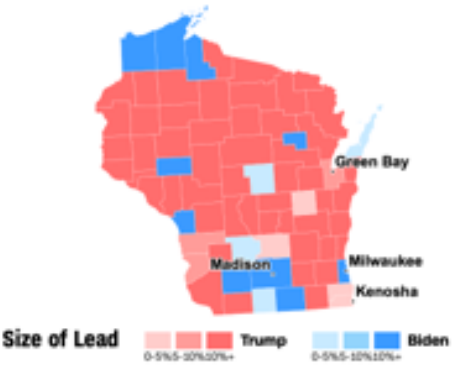
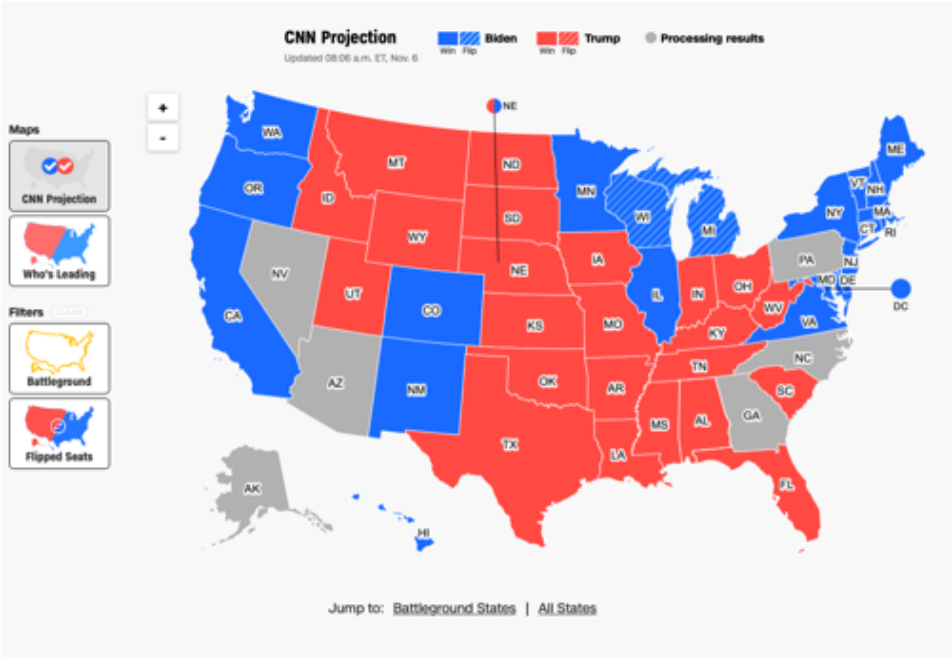


Arquitectura, Energia e Clima.

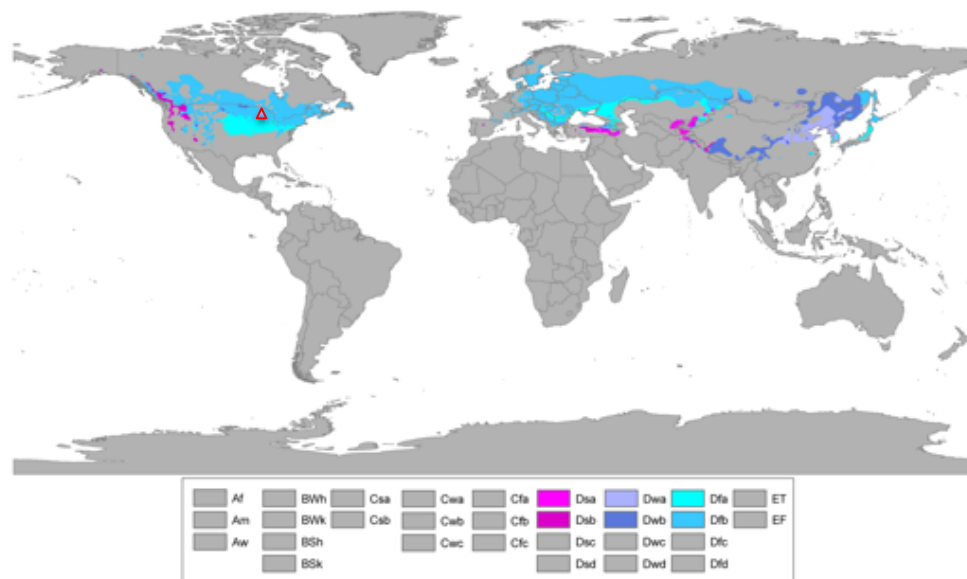
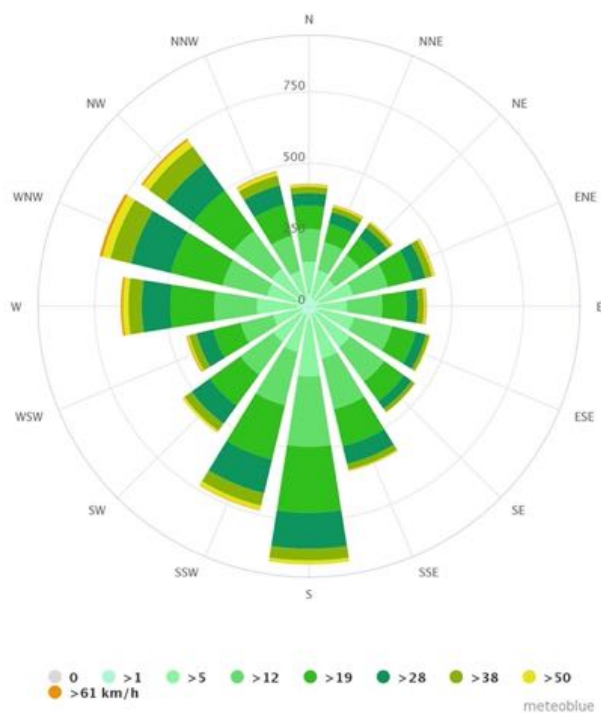
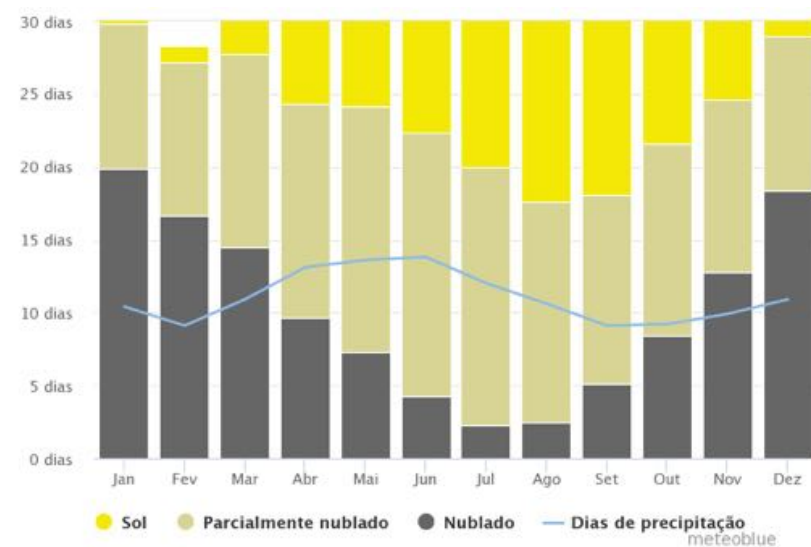
Fundamentos para o desenho da *Casa Bem-temperada*

[Aula 05] *Energia Solar Passiva. Antecedentes do “Efeito Passivhaus”.*

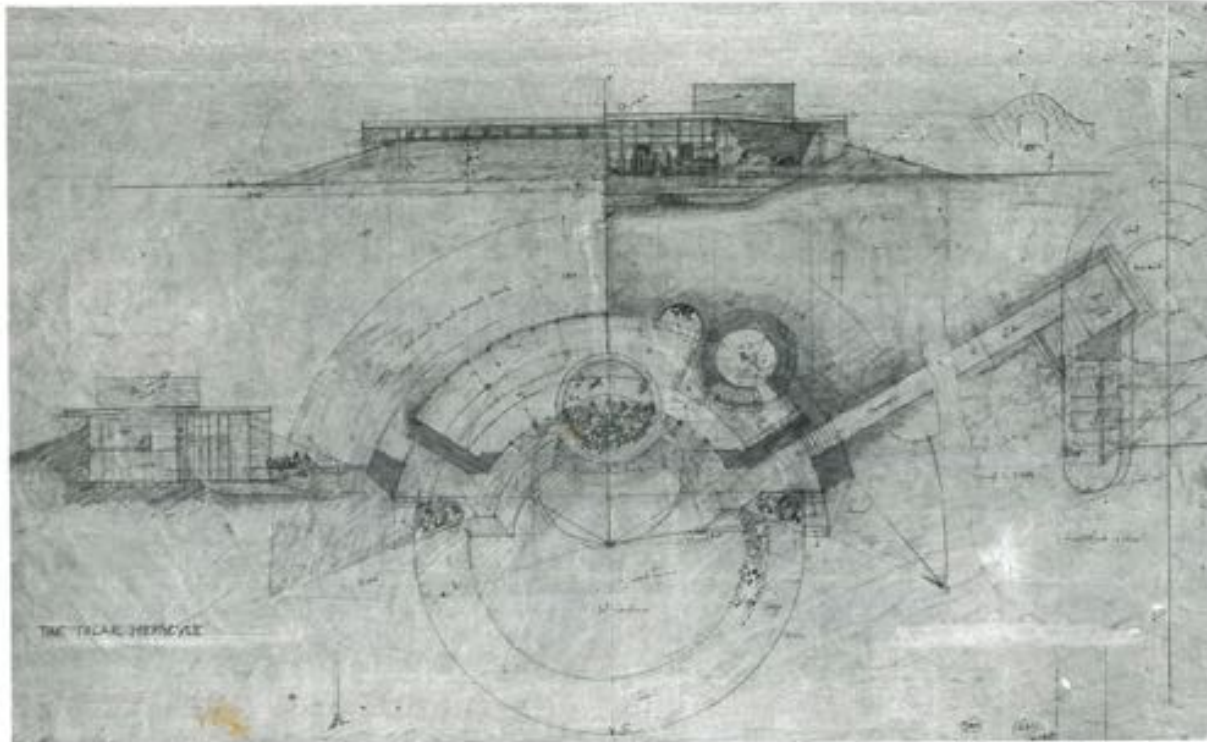




Madison, Wisconsin – USA (meteoblue.com)



Hemi-cycle House, 1944 – Frank Lloyd Wright



88



89

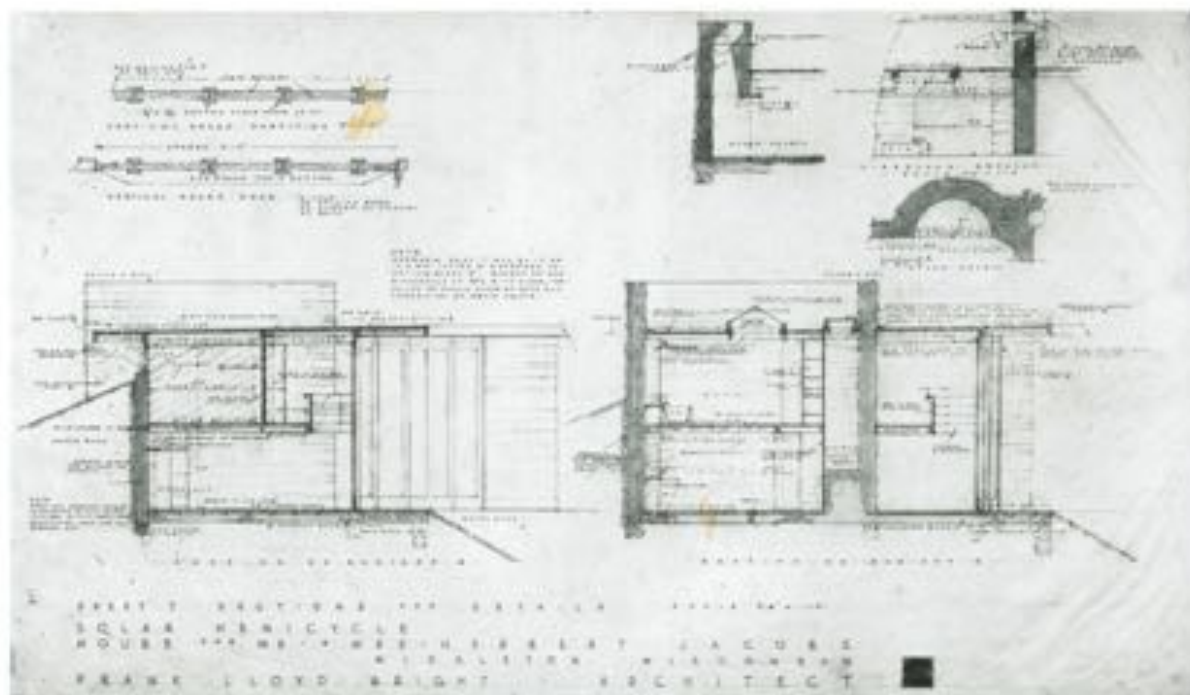
- 87. Front facade
- 88. Plan, elevation and section
- 89. Landscape plan
- 90. Roof framing plan
- 91. Massing plan
- 92. Mat plan and heating system
- 93. Railing above living room
- 94. Living room
- 95. Elevations and section
- 96. Elevations
- 97. Sections and details
- 98. Sack details

Hemi-cycle House, 1944 – Frank Lloyd Wright

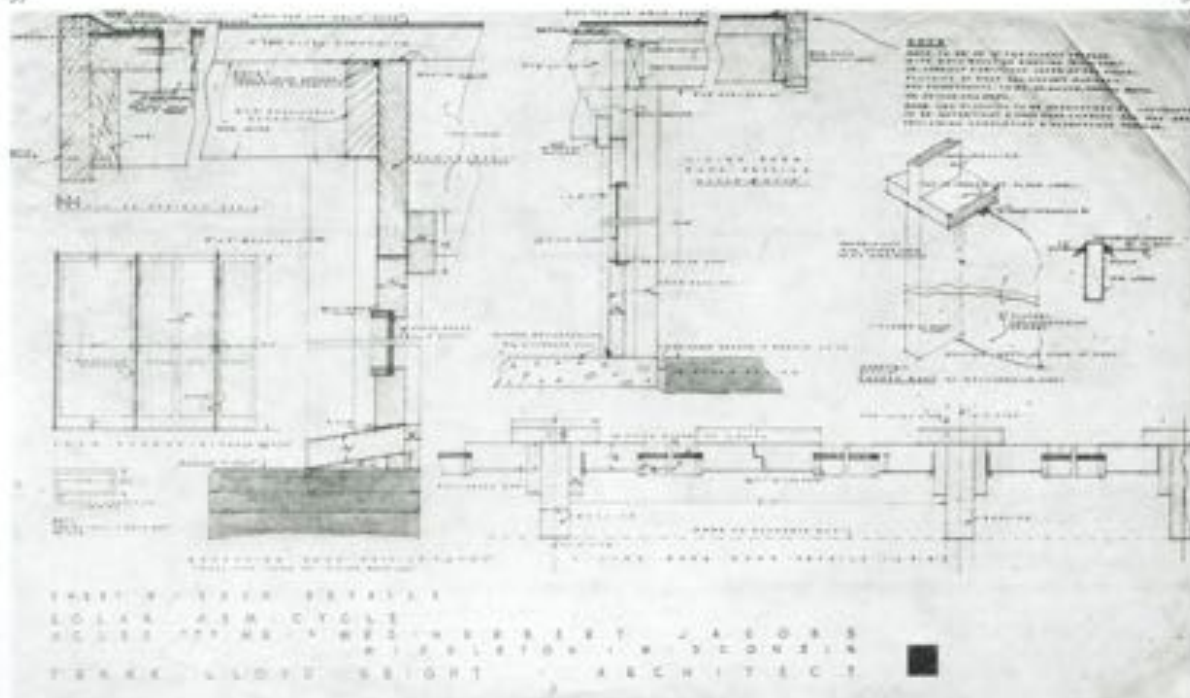


Hemi-cycle House, 1944 – Frank Lloyd Wright

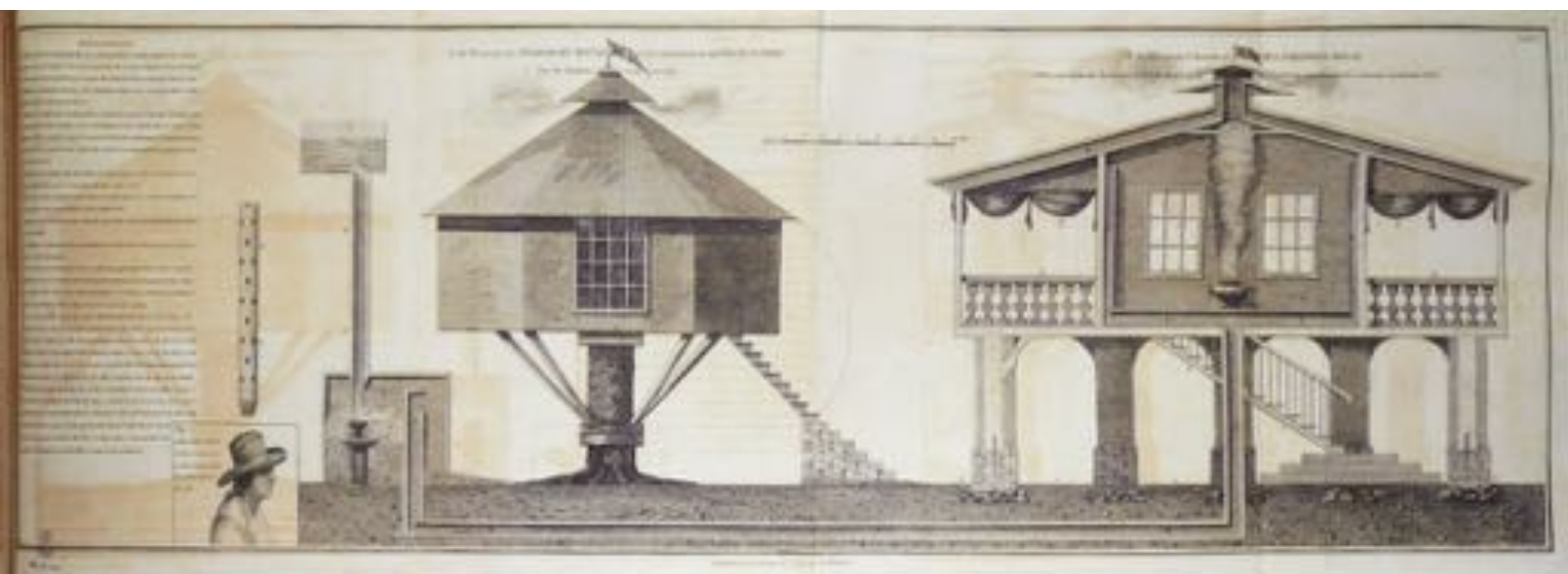




97

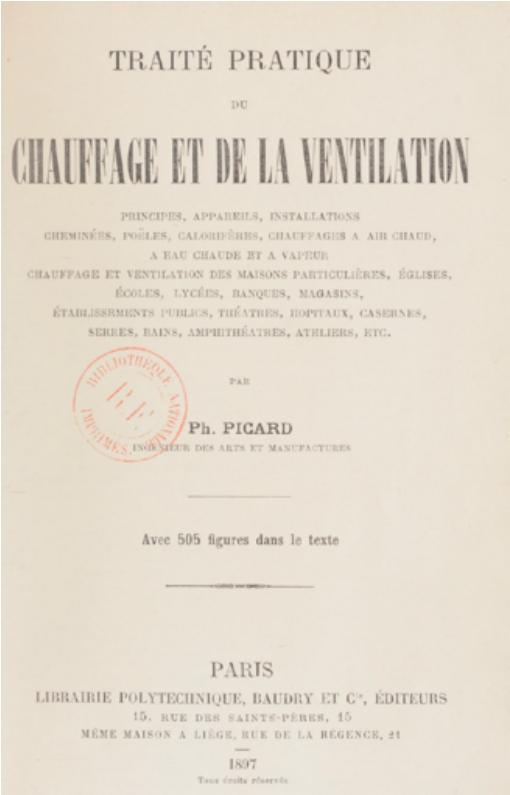
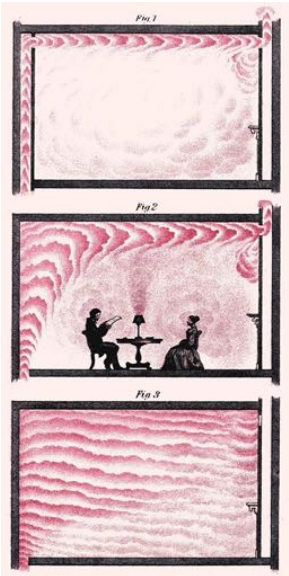


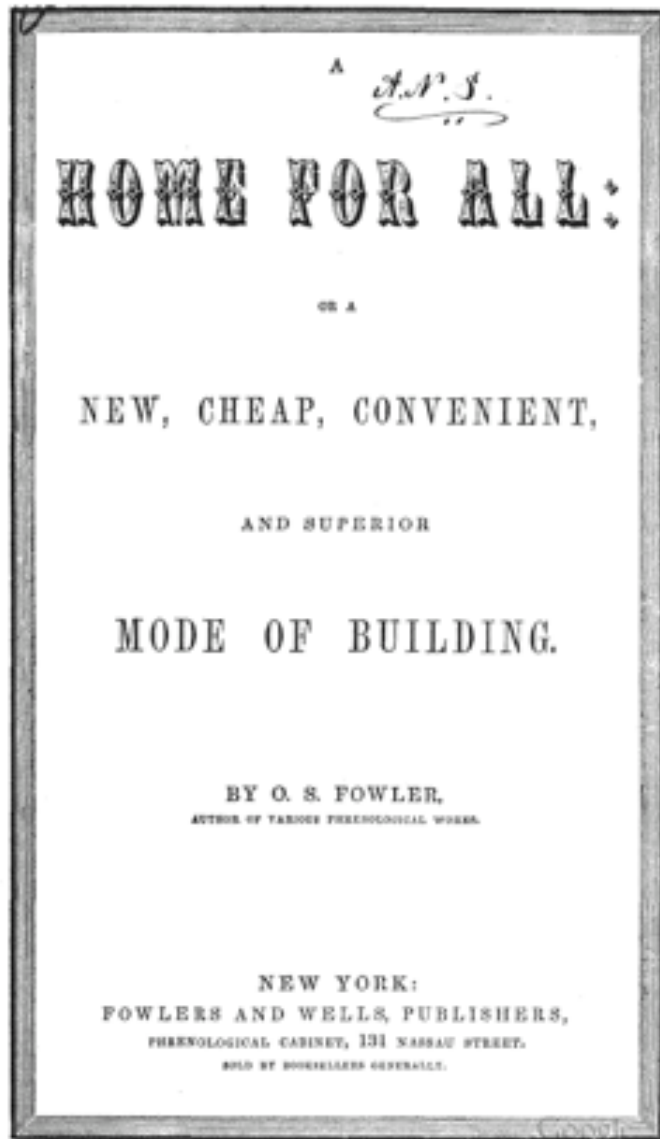
98



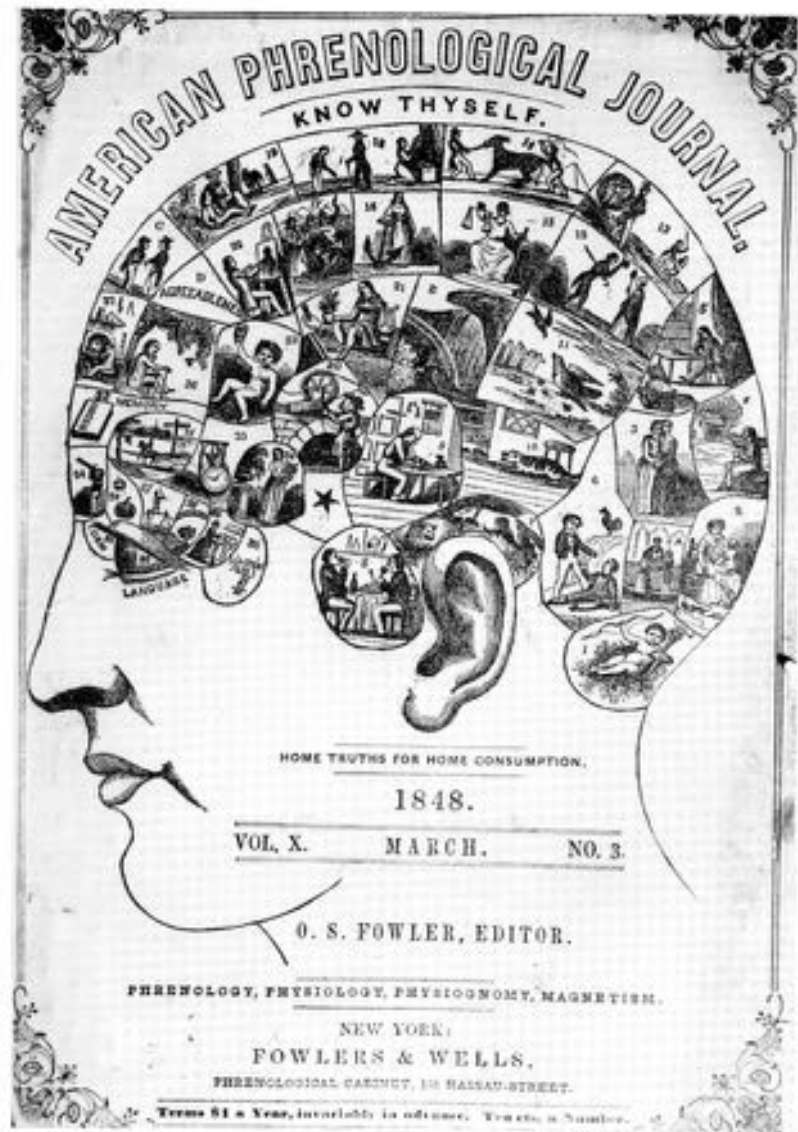
Temporary Houses for Africa Colonization (in WADSTROM, C.B.,
An essay on Colonization. London, 1764)

Lewis W. Leeds, *Lectures on Ventilation*, New York- Wiley, 1867





FOWLER, Orson S., *A Home for All or New, Cheap, Convenient, and Superior Mode of Building*, Fowlers and Wells Publishers, New York, 1848.



FOWLER, Orson S. (ed.), *American Phrenological Journal*, Fowlers and Wells Publishers, New York, 1848.

SOLUTIONS SOCIALES

PAR
GODIN

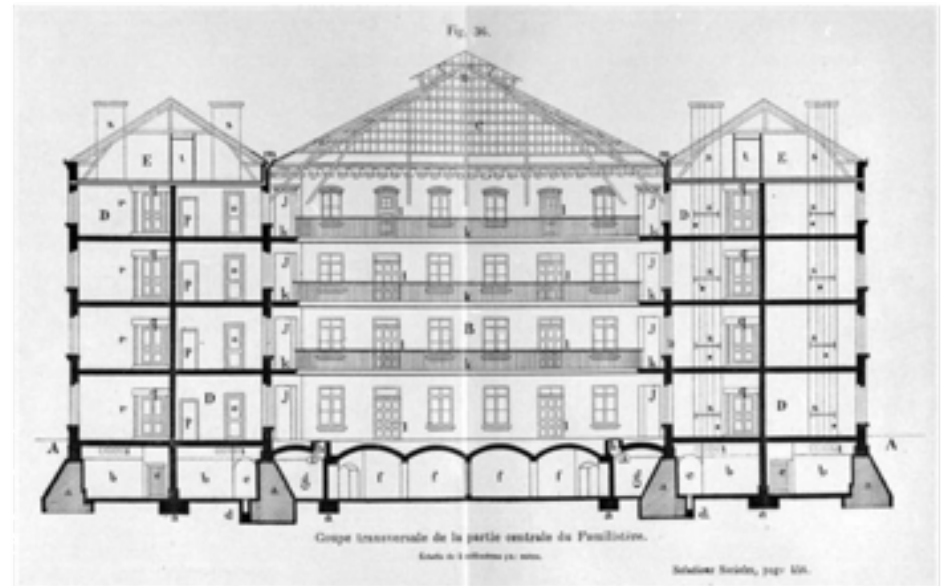
FONDATEUR DE FAMILISTÈRE DE GUISE
DOCTEUR D'HISTOIRE DE LOURDES
ET DE MÉDECINE
MÉDECIN DE L'UNIVERSITÉ NATIONALE

PARIS

A. LE CHAVALLIER, ÉDITEUR (SOLLERIE ET D'ÉDITEUR)
RUE DE LA HARPE, 12

BRUXELLES

OFFICE DE PUBLICATION, RUE DE LA HARPE, 12
1871



GODIN, Jean Baptiste, *Solutions Sociales*,
A. Le Chavalier Éditeur, Paris, 1871.



Jean Baptiste Godin, *Familistério de Guise - França*, 1867.
Corte e Gravura da Festa do 1º de Maio.

CHAMINÉS



dos, de diferentes povos e de diferentes épocas, para
os filhos e filhas, representando dois mundos
distintos, de experiências e de valores diversos.



colindar a simplex castron de dom regalar tipu com
 una llista a l'entor a l'la a el gire de l'entor.

Quem quer descrever dentro de poucos minutos o mundo, o Brasil, o Rio de Janeiro, pode encontrar uma observação, o comentário que desmonta, o gesto que expõe, o sarcasmo libertário que não só não dá um segundo resfofo a quem se acha o homem grande e novo e temido como não consegue, por outro, pela irreversibilidade, tirar o tom dos agitados e crentes que não há por aí nada de novo, senão a continuidade de processos transpulos e corrompidos.

Congressul Internațional de arhitectură modernă
realizată a locuitorilor și vizitatorilor maritimi.

[illegible]

1. O Estado do Rio de Janeiro, no uso de suas atribuições, resolve:

The International Commission on the History of the Americas—August 1991

A CASA DE AMANHÃ

Entre les nombreuses associations qui agissent au profit de Chicago, la plus grande de l'Amérique est certainement la « League of Nations » à qui il nous a été donné de faire don de 100 000 francs.

o grande prêmio é distribuído entre pessoas que se dedicaram a projetos.

11. Desafortunadamente, la historia de América Latina es una reflexión de las realidades que se han producido. La historia española y que no solo por ser un continente de los países hispanos.

[illegible][illegible]

Entre as muitas motivações modernas há uma que se destaca, a que tem uma característica sempre longe, de prático e puro, de comparação a uma coisa, a uma realidade, a uma verdade.

As coisas são aquelas mesmas que há 100 anos, mas mudaram de lugar e de nome. O mundo mudou, mas não mudou de lugar e de nome. O mundo mudou, mas não mudou de lugar e de nome.

Uma das habitações desmontada «Cria de 1900»
(The House of To Morrow) é construída por um
homem inglês de 23 anos com 1 habitação e uma
cozinha em cerâmica, tendo acesso de porta aberta a
o 1.º andar.

⁴ Interessant, il est, que les données sur les ventes, sur les 12 à 17 millions, sont différentes de celles du personnel, indiquant certainement un certain décalage pour répondre à une partie de la demande.

1. De asemenea, au fost impuse reguli de etichetă strictă.

Ente una vita ho percorso tanti altri luoghi per un unico fine: scoprire a cosa servono per un uomo questi animali.

[illegible]

33. *Justicia de la guerra y paz*, como a todo el mundo.

Na análise estatística empregamos distribuições ex-actas e outras assintóticas e a ferramenta computacional utilizada foi o pacote estatístico R. Os gráficos e diagramas de fluxo de trabalho, até os níveis necessários, foram gerados de acordo.

[illegible]

As *Agave*, not *Yucca*.

10. *Les déclarations de la Commission de la vérité*

Confronto con una serie di imprese che
non si occupano di beni e servizi e che
non producono alcun tipo di prodotto, questo
non è solo un tentativo di indagine, legato a una
serie di dati.

De todos es el mismo tipo de relaciones que se da en Chicago que se da en Nueva York, por lo que se puede decir que el tipo de relaciones que se da en Chicago es el mismo que se da en Nueva York.

...de la familia de los *Myrtaceae*, que son muy comunes en las zonas montañosas de la zona de estudio.

che per un'altra di 1,2 milioni di voti, era
sufficiente a dare a tutti gli altri impieghi e a dare
un po' di denaro, prendendoci un'altra di 1,2
milioni di voti.



Lumber House
Brick House
Rustic House

House of Tomorrow
Florida Home
Arco-Ferro Enamel

Masonite House
Southern Cypress
Streamlined House

[126]

HOME AND INDUSTRIAL ARTS GROUP

THE NEW possibilities of the ideal small house are demonstrated at the Exposition in the Home and Industrial Arts section, by a group of completely finished, furnished and equipped homes, ready to live in. The new methods of building with new materials and with prefabricated units for rapidity and economy of construction, are shown.

The new ideas in furnishing, decoration and home planning give a mine of ideas to the home maker. You see the latest, most original uses of new types of furniture.

GENERAL HOUSES HOUSE

GENERAL HOUSES, Inc. An all-steel house, built of steel-panel units, includes five rooms and built-in garage. Insulation of the ready-made, pressed-steel panels is declared to be equal to 24 inches of brick. The interior walls are of finished insulation board. Exterior finish is paint. The house is furnished and decorated to show the practical uses of new materials and conveniences.

One of the rooms in the house is an office-study, emphasizing the useful character of the design. Full-length landscape windows are used in the living room.

The decoration and furnishing are in keeping with the modern spirit, using combination metal and wood pieces. The general idea of the furnishing is functional.

An exhibit of scale models shows the variety of design possible with all-steel construction. Principles of steel-panel building are shown by samples of panels and joints.

MASONITE HOUSE

NEW WOOD PRODUCT. This house is built on a wood frame to illustrate the use of Masonite Presdwood for exterior and interior. It is a modern bungalow type with two bedrooms, bath and kitchen on the first floor, in addition to the living-dining room. Upstairs is a room that may be used for a study, games room or bedroom, opening on a spacious living roof deck, with another deck fitted as a children's play yard.

Equipment of the house demonstrates the modern labor-saving devices, including air conditioning. The furnishing and decoration are designed to show the possibility of the owner of such a home moving into it without having to discard all his present furniture to make room for an entirely new interior scheme. The living room is modern in treatment, but one bedroom is in classical style and the other, Empire-Colonial, demonstrating that all these styles are adaptable to the house in combination.

[127]

lounge stood beside the fireplace. A circular dining bay, separated from the living room by a mirrored screen, was furnished in mahogany and there were crystal girandoles at the entrance. A colonial bedroom and a director's one were connected by a bathroom. The kitchen indulged in concealed lighting, steel cabinets and every luxury of modern easy working.

The "House of Tomorrow" was a circular structure entirely of clear glass in the form of a perpendicular triple graduated drum. It had, in lieu of windows, plate glass walls and a perfect air conditioning system. Venetian blinds, shades and curtains of cream silk marquise achieved some seclusion. The ground floor drum of the house was occupied by a garage, hangar, workshop, laundry, recreation room, and miniature bar. The middle drum housed the living quarters, and the top drum was a solarium surrounded by a circular roof terrace. A central pillar ran through the house from top to bottom supporting its weight and holding plumbing and gas pipes and electric light wires. The living room which opened on an extensive deck terrace was finished in bakelite and all the floors of the middle drum were of walnut blocks. The floor was done in rubber tile and two aquariums full of lively bright-bellied fish provided entertainment for the children. Movable wardrobes took the place of closets in the house. The electric kitchen was all stainless metal, porcelain, and glass. Lights could be dimmed or brightened by the turning of knobs in the stairwell.

The "Florida Tropical House" was the third in the trio of luxury houses. It was the sort of house designed for a climate that invites the outdoors to come inside. Entrance was direct into a spacious two-story living room with white walls, a great deal of cool blue in the decorating, a balcony, a ceiling-high studio window and metal furniture. A shining aluminum open stairway leading to the upper floor added to the beauty of the room. Aluminum panels opened into a bar served from the butler's pantry. On the other side was a tile-paved loggia. There were two bedrooms on the ground floor and a bath room with a sunken tub and glass spray shield. The entire roof, except for the space occupied by the tall room, was a sun, living and recreation deck.

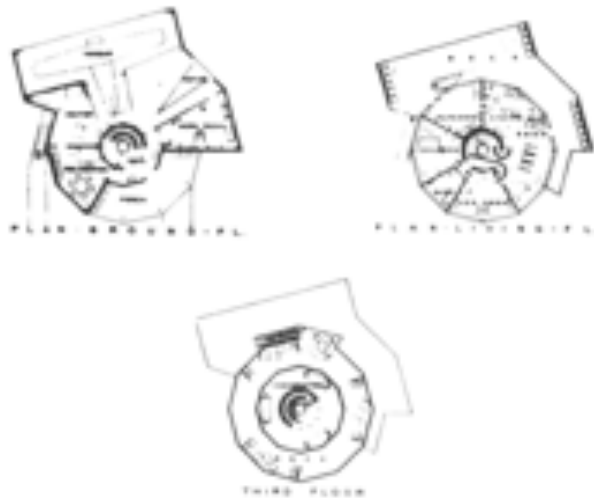
The Glass Block house was not a residence, but was erected to demonstrate the building possibilities of glass blocks. The walls were of one thickness of blocks and were unsupported by frame, but the fifty-foot tower had a steel core. The building ran the whole gamut of color, from pale yellow of the tower to deep violet at the base.

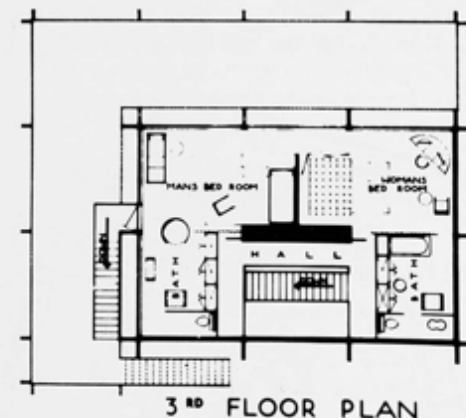
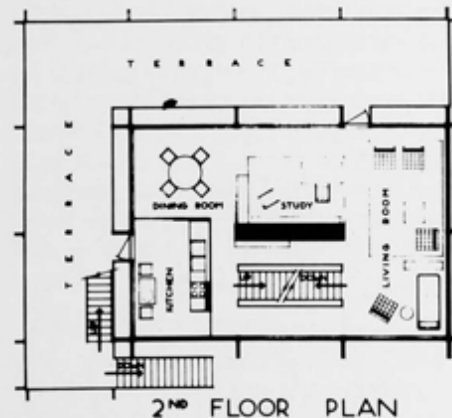
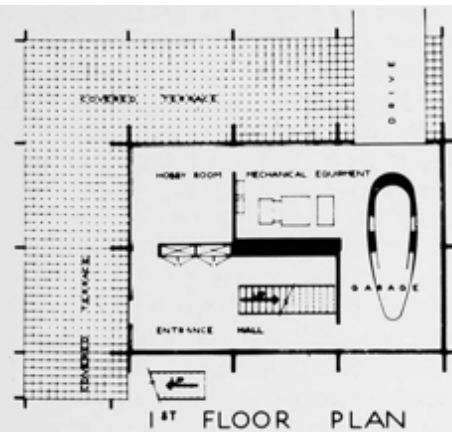
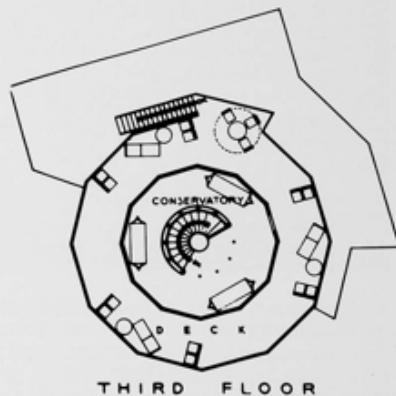
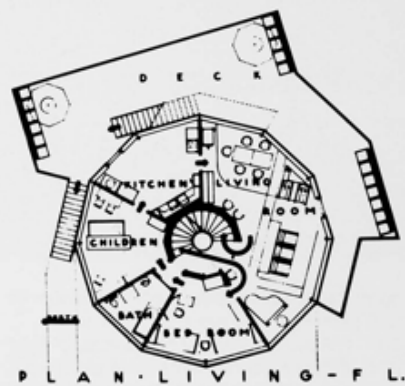
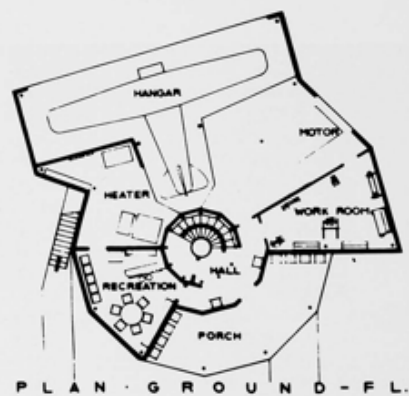
The Johns-Manville house was built of materials designed to exhibit sound-proofing, heat-proofing, and similar qualities. But it was planned, constructed, painted, and lighted to focus on a mural painted on an asbestos wall. The entire building was illuminated by reflected light.

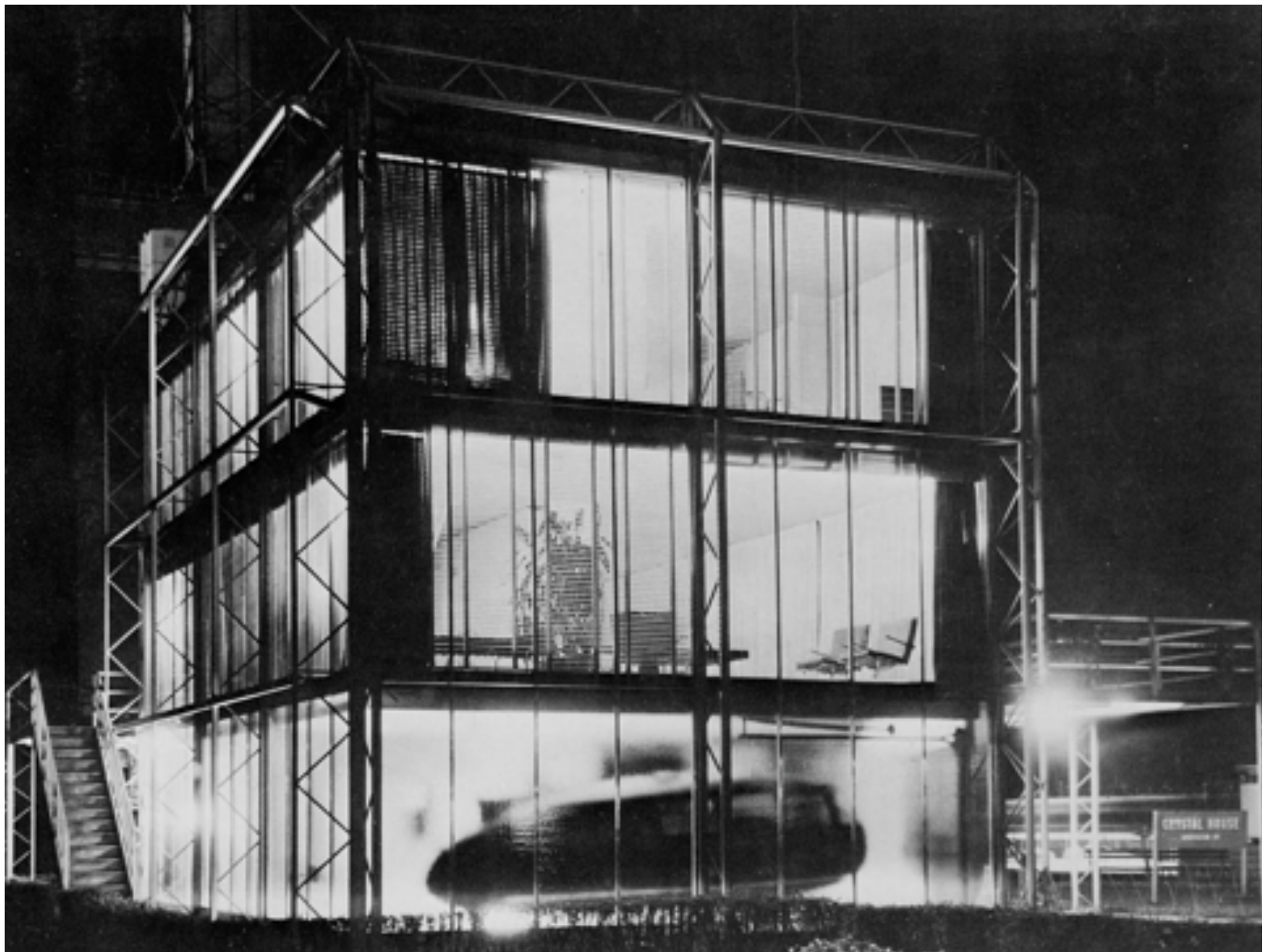
American Radiator constructed two buildings and six kiosks to show the stories of heating, and air-conditioning, sanitation and plumbing, and bathroom layouts.

The Crane Company highlighted its building with a 45 foot shower bath. Here was a unique display of antique and historical plumbing fixtures. Com-

Frederick Keck, *Tomorrow House*, *Exposição Mundial de Chicago*, 1933.

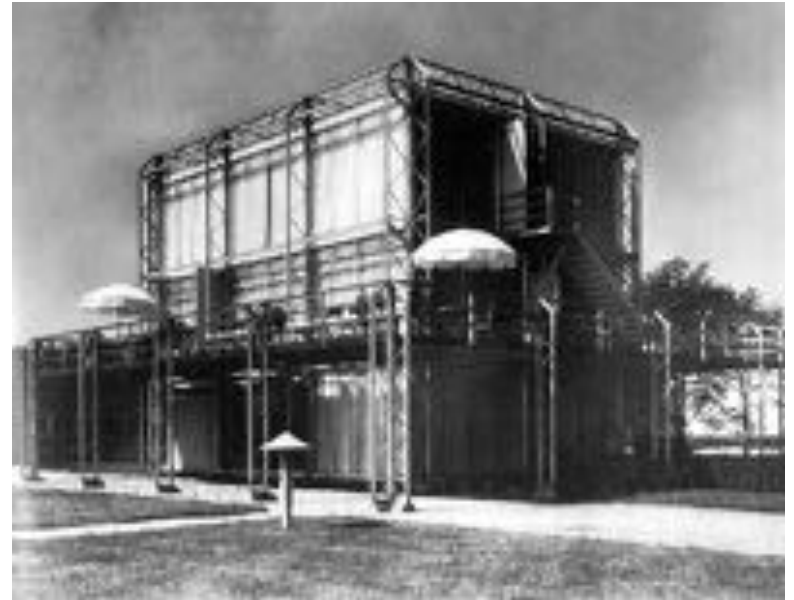






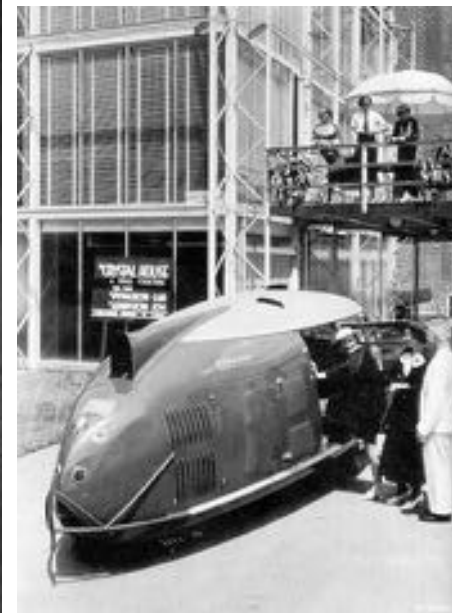
Frederick Keck, *Chrystal House*, *Exposição Mundial de Chicago*, 1934.

Frederick Keck, *Chrystal House*, *Exposição Mundial de Chicago*, 1934.



Buckminster Fuller, *Dymaxion Car*, *Protótipo*, 1934.

Buckminster Fuller, *Dymaxion House*, *Modelo*, 1929.



TOMORROW'S SMALL HOUSE

TOMORROW'S SMALL HOUSE · MODELS AND PLANS

The exhibition was directed by Elizabeth B. Mock, Curator of Architecture, who also edited this catalog. Assistant Director: Susanne Wosman-Tucker, Acting Curator of Industrial Design.

MODELS IN THE EXHIBITION

	Page
I. House by George Fred Keck. Model by Raymond Berger Studios.	10
II. Two-story house by Carl Koch. Model by Devon Dewart.	11
III. House by Philip Johnson. Model house and furniture by Raymond Berger Studios.	12
IV. House by Mario Caroth, landscaping by Garrett Eckbo. Model by Raymond Berger Studios.	13
V. House by Hugh Dobbins, Jr. Model by Devon Dewart.	14
VI. House by Plan-Tech Associates. Model by Devon Dewart.	14
VII. Row houses by Vernon Dethlers. Model by Devon Dewart.	cover and 16
VIII. House by Frank Lloyd Wright. Model of complete house by Raymond Berger Studios. Model of living room (15' x 17') by Devon Dewart.	17
IX. The House in Its Neighborhood. A collaborative project of the Journal and the Museum of Modern Art. Original site plan by Vernon Dethlers, developed by Serge Chermayeff and Susanne Wosman-Tucker. Community buildings by Chermayeff and Dethlers. Apartments by Chermayeff. Houses are small editions of models I-VII. Model (14' x 17') by Raymond Berger Studios.	18

Models to be added to the exhibition during the summer: on July 18th, a house by John Park; on August 15th, a house by Warner & Bennett in association with Ernest J. Krupp.

Model furniture by Betty Dethlers unless otherwise noted.

Exhibition plans drawn by Susanne Wosman-Tucker.



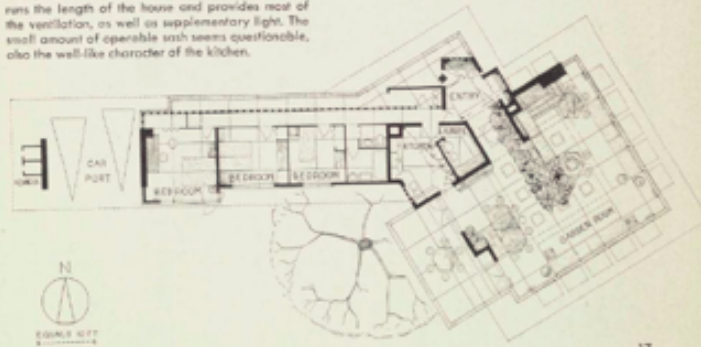
Architect: Frank Lloyd Wright

VIII.

A house with the audacity of a comet. The masterful hand of the architect is evident in the freely manipulated space and the vigorous, imaginative use of brick and concrete, steel and glass.

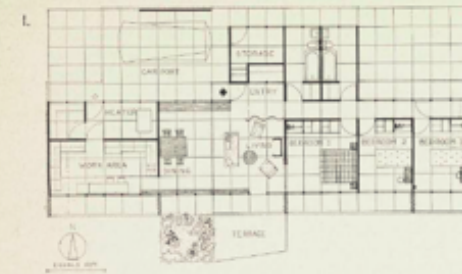
The garden room is a great glass square, set on a concrete floormat. Its thin, up-swept roof slab of reinforced concrete is pierced at the eaves for lightness and centered with a movable clerestory. Under this hole-in-the-roof, modern version of the Roman compluvium, growing plants make a green and fragrant partition between living and dining areas.

The bedroom wing reaches out on the diagonal, with entry and lofty, top-lighted work-space at the angular intersection. Ceilings are low over the glass walls, but rise to the lantern, or clerestory, which runs the length of the house and provides most of the ventilation, as well as supplementary light. The small amount of operable sash seems questionable, also the well-like character of the kitchen.

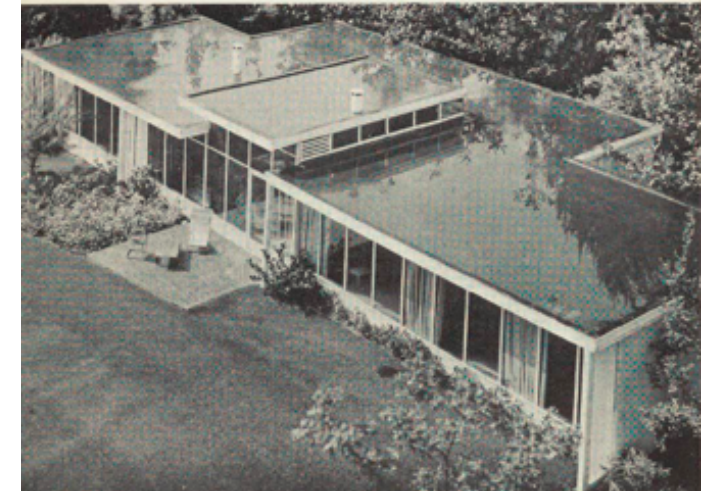


17

Tomorrow's small house Edited by Elizabeth B. Mock, 1945



Architect: George Fred Keck. Rooms face south to trap the low winter sun, but deep eaves provide shade in summer. Although the glass is fixed in place, screened louvers at the base of the south wall and the top of the north wall provide excellent, easily controlled cross-ventilation. Water on the roof helps to keep the house cool.





William and George Fred Keck

George Keck [Watertown, Wisconsin](#) (1895-1980)

Keck taught architecture at the
New Bauhaus School
[IIT Institute of Design](#) - Illinois 1937

SOLAR HOUSE

1940 - Massachusetts Institute of Technology's Solar Energy Conversation Project.



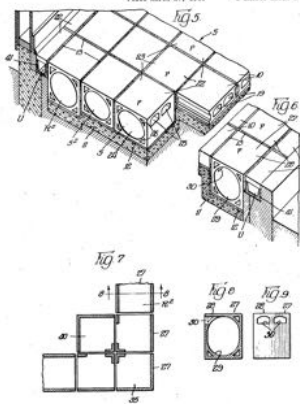
Keck & Keck • Architects

Elvehjem Museum of Art University of Wisconsin-Madison

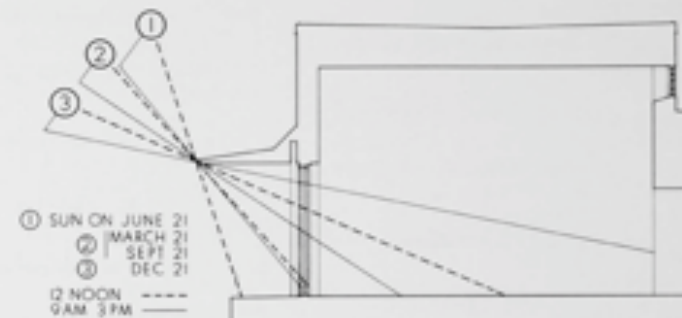
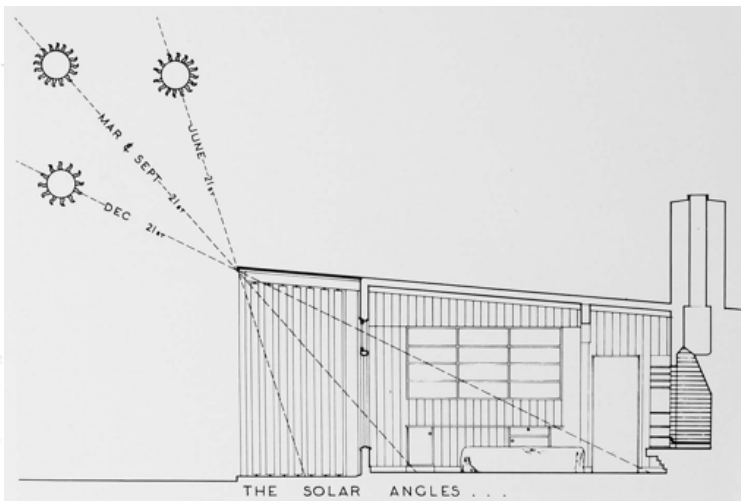


June 24, 1947. G. F. KECK 2,422,685

RADIANT HEATING FOR BUILDINGS
Filed March 27, 1944 Sheet-Sheet 3



INVENTOR
George F. Keck
Samuel B. Hadden, Attorney



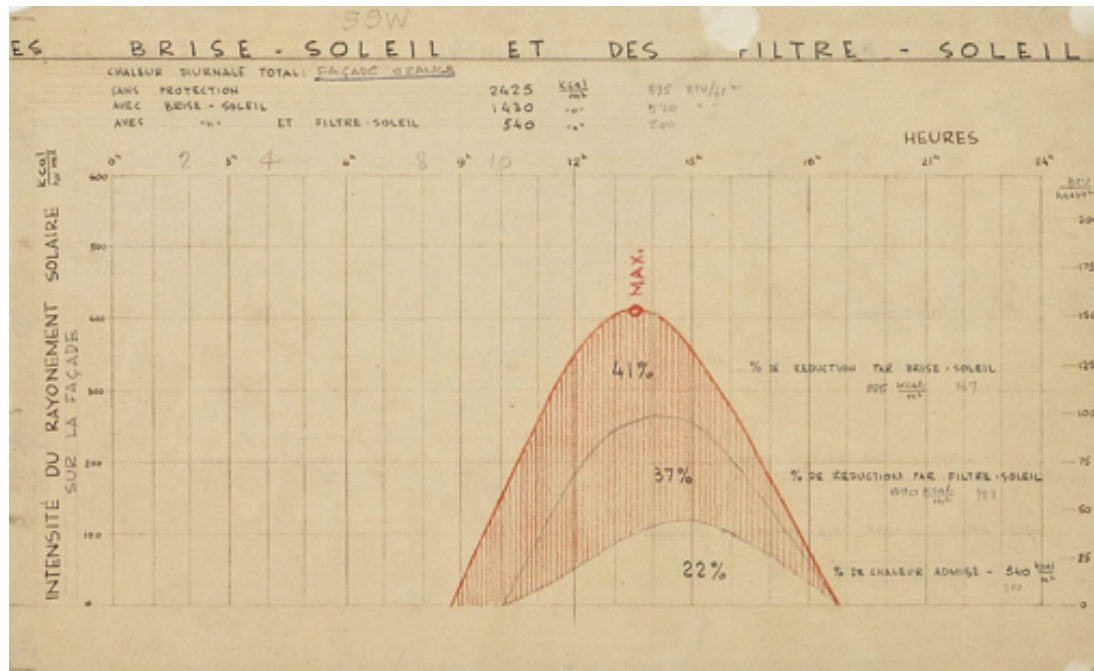
LIVING ROOM SECTION SHOWING ORIENTATION FOR SUNLIGHT
Blus. 9. Solar diagram for Benjamin J. Cahn House, Lake Forest, Illnois, 1937 (Cat. No. 8)





Marcel Breuer (1902-81)

Starkey House, 1955



"BRISE SOLEIL"

MARCEL BREUER
STARKEY HOUSE, 1955

Starkey House is a two-story house in the city of New York. It is a modern house with a flat roof and a large glass facade. The house is designed by Marcel Breuer and is a good example of the "Brise Soleil" concept.



0 0100



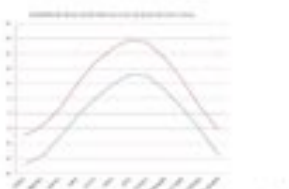
A DOCUMENTAÇÃO



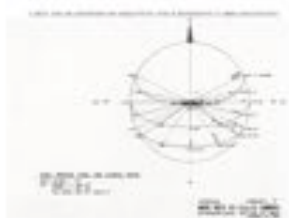
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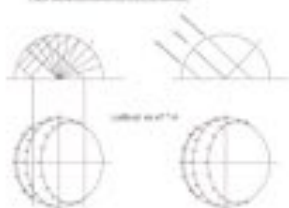
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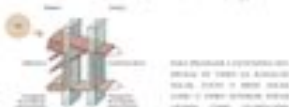


A EXPLICAÇÃO

CONCEITO DE BRISE SOLEIL, 1954-1955

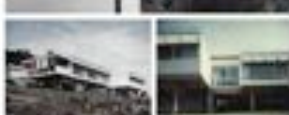


CONCEITO DE BRISE SOLEIL, 1954-1955



0 0100

STARKEY HOUSE, 1955



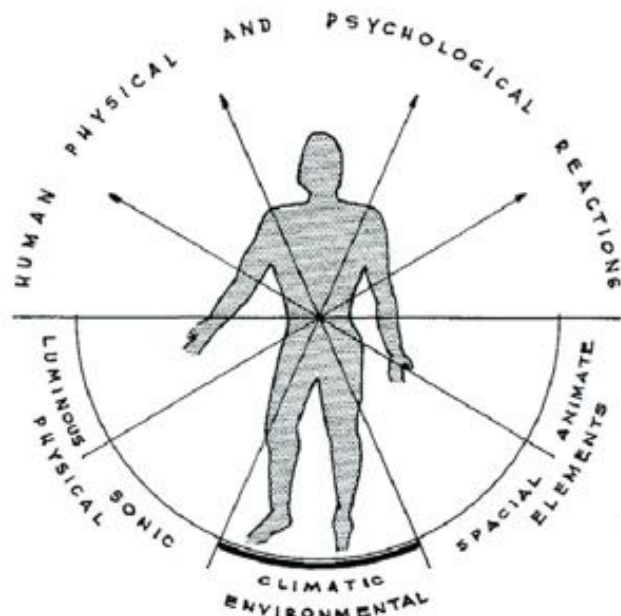
STARKEY HOUSE, 1955



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Victor Olgyay (1910-70)

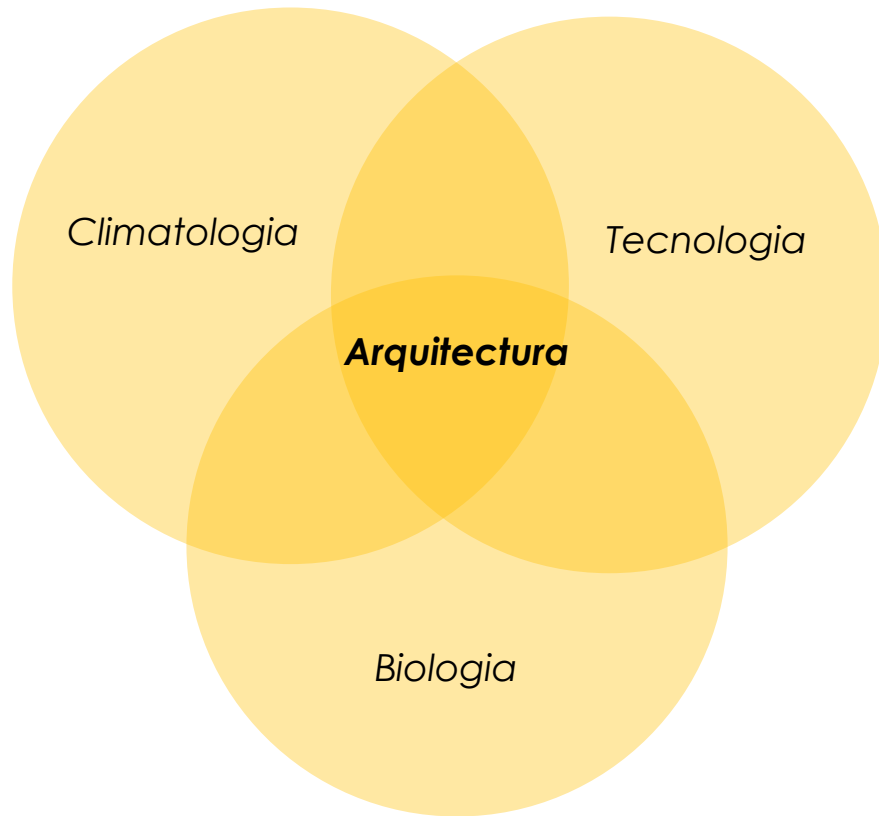
(Aladar Olgyay)



Victor Olgyay, 'Man as the Central Measure'

Metodologia para o desenvolvimento bioclimático no processo projectual em Arquitectura

(segundo Victor Olgyay)



Dados Climáticos: *Análise da Temperatura, humidade relativa, radiação solar e efeitos do vento e efeitos microclimáticos;*

Avaliação Biológica: *O homem como medida de referência fundamental e o refugio como projeto das suas necessidades biológicas. A importância relativa dos elementos climáticos;*

Solução tecnológica:

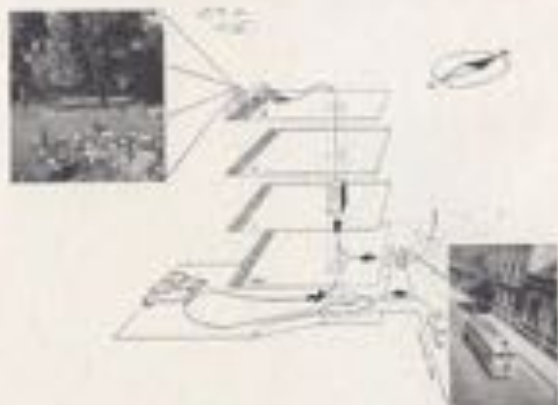
- A. *Eleição de um lugar;*
- B. *Orientação solar;*
- C. *Cálculo das sombras;*
- D. *Forma da habitação;*
- E. *Movimentos do ar;*
- F. *Temperatura interior (disposição do programa, dos materiais, fluxos heliotérmicos).*



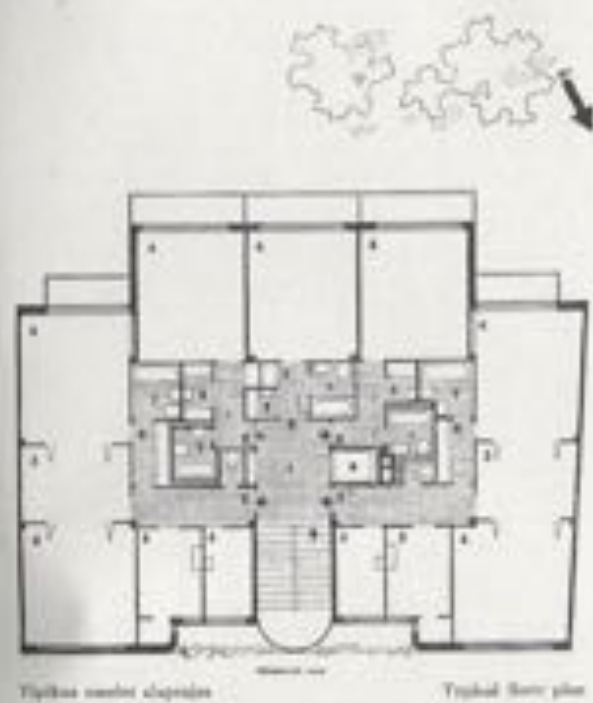
Városmajor utca házának

VÁROSMAJOR UTCA 50 A HOUSE REVERSED

En a ház lemondott az utca személtől. Nem mintha a belső Városmajor utca olyan ellensége volna, sőt igen remél. Az utca különben is a város szíve; miért is gyűlölnék? Hiszen, harminc évvel ezelőtt egy építész nem merészelte volna olyan házat építeni, amelynek lakói kálváriákat ne az őtőlük szűkebb kapták volna. De az utca maj. pos. figyelembevétele, mielőtt kell — kiderülnek ma — elcsúszni vele a házat, szavaztatni a pártok előtt, levélgyűléssel megmozdítani még a lakókat is?



The street elevation



1. The glass-enclosed staircase 2. One-room flat with kitchenette 3. Window facing the garden 4. Sun terrace on the roof

