



Notes on the Adaptive Re-use of Program

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-From the antique (a world of form) to the program (a local fragment of a social pattern): this suggests a swing in the architect's psychological orientation almost too violent to be creditable. —John Summerson, "The Case for a Theory of Modern Architecture" (1957)

You begin with a program. It is the first thing you are given to start a project in school and the thing you wait on from a client in practice. Program gives license to action: to realize and to organize. In all its definitions the agency of program is implied, from radio or television programming, to program as a series of social services, to program as the coded instructions that enable a machine to function. For architecture, the program is the "brief," the designation of that which is to be designed, and the tabulation of quantities constituting the project, the descriptive capacity of which ranges from the terse "build me a house" to the expansive multivolume specifications of a complex institution. In this sense program initiates the project's beginning (in time) and initial identity (in character). However, there is a downside to the agency of program: it defines, but it also limits. This limitation is registered not only in the nominalism of the brief—house, museum, hospital—but also, within the very action, program implies to arrange, and at times, in excess. Consider, for example, the difference between a program of music and programmatic music, one is an arrangement of pieces, the other an over-arrangement of parts. Program is therefore, constitution and over-proscription; it alternates between an evocation of arrangement and a surplus of such arrangements.

upper left: Konstantin Melnikov, Rusakov Club, Moscow, 1927-1929

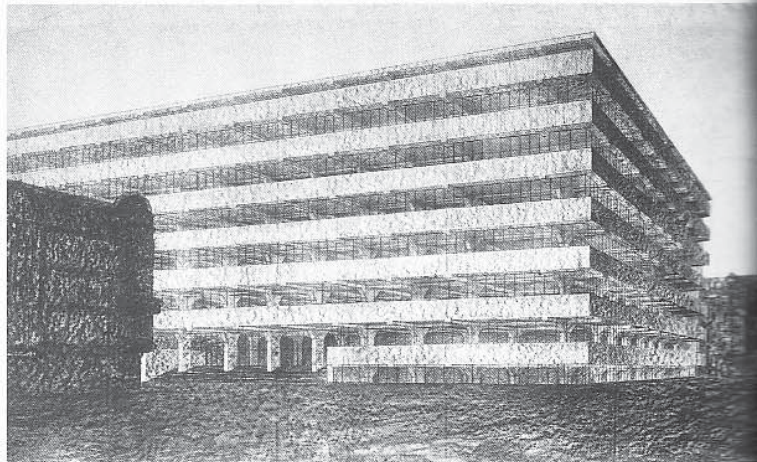
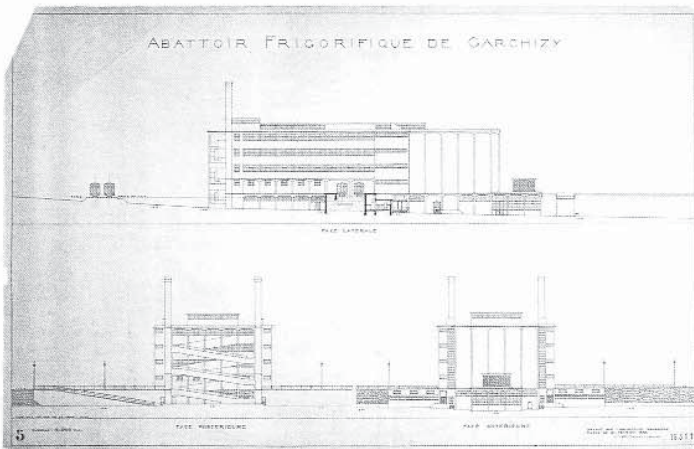
lower left: Le Corbusier, Design for an Abattoir, Garchizy, France, 1918

lower right: Mies van der Rohe, Project for a concrete office Building, 1922

facing page top: Ant Farm, 50' x 50' Pillow, temporary installation, Freestone, California, 1970

facing page middle: Paul Virilio and Claude Parent, the Oblique Function, 1966

facing page bottom: Archizoom, Internal Landscape, 1970



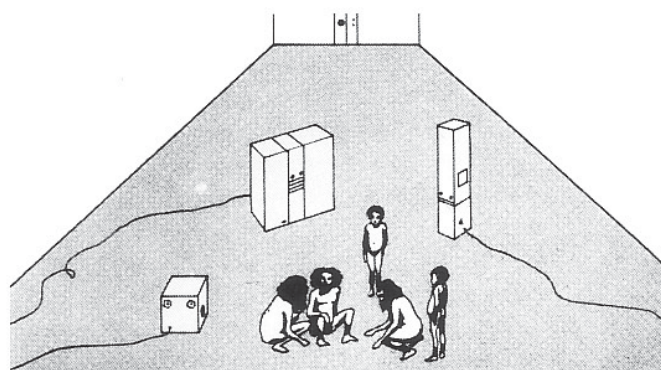
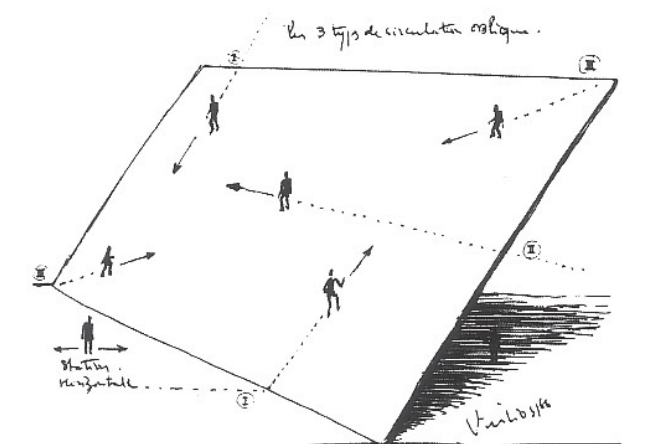
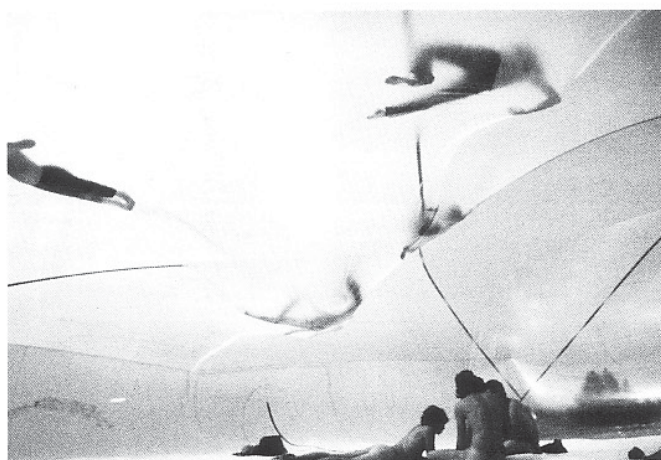
If program initiates the individual architectural project, what is the influence of program on the project of architecture? If we take program not as a generic designation of use, but as a specific concept within architecture's development, a useful framework is John Summerson's 1957 "The Case for a Theory of Modern Architecture," in which he distinguished program as the novel innovation of modernism. After rejecting a series of plausible but insufficient coherencies to explain the emergence of modern architecture, such as geometry and biological metaphors, he came to the conclusion that such architecture is based not on a figurative idea but on a social one, and therein established program as that which was truly distinct in the modern. Drawing on the proliferation of arrangements and ambitions which characterized the period, Summerson concluded: "It is only in the last century or so that program has ceased to be evaluated merely quantitatively and has come to be

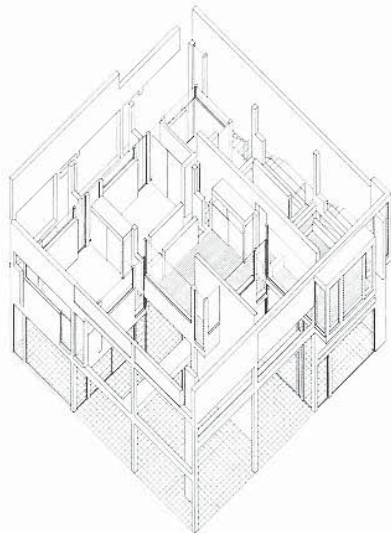
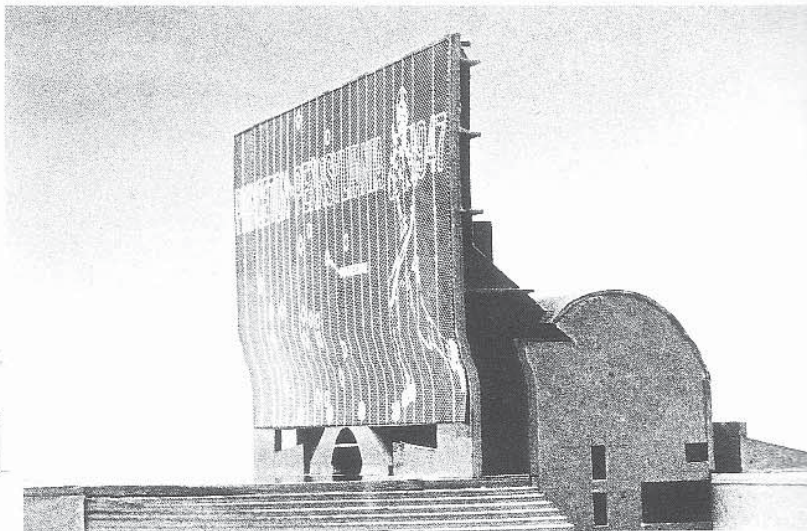
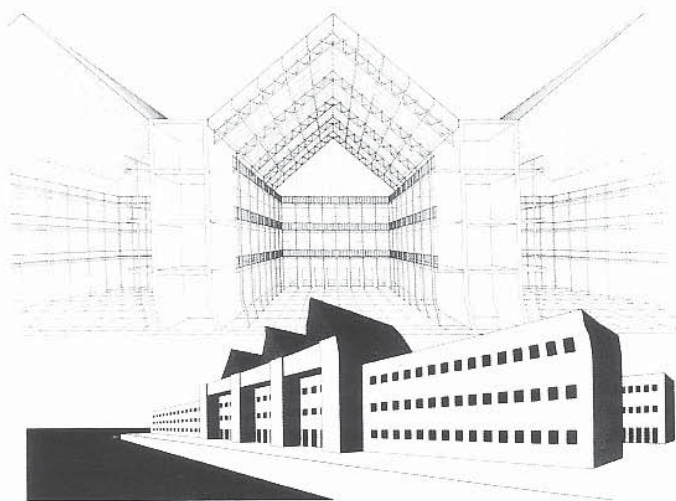
evaluated qualitatively. This to do with the fact that program has become more complex, more challenging, and therefore more susceptible to qualitative generalizations and evaluations."¹ This complexity, it should be stressed, is not an individual instance of intricate form or arrangement, and more one of an increasingly dense network of social, urban, and institutional configurations.² What this means for the project of architecture is quite particular; namely, that modern architecture is based on a nonformal principle, and insofar as the embodiment is nonformal, modernism is "missing an architectural language," and furthermore, Summerson posits "that it is quite possible that the missing language will remain missing." In this sense program provides definition, not only at the level of building, but also at the level of the discourse of modern architecture.³ Program, and with it modern architecture, is uncodeable, resistant to specific correspondences to form, and, it is not unlikely, Summerson concludes, that it will continue as such. Although Summerson later drops this position in favor of more traditional definitions, the argument here offers an intriguing premise, that program is the model of coherence and the underpinning referent for the development of architecture in the last century.

So then let us set aside for the moment those factors that seem to have more creditability in the definition of architecture's disciplinary competencies, such as space, form, geometry or construction, and accept program as the primary instigator of the project of architecture, not as a stable edifice but one constantly undergoing a kind of adaptive re-use. Already an architectural and programmatic term, adaptive re-use describes the alteration of a given structure from one use to accommodate another for which it was not originally designed, such as the rehabilitation of the industrial loft to residential purposes or conversion of the warehouse to the museum. Program here should be understood as a conceptual structure, inhabited and renovated by numerous architectures and their attendant ideologies. What follows is a set of notes on what a history of the adaptive re-uses of program might entail: how the notion of program's instrumentality is used and re-used, affirmed and rejected, through a series of containment strategies by which architecture delineates itself—how the promise and absence of a programmatic code asserted itself as motivator of architectural development throughout the twentieth century.

The Function of Program

"Form Follows Function" is clearly the best known equation of use and accommodation. That the program, labeled "function," was an important consideration in the formulations of modern architecture is clear, even if the actual commitment to the concept is not always an actual concern of the period,⁴ and while it is virtually axiomatic that program/function influences the organization of building, the attempts to render that relation explicit have for the most part been mixed. In searching the archives of modern architecture, one could scarcely do better to illustrate the correspondence between function and its formal evidence than Melnikov's Rusakov Club of 1927. As the rake of the auditorium penetrates the primary enclosing volume of the building envelope, one sees the irrepressibility of the programmatic figure. In such a clear-cut relationship is the ideal embodiment of program, in which the integration of programmatic source is directly and legibly made manifest on the form of the building. Though other examples of such





top: Minoru Yamasaki, Pruitt-Igoe Housing, St. Louis, Missouri, 1952-55 (destroyed 1972)

middle left: Aldo Rossi, Regional Administrative Center, Trieste, Italy, 1974

middle right: Robert Venturi, National Football Hall of Fame, New Brunswick, New Jersey, 1967

left: Peter Eisenman, House II, Hardwick, Connecticut, 1970

correspondences exist, this type of motivated clarity is the exception rather than the rule, and the relation of program to form frequently assumes more mediated expressions.

If absolute correspondence is a rare ideal, then attention should be placed on the alternatives, whose range of programmatic manifestations can be characterized by two opposing strategies. On one hand is the avoidance of programmatic expression within mute accommodation, where program is contained, but not expressed. One such example is the work of Mies van der Rohe, which places a limit on the configuring impetus of program, using instead a scalar model of accommodation: universal space is made functionally distinct through differentiation of the sizes within the volume. On the other hand is an interest in intense expressions of program, but if direct programmatic manifestations are relatively scarce, the difficulty is in finding enough functional correspondence to generate the desired intensity of expression. One means of dealing with this dilemma is evidenced in the work of Le Corbusier, where programmatic elements are transposed from one context to another; such examples appear throughout his work, one notable element being the ramp. Originally appearing in his design of a slaughterhouse, the ramp was used to move cattle to the top of the building, where gravity fed the animals through the various stages of their vivisection.⁵ Only subsequently did it emerge in other less ominous buildings as the key feature of the promenade architecturale. What originally led cows to slaughter later led weekendening Parisians to the piano nobile of their vacation homes. In this case the interest in the formative value of functional arrangements is so great as to supersede the limits of the species.

This range of expression should not be taken as definitive, as one can certainly imagine other variations, but it makes for a basic demarcation of conceptual positions that fall out of the versions of use and its accommodations—the specific, the general, and the alternate. The development of these strategies of programmatic containment can still be seen to continue, to very different ends, in the developments of the radical experimentation of the 1960s. If the first set of classic modern examples was concerned with the rather exact correlations of specific form to specific programs, these examples are more concerned with the open planning of the contingent. The pneumatic volumes of Ant Farm, the inclined planes of Paul Virilio and Claude Parent's *Oblique Function*, and the continuous expanse of Superstudio all make their coordinations not to specified activities, but to activity in general. However, they still operate within the same general framework; they are still versions of the exact, the approximate, and the alternative, now applied to different ends. In each instance these examples all look to the geometric/formal as the zone of control or freedom. In that sense, looking back to Summerson's description of modernism's/program's missing language, each effort is in its way trying to establish a formal grammar of use, and in that sense each attempts to constitute that "missing language." The coding of the uncodeable has obvious difficulties and renders all attempts to make such direct correlation between use and accommodation problematic.

Against Program

When a building does not perform to expectation it is cause for concern. Such problems can range from the inconvenience of poor ventilation to the catastrophe of complete collapse. While many

problems, such as structural or mechanical shortcomings, can be forensically traced to their technical origins, those issues which arise in relation to the arrangements of use are more elusive. When the needs of the user can no longer be accommodated over time, the building is rendered obsolete,⁶ but when the time frame of obsolescence is exceedingly brief, such that initial use cannot be accommodated at all, this condition may be categorized as programmatic failure. One such infamous image of failure is the demolition of Yamasaki's award-winning Pruitt-Igoe housing block in St. Louis,⁷ destroyed in 1972 due to its assumed programmatic failings. In such situations architecture runs up against such things as politics, sociology, etc., things that it is a part of but not necessarily within the domain of, and in that confrontation it is bested.⁸ Programmatic failure brings the difficulty of architecture's agency into clearest focus: what architecture has been least equipped to face, the inhabitation of the social after the realization of the schematic, becomes its largest issue.

Reaction to the specter of programmatic failure has taken two primary forms. On the humanitarian/behaviorist side, efforts to avoid programmatic failure have given rise to user-group surveys as wish-lists for planning, followed as quickly as possible by the post-occupancy evaluation. This approach removes all sense of projective agency from design and relegates the consideration of the built environment to little more than a minor industry of systematic preemptive regret. On the architectural side, the threat of programmatic failure, and with it the exhaustion of the functionalist paradigm, was manifest within the "autonomous" architecture of the 1970s, when the instrumentality of program was held in the highest degree of suspicion. Representative architects such as Peter Eisenman, Robert Venturi and Denise Scott Brown, and Aldo Rossi, can be understood separately by their strategically articulated positions in resistance to programmatic determinacy of architectural form. Eisenman's work is perhaps the most obviously counterprogram. In his essay "Post-Functionalism," he cites the form/function pairing as a continuation of archaic humanist views, ones that have been superseded in all versions of modernism except architecture: "Functionalism, no matter what its pretense, continued the idealist ambition of creating architecture as a kind of ethically constituted form giving."⁹ The devaluation of function implied by the title is not complete, rather it is a usurpation of program as instigator of architecture—it is accommodated, rather than expressed or constituted. For Venturi and Scott Brown the reaction to such a condition of impossibility—to fully accommodate the programmatic within architecture alone, or for architecture to be formed by program—is to resort to an ameliorative supplement in the form of overt strategies of signification, by inscribing the functional relations of the building onto the building.¹⁰ In their famous comparison of the Shed vs. the Duck, the difference between the two not only illustrates the semantic efficiencies of the sign, the "decorated shed", but also the corresponding muteness of program, the "duck."¹¹ In the work of Rossi the absence of program is registered in the continuing presence of form. As Rossi states, "Function alone is insufficient to explain the continuity of urban artifacts; if the origin of the typology of an urban artifact is simply function, this hardly accounts for the phenomenon of survival."¹² Form is retained historically even as the initiating events are lost.

Each in a different way, these three examples inoculated architecture against the infections of program and sought to redefine the terms of the architectural, expunging the difficulties of program in order to make a grounded claim for architectural competency that avoided the contingencies of program—that messy amalgam of allowance, imposition, and behavior. That is, they reframe the architectural project from a service (give the clients what they want) to something that has its own autonomous logics—meaningful regardless of professional circumstance. While this approach has the benefit of clear internal consistencies, its clarity of definition and domain is at the cost of relational value and the worldly construction that come along with program. The architectural historian and theorist Manfredo Tafuri has referred to this withdrawal in terms of the proficiencies and excesses of the boudoir, pleasurable but ineffectual.¹³ The critique at this point is as established as the work discussed here, however, adding to its conclusion it is clear from our current vantage point that said withdrawal was not only an enabling limitation, but was truly a limit, and moreover each project is as well constituted by program in its rejection of program: it is registered by its absence, as much as its presence.

Reprogramming

At the moment of its apparent exhaustion in the 1970s, program returns, most obviously manifest in the binary stars of Bernard Tschumi and Rem Koolhaas, who each in his way reset the programmatic area of critical interest. In their parallel development they jump the rail from one theoretical track to another, from linguistic/formal to institutional/organizational preoccupations. While the constellation of program's reemergence is multifold, in its participants, motivations, and sources, one influence in particular warrants specific attention: Jeremy Bentham's Panopticon (1787). Its influence makes perfect sense, the model program, if one is interested in program as the exercise of control, would of course be the prison, and the Panopticon is the prison par excellence. Nowhere else would the coordination of prescription and action be quite so tight as surveillance is orchestrated in the service of control. The relevance of Bentham's Panopticon was not only its architectural clarity (the arrangement of peripheral cells around central watchtowers in which the implication of observation is of more significance than the act itself), but its ability to frame a wider interest in the institutional in general. Michel Foucault's reading of the Panopticon and examination of the institutional effects of power also served the reconsideration of architecture as embodiment of the institutional, and therein, the programmatic.¹⁴

What emerges in the wake of this institutional interest is the diagram. To quote from Deleuze on Foucault's reading of the Panopticon, "form (here) can have two meanings: it forms and organizes matter; or it forms and finalizes functions and gives them aim."¹⁵ The two readings mark the distinctions borne out in the development of advanced architectural work in the late twentieth-century: those interested in program as a kind of information to be deployed and those interested in program as source material for the formation of new architectural bodies.¹⁶ On one hand, form/diagram/program is a designation of general effect, on the other, it is used to generate specific entities. What unites both approaches is the use of abstraction as a means of translating the

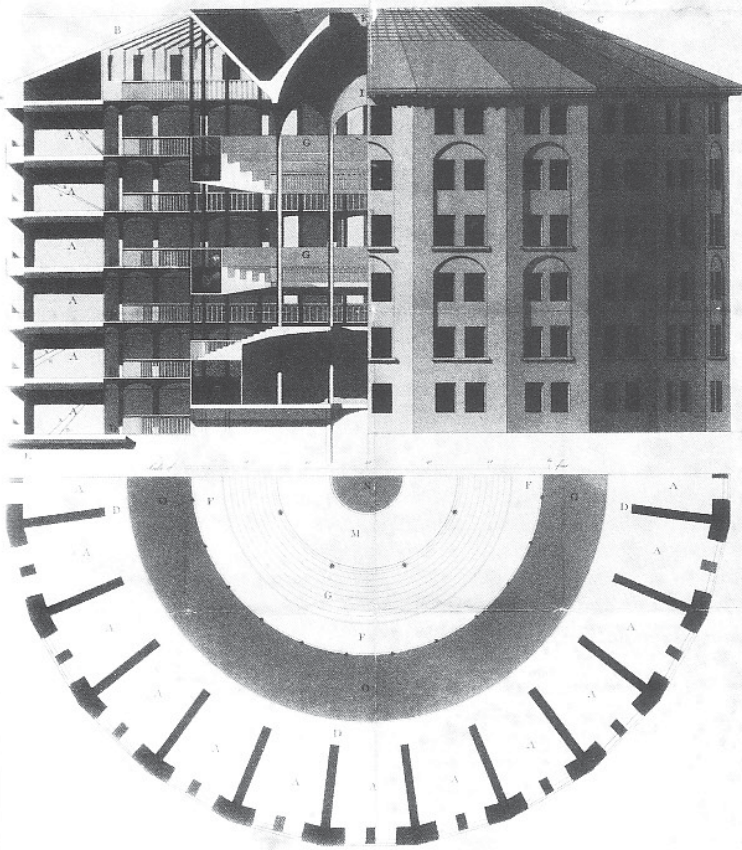
difficulty of the programmatic equation and instead placing the relation of these into a graphical analysis. This graphical substantiation renders program malleable, susceptible to architectural forms of manipulation, such that the overlap, the fold, and compression become programmatic fold, programmatic overlap, and programmatic compression. Rather than actions operating on activity itself, it is on the representations of the program that the work is done.¹⁷

The success of the diagram is its emphasis of position in relation to use. Here program no longer states identity (to be affirmed or negated) but rather an interaction of the parts, as the diagram serves to side step the impasse of form and its signification that marked previous attempts at programmatic correspondence. If the programmatic return of the 1970s was born in the prison, it ends in the library. Specifically, OMA's Seattle Public Library as it embodies a mediating position in regard to the aforementioned dualism of information and formation, whereas the projects of information and formation both stress the close proximity of the initiation and execution of their programmatic diagrams.¹⁸ The Seattle Public Library offers a model of the exact accommodation of approximate relations and can be seen to represent the culmination of a line of investigation of how the abstraction of program becomes manifest in building.¹⁹

Programma

What unites the various evocations of program, from early modernism with Melnikov, Le Corbusier, and Mies (reluctantly), to the behaviorist ideologies of American social housing, to the Situationist influence on architects (Archizoom, Superstudio) is that they all viewed program as an instrument of social transformation, differing only in their skepticism of institutional definitions of the program. However in the adaptive reuse of program the idea is not to set out a schemata of program as the social versus the geometric as formal, but rather to delineate the difficulties of enacting program, to read the difficulties of program's concretization, rather than its intentionality and aspiration.²⁰ If the implications of program for building seems like an aporia, continuing to spin in a feedback loop of attempting to situate the signification of program, with all the slipperiness that questions of signification bring, its implications for architectural thought remain active. Cedric Price once famously concluded an extended interview with prospective clients for a house with the diagnosis that what the client needed was not a house, but a divorce. The final conclusion of program might be to avoid the question of buildings altogether.²¹

The question is whether program will continue as an impetus of architectural development. Despite the overt interest in program over the last thirty years, the most recent intensity of its development now seems like its apotheosis, as architecture appears to have re-reestablished its focus on new versions of old terrains—materiality, advanced geometry, green architecture—each continuing the long trajectories of architectural development. However as argued here, overt interest is not the key to program's pervasive influence. Surveying the ins and outs of architectural discourse, it may be that program is just that: both always in and always out. "In," as a recurrent refrain of production in its affirmation or rejection, and "out" because of its seeming externalities of the definition of the assumed competencies of architecture. If program is not a

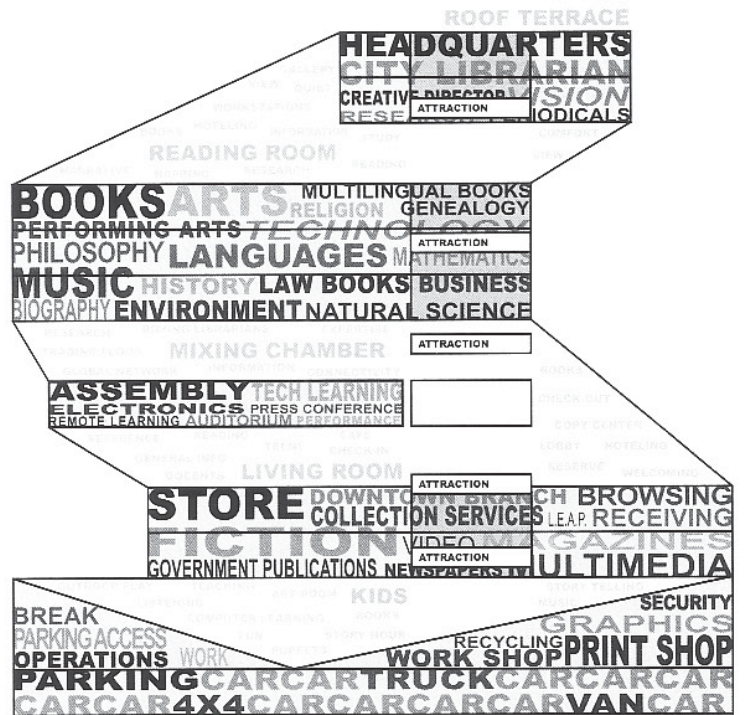
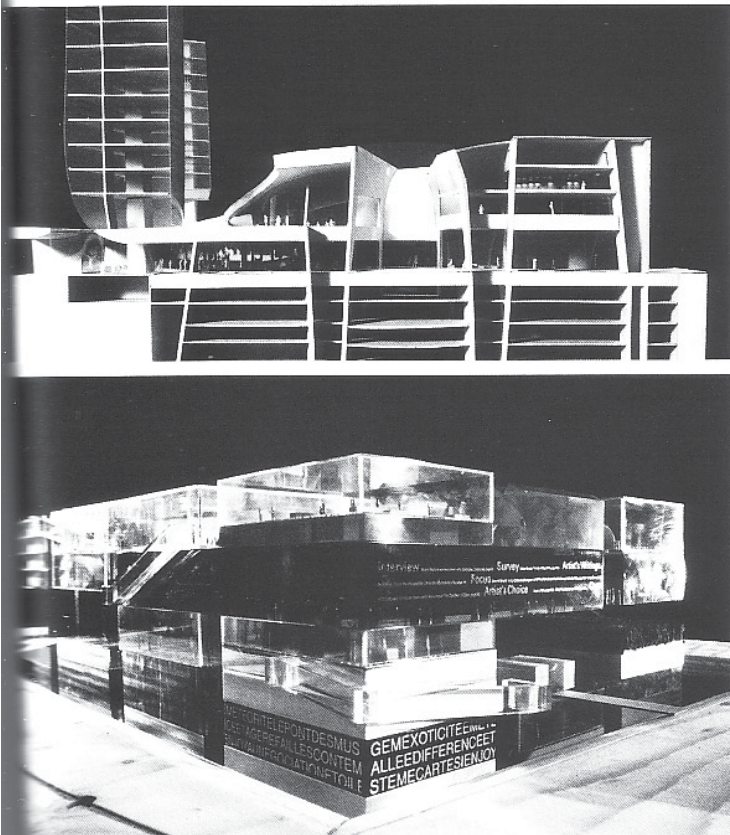


top: Jeremy Bentham, Panopticon, 1787

middle left: UN studio, Arnheim Central Train Station, the Netherlands, 1996

lower left: MVRDV and Périphériques, The Musée du Quai Branly, Paris, 1999

lower right: Rem Koolhaas / OMA, Seattle Public Library, 2004



language, nor even the promise of one, it remains continually relevant in its provocations. The future of program is to continue as irresolvable antimony of the form/function antagonism. Coming out of, and in a sense rejecting the previous models of either utter openness or utter closure of programmatic thought, the following points assert the qualities of program in its reoccurrences, establishing those factors of most pressing concern to program's next adaptive re-use:

- Program is that which comes before (by way of programming) and after (as in post-occupancy evaluations) the architectural act. Because of its positions within a project, program is an extra-architectural endeavor.
- From its position of relative exteriority, program makes problematic the confines of the architectural project. Coming before and/or after, program is not part of the properly architectural—not part of the arguments of the irreducibly architectural that can be claimed by other discourses, such as form or tectonics.
- While program questions that which is essentially architectural, it also opens a new plane of comparison between the seemingly insurmountable division between "corporate" and "avant-garde" practices. Program connects the possibility of control (the rise of specific expertise in configurations of the corporate model) and the impossibility of control (the critical delimitations of program and the liberatory promise of advanced production).
- It is in the objective of social calibrations and the impossibility of that objective's realization that program continues as provocation. As program inscribes the limits of architectural agency it also supersedes them and serves then to operate as both an aspiration (an entity to be constructed) and its critical inversion (the continual delay of the constructed entities' completion, a possibility always just out of reach).
- To continue to operate on program is to work on the limits of architecture's interface with the world. To accept the demands of program on its own terms is to allow for an architecture (as a project, both as individual instance and disciplinary collective) that enacts the possibilities of its own withdrawal.

Notes

1. John Summerson, "The Case for a Theory of Modern Architecture" (1957), reprinted in *Architectural Culture 1943-1968: A Documentary Anthology*, edited by Joan Ockman with the collaboration of Edward Eigen (New York: Columbia Books of Architecture/Rizzoli, 1993): 227-236.
2. As Bernard Tschumi describes in "Architecture and Limits," "the revolutionary urges of the futurist and constructivist avant-gardes joined those of early nineteenth-century utopian social thinkers to create new programs. 'Social Condensers,' communal kitchens, workers' clubs, theaters, factories, or even unités d'habitation accompanied a new vision of social and family structure. In a frequently naive manner, architecture was meant to both reflect and mold the society to come." Bernard Tschumi, *Architecture and Disjunction* (Cambridge: MIT Press, 1996): 114.
3. For an expanded treatment of the historical intellectual context for Summerson's "The Case for a Theory of Modern Architecture," see Anthony Vidler's "Towards a Theory of Architectural Program," *OCTOBER* 106 (Fall 2003): 59-74.
4. For more on the retrospective clarity of the form follows function equation and the inability of this formulation to describe the ambitions on its initial utterance see the chapter on "Function" from Adrian Forty's *Words and Buildings: A Vocabulary of Modern Architecture* (New York: Thames & Hudson, Inc., 2000).
5. For the drawings of Le Corbusier's two designs for slaughterhouses see: *Le Corbusier Archive, Volume 1 Early buildings and projects 1912-1923* (New York: Garland Publishers, Paris: Le Corbusier Foundation, 1982).

6. See Daniel M. Abramson's, "Obsolescence: Notes towards a History," *PRAXIS: Journal of Writing + Building* (5: Architecture after Capitalism): 106-112.
7. One can see Pruitt-Igoe's destruction as the recurrent image of dramatic programmatic failure, it appears in Godfrey Reggio's film *Koyaanisqatsi* as a slow-motion collapse, and in Charles Jencks' *The Language of Post-Modern Architecture* (London: Academy Editions, 1977) to introduce the chapter "The Death of Modern Architecture."
8. For more detailed summary on the fate of Pruitt-Igoe to the myriad forces of its destruction see Katharine G. Bristol's "The Pruitt-Igoe Myth," in *Journal of Architectural Education*, vol. 44, no.3 (May 1991): 162-171.
9. Peter Eisenman, "Post-Functionalism," in *Eisenman Inside Out: Selected Writings, 1963-1988* (New Haven, Yale University Press, 2004): 85.
10. Robert Venturi and Denise Scott Brown, "Ugly and Ordinary Architecture or the Decorated Shed, Part I," in *Architecture Forum* (1971): 64-67.
11. The roadside architecture of ducks, dinosaurs, and donuts is often referred to as "programmatic architecture," at least in the case of popular cultural studies. For more on the programmatic architecture of ducks see Jim Heinman, *California Crazy and Beyond: Roadside Vernacular Architecture* (San Francisco: Chronicle Books, 2001): 118.
12. Aldo Rossi, *The Architecture of the City* (Cambridge: MIT Press, 1982): 60.
13. Manfredo Tafuri, "L'Architecture dans le Boudoir: The Language of Criticism and the Criticism of Language," *Oppositions* 3 (1974), reprinted in *Oppositions Reader*, edited by K. Michael Hays (New York: Princeton Architectural Press, 1998): 291-316.
14. Michel Foucault, *Discipline and Punish: The Birth of the Prison* (New York: Pantheon Books, 1977 [original publication in French, 1975]).
15. Gilles Deleuze, "A New Cartographer (Discipline and Punish)" in *Foucault* (Minneapolis: University of Minnesota Press, 1988 [original publication in French, 1986]): 33.
16. The phrasing is from Jeffrey Kipnis, the parsing of the term here is my own. Jeffrey Kipnis, "Towards a New Architecture," *Folding in Architecture*, ed. Greg Lynn (London: Academy Editions, 1993): 41-49.
17. In this sense the programmatic work on the diagram is itself part of the larger trajectory of the late twentieth-century diagram which is "a strange assemblage of formulas, cartoons and diagrams both abstract and concrete. Pieces of this collection sometimes are simply 'found' and other times 'assisted' or manipulated; a partial list of this invisible canon includes the nine-square and the Panopticon, the domino and the skyscraper, the face/vase and duck/shed, the paranoid-critical diagram and the fold, dance notation and cinematic storyboards, maternal bodies and bachelor machines." The quotation is from R.E. Somol, "The Diagrams of Matter," *ANY* 23 (1998): 23.
18. In the interest of full disclosure I admit to working on the earliest phases of this project in the capacity of researcher, analyzing the history of libraries in general as well as the SPL program brief specifically.
19. The original context for these notes was the "Exploring Program" conference organized by Jeffrey Kipnis and held at the Ohio State University in the fall of 2004. The motivation for the conference stemmed directly from Kipnis' reaction to the Seattle Public Library and that project became the focus of much of the discussion. In that light, I would defer to the presentation of my fellow panelist Sylvia Lavin, who, through a series of convenient examples was able to demonstrate the degree to which the program diagram dominates the conceptual image of the project, virtually to the exclusion of other logics. In my position I would agree with Lavin in the assertion, but differ with her as to the conclusion, and rather assert that it is precisely the overdetermined/underdetermined status of the diagram in relation to the finished work what makes the project so compelling—as it marks the culmination of trends toward the concretization of the programmatic.
20. While the focus of these notes has been on the correlation between the provocation of program and its realization within architectural form, there remain other avenues that could be explored in a specialist history of program, rather than the secret one explored here. Any attempt to give a comprehensive overview of the development of programmatic thought in the extended field of architecture would need to include: not only the examples already mentioned such as, futurist and constructivist avant-gardes and nineteenth-century utopian thinkers, but William Pena's programming work at CRS, and the multitude of project specific corporate practices, among many others.
21. For the source of the Price anecdote, as well as a catalog of recent architectural projects that have forgone the assumption of building altogether see Ilka & Andreas Ruby's "Reprogramming Architecture" in *Archis* (vol. 20)/Volume (#2): 6-21.