

Tel Aviv Museum of Art
Director and Chief Curator: Prof. Mordechai Omer

***PERFORMALISM: FORM AND PERFORMANCE
IN DIGITAL ARCHITECTURE***

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EXHIBITION

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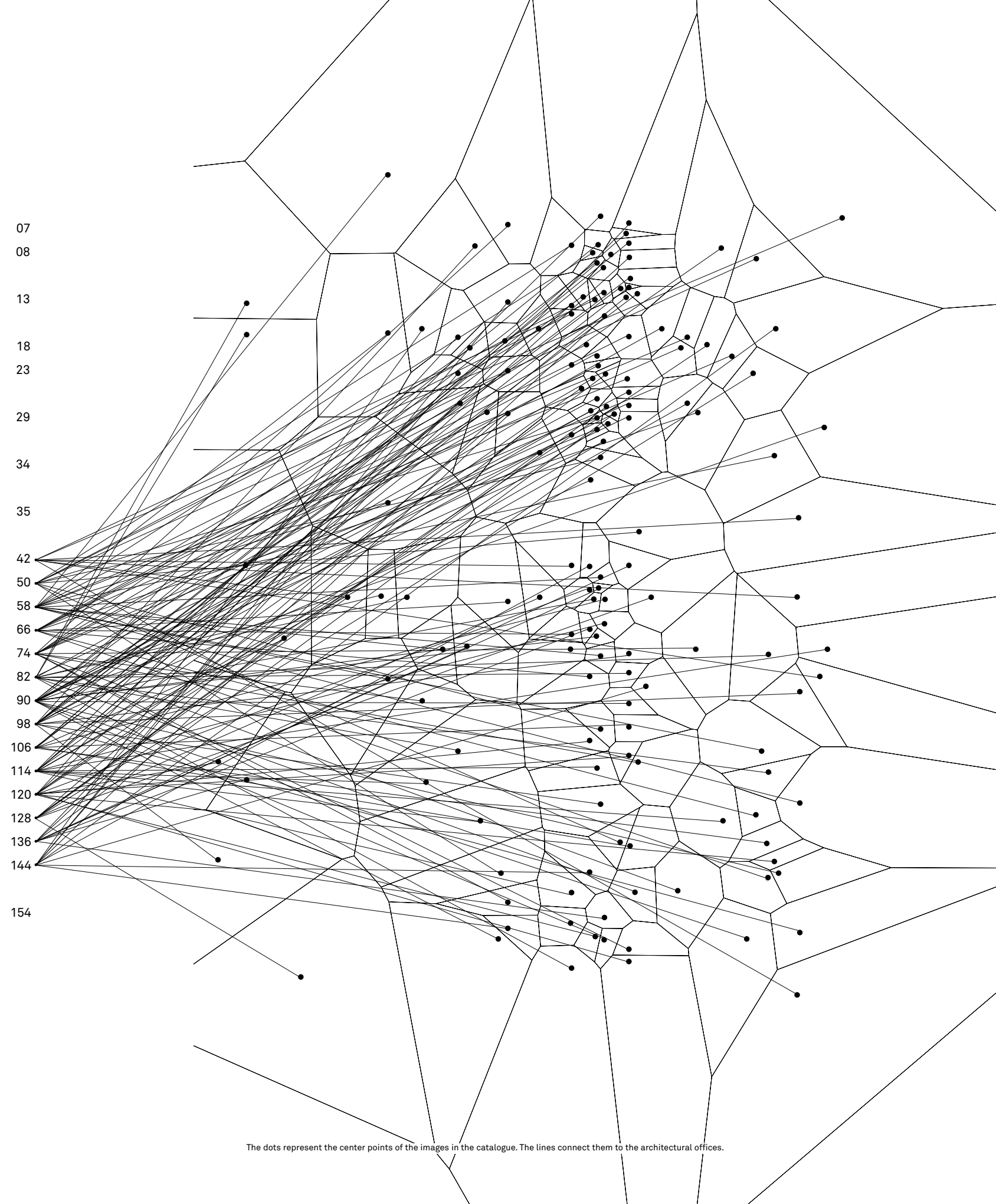
PERFORMALISM

FORM AND PERFORMANCE IN DIGITAL ARCHITECTURE

Yasha Grobman, Eran Neuman

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The dots represent the center points of the images in the catalogue. The lines connect them to the architectural offices.

>> Talking in "isms" might be risky. "Ism" assumes that behind a described phenomenon stands a group, a movement, or a collective, whose members share points of view, ideologies, and modes of production. It entails that members included in an "ism" partake in a cause and a distinctive doctrine and theory. It alludes to a moment in history in which dispersed notions crystallize into a coherent idea and change political, cultural, and social notions brought to a rupture within certain realities, proposing new ways to look at, transform and engage with these realities. At times an "ism" demarcates a perception of life in absolute terms, seeking a singular way to relate to and produce life.¹ The risk of talking in "isms" lies in the reduction of a certain phenomenon into several limited concepts.

The need to characterize phenomena and at the same time reflect the complexities related to these phenomena led, throughout the course of history,

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Eran Neuman, Yasha Grobman

to the definition of "isms" according to the modes of operation performed by their members. That is, not only according to the shared modes of production, but also through an analysis of the attribution of discursive mechanisms. Many "isms" professed avant-garde ideas by performing avant-garde actions. Means and ideology were unified; together they provided ways to define those "isms." Sometimes "isms" used manifestos as a vehicle to spread their ideas, call for change and search for a future. The manifesto, as Mary Ann Caws claims, was "crafted to convince and convert."² From the *Communist Manifesto* to the Futurist one, from Surrealism to Situationism, it functioned as a political and critical tool worded in the first person plural ("We should finally like to state . . ." as Umberto Boccioni professed³) and outlining modes of operation that would conclude in the new and about the future. An analysis of these manifestos assisted in characterizing those "isms."

Performatism takes the risk. It proposes defining a phenomenon common in architecture today while also providing a sort of manifesto for this phenomenon: a retro-manifesto. Observable and distinct, even though it contains discrepancies, this phenomenon can be categorized according to the points of view of those occupied with similar ideas and forms of production. The present exhibition and its accompanying catalogue outline the ways in which prominent architects today utilize discursive formations and modes of operation in and about the new. Through those architects' projects, texts and words, the exhibition does not only map out attitudes in architectural production today, but it also proposes a way of looking into architectural realities existing in the interstice between form and function, object and subject, space and flesh, perception and cognition, politics and ideologies, and defining these realities as a modality for performative architectural existence today.

* * *

[1] See Aaron Sprecher, "Alive and Kicking: Energetic Formations," in this catalogue, pp. 75-77.

[2] Mary Ann Caws, "The Poetics of the Manifesto: Nowness and Newness," in *Manifesto: A Century of Isms* (Lincoln and London, 2001), xix.

[3] Umberto Boccioni, "Technical Manifesto of Futurist Sculpture," Caws 2001, 177.

What, then, is Performance in architecture? What is architecture occupied with in recent years? How does it perform? What, in effect, makes it an "ism?"

With the advent and assimilation of digital technologies, architecture underwent a big transformation. Having broader and more complex means of expression and production, architects who were interested in realizing the potential of computation in design began to explore what was perceived as odd forms, basing them mainly on the outcome of visual properties, on an image, while neglecting to incorporate other aspects of architecture. This tendency was expressed, for example, in projects by such architects as Marcus Novak and Stephan Perrella whose formal approach, even when examining cultural aspects of form, was primarily based on form's visual properties. Frank Gehry's initial occupation with built digital projects, as executed in the "Fish" and the Guggenheim Museum in Bilbao, rejected aspects of modernism, such as "form follows function," and defined a new level of freedom in the relationship between form and its formal appearance, showing the possibility of realizing this odd form.

The initial interest in form in terms of visual and formal properties in many ways brings to mind a parallel historical phenomenon. In the early 20th century, as a result of the Industrial Revolution, overwhelmed by the new technological possibilities, artists and architects began experimenting with new forms. Despite the different historical and cultural circumstances from which they derived, Russian Formalism, Dadaism, Cubism and Futurism can be considered to recall the formal exploration of the time. Albeit focusing on the autonomy of form, these formal explorations enfolded social and political agendas by questioning the relation between form and content. Nevertheless, these explorations were later criticized by Marxist ideologists for having emphasized the formalist aspects in art and architecture rather than directly addressing cultural, social, and political aspects of form making. In a similar manner, artists and architects today, overwhelmed by yet another technological revolution—the Digital Revolution—started experimenting with new forms.

Similarly, in the 1990s, some architectural critics and practitioners claimed that these new experiments reflected a reductionist attitude, one that excludes complex aspects of a formal conception in architecture, relying solely on few image related parameters. Reacting against this attitude, they called for the incorporation of other parameters into the conception and making of architectural form, such as those derived from environmental and programmatic aspects. Basing form on function ("form follows function") was not an option because functionalist form making was conceived as yet another reductionist attitude. The logic of form as an outcome of function was mechanistic, relying mainly on the utilitarian aspects of form and not necessarily addressing the complexity of form as a cultural, social, and political product.

For architects, performance provides a wider frame for the conception of the architectural form because it incorporates and lingers in-between the functionalist and image-based approaches of form making and conception. It also suggests breaking dichotomies between the performance of form as an object and the performance of the human subject. Form in this case is animated, acting and interacting with the surrounding objects/forms and the human subject, creating possibilities for the emergence of new realities. It is an integral part and the outcome of inclusive processes based in nature as well as culture. As such, a performative perception of form would call for its optimization as a product of technical utilization, while at the same time it would aim to incorporate symbolic, perceptual, and behavioristic aspects of form as a figure that displays a visual and sensual appeal. Form in this case would be more flexible, adjustable, and free.

* * *

In the search for a new logic in the conception of form and a new relationship between the different parties in the triangle Form-Function-Subject, Performatism proposes that computer-based architecture transform notions in the architectural discourse from function to performance. The work presented in the exhibition "Performatism" addresses the question of form as an outcome of performance. It claims that digitization shifts form-making to a complex, dynamic operation based on performative aspects. As a heuristic device, the exhibition includes both ends of performance of form in architecture: on the one hand, an image-based conception of form and on the other, a functionalist attitude toward architectural form. In-between, the exhibition presents a range of works that treat the question of architectural form from neither end, but try to explore various conceptions of form as an inclusive procedure, addressing perceptual and behavioral aspects. To that end, the exhibition presents the multifaceted perception of form as a result of several performative procedures.

In **Peter Eisenman's** conception of form, which is an outcome of diagrammatic procedures, performative and conceptual inputs are used both as an initial field-grid and as disturbances that modify the field-grid and generate the subsequent formal expression.

Karl Chu's conception of form is founded on mathematically ruled base procedures which examine potentials of complex spatial arrangement, emphasizing both the perceptual dimension of performance and the parameters that can be applied in the performative procedure.

The work of **R&Sie(n)** exploits the formal possibilities introduced by computation and pushes the performance of form to the limit, to a moment in which form performs as a schizoid process. Here performance is examined in terms of tools that are designed to perform by themselves as executioners of the final architectural product.

Archi-Tectonics' work addresses the architectural figure by developing a formal strategy that goes beyond the parametric design into the aesthetic and integrates both. Form is generated through the deployment of three different typologies of matrix: armature, smart skin, and interface. Each of these organizers operates as a mechanism for "associative parametrics"—the feedbacks that link component assemblies in responsive feedbacks, and link built organizations and their context or environment.

GLForm's mode of form generation is an investigation of the potentials of computer complex form manipulations and manufacturing. Here performance is conceived as a development of communication mechanisms between designers and machines and between environments, played by internal and external vectors.

OCEAN refers to a biologic paradigm in which form is created through a direct performative exchange with its specific environment. Performance in this approach is the mutual effect that an architectural object and its environment generate and share.

The formal strategy of **Open Source Architecture (OSA)** is based on a principle of dissipative emergence that concludes in highly informed models all favoring the

appearance of form in terms of information flows. Form in OSA's work benefits from the abstract nature of information that is mutually approached as language (typology) and system (topology).

Franken Architekten's formulations of form as registration of force vectors are attempts to optimize the architectural form beyond its technical modalities. The dual idea of performance in this case includes a source of generative forces that shape the initial form and a manufacturing oriented constraints system.

Foster+Partner's optimization of form is a natural balance of multi-criteria parametric processes. Combining structural and ecological parameters, Foster+Partner develops an argument for an internal logic of geometry as aesthetics, and vice versa, which are based on performative aspects.

RUR perceive the architectural form as an entity generated within the dynamics of a material field. Their notion of performance emphasizes a possibility to determine a material system's fabric and effect with great precision. The performative ramifications of this approach are used for the creation of highly specific atmospheres and ambiances.

Kol/Mac addresses the relation between form and performance by employing strategies based on models from nature through tools such as fuzzy logic software. Their design process emphasizes emerging possibilities to use this logic to create complexity in architectural and urban systems, while avoiding the reductionism which is frequently linked to computer form generation methods.

Contemporary Architecture Practice addresses formal affects, effects, and atmosphere rather than concentrating on the environmental performative aspects of form during the initial form-generation process. In the following stages, performative aspects (environmental and perceptual) are being used while developing innovative form-conception and manufacturing methods.

In **Frank Gehry and Gehry Technologies'** form development process, performance and performative simulation tools, such as Digital Projects, are realms for analyzing and actualizing designs that were initially developed in a rather traditional method, using physical models.

Preston Scott Cohen's complex initial form has strong geometric origins. His approach to performance emphasizes a level of virtuosity that goes beyond function as a result of the need to address multiple constraints, with often contradicting demands that are addressed simultaneously.

The current exhibition claims that the work and discourse of the respective architects presented creates a group, an "ism," not only because of the prophetic and futuristic aspects embedded in the work and rhetoric, but also due to the old-new realities it reveals. Both **Sylvia Lavin's** arguments that performance of architecture today offers new five points for architecture, an alternative to those defined by modernism, and **Antoine Picon's** outlining of performance in and through architectural histories suggest that while performance is a new conception in architecture, it is actually a practice that is being pursued anew. As such, the work presented reflects a moment in history in which dispersed notions about form-making crystallize into coherent ideas about form, ideas that change

political, cultural, and social notions.

As an "ism," Performalism may allude to autonomous and reciprocal procedures—procedure for its own sake (as in formalism—form for the sake of form). The works presented in the exhibition apply performative aspects in architecture for the sake of performance. Nevertheless, since the idea of performance initially attempts to incorporate multiple layers of reality, the outcome exceeds the limitation of autonomous operation and provides a wide range and inclusive possibilities for formal existence in architecture.

As a manifesto, the exhibition calls for performance in architecture. Living in a time in which the digital tool allows to design and integrate architectural properties and aspects in high resolutions, we can reach a highly personalized yet shared architecture. Performance as a conceptual and practical mode of operation provides us with the means to create an architecture that is in-between the individual and the collective, in-between utilitarian and symbolic functions, the intuitive and the rational, the sensual and the analytical. In this architecture, objects and subjects act as performers, creating environments for future growth.

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» The transition to computerized object-based design¹, and the improvement in the processing ability of computers, have led, in the past decade, to a significant increase in the quantity of information embodied in the form and the process of architectural design. Information-rich architecture based on "smart forms"² exists in a new dimension that is built on information hierarchies, from the level of the single parameter through to algorithms and programs that define relationships among numerous parameters. The use of parameters or algorithms as bases for production of forms, and in the architectural design process, as well as the increasing complexity of programs of architectural creation and the growing use of computers in architectural design, call for a re-examination of the system of laws in which architectural creation is conducted.³ This time, however, in contrast to precedents such as the design methods of Christopher

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Alexander⁴ and others who attempted to arrive at a comprehensive, logocentric, theory, attempts are being made to define these laws in terms of specific, local, understandings. This kind of understanding continues the parametric logic of the computer in a way that makes possible a deconstructive use—i.e., disassembly and creation of new programmatic and formal complexities.

In this way a new kind of architectural database is gradually developing, which—in contrast to classical databases, such as those that focus on typologies—contains tools and methods of form creation that are based on a computer code. This database exists and develops in the free world of the open code on the Internet, and, as in other disciplines (the computer sciences, for example), makes possible free adaptation and downloading of architectural codes for local, particular, needs.

This article proposes a definition of the concept of performance in architecture based on the logic of parameters, while making a first examination of the possibilities of using the various dimensions of performance in computer-based architecture, and a first examination of the meanings and implications of these possibilities.

[1] As distinct from design based on lines defined by two points in space.

[2] A "smart form" incorporates quantitative information connected to the form's performance as well as information on the form's geometry. See Guedi Capeluto, "Energy Performance of the Self-Shading Building Envelope," *Energy and Buildings* 35 (2003), pp. 327-336.

[3] In the early 1960s the computer was perceived as an intelligent problem-solving machine that in the not too distant future would equal and even surpass human capability. That period saw the development of a large number of theories and models for the automatization of the design process and the optimization of its products. See Alfredo Andia, *Managing Technological Changes in Architectural Practice: The Role of Computers in the Culture of Design*, Ph.D. dissertation, University of California, Berkeley, 1997.

[4] Christopher Alexander, *Notes on the Synthesis of Form* (Cambridge, Mass.: Harvard University Press, 1964), p. 9.