Erich Mendelsohn, “The International Consensus in New Architectural Thought, or Dynamics and Function” (excerpts, 1923)

Abstract

The architect Erich Mendelsohn (1887-1953), who was born in East Prussia, is considered one of the most important pioneers and representatives of modern architecture. After studying in Berlin and Munich, Mendelsohn, who had a strong interest in music and art, initially worked as a stage and costume designer before committing himself to architecture. After the First World War, in which he served as a medic, he opened his own architectural office in Berlin. He was a member of the Arbeitsrat für Kunst [Workers' Council for Art] and later of the Werkbund. Mendelsohn became famous for designing the observatory in Potsdam, known as the “Einstein Tower,” which was completed in 1922. Despite the economic crisis and inflation, Mendelsohn's office became one of the most successful in Germany, achieving international recognition primarily for its designs for commercial buildings such as the Rudolf Mosse publishing house in Berlin. In 1933, Mendelsohn and his wife Luise, both of whom were Jewish, decided to emigrate due to the antisemitic propaganda of the new Hitler government. They first went to the Netherlands, then to Great Britain and from there to Palestine, before finally settling in the USA in 1941. The excerpts reproduced here from one of Mendelssohn's many texts on architectural theory illustrate his understanding of the interplay between technology and artistic creativity in modern architecture.

Source

Ever since the recognition that matter and energy, previously considered by science to be separate, are different states of the same primordial substance, and that nothing in the universe happens without some relation to the cosmos, without a connection to the whole, engineers have moved away from the mechanical theory of dead matter and returned to nature's service. Out of primordial states, they uncover lawful relationships. Their previous hubris has been replaced by a sense of joyful creation. The intellectually narrow inventor becomes an intuitive, *all-encompassing* creator. And the machine, once a compliant tool of soulless exploitation, now becomes part of a new, living organism. We owe its existence not to the generosity of some unknown benefactor, nor to the brilliance of a lone engineering genius. Rather, it emerges naturally in response to developmental needs at the *precise moment* when necessity demands it. Its true task is to address the complex interactions between population growth and increased production, between industrialization and heightened human consumption, to impose order upon them, and to master their consequences.

The machine thus stands as both a symbol of exaggerated decay and an element of a new kind of self-organizing life.

Since discovering nature's powers, we appear to be *conquering* them. But in reality, we are only serving them with new tools.

We appear to be freeing ourselves from the laws of gravity.

But in reality, we are only grasping its logic with new senses. We are driven toward new clarity by the precision of the machine's motions, the sharp sounds of its operation, and the metallic sheen of its materials casts everything in a new light. A new rhythm takes hold of the world, a new movement. Medieval man, resting in the horizontal peace of his contemplative workday, could not find his God high

above without the towering verticality of the cathedral.

People of *our* time, amid the frenzy of their accelerated lives, can only find balance in the stillness of the horizontal. Only by firmly bending their will toward reality can they master their restlessness; only by achieving the ultimate speed can they outpace their own haste. For even the spinning Earth stands still! It is unthinkable that we would ever relinquish control over the skies, or mastery over nature's elements. The task now is to integrate these achievements into the most basic stock of knowledge we teach our children. Children will learn how to use the telephone, numbers will lose their scale, and distances will shrink to a simple stroll.

Technology as craft. The laboratory as a workshop. The inventor as master.

[…]

While machines constantly perform work, *apply force*, or overcome it, architecture is simply the *expression* of forces whose effects naturally come to rest in the static mass of the structure—nothing but the spatial expression of the interplay of forces that *cancel each other out* through mutual action.

Dynamics can never mean movement in the mechanical sense, as this term denotes something reserved solely for machines. I also find it misleading, at least, to translate "dynamics" as "sense of life," "vitality," or "emotion." Such uncontrollable matters of the blood are not unique to *our* age. If you will, a sense of life is the motivation and standard for all productive creation. In essence, a sense of life represents nothing more than the combination of talent and personality, or genius and willpower.

This is directly proportional to both productive capacity and artistic achievement. Transcending time and place, it brought forth the Temple of Karnak in ancient Egypt as it did St. Mary's Church in Danzig [Gdańsk] during the Gothic period, to name several prominent examples. And yet if one understands dynamics exclusively as the logical expression of movement arising from the forces inherent to materials in construction, and a building as nothing more than an expression of real needs *and* these forces, then I believe "movement"—unlike in machines—takes on a completely clear image extending absolutely into infinity; it becomes the same image across all original epochs of construction. From this perspective, the principle behind the Greek temple's post-and-beam structure and the Gothic system of columns and vaults is simply the *movement* and *countermovement* of these internal forces.

Each *individual force* may be static, but the *interaction of forces* is always dynamic! Of course, such fundamental principles cannot be inferred from the routine tasks of everyday construction.

Their smaller scale is disconnected from the core problem of construction and only gradually follows the thinking behind major and unique projects, reinterpreting their fundamental results for more modest purposes—and usually in a purely formal way.

And since we are speaking about our own time, we must particularly utilize the elements readily available to us in our work: *our* needs, *our* materials, and *our* methods of construction.

The revolutionary play of tension and compression in iron generates movements that continually astonish the experts but remain entirely incomprehensible to the untrained. Our task is to find the architectural expression for these dynamic forces, to balance these tensions through architectural design, and to master the inherent vitality of these forces that relentlessly drives toward *actual* motion.

[…]

Another point now requires clarification, which appears to be the origin of the widespread misunderstanding of the now-overused buzzword "dynamic architecture."

An example: while the relentless incoming waves at a breakwater head *physically* batter the wooden structure—meaning the construction—and force it to deploy its available forces in a counterthrust, this effect occurs only figuratively in the case of a corner building such as this one.

The headquarters of the *Berliner Tageblatt* is located at the junction of two heavily trafficked streets in the city center, both of which are relatively narrow. Even without this constriction, the building towers far above the neighboring structures due to the expanse of its two facades and its eight-story height. Naturally, no real physical impact occurs as we find at the breakwater head. And yet the building is no mere passive observer of the speeding cars and the flowing traffic; instead, it has become an active, contributing element of the movement.

Just as it visibly incorporates, in its overall expression, the swift tempo of the street and the movement toward the corner that has been amplified to the maximum, it simultaneously calms the nervousness of the street and of passersby through the balance of its forces. The broad, overhanging ceramic cornice, which separates the old structure from the new, draws sharply toward the corner, drops down, and lands on the vigorously protruding canopy above the entrance. Even its *details* have been incorporated into this overall tendency. In my studio, we jokingly call this row of windows “the docking of the *Mauretania* in Berlin’s Westhafen.” This comment strikes me as containing equal parts irony and truth. By dividing and directing the traffic flow, the building, despite its dynamic tendencies, stands as an immovable anchor amid the movement of the street.

It is driven purely by an intuitive impulse to express the will of the time—an aspect of artistic creation that, in every age, has produced the revered moments of serenity and emotional intensification unique to architecture.

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As with *dynamics*, we also encounter multiple starting points when defining the concept of *function*. Reducing all forms of appearance to the simplest geometric *fundamentals* is inherently the first demand of a truly original beginning. Recognizing the basic elements has always been the foundation for creation. Graphic analysis fosters clear communication.

[…]

But if this graphic process—essentially a *two*-dimensional insight—is transferred into space without a vital relationship to the *third* dimension of depth, which is what makes elementary spatial forms such as cubes, spheres, and cylinders into a coherent *spatial* organism, the risk of an intellectual construction immediately arises. The danger of uncontrolled dynamism is equal here to that of overly deliberate abstraction. Blooded passion and bloodless abstraction *both* pose risks to genuine creation.

After understanding the dangers of *both* principles, of the dynamic and functional approaches, the contrast between the *catchword* and the true *essence* of function quickly becomes apparent.

This crane arm from earlier in the evening, this clear grasping mechanism, serves as a textbook example of pure mechanical function.

Applied to construction, this crude notion of functioning expands to become a *function in the mathematical sense* of necessary dependency. The pivot bearing of a canal bridge, which connects the central suspended girders with the cantilever girders in the upper chord of the bridge, only functions as a logical consequence of the interaction between the upper and lower chords when the traffic load is applied.

So, while the machine’s actions—its grasping, pulling, tearing—represent a *purely functional purpose*,

and while function in construction is merely a matter of mathematical *necessity*, in architecture the function reflects the *spatial and formal dependency* on the requirements of purpose, material, and structure. This is why I find it impossible to try to transfer the machine's functional purpose to space or to impose technical organization onto the organic structure of architecture. As architects, we must take the material demands and structural relationships as *self-evident* foundations of our planning from the very start—in short, we must regard them as *preconditions* for the entire organization of a building. But we must also understand that they are only one component of the productive process.

This process alone, no matter how large the dimensions or how clear the clear relationship to the technical means, does not yet create architecture.

The construction of the *grain silos in Buffalo* is striking proof of this fact. The other component is nothing other than the ability to create an architectural expression from these elementary preconditions.

This means translating technical conditions into spatial terms, aligning them down to the smallest detail in mutual dependency, creating that harmony which, in the finest buildings of all eras, results in the most astonishing achievements in measurement, that incredible distillation of *emotional* processes into mathematical proportions and geometric relationships. Consequently, *two components* are necessary for architectural creation.

The first is the intellect, the brain, the machine of the organizational machine, though here spatial expressions often flash up into the subconscious like visions. And the second, built on that organizational foundation, is the controlling impulse, the blood, the temperament, the senses, the organic feeling. Only the *uniting* of both components—the *tangible mass of matter* and the *intangible mass of light*—brings mastery over spatial elements: only their unification leads to the *intensification* or *balance* of masses.

[…]

It is only through the *inter*play between function and dynamics, between reality and unreality, consciousness and the unconscious, between reason and emotion, numbers and thoughts, between limitation and infinity, that the architect's living creative drive and passion for space arise.

[…]

If the close relationship between function and dynamics holds for a single building, as the architectural cell, then this is even more so for the larger system of cells, the city. Just as the smallest unit is no detached observer but an active element of movement, the street, with its fast-moving traffic, becomes a horizontal artery connecting hubs. And the future city becomes a system of hubs, for when seen with the widest possible lens, it is nothing less than the spatial system per se.

From this vantage point, the largest modern cities appear as inorganic clusters of the most contradictory elements, in stark contrast to the spatial marvels of the finest historic cities. Even the cubic appearance of individual skyscrapers makes no difference here. But our time, more than almost any other in history, is faced with the necessity of building new cities from the ground up or at least imagining them anew.

In this French plan, the horizontal layout and cubic structure of the main arteries are ideally suited for fast traffic, which cuts directly through suburbs and the city itself. Yet the city center is dominated by a clear design that endows the entire structure of the organism with the ineluctable dynamism of modern life. Even the skyscrapers stand on the terrain bereft of any relation, disconnected from the rest of the city's elemental cells.

This smaller project, by contrast—in this case, the development of a commercial *district*—strikes me as a successful attempt to create a clear form of expression for our future cities. Here, terraces, bazaars, the

facades facing the street, a cinema, a hotel, and an office tower are brought together as an organism, unified by both the function of their individual tasks and the dynamics of the whole. Rarely, it seems to me, has the order of the world revealed itself so clearly; rarely has the logos of being opened more profoundly than in this era of supposed chaos. We have all been jolted by elemental events; we have had the time to rid ourselves of prejudices and complacent contentment. As creators, we know well how the forces of movement and tension play out differently in each case. Our task is thus all the more to counter agitation with reflection, excess with simplicity, and uncertainty with clear laws—to recover the elements of energy from its fragmentation, to mold a new whole from these elements.

Grab, construct, reconfigure the Earth! But *give form* to the world that is waiting for you. With the dynamic movement of your blood, form the functions of its reality, and elevate those functions to dynamic immateriality—simple and reliable as a machine, clear and bold as its construction. Form the preconditions of reality into art, form matter and light into unfathomable space. And yet do not forget that individual creation can only be understood through the *totality* of the phenomena of the age. It is as tied to the relativity of its facts as the present and future are to the relativity of history.

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