



LA CASA

ESPACIOS DOMÉSTICOS
MODOS DE HABITAR

ABADA EDITORES

LA CASA

ESPACIOS DOMÉSTICOS MODOS DE HABITAR

II CONGRESO INTERNACIONAL CULTURA Y CIUDAD
GRANADA, 23-25 ENERO 2019



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Vivienda de la edad atómica. El refugio nuclear en los Estados Unidos de la Guerra Fría

Atomic-age Housing. The Fallout Shelter in Cold War America

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Resumen

Después de que la Unión Soviética probara con éxito su primera ojiva atómica en 1949, la Guerra Fría obligó a los Estados Unidos a un estado permanente de alerta defensiva. En 1958, la Administración de Defensa Civil lanzó la campaña *Family Fallout Shelter*, distribuyendo millones de folletos que mostraban a los estadounidenses cómo construir su propio refugio atómico. Periódicos, revistas, diarios de arquitectura, exposiciones y programas de televisión pronto se llenaron de dibujos, fotografías y modelos de refugios atómicos de todo tipo de formas y materiales. Esta comunicación explora las ideas e imágenes, centrándose en el papel de los arquitectos para hacer que los refugios se vieran menos sombríos y proporcionándoles usos alternativos a la espera del apocalipsis nuclear, o concibiendo estructuras ubicadas completamente bajo tierra, desde modelos de ciudades subterráneas, como Atomville, diseñado por Paul László, hasta prototipos residenciales, como la casa subterránea exhibida en la Feria Mundial de Nueva York de 1964-65.

Palabras clave: refugio nuclear, hogar subterráneo, guerra fría, temores nucleares

Bloque temático: El proyecto doméstico como núcleo de la modernidad: casa singular y vivienda colectiva, del Movimiento Moderno al siglo XXI

Abstract

Immediately after the Soviet Union successfully tested its first atomic warhead in 1949, the Cold War forced the United States into a permanent state of defensive alert. In 1958, the Civil Defense Administration launched the Family Fallout Shelter campaign, distributing millions of booklets showing Americans how to build their own do-it-yourself atomic shelter. Newspapers, magazines, architectural journals, exhibitions and television programs were soon filled with drawings, photographs and models of atomic shelters in all sorts of shapes and materials. The paper explores ideas and images, focusing on the role of architects in making shelters look less gloomy and providing them with alternative uses pending the nuclear apocalypse, or in devising structures completely below ground, from models of cities, such as Atomville, designed by Paul László, to residential prototypes, such as the Underground Home displayed at the 1964-65 New York World's Fair.

Keywords: fallout shelter, underground home, cold war, nuclear fears

Topic: *The domestic project as the heart of modernity: the single, one-off house and collective housing, from the Modern Movement to the 21st century*

Immediately after the Soviet Union successfully tested its first atomic warhead in the summer of 1949, the Cold War – a war that was never declared and never actually fought, a war that was ubiquitous and invisible – forced the United States into a permanent state of defensive alert, obliging the Americans to come to terms with the idea of a kind of conflict that had never before been conceivable, one that recognized neither fronts that advance nor reserves to hold in the rear, as the battlefield could be anywhere and everywhere.

From 1945 – but even more so from 1949 – to the early sixties, terrifying scenarios of a hypothetical attack on the USA filled newspapers, magazines and government reports, while the topic of a nuclear holocaust provided ample plot material for novels, films, songs and TV programs. By way of responding to the increasingly widespread “atomic anxiety” this caused, President Harry Truman created the Federal Civic Defense Administration in 1950, whose task was to convince Americans that, however probable or even inevitable a nuclear conflict might be, survival was possible.

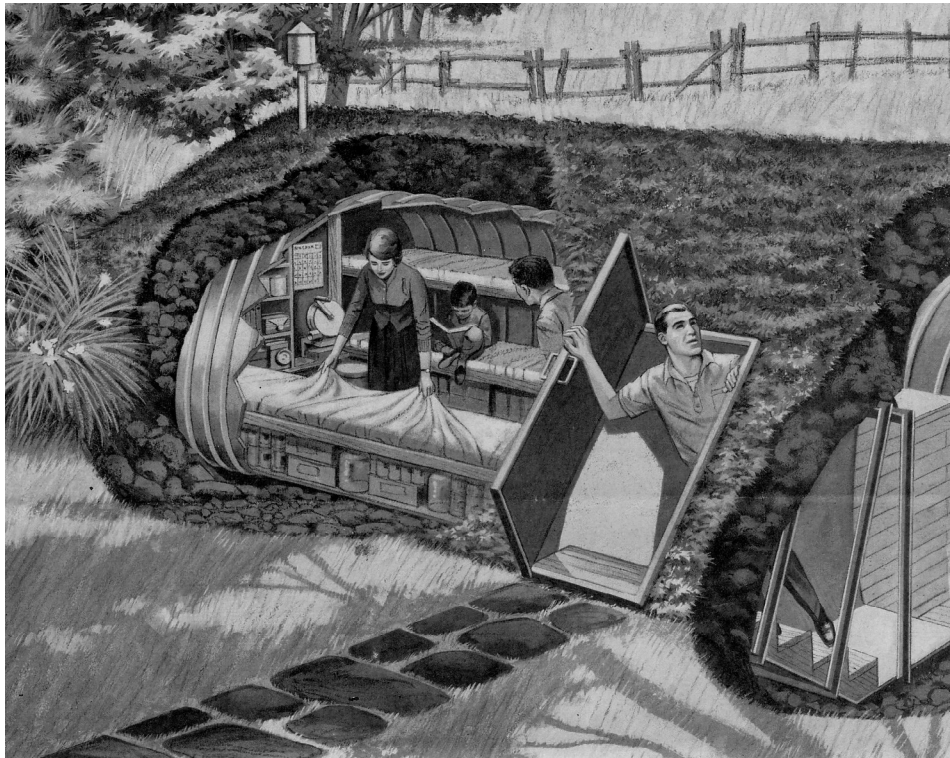


Figure 1: Pre-Shaped Metal Shelter, illustrated by Elmer Wexler
Source: *Life*, 15 September 1961

While a first national program of public shelters, inspired by London’s Blitz experience during the Second World War, failed to win financial backing from the US Congress, the Federal Civic Defense Administration’s first campaigns – such as the publication *Survival Under Atomic Attack* (1950), which was widely disseminated in the early fifties – attempted no more than to recommend the kind of behavior to adopt at the moment of explosion, coining the slogan “duck and cover”, which was also the title of a short film screened in American schools, featuring the reassuring character of a tortoise named Bert, who was entrusted with the task of making the whole idea of a nuclear attack less frightening.

In practice, as such media campaigns were a failure at reassuring the American public, on the contrary actually increasing the general panic, the Federal Civic Defense Administration had to tackle the issue of how to describe the dangers of atomic war effectively and in such a way that would convince people to ready themselves for survival, without going so far as to convince them that such a terrible event would ultimately render every action futile.



Figure 2: Art Carlson with his family in a Kelsey-Hayes basement fallout shelter
Source: *Life*, 15 September 1961

When the Americans developed and tested the first hydrogen bomb in 1952, duly followed by the Soviets one year later, and knowledge spread about its effects, not only did public opinion come to question the effectiveness of the country's mass evacuation programs, but attention also started focusing not just on the actual explosion of the bomb – against which it appeared that there was no real protection – but on the possibility of surviving, of life after the bomb. As the next step, then, Americans were encouraged to identify and equip an area in their homes, or preferably to build a special shelter to protect them against radioactive fallout.

The home fallout shelter program has been read as an «ideologically charged national do-it-yourself project that permeated America's post-war consciousness more than its physical landscape», and as «the desire to protect the imperilled home, long a bulwark of American frontierism and self-defense, now translated to staving off the physical and psychological devastation of nuclear attack».¹

¹ Sarah A. Lichtman, "Do-It-Yourself Security: Safety, Gender, and the Home Fallout Shelter in Cold War America", *Journal of Design History* XIX, n.°1 (2006): 39.

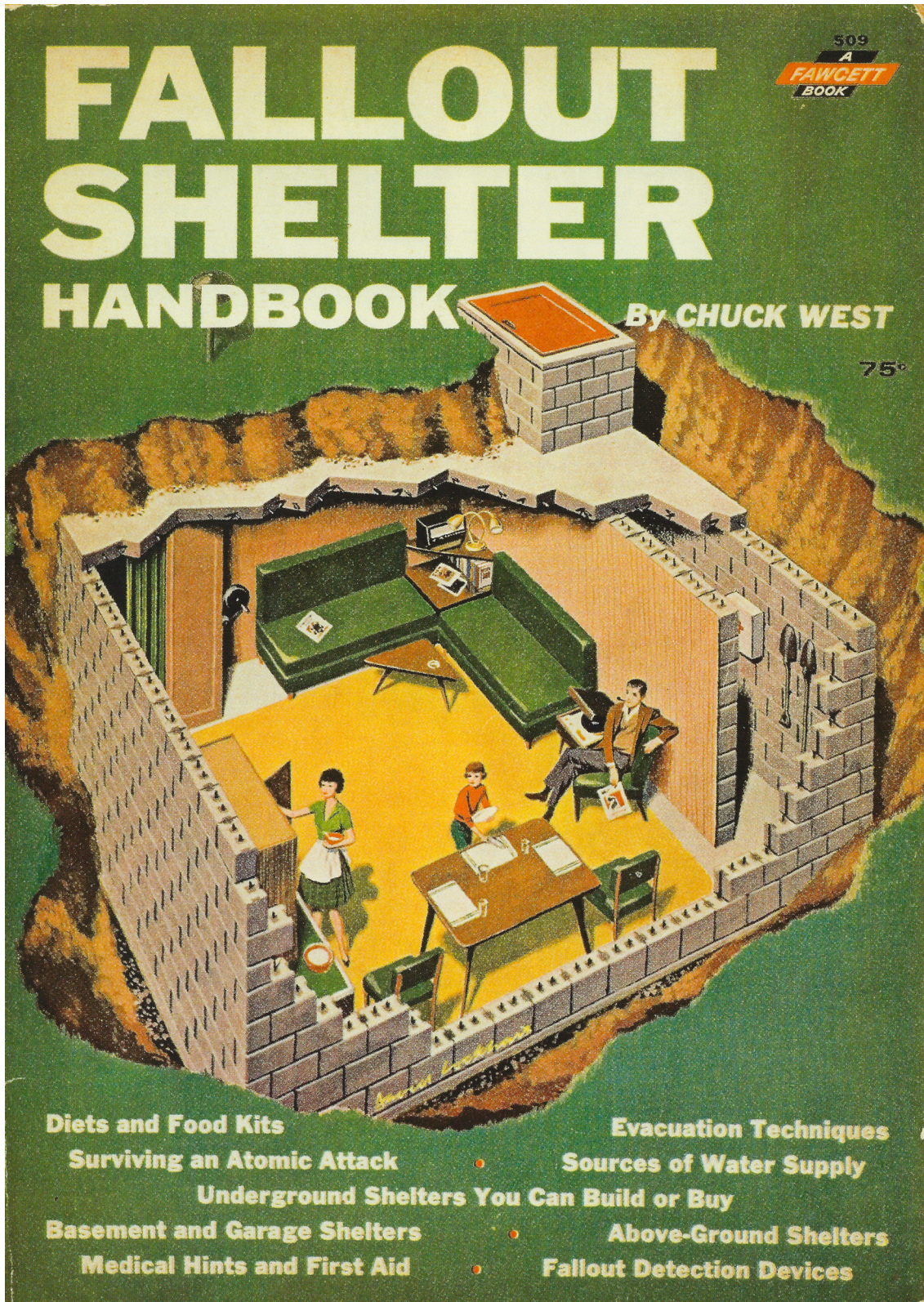


Figure 3: Cover of Chuck West

Source: *Fallout Shelter Handbook* (Washington: Fawcett Publication, 1962)

In 1958, the Federal Civil Defense Administration launched the *Family Fallout Shelter* campaign, distributing millions of copies of a booklet with instructions showing Americans how to build their own do-it-yourself atomic shelter made of concrete blocks, then install it in the cellar or bury it one meter under the ground in the back garden.

Still in January 1962, when the unwillingness of the Americans to construct a family fallout shelter was evident, the Office of Civil Defense published a booklet containing:

instructions for building eight types of family fallout shelter [...] designed for construction in backyards and basements, and for use by families who do not have access to community shelters or who prefer that their shelters be at their home.²

Conceived as living quarters for at least two weeks, capable of providing protection for three persons (or more in few cases), these low-cost shelters of different shapes could be realized with diverse materials, such as wood, concrete blocks, corrugated steel, clay masonry, corrugated asbestos cement sheets, plywood and sandbags.

Moreover, some companies proposed shelter kits with ready-made components in order to simplify the construction process. In government advertising campaigns every family member was assigned some tasks, following gendered stereotypes associated with the ideal of post-war family life: the father and the son were in charge of the construction of the shelter, the mother was responsible of stocking it, as suggested by manuals describing essential supplies and equipment. "Militarization of daily life" and "domestication" of nuclear age defense were at the core of the public education program, as discussed by Laura McEnaney.

Newspapers, magazines, architectural journals, exhibitions and television programs were filled with drawings, photographs, miniatures and full-scale models of atomic shelters in all sorts of materials and shapes – oblong, cylindrical, domed or shack-style –, including prefabricated models in fiberglass, plastic or steel marketed by industrial concerns that espied a profitable opportunity in the "atomic paranoia", as well as patents for scarcely reassuring portable one-man shelters.

Survival propaganda motivated architects to devise technological advanced solutions. At the beginning of the fifties, for instance, the Hungarian-born architect Paul László – who had fled Germany for Los Angeles in 1936 – designed Atomville, a model of an underground settlement, with a "futuristic" and sophisticated outlook. He conceived an urban plan for a radiant city, equipped with an aerial transportation network, and a prototype house with an integrated bomb shelter.

The overall concept failed to generate a concrete interest, but László was asked to design a deluxe bomb shelter for John D. Hertz, the founder of the Hertz Rent-a-Car agency. Installed in 1955 in the yard of Hertz's residence in Los Angeles, the shelter, designed in collaboration with the US Air Force Western Regional Office of Scientific Research, offered living spaces for eight persons, kitchen and bath, spiral staircase, elevator, electric generator, ventilating system, water and oxygen tanks, and "escape tube".

The retreat for Mr. Hertz belonged to the elaborate shelters for wealthy people, with comforts and amenities, which were very different from the small, basic and gloomy do-it-yourself boxes for the average family.

² *Family Shelter Designs*, (Washington D.C.: Department of Defense, Office of Civil Defense, 1962), 2.

But these were illustrated in newspapers and magazines by drawings – most of them axonometric or perspective cross-sections inhabited by smiling American families – which conveyed the illusion of pleasant, comfortable spaces, although the reality was a very different matter: damp, hot, stuffily airless and fitted with quite inadequate chemical toilets, the fact that these spaces were practically uninhabitable was actually demonstrated by the survival experiments that were organized to prove the opposite.

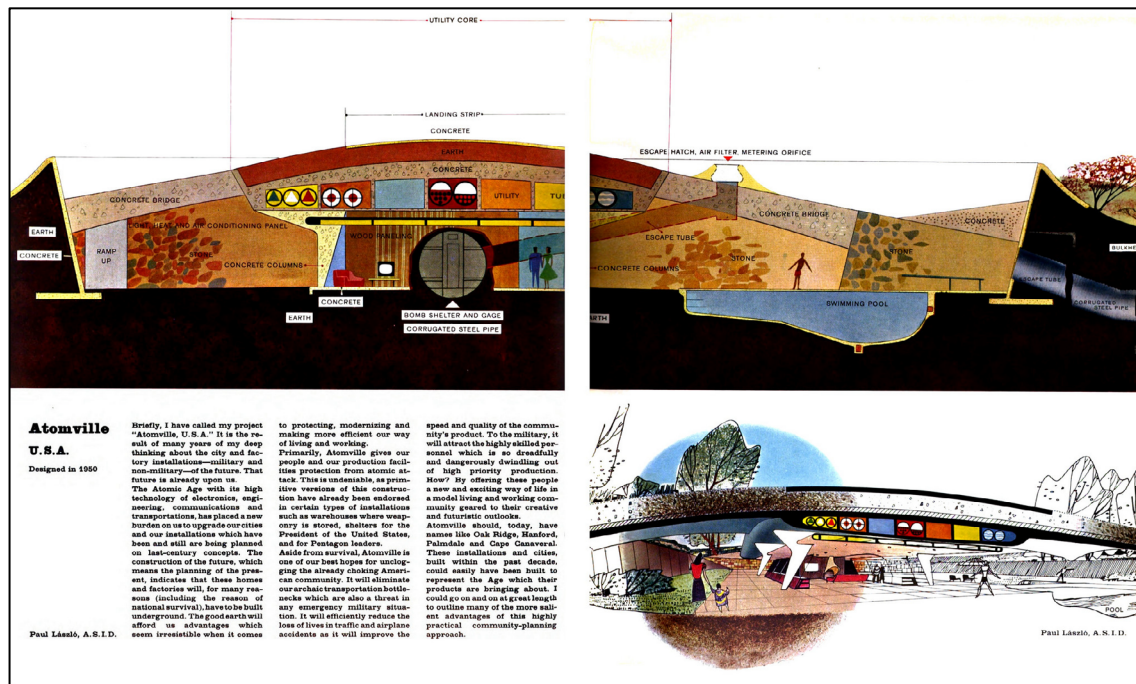


Figure 4: Paul László, Atomville, 1950

Source: Paul László Member of American Society of Industrial Designers, Architecture & Design Collection, University Art Museum, University of California, Santa Barbara

At the end of the day, the government's campaigns to convince Americans to install atomic shelters in their homes and gardens failed to generate the expected results. Nor were they assisted very much by the solutions devised by the Office of Civil Defense, with the aid of the American Institute of Decorators, to make shelters look less gloomy and provide them with alternative uses pending the nuclear apocalypse, such as the multipurpose *Family Room of Tomorrow*, designed by Marc T. Nielsen and first shown in Chicago in January 1960. In *Life* magazine it was described with these words: «If war never comes, children can claim it for a hideaway, father can use it for poker games and mother can count on it as a guest room».³ The efficient room was equipped with multifunctional built-ins furniture and decorated with a pattern evoking Lascaux Cave paintings.

While the Berlin crisis in the summer of 1961 marked a critical watershed in the Cold War, the Kennedy administration was obliged to acknowledge the failure of the attempt to ensure that each American family had an atomic shelter. Opinion polls indicated that Americans had adopted a fatalist attitude and – maybe also because of the contradictory messages they received from the experts – were skeptical about the effectiveness of these family shelters,

³ "A Spare Room Fallout Shelter", *Life* 48, n.° 3 (25 January 1960): 46.

which were also too expensive for the average American. On the other hand, the discussions that developed for and against the “each man for himself” solution also cast light on the moral implications raised in the so-called “gun-thy-neighbor controversy” – after the title of an article published in *Time* magazine in August 1961 – analyzed by Kenneth Rose.

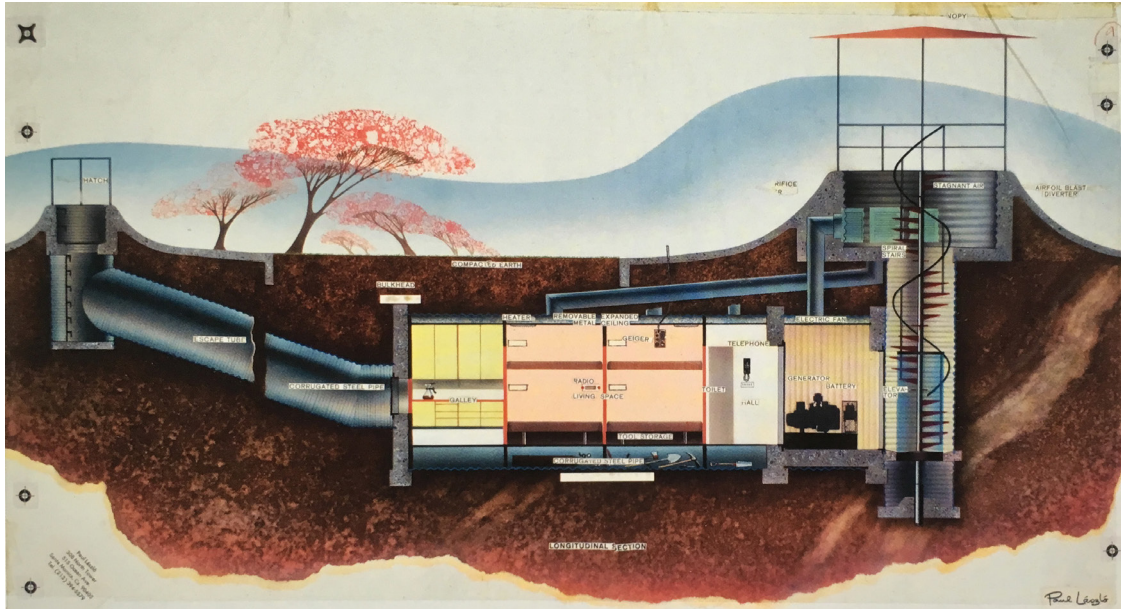


Figure 5: Paul László, John D. Hertz Residence Fallout Shelter, Woodland Hills, California, 1955
Source: Architecture & Design Collection, University Art Museum, University of California, Santa Barbara

In a national debate that involved civil defense officials, scientists and engineers discussing the issue of security in case of nuclear attack, the architects offered their expertise and proposed themselves as civil defense intellectuals. Taking a stance against the individual family shelter and in favor of the community shelter, Davis Allison wrote in *Architectural Forum* in February 1961:

Probably there has never been a time in history when the need for architects and engineers has been so critical (and so unrealized on the public's part): they must be willing to contribute to the community need; more important, they must show the community why it is necessary that shelters be built. In other words, it is not enough that the designer of the sixties be a creative member of society; he must begin to function as a leader and shaper of opinion as well.⁴

But there was also a skeptical attitude among professionals, as demonstrated by the opinions expressed by a group of 100 architects (the list includes the names of Walter Gropius, Victor Gruen, Morris Lapidus and Hugh Stubbins), in a letter published in December 1962 in the journal of the American Institute of Architects:

We feel it is our duty to point out the architectural absurdity of a national shelter program. [...] In the first place, the technical data available is contradictory [...] the question of *how* to design a fallout shelter is one with no real answer. But even more important to architects is the question of *why* we should even seriously consider fallout shelters on architectural terms. The planning of shelters is preparation, on psychological and physical terms, for war. It is anti-architecture. [...] war is the antithesis of architecture.⁵

⁴ Davis Allison, “Fallout shelter at once”, *Architectural Forum* 114, n.° 3 (February 1961): 129.

⁵ Jan C. Rowan, “The Shelter Program”, *AIA Journal* (December 1962): 68.

When the government launched its National Fallout Shelter Survey in 1961, groups of architects and engineers were commissioned to survey the entire country for buildings capable of hosting public shelters with the capacity to house at least fifty people for two weeks. These buildings, which were then identified by the familiar sign against a yellow background, were to be kept stocked with water tanks, food supplies, radiation measurement equipment and first aid kits.

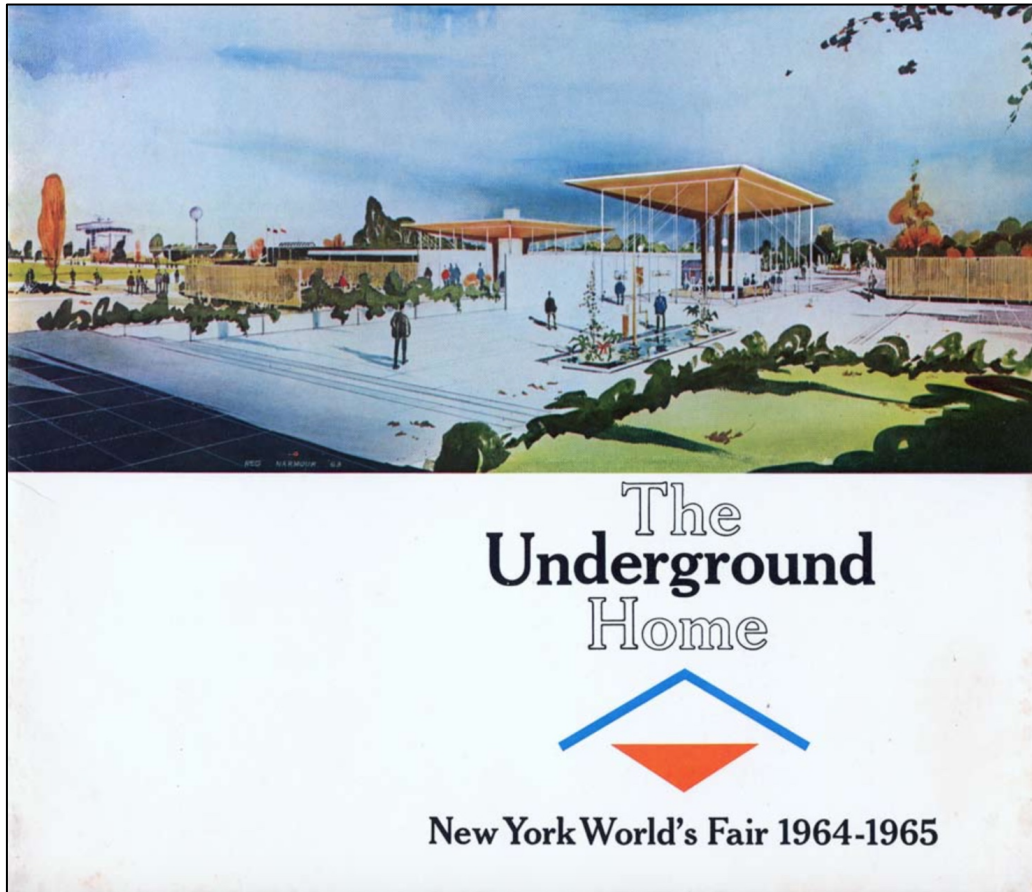


Figure 6: Cover of the publicity brochure, *The Underground Home: New York World's Fair 1964-65*

The issue of public shelters, not only in existing buildings, but also in new structures, brought increasing intensity to the partnership between the Office of Civil Defense and the American Institute of Architects in the course of the sixties, i.e. also well after the Cuban missile crisis had been solved in October 1962. This partnership – well documented in David Monteyne's research – took the form of the study and dissemination of standards and technical regulations for designing shelters, organizing workshops and competitions for typical kinds of buildings – a school, a shopping center and a community center – that would provide shelter in case of a nuclear attack, promoting awards for new buildings equipped with shelters and disseminating prototypes of architectural structures located completely below ground, such as the Abo Elementary School, a prototype school built in Artesia, New Mexico, in 1962.

Of crucial importance to the strategy of survival in the Cold War era was the idea that the “continuity” of various activities, in particular those of government, could be guaranteed by the existence of underground structures, mostly concealed under hills and mountains, to be called into use in cases of emergency, structures like the USA's numerous Emergency Operating

Centers – including the ones for the civil defense administration’s own staff – which were built in the fifties and sixties, or the Project Greek Island in West Virginia, a secret bunker located under the Greenbrier resort and destined to provide a refuge for the members of the US Congress in case of a nuclear war.

In spite of remarkable government propaganda and business investment, only fewer than 3 per cent of Americans built family fallout shelters. As shown by a Gallup poll in 1961, 93 per cent of Americans answered that they had not given any serious thought to protecting their home against nuclear attack. Moreover, at the beginning of 1962, 600 recently created companies selling fallout shelters had gone bankrupt.

But in 1964, the Underground Home at the New York World’s Fair demonstrated that there was still someone convinced that the underground living was not only possible but convenient even during peace time. The full-size three-bedroom model house, in traditional ranch style, was realized by Jay Swayze, a Texan builder, who had built in the town of Plainview a subterranean house for his family, named “Atomiat” (“atomic” + “habitat”), where he lived for four years with his wife and two daughters. As the Atomiat, the Underground Home was surrounded by a concreted shell creating an “outdoor” terrace and a garden area illuminated by simulated sunlight, while the rooms were equipped with window-like screens displaying changeable vistas.

With only a brief reference to the fact that the house «was impervious to the nuclear fallout», the publicity brochures underlined the advantages of pure air, complete sound and climate control, freedom from natural and man-made hazards and low maintenance costs: «A few feet underground can give man an island unto himself; a place where he controls his own world – a world of total ease and comfort, of security, safety and above all, privacy».⁶

Reading the words used to magnify the perfect comfort and absolute individualism of this underground world we can not fail to remember, by contrast, what Lewis Mumford wrote in 1961 condemning subsurface urbanism: «the underground city threatens [...] to become the ultimate burial crypt of our incinerated civilization».⁷

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⁶ *The Underground Home: New York World’s Fair 1964-65*, publicity brochure edited by Underground World Home Corporation in 1964.

⁷ Lewis Mumford, *The City in History: its origins, its transformations, and its prospects* (New York: Harcourt, Brace & World, 1961), 481.

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