Mies van der Rohe,
A Sky Scraper for
Berlin, 1921
Position is a spatial and ultimately military term. To take a position is by definition to have changed one’s position, to move ground and therefore to see the world differently for a while. Modern architecture is not only a subject that can be viewed from many angles, many positions, it is itself a way of viewing. To be more precise, modern architecture is a way of changing positions, a way of moving ground. It established an intellectual mobility that is more critical than its more obvious physical mobility—the new freedoms of movement of people and materials or even buildings. In a sense, modern architecture is simply the promise that everything can move and in so doing be modern. To respect modern architecture, to appreciate it in detail, one must move positions and keep seeing it through new eyes.

To give just one example of such change in viewing position, think about the relationship between modern architecture and medical technologies for viewing the body. If architectural discourse has from its beginning associated building and body, the body that it describes is the medical body, reconstructed by each new theory of health. Modern architecture can be argued to have been shaped by the dominant medical obsession of its time: tuberculosis. It is as though the widespread success of modern architecture depended on its association with health, its internationalism the consequence of the global spread of the disease it was meant to resist.

The principles of modern architecture seem to have been taken straight out of a medical text on the disease. A year before the German microbiologist Robert Koch discovered the tubercle bacillus in 1882, a standard medical
book gave as the cause of the disease, among other things, “unfavorable climate, sedentary indoor life, defective ventilation and deficiency of light.” It took a long time for these notions to lose credibility. As Susan Sontag writes: “The TB patient was thought to be helped, even cured, by a change in environment. There was a notion that TB was a wet disease, a disease of humid and dank cities. The inside of the body became damp and had to be dried out.” Modern architects offered health by providing exactly such a change of environment. Nineteenth-century architecture was demonized as unhealthy, and sun, light, ventilation, exercise, roof terraces, hygiene, and whiteness were offered as means to prevent, if not cure, tuberculosis. The publicity campaign of modern architecture was organized around contemporary beliefs about tuberculosis and fears of the disease.

In his book The Radiant City of 1935, Le Corbusier dismisses the “natural ground” as “dispenser of rheumatism and tuberculosis” and declares it to be “the enemy of man.” He insists on detaching buildings, with the help of pilotis, from the “wet, humid, ground where disease breeds” and using the roof as a garden for sunbathing and exercise. To reinforce the point, he uses pictures taken from medical texts as architectural illustrations, showing the lungs and their inner workings, while giving architectural illustrations medical labels, as when a photograph of an old part of the city becomes, via caption, “Historic Paris, tubercular Paris.” Le Corbusier develops in this book a concept of “exact respiration” whereby the indoor air is continually circulated and cleaned, made “dust free, disinfected, . . . and ready to be consumed by the lung.” Opening windows are eliminated, and the façades become walls of glass. One by one, all of the characteristic features of modern architecture (pilotis, roof garden, glass walls, clean air, etc.) turn out to have been presented as medical devices. Even the walls are white to reveal any contamination.

Indeed, it would seem as though modern architects and their promoters were advocating life in a sanatorium. Take, for example, Siegfried Giedion’s little 1929 book Befreites Wohnen (“Liberated Dwelling”), which is subtitled Licht, Luft, Oeffnung (“Light, Air, Opening”), almost like the slogan of a sanatorium. Under the cover of a book on the modern house we find more than half of the illustrations dedicated to hospitals and to sports: Richard Döcker’s sanatorium in Waiblingen (1926–1928), Bernard Bijvoet and Johannes Duiker’s Zonnestraal Sanatorium in Hilversum (1927), a 1907 sanatorium in Davos (famous site of Thomas Mann’s novel The Magic Mountain), sports stadia, images of gymnastics, sunbathing, tennis, etc. When we get to the houses, they seem to have been turned themselves into sanatoriums, with convalescents resting on long chairs on terraces (as in a picture of a Max Haeefeli house in Zurich of 1928), or into gyms, as in Marcel Breuer’s bedroom for Erwin Piscator in Berlin (1927–1928), with its gymnastic equipment, and André Lurçat’s gym on the roof of the Guggenbühl House in Paris (1926–1927).

Another influential book of that time, Richard Döcker’s Terrassentyp of 1927, follows the development of the terrace in modern architecture from the sanatorium to the home, starting with his own sanatorium in Waiblingen and
proceeding to Zonnestraal, Davos, etc., making a seamless transition from the terraces of sanatoriums to the terraces of modern houses. Diagrams show the penetration of the sun rays in modern sanatoriums and in modern terrace houses and the book concludes with a series of photographs of domestic terraces furnished with exercise equipment.

Modern buildings even started to look like medical images. The impact of the technology of the X-ray is evident in the work of many avant-garde architects of the early decades of the twentieth century. Ludwig Mies van der Rohe wrote about his work as “skin and bone” architecture and referred to the structure of his Glass Skyscraper of 1922 as “the skeleton,” rendering the project as if seen through an X-ray machine. Mies was not alone. Architecture slide libraries are filled with contemporaneous images of translucent glass skins revealing inner bones and organs. Take, for example, Le Corbusier’s Glass Skyscraper (1925), Walter Gropius’s Bauhaus (1926), Johannes Brinkman’s Van Nelle Factory in Rotterdam (1925–1927), George Keck’s Crystal House in the 1933–1934 Fair in Chicago, and Paul Nelson’s Suspended House (1935). Books on modern architecture look like collections of chest X-rays. This is more than a dominant aesthetic. It is a symptom of a deep-seated philosophy of design derived from medical discourse.

The birth of the technology of the X-ray and of modern architecture coincide. They evolve in parallel. If experiments with glass were numerous in the early years of the century, they still tended to be isolated esoteric projects by avant-garde architects. Only by mid-century does the see-through house become a mass phenomenon, just as the mobilization against TB involved programs for the mass X-raying of the entire population. Mobile X-ray machines appeared in places such as department stores, industries, schools, and suburban streets, supported by a barrage of newspaper articles, radio broadcasts, and films. Glass walls, like X-rays, are instruments of control. Just as the X-ray exposes the inside of the body to the public eye, the modern house exposed its interior. That which was previously private was now subject to public scrutiny.

Indeed, the association between X-rays and glass houses became a commonplace in mid-century popular culture. Images of glass houses appeared in educational films on TB while images of X-rays appeared in mass media discussions of glass houses. For example, in Highlights and Shadows, a 1937 Kodak Research Laboratories film on the virtues of X-rays in disease prevention by the filmmaker-radiographer James Sibley Watson, Jr., a woman wearing a swimming suit is shown strapped to a laboratory table while her body is subjected to X-rays. As her photographic image gives way to the image of her X-rayed body, the narrator declares: “This young lady, to whom henceforth a glass house should hold no terrors, will after an examination of her radiographs, be reassured that she is indeed physically fit.” The glass house acted as a symbol of both the new form of surveillance and of health.

Exactly the same set of associations can be seen in the discourse around canonical works of modern architecture. In the course of an interview in House...
Beautiful, Edith Farnsworth, a successful doctor in Chicago, compared her famous weekend house, designed by Mies van der Rohe in 1949, to an X-ray and goes on to say that there is also a local rumor that the house is a tuberculosis sanatorium. The X-ray aesthetic is inseparable from the discourse about the disease. Modern architecture was literally presented and understood as a piece of medical equipment. To study the direct association between diagnostic technologies and architecture is to open a longer history, stretching before and after the avant-garde of the 1920s.

Architecture and medicine have always been tightly linked. Just as schools of medicine used casts of body parts, schools of architecture used cast fragments of historical buildings for teaching, and the same conventions for representing the body’s interior were used to represent the interiors of buildings. During the Renaissance, for example, when doctors investigated the mysterious interior of the body by cutting into and dissecting it, architects tried to understand the interiors of buildings by slicing section cuts through them. In the sketchbooks of Leonardo da Vinci, cutaway views of architectural interiors appear beside anatomical drawings. He understood the interiors of the brain and the womb in architectural terms, as enclosures that must be cut through to reveal their secrets. The central reference for architecture was no longer a whole body but a dissected, fragmented, analyzed body. Eugène Violle-le-Duc likewise illustrates his Dictionnaire raisonné de l’architecture française du XI au XVIIe siècle (1854–1868) with perspectival sectional cutaway drawings showing medieval buildings as if dissected. In his preface to the first volume, Viollet-le-Duc—who, as Barry Bergdoll has pointed out, was influenced by Georges Cuvier’s Lécans d’anatomie comparée (1800–1805)—called for the study of medieval architecture as that of an “animate being,” involving “dissection” to allow separate study of its parts. He developed a new mode of drawing to show the functional role of each dissected fragment.

As medical representations changed, so did architectural representations. In the twentieth century, the widespread use of X-rays made a new way of thinking about architecture possible. At the turn of the twenty-first century, the CAT scan (Computerized Axial Tomography) may be for the field what the basic X-ray was for architects early in the twentieth century. In fact, the CAT scan is simply many X-ray images compiled by a computer to generate cross-sectional views and three-dimensional images of the body’s internal organs. A typical medical brochure describes the layering of slices: “Imagine the body as a loaf of bread and you are looking at one end of the loaf. As you remove each slice of bread, you can see the entire surface of that slice from the crust to the center.” The crust, skin, or envelope becomes an almost invisible line. What matters is the dense interior, which is rendered like a new, more complex kind of façade.

As with the X-ray, architects have been quick to respond. If architectural publications at the beginning and middle of the century were full of X-rays, contemporary architectural publications are full of CAT-scan images. For example, in a 1992 catalog of an exhibition of his work, Josep Lluís Mateo shows a CAT scan of a brain on the cover and insists that “The architect has to
act with the callousness of the medic: he cuts, analyses, researches. But he must never mummify an organism that lived once." Likewise, UNStudio show CAT scans of the brain alongside their projects in their book Move. The Renaissance obsession with the brain continues into the twenty-first century, as does the interest in the fetus, evidenced by the "embryological" work done by digital architects.

The influence of the CAT scan is reflected in turn of the century architectural envelopes. In OMA's entry to the Bibliothèque Nationale de France competition, the exposure of a skeleton behind a glass skin gives way to translucent bodies revealing organs. Foreign Office Architecture’s Yokohama Port Terminal also seems to follow the logic of the CAT scan: An endless series of section cuts is used to assemble a three-dimensional body. At Yokohama, there is no simple opposition between the outside and the inside. Its dream is to be a continuously folded surface where structure and skin are one and where there are no bones or discrete organs.

Today, there are new instruments of medical diagnosis and new systems of architectural representation. Each implies new positions for architecture and new positions for criticism. The position of the historian or the critic is after all a diagnostic one. Analyzing the intimate relationship between modern architecture and medicine simultaneously opens up new readings of modern architecture and new ways of reading all forms of architecture, multiplying positions, which is a healthy thing for the field. The strength and resilience of historiography, as with modern architecture, comes from the capacity to change and multiply positions.