environmental Studies, Cornell University, 1968). In contrast, American military gaming and simulations relied heavily on computation, leading one scholar to describe military strategy in the post-war as a 'closed world' that eschewed personnel's past experience in favour of data digestible by the computer in its decision-making. Paul N. Edwards, *The Closed World: Computers and the Politics of Discourse in Cold War America*, Inside Technology Series (Cambridge, MA: The MIT Press, 1996).
22. In the early days of urban planning gaming simulations, it was hoped by some that simulations could help planners explore not only scenarios of actions within existing rules, but also help them understand the consequences of potential rule changes. Burnham Kelly, Dean of the College of Architecture at Cornell University, opened a conference on gaming and simulation in May 1968 with precisely these sentiments, though game designers themselves quickly abandoned this line of inquiry and focused their efforts on creating games in which playing was itself a learning experience for its participants. Burnham Kelly, Introduction, in *Selected Papers on Operational Gaming*, ed. Allan G. Feldt (Division of Urban Studies, Center for Housing and Environmental Studies, Cornell University, 1966), 3–4.
 23. The custom of capitalizing the titles of urban planning and architecture games, even when they were not acronyms, was borrowed from the war games that served as their precedents.
 24. Duke, *Gaming-Simulation in Urban Research*, 13.
 25. Ellen Perry Berkeley, 'The New Gamesmanship', *Architectural Forum* (December 1968): 58.
 26. Richard L. Meier, 'Foreword' in Duke, *Gaming-Simulation in Urban Research*, iii.
 27. Ibid.
 28. Bonta and Sanoff were by no means alone. A good indication of the range of games, game developers and their home institutions can be found in Luis H. Summers, 'Operational Games in Architecture and Design', *JAE* 33, no. 1 (1979).
 29. 'Juan Bonta dies at age 62; U-Md. Architecture Professor,' *Washington Post*, Dec. 7, 1996.
 30. CLUG was one of the most influential of the early planning games, as Feldt found himself invited to departments of planning, law, business, geography, sociology and economics in American and British universities to introduce students to his game and facilitate play. CLUG even made it onto the pages of such publications as *Newsweek*, *Playboy*, and the Northwest Airlines in-flight magazine, spreading awareness to the general public.
 31. Berkeley, 'The New Gamesmanship'. 60.
 32. Allan G. Feldt, 'Experience with Simulation/Gaming 1960–2010', accessed 22 October 2014, <http://www.clug.co/2013-fifty-years-of-simulationgaming.html>
 33. Bonta, 'Simulation Games', 12.
 34. Ibid.
 35. Cedric Green, 'Playing Design Games', *JAE* 33, no. 1 (1979): 26.
 36. 'Design, Games and Language', *Building International* 6 (1973): 617–18.
 37. Bonta, 'Simulation Games', 14.
 38. Ibid., 14–15.
 39. Bonta, *Games in Design, Guest Lecture Series* (Muncie, IN, 1972), Lecture.
 40. 'Prologue', *JAE* 33, no. 1 (1979).
 41. Bonta, 'Simulation Games'. This was one of the fundamental arguments that Bonta would go on to make in his 1979 book *Architecture and its Interpretation*.
 42. *Architecture and Its Interpretation: A Study of Expressive Systems in Architecture* (New York: Rizzoli, 1979). See chapter 3, 'Expressive Systems in Architecture', particularly 100–110.
 43. Indeed, Bonta closes his book with the following: 'Architects are deluding themselves if they believe that they are addressing submissive audiences, eager to *communicate*; that their public wants by all means to understand (even to decipher, if necessary) the meaning of architecture as seen by the designer. Nothing could be further from the truth. What people want is to see *their own meanings* in the environment – with their own systems of values, from their own frames of reference, shaped by the expressive

systems that they share with their community but not necessarily the designer. And this is exactly what they do, whether designers like it or not'. *Architecture and its Interpretation*, 232.

44. Some of the games were also included in Sanoff, *Designing with Community Participation*.
45. *Design Games: Playing for Keeps with Personal and Environmental Design Decisions* (Los Altos, CA: W. Kaufmann, 1979), 12–13.
46. *Ibid.*, 18–19.
47. *Ibid.*
48. Sanoff, *Designing with Community Participation*, 3.
49. Some of illustrative examples of the turn to the reader include Harold Bloom, *The Anxiety of Influence: A Theory of Poetry* (London and New York: Oxford University Press, 1975); Umberto Eco, *The Role of the Reader: Explorations in the Semiotics of Texts*, *Advances in Semiotics*. (Bloomington: Indiana University Press, 1978); *The Open Work* (Cambridge, MA: Harvard University Press, 1989); Wolfgang Iser, 'The Reading Process: A Phenomenological Approach', *New Literary History* 3, no. 2 (1972); *The Act of Reading: A Theory of Aesthetic Response* (Baltimore: Johns Hopkins University Press, 1978); Hans Robert Jauss, *Toward an Aesthetic of Reception*, *Theory and History of Literature*. Vol. 2 (Minneapolis: University of Minnesota Press, 1982); Louise M. Rosenblatt, *The Reader, the Text, the Poem: The Transactional Theory of the Literary Work* (Carbondale: Southern Illinois University Press, 1978).
50. Tim Gough has written one of the very few articles on reader-response and architecture. While I take issue with some of his conclusions, his description of reader-response theory is accurate and accessible. See Tim Gough, 'Reception Theory of Architecture: Its Pre-History and Afterlife', *Architectural Theory Review: Journal of the Department of Architecture, the University of Sydney* 18, no. 3 (2013).

Biography

Elizabeth Keslacy is a doctoral candidate at the Taubman College of Architecture and Urban Planning at the University of Michigan and a Dissertation Fellow at the Winterthur Museum, Garden and Library. She is at work on her dissertation, entitled 'The Architecture of Design: the Cooper Hewitt, Smithsonian Museum of Design (1896–1976).' Her dissertation research explores architecture's shifting affiliations with the decorative arts and design in the late nineteenth and twentieth centuries, tracking the changing forms of utility imputed to historical ideas and objects between the pre-modern and Postmodern periods.

