

OKOLNOSTI PRI PROJEKTIRANJU OBITELJSKIH KUĆA
sunce, vjetar, oborine, pogledi, + *Vila Girasole*

OKOLNOSTI PRI PROJEKTIRANJU OBITELJSKIH KUĆA

I) PRIRODNE

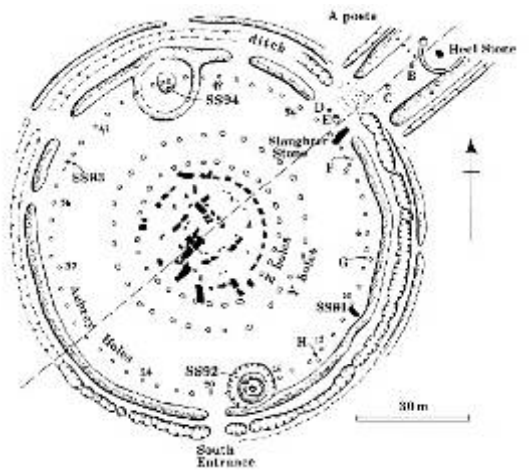
- klima: **insolacija / SUNCE /**, vjetar,
oborine / kiša, snijeg/
- topografija: tlo, hortikultura, **POGLEDI**
Angelo Invernizzi: VILLA GIRASOLE, Marcellise
Villa/Casa MALAPARTE: “Casa come me”, Capri

II) TEHNIČKE

- materijali, tehnologija
- infrastruktura /energija, voda/
- komunikacije

III) DRUŠTVENE

- sociološke, zakonodavne
- psihološke, estetske
- ekonomske



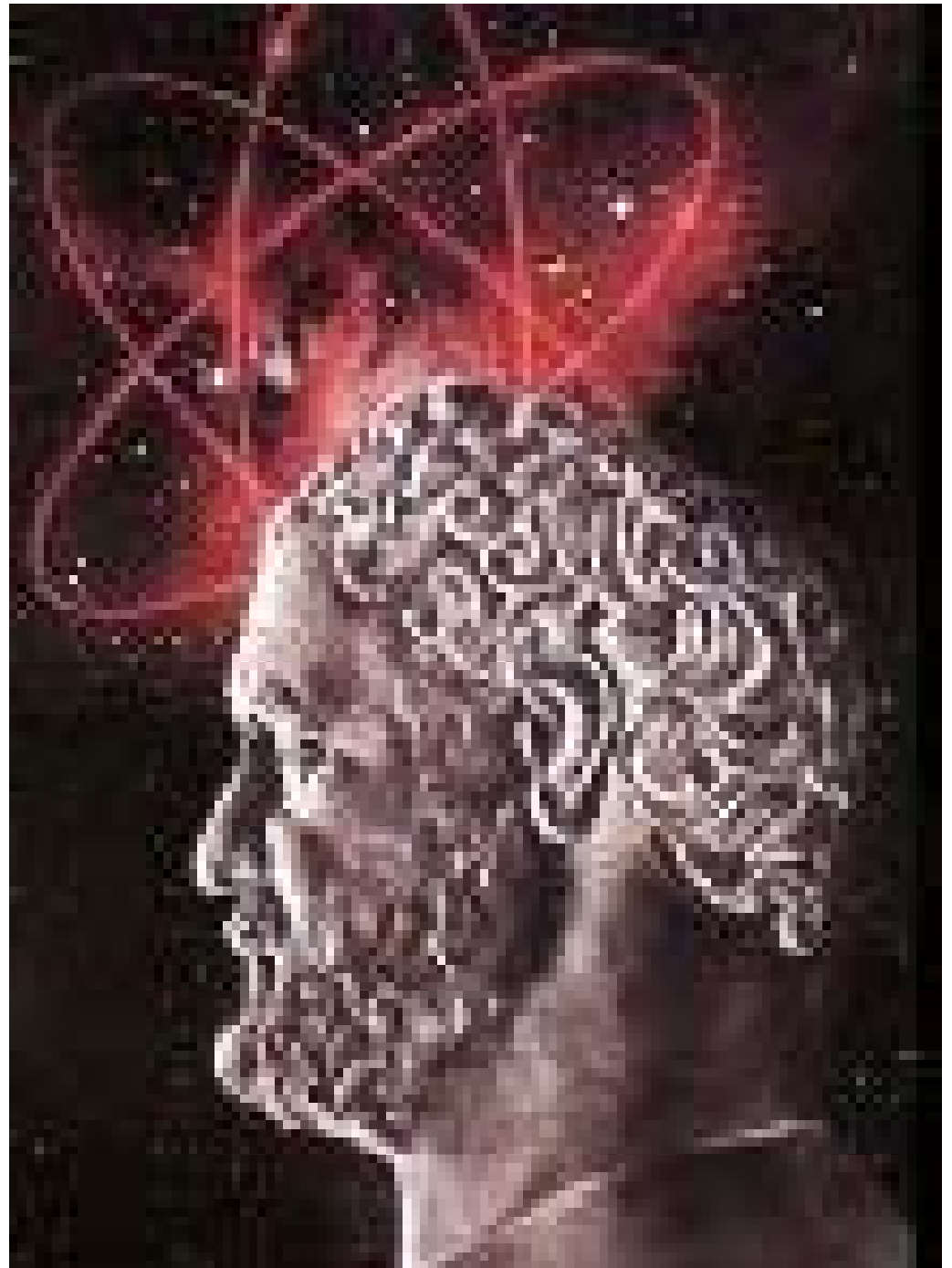
Stonehenge, Engleska (3000.-1000. B.C)



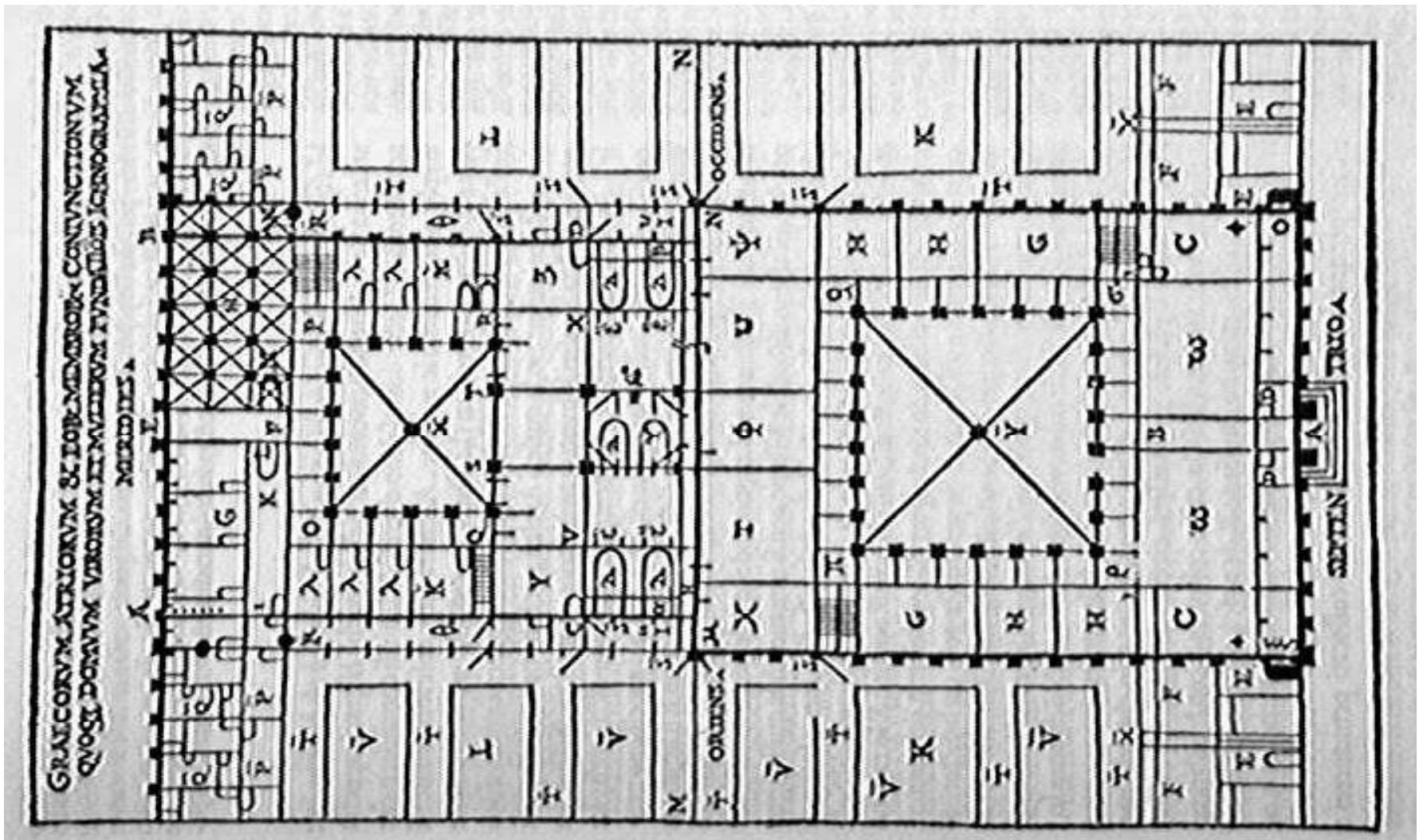
Ra



Apolon

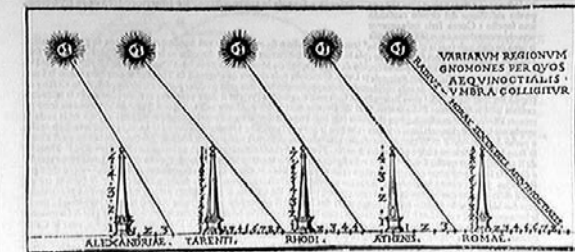


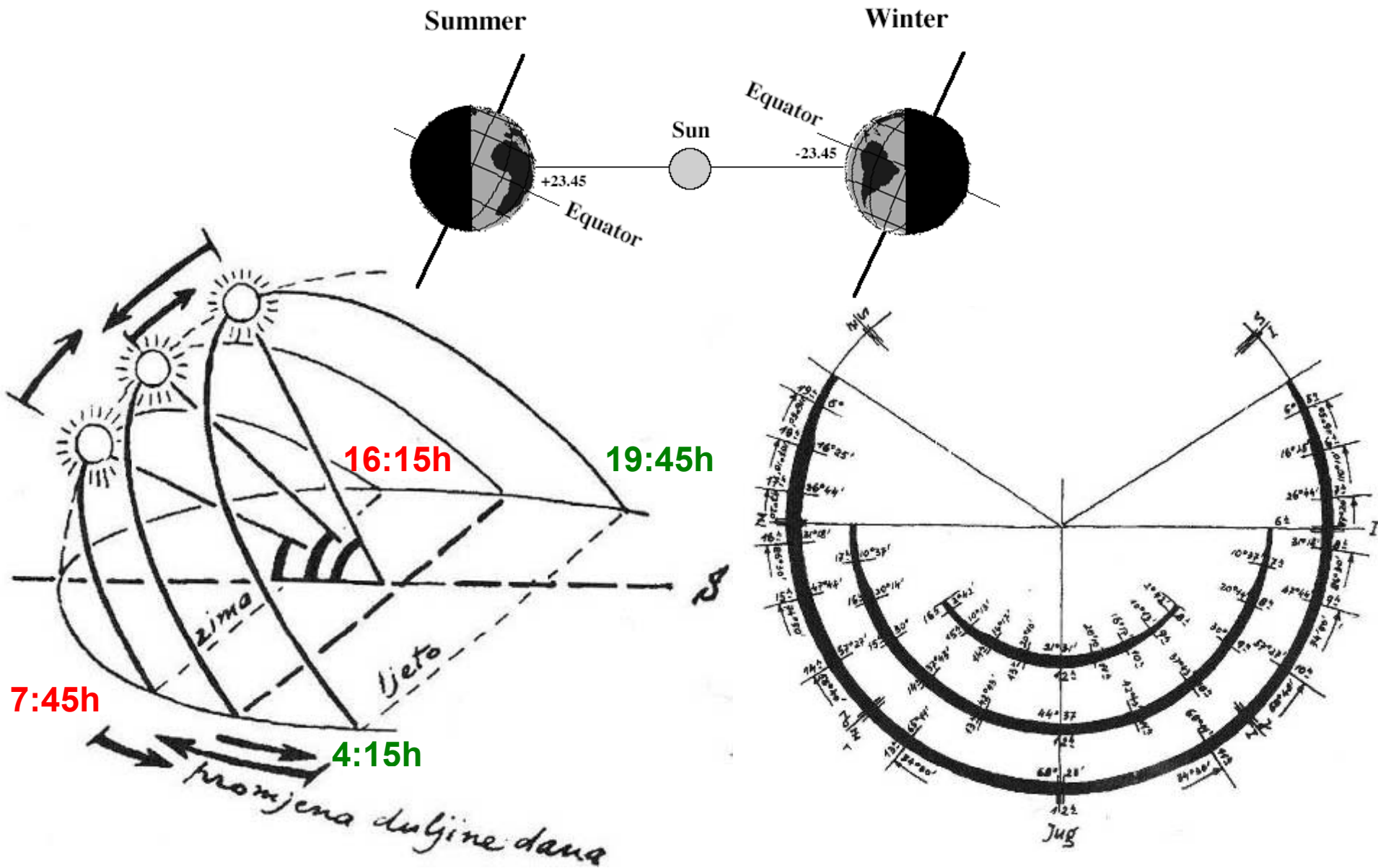
Anaksagora, grčki filozof, oko 500. godine p.n.e.



A 1684 depiction of Vitruvius (right) presenting [De Architectura](#) to [Augustus](#)

In Ambrosia nel mese giugno foliata il Giorno non gitta alcuna ombra e per consequente nel giorno equinoziale e de pochi quantitate a comparazione dell'ombra de li loro mobili più affay pagano di Polo. Si come la figura Geometrica posse del tutto si dimostrano. Et e appello questo indumento de li Greci. Giorno non indicante e cognoscere se de li linee che coll'figura il detto uocellato del qual Anastrofio se troouano il lo Ramo foglia il Scabroto che per il Me ridiamo il filo e si come uno Thimofo reho da quale una parte pocha a l'altro nel piano e l'altra parte ha reho uerfo il Cielo la quale e chiamata da Martino Reho Onomologia. Vnde si fa sapere che il detto folio pocha uerfo il Cielo e fatto che officio come si indica Fig. 114. G. 10. Et si che pocha officio del qual fono il detto Ramo pocha e creta da luy strare era inclinato uno pocha e di meno a li affay fono che no coltoreta più lungo reho ro quello uno che era fono nel piano. La ragione de li ampoli nel gno per se regere de arano uardare nel detto officio fono de la pianta e era fonia.



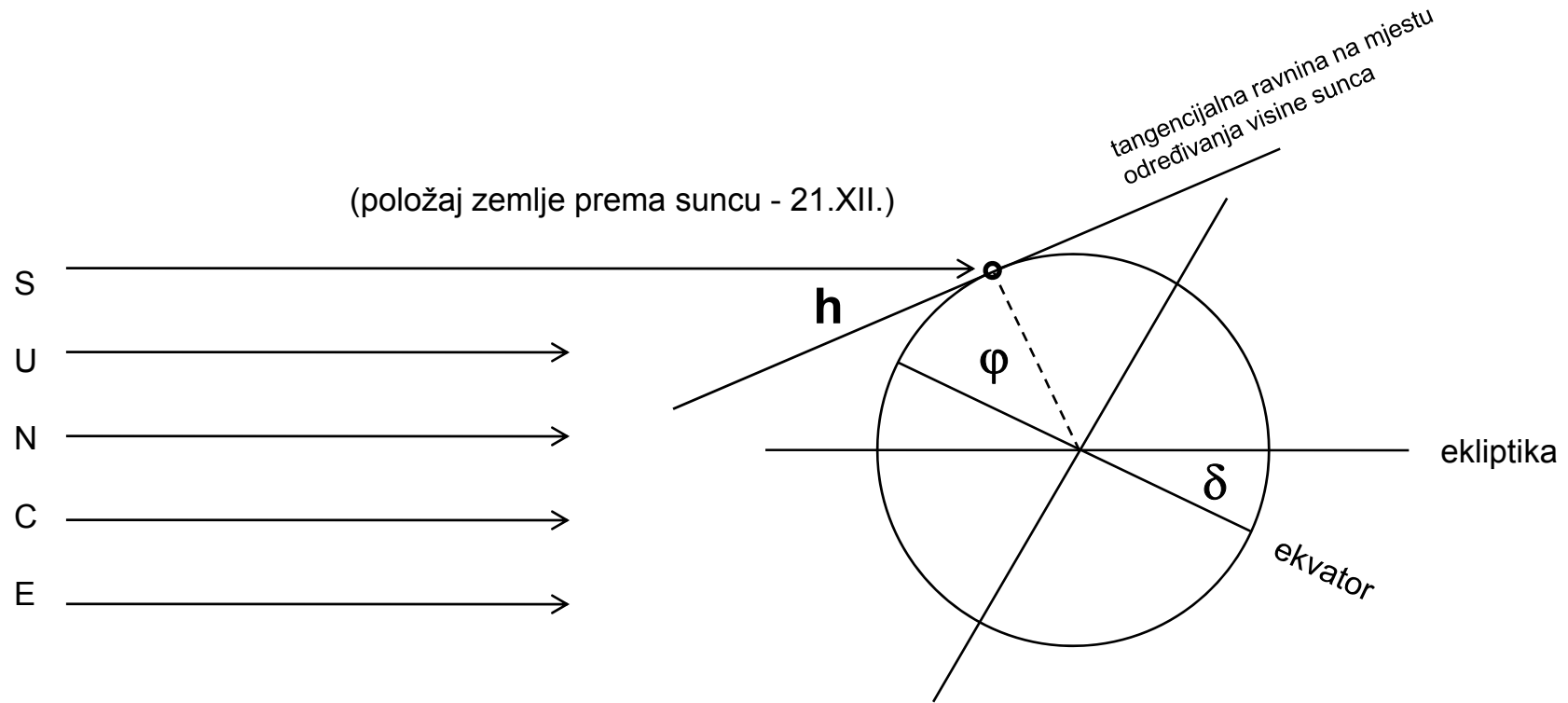


Zagreb

geografska širina = 45.815 stupnjeva sjeverno (!) cca 46 stupnjeva

geografska dužina = 15.98306 stupnjeva istočno (!)

nadmorska visina na Trgu bana Jelačića = cca 123 m



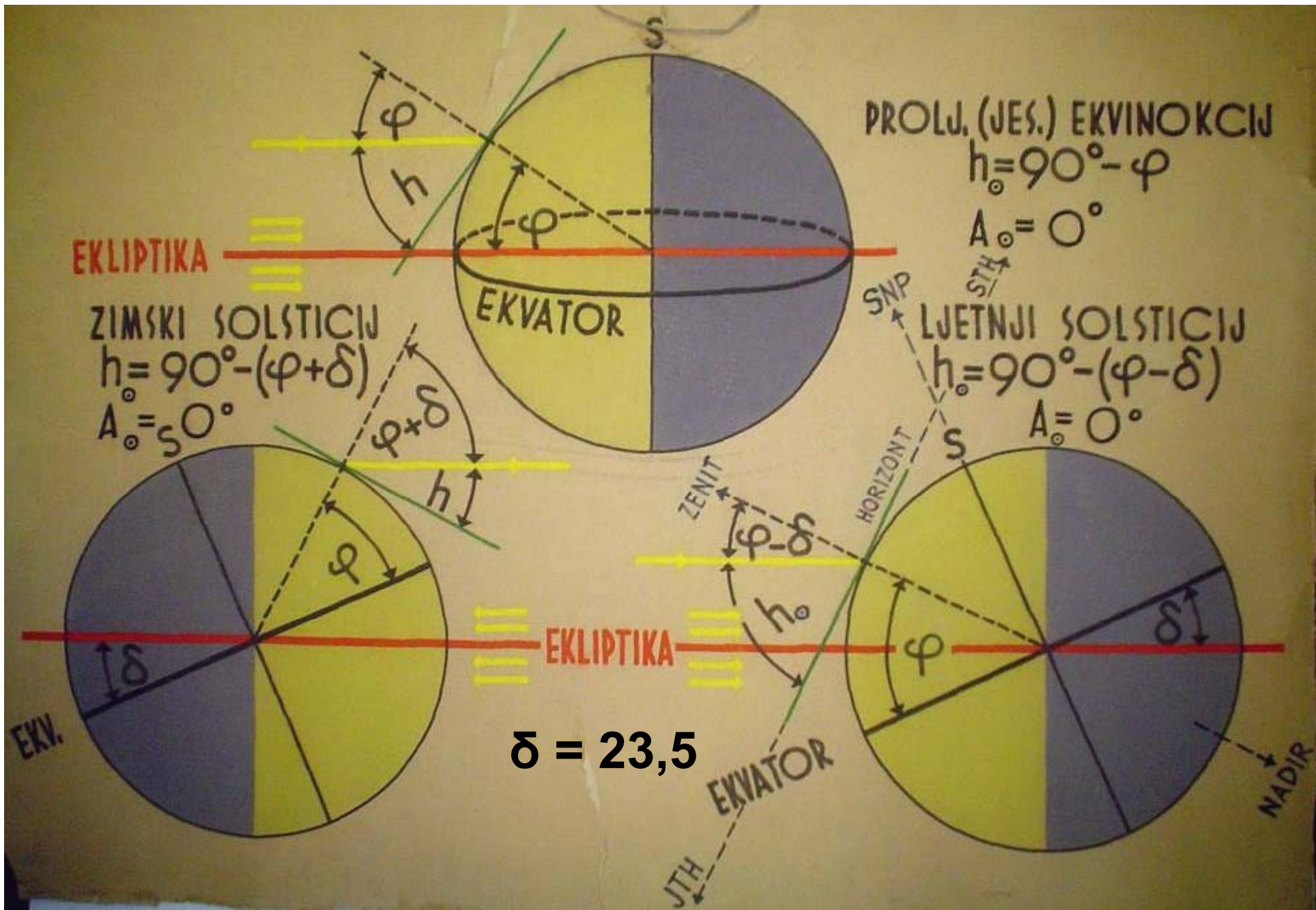
EKLIPTIKA = elipsa po kojoj Zemlja kruži oko Sunca

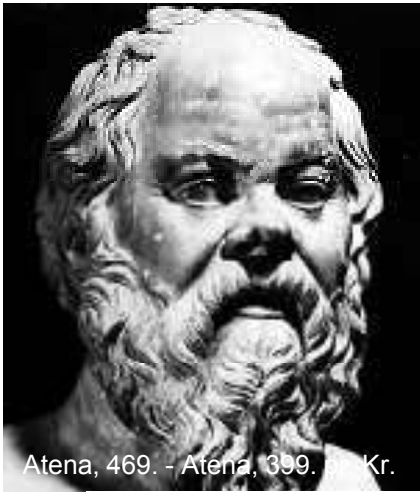
„ δ “ DEKLINACIJA = kut između ravnine ekvatora i ravnine ekliptike
(izražava nagnuće Zemljine osi rotacije prema ravnini ekliptike)

„ φ “ GEOGRAFSKA ŠIRINA = kutna udaljenost nekog mjesta na
Zemaljskoj kugli od ravnine ekvatora i iznaša od 0 stupnjeva na
ekvatoru do 90 stupnjeva na polovima (južnom i sjevernom)

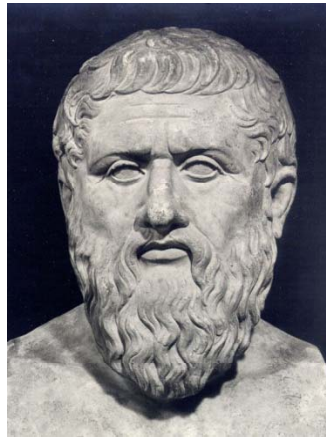
“ h ” VISINA SUNCA = kut između zrake sunca i tangencijalne ravnine na
određenom mjestu promatranja

(vidi - Stržić: “O stanovanju”)

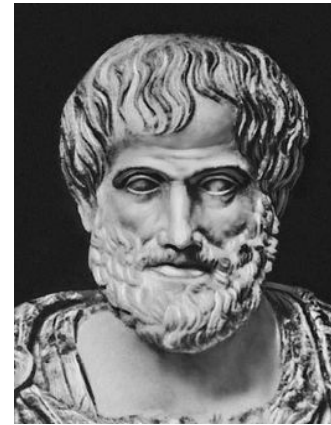




Atena, 469. - Atena, 399. Kr.



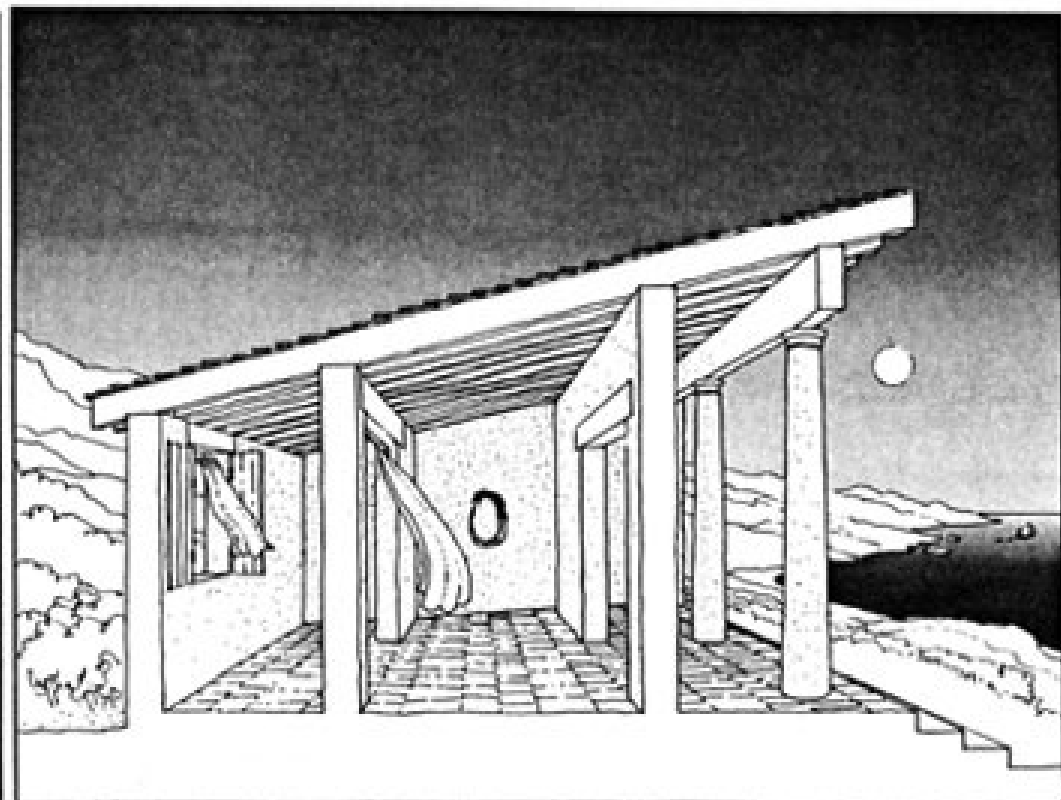
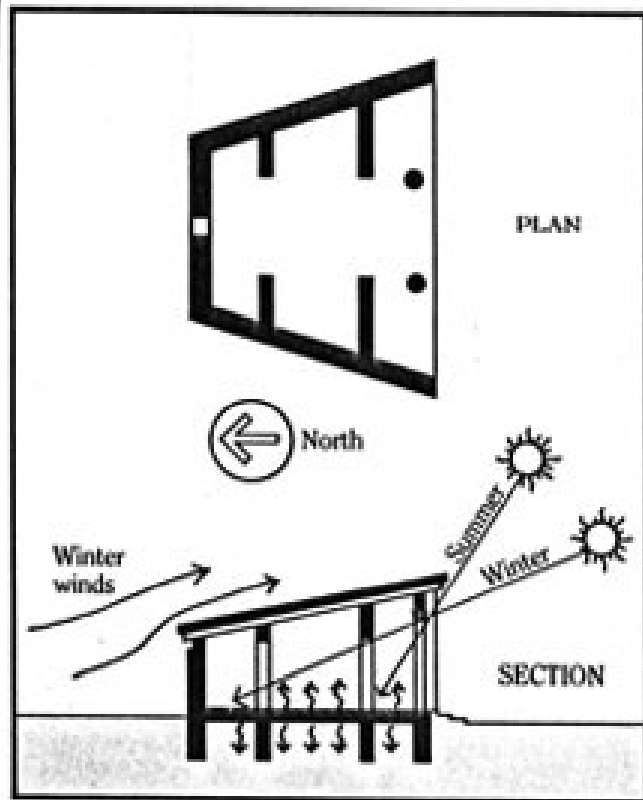
Atena, 427. BC- Atena, 347. BC



Stagira ,384. BC- Halkida, 322. BC



July 356 –June 323 BC



Sokratova kuća (oko 400. godine pr. n. e.)

sular, solar, slar, neizbježni i najznačajniji graditeljski element tradicijske kamene katnice u čitavoj jadranskoj zoni. Osnovna mu je funkcija, vanjska vertikalna veza, dakle stubište, kojima se penje na kat. Osnovna ali ne i jedina. Pred vratima prizemlja (konobe) ljeti je sular stvarao sjenu kako se konoba ne bi ugrijavala. Zimi pak, za sunčana vremena pod sularom je bilo ugodno toplo, gdje se plelo, prelo, odmaralo. Geneza naziva ovog graditeljskog elementa dolazi od sunca (sole) pa mu odatle i naziv.

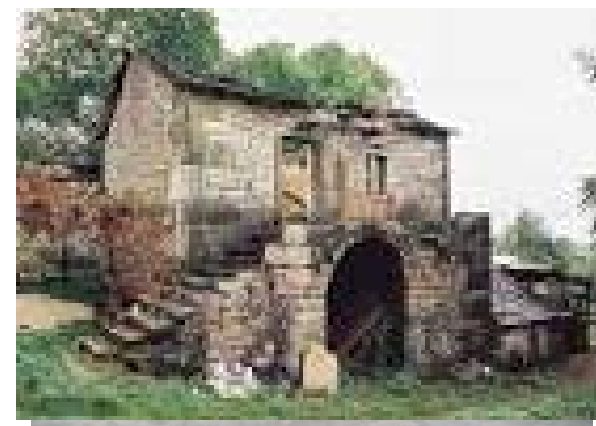
Na hrvatskom prostoru ima i drugih naziva kao što je

balatura, (sjeverna Dalmacija),

volta, (Južna Dalmacija),

baladur, (Istra).

Na gornjoj razini sulara, dakle pred vratima kata je manja terasa obično s kamenim klupama. Sular, kao i stube su naravno, od kamena. Ima slučajeva da su stube i spomenuta terasa pred vratima kata (tavana) natkriveni.



Staklenik je prozirna konstrukcija koja omogućava zaštićeni i kontrolirani uzgoj raznih [biljki](#).

Oranžerija – pojam se danas koristi kao oznaka za zgradu koja služi (ili je služila) prezimljavanju citrusnih stabalaca. Samo ime dolazi upravo od citrusnih voćaka, koje su na europskim dvorovima bile u modi od 16.st. Oranžerija je zapravo značila vrt u kojem se nalaze te voćke, a pored takvog vrta se morala nalaziti i zgrada u kojoj one mogu prezimiti, pa je tako i sama zgrada dobila naziv oranžerija. Te zgrade i vrtovi služili su prije svega u reprezentativne svrhe.

Greenhouse (also called a **glasshouse**) is a building in which plants are grown. These structures range in size from small sheds to very large buildings. A miniature greenhouse is known as a [cold frame](#).



[Conservatory \(greenhouse\)](#), a large, highly detailed residential solarium or a greenhouse where plants are cultivated



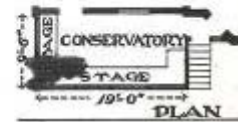
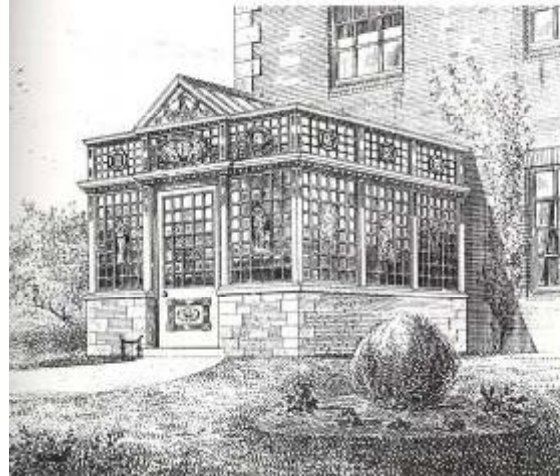
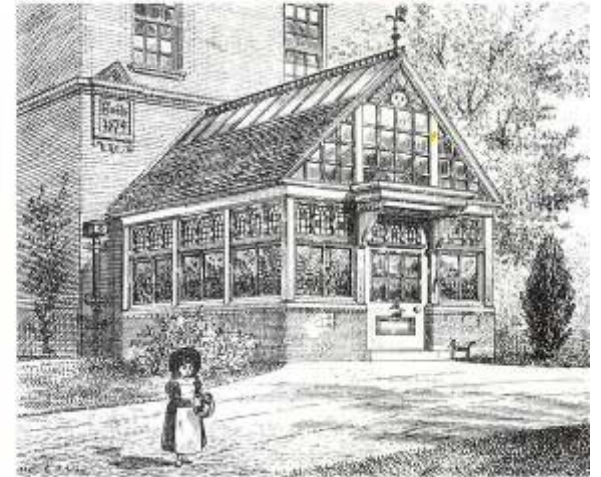
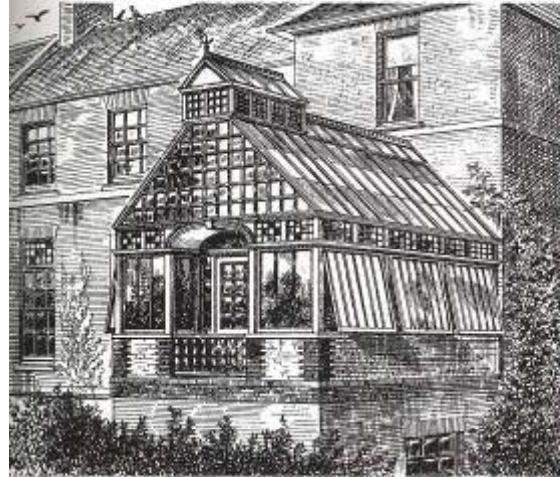
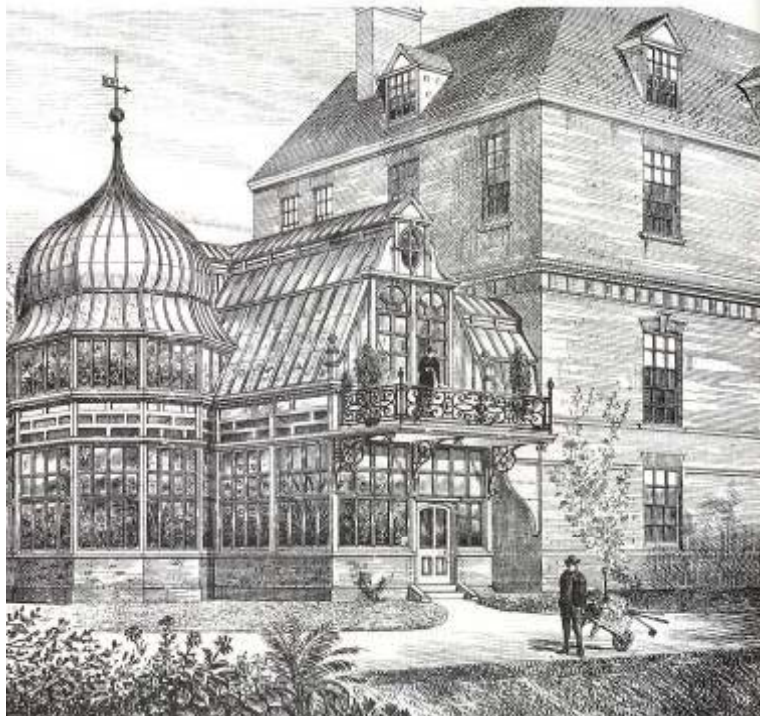
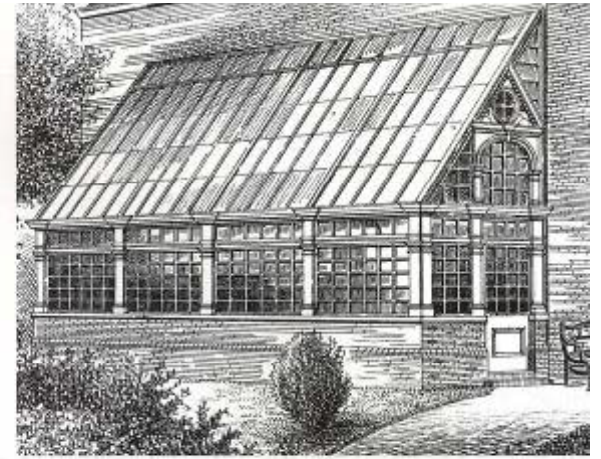
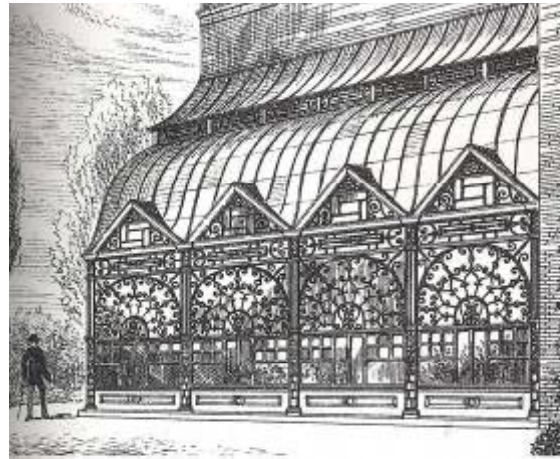
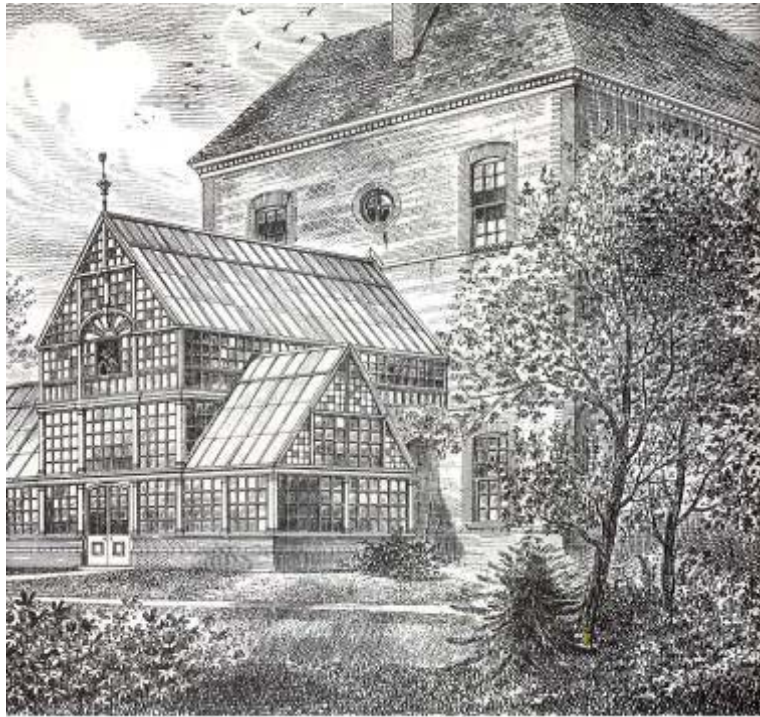
Oranžerija Dvorac, Gornja Bedekovčina

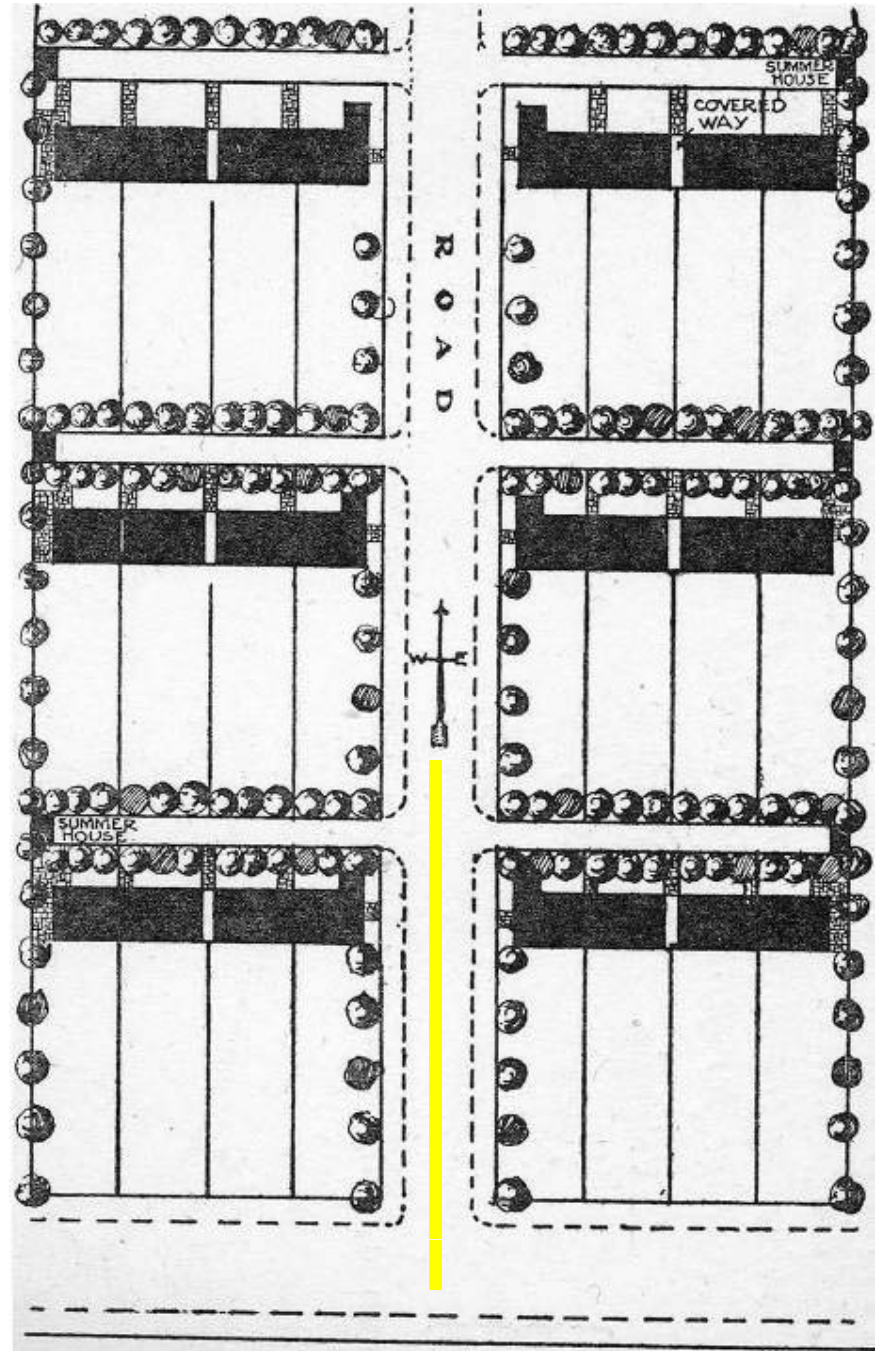


ABOVE: A formal Victorian tea party takes place on a tranquil afternoon.

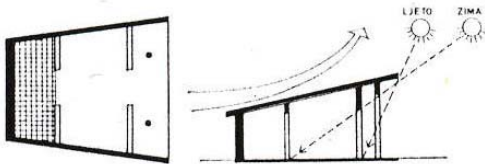


Conservatory green house, stakleni vrt, veranda

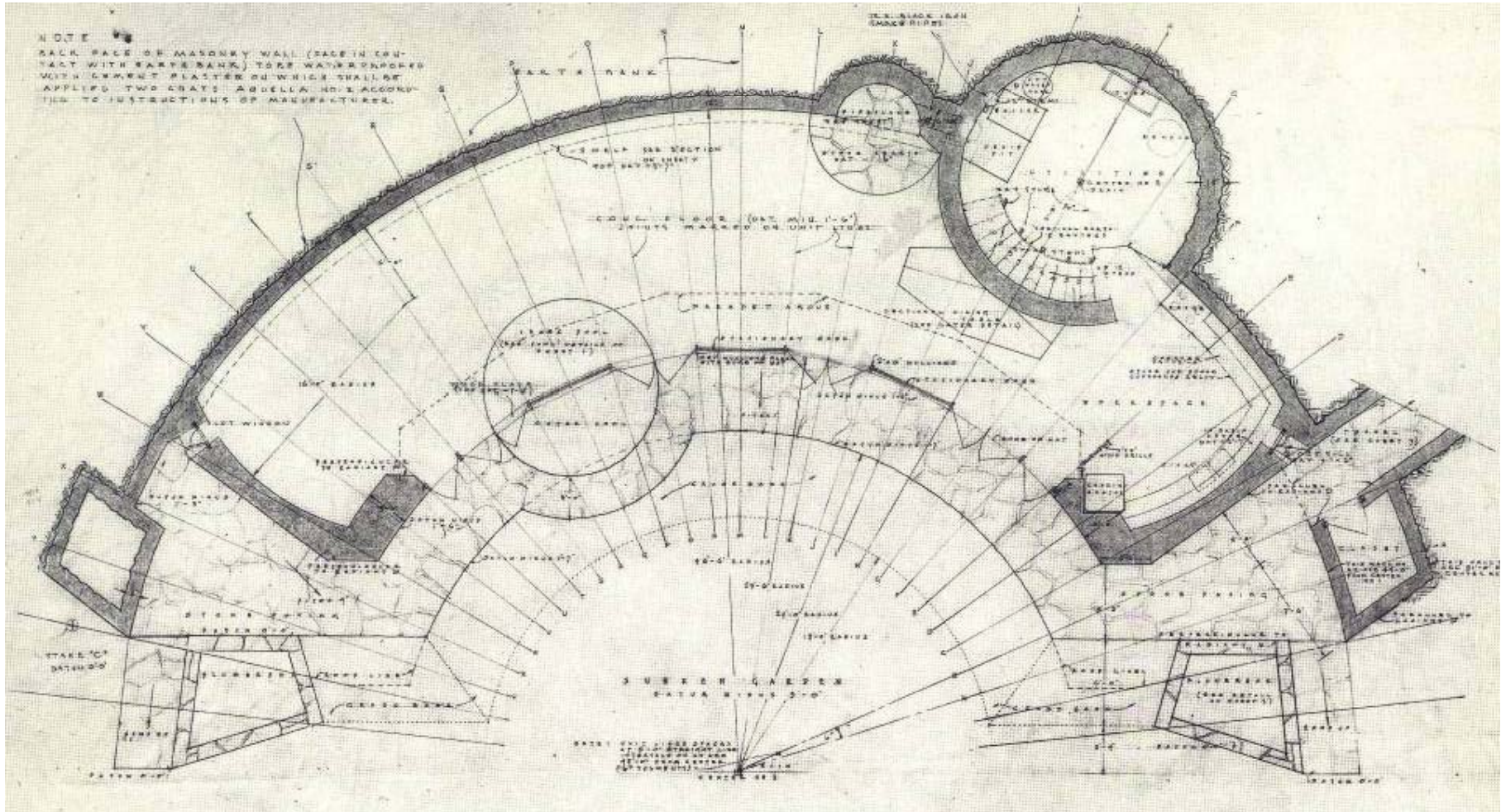




R. Unwin: Town planning, 1909.



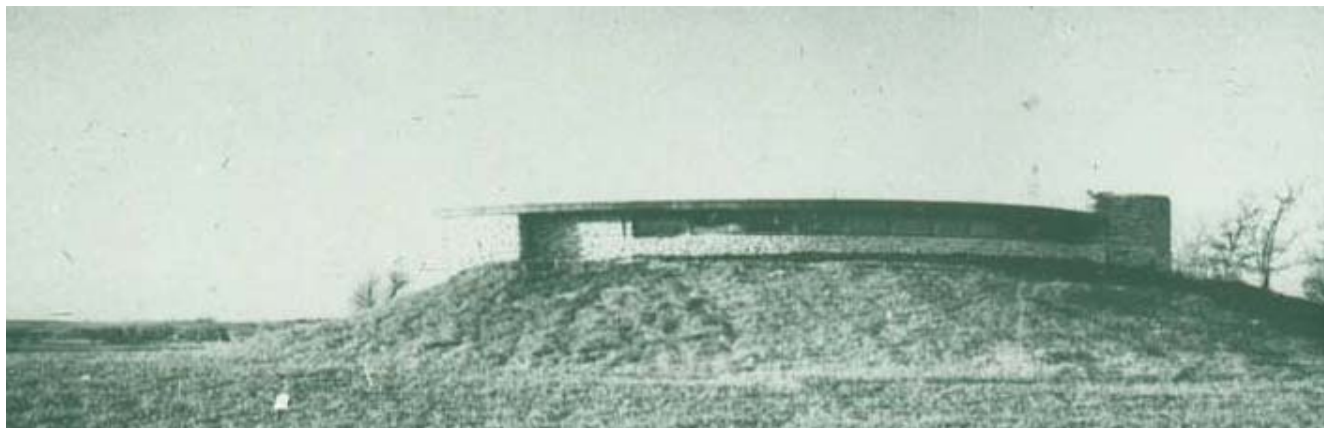
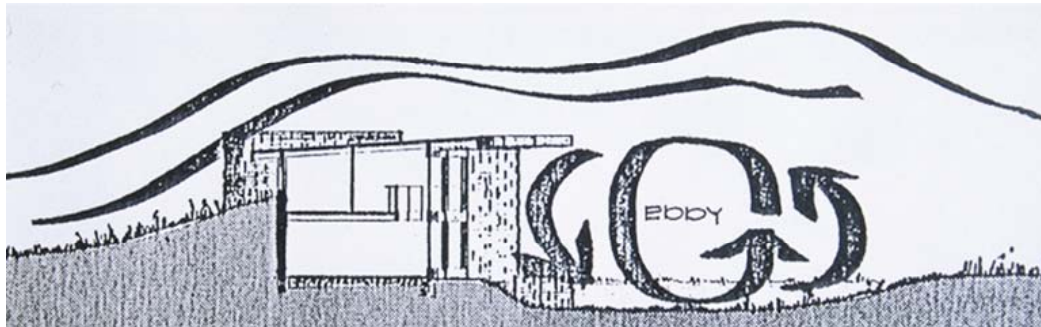
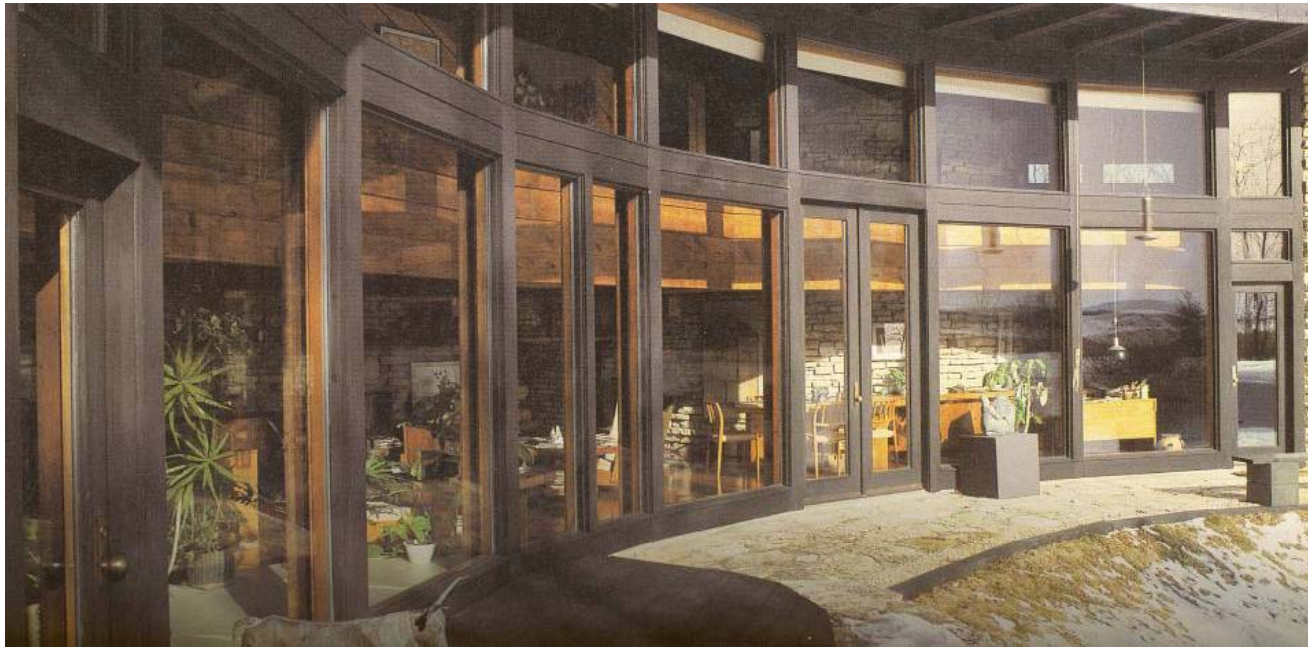
“a pioneer of passive solar design”



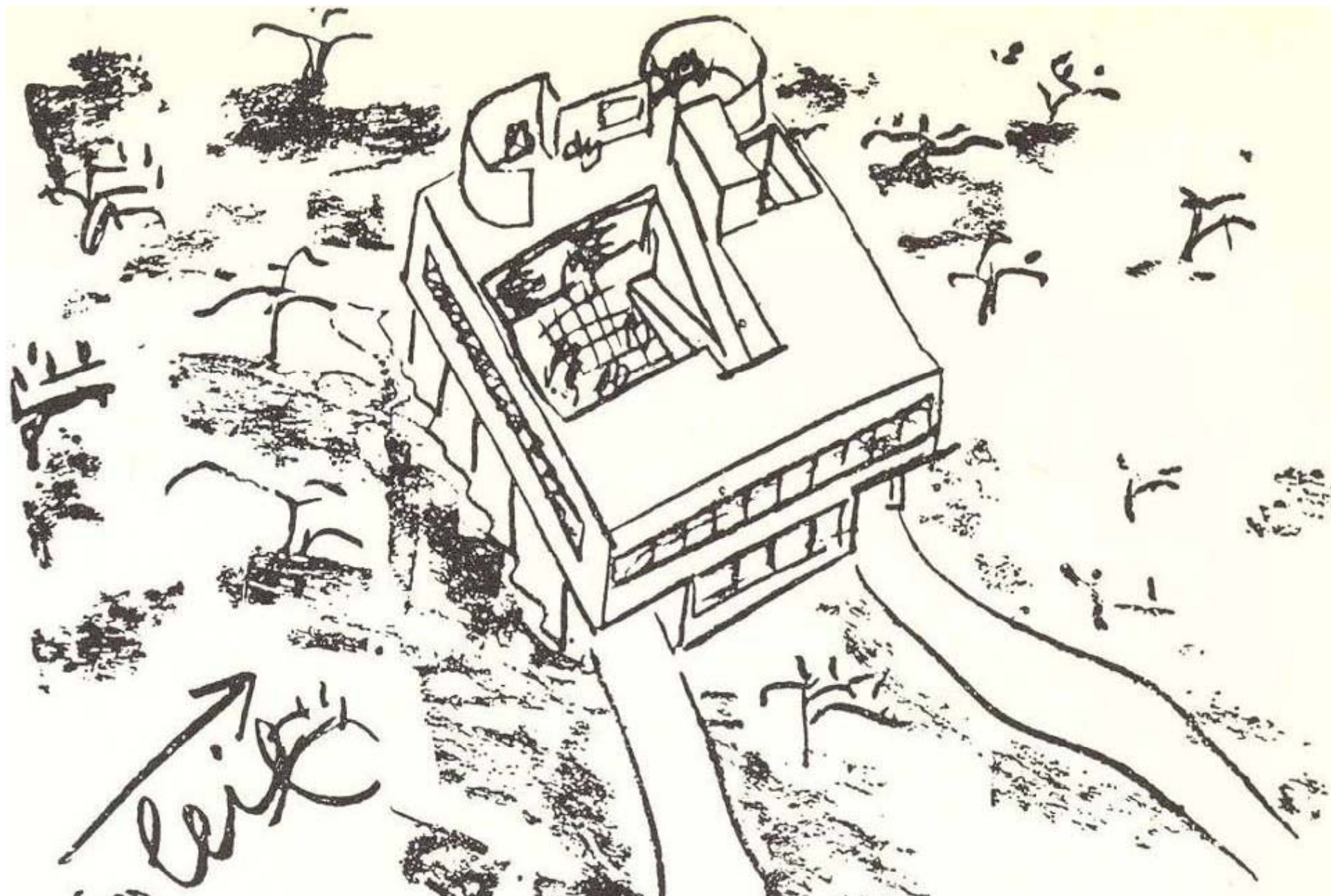
SHEET 2 · GROUND FLOOR PLAN. SCALE 1/4" = 1'-0"

SOLAR HEMICYCLO
 HOUSE FOR MR. & MRS. HERBERT JACOBS
 MIDDLETON · WISCONSIN
 FRANK LLOYD WRIGHT · ARCHITECT

F. L. Wright : "Hemicyclo", 1948.



F. L. Wright :
"Hemicyclo", 1948
3995 Shawn Trail, Middleton



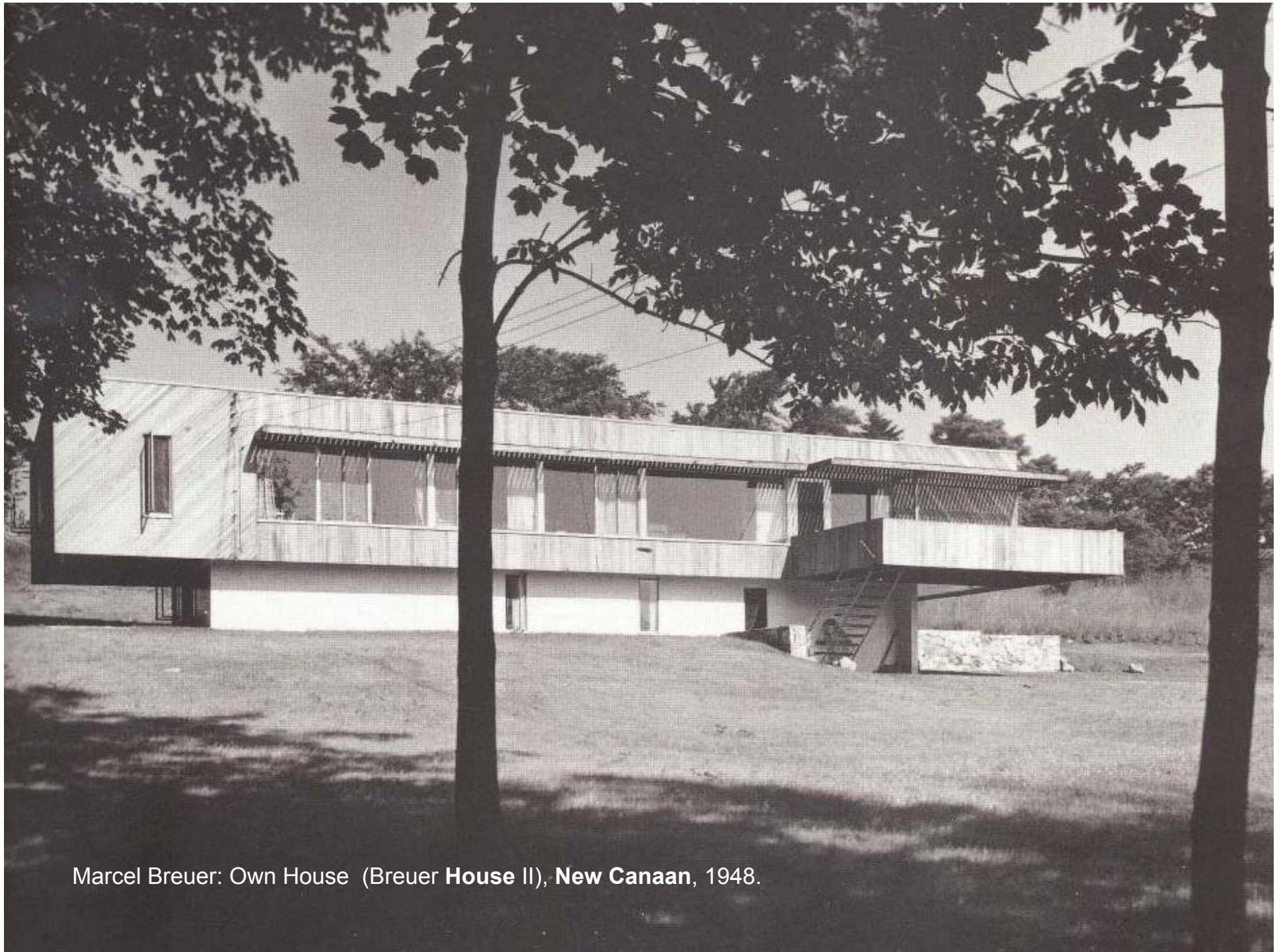
"Prva skiciranja moraju biti u vezi kretanja sunca kako u ljetnom tako i u zimskom solsticiju. Jer sunce i samo sunce je ono što upravlja orijentacijom kuće." Le CORBUSIER



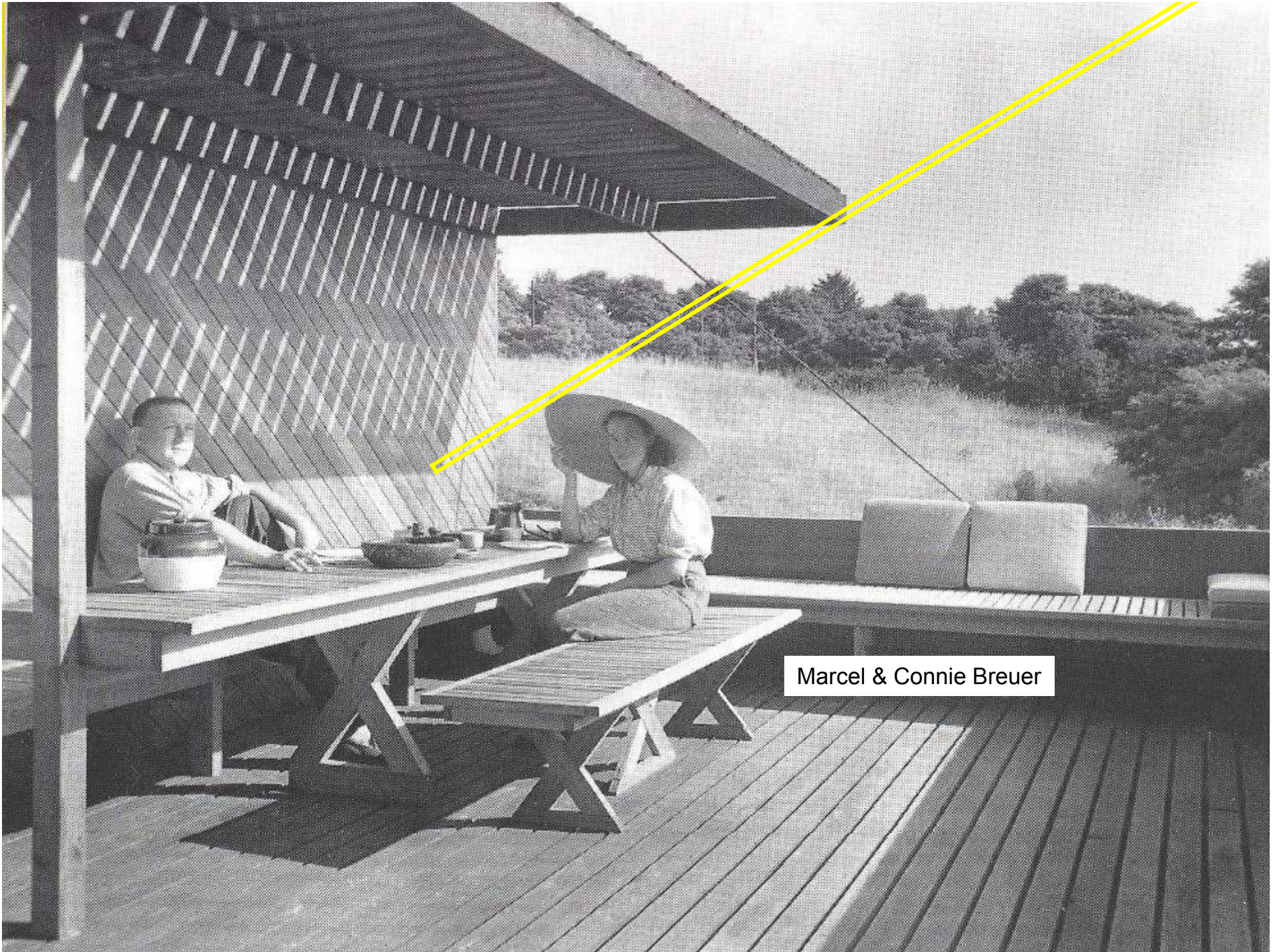
'Breuer House' by Marcel Breuer

Google earth

New Canaan -sjeverna geografska širina = 41 stupanj .



Marcel Breuer: Own House (Breuer House II), New Canaan, 1948.



Marcel & Connie Breuer

JUG

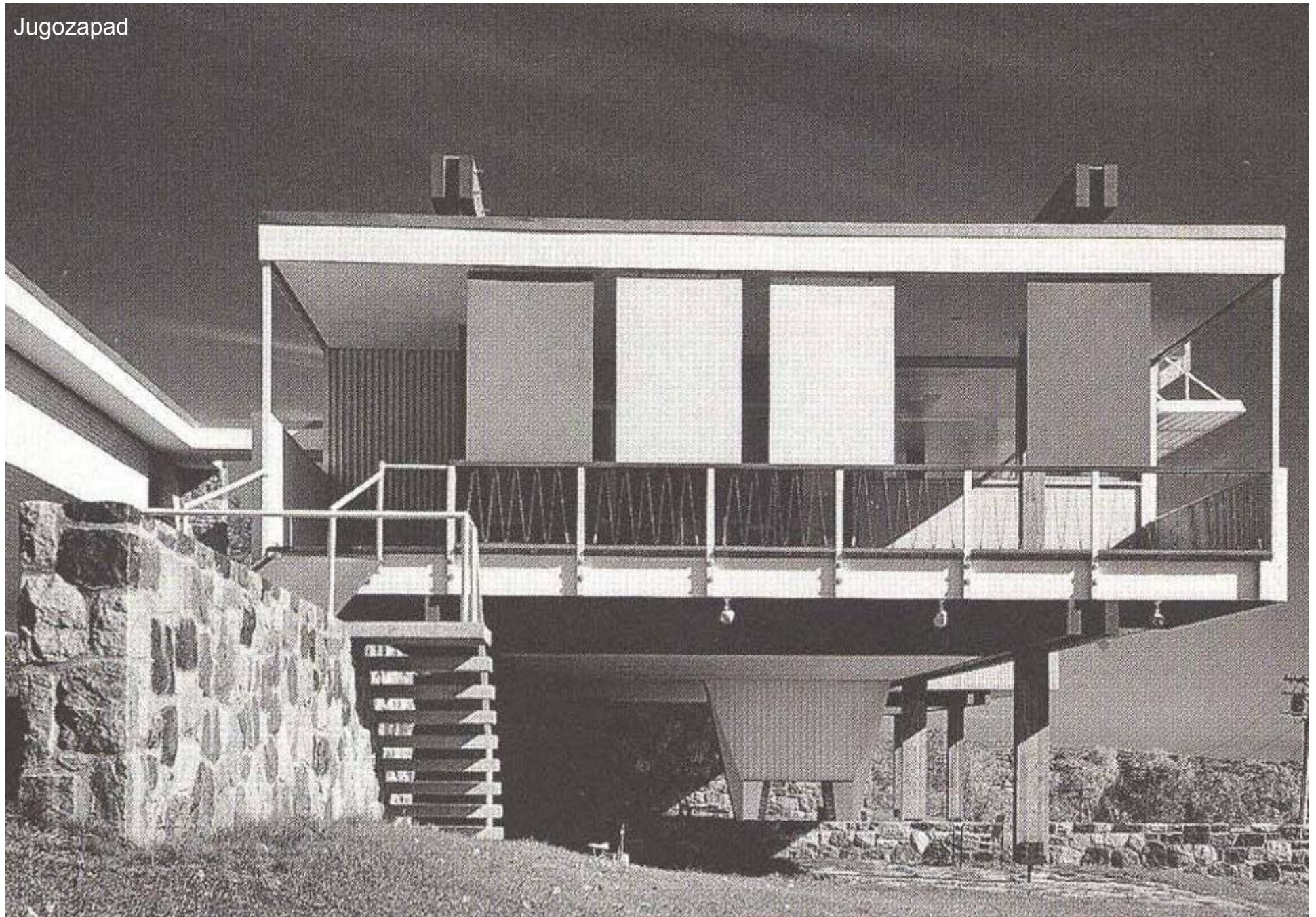


Marcel Breuer: Grieco House, Massachusetts, USA 1955 .



Marcel Breuer: Cape Cod , Massachusetts, USA 1963 .

Jugozapad



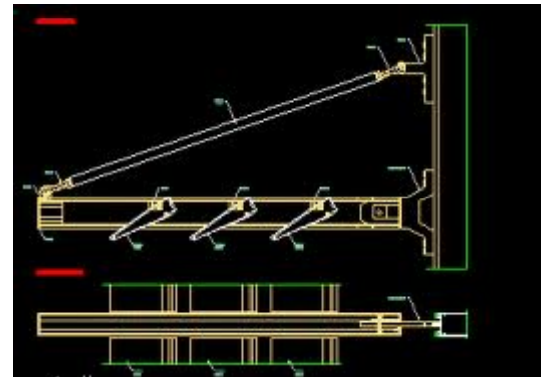
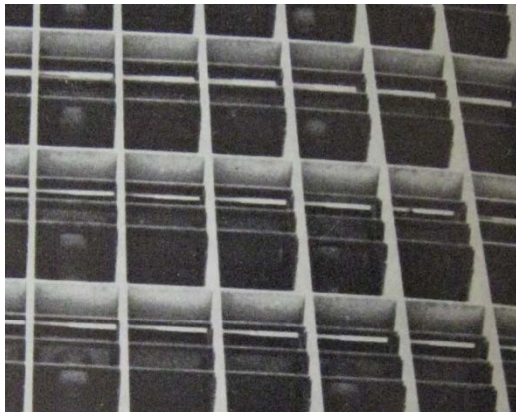
Marcel Breuer: Starkey House, Minnesota, USA, 1955 .

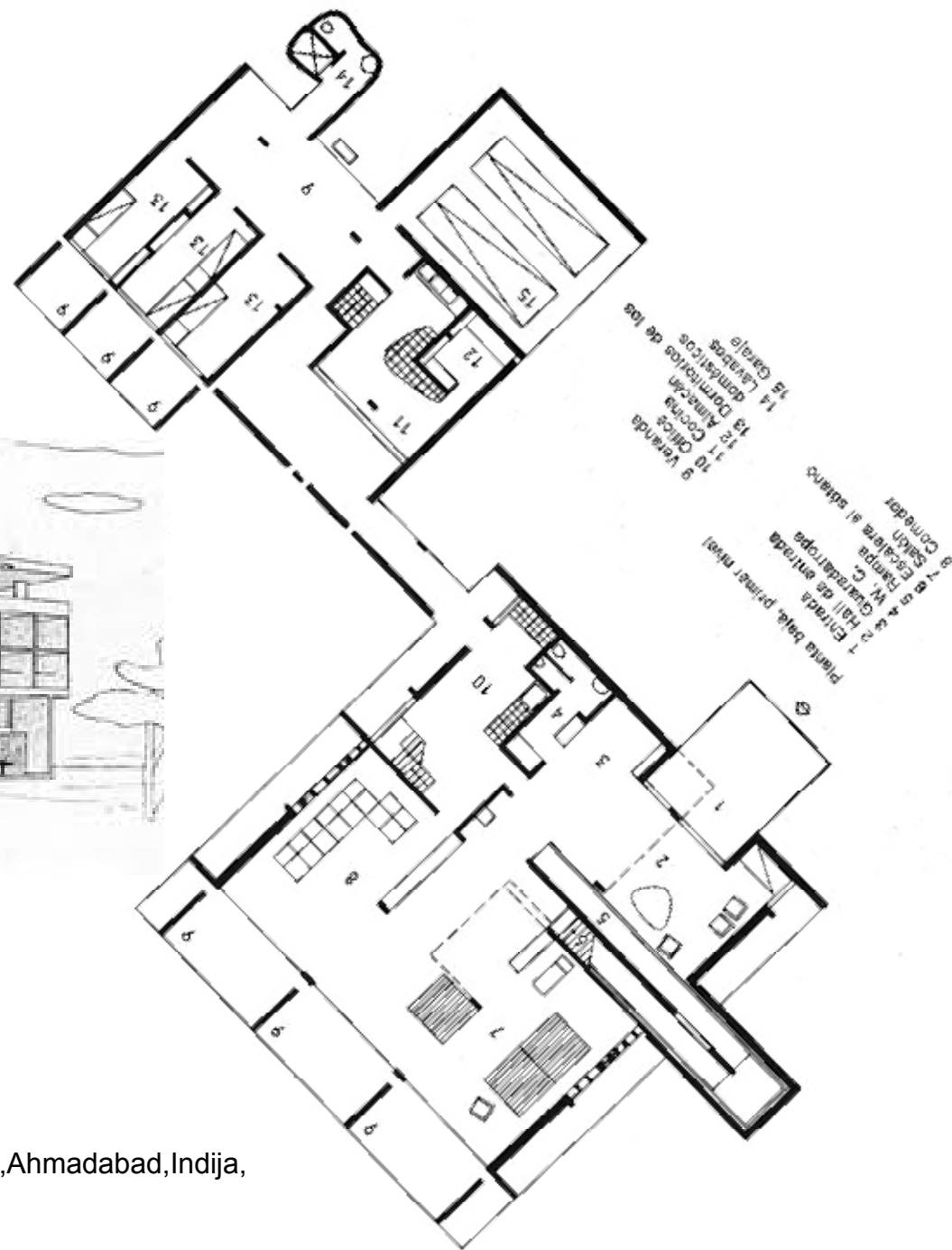
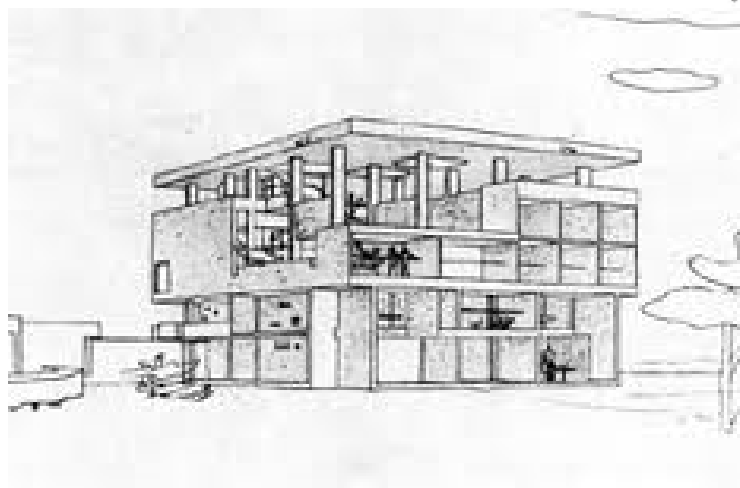
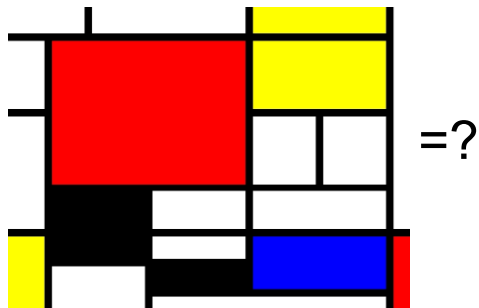


Mies van der Rohe: Villa Tugendhat, Brno, 1930.

- **Brise soleil,** (Le Corbusier: (French pronunciation: [bʁi sɔlɛj], plural, "brise-soleil" (invariable), from [French](#), "sun breaker"), in [architecture](#) refers to a variety of permanent [sun-shading](#) techniques, ranging from the simple patterned concrete walls popularized by [Le Corbusier](#)

- In the typical form, a horizontal projection extends from the sunside facade of a building. This is most commonly used to prevent facades with a large amount of glass from overheating during the summer. Often [louvers](#) are incorporated into the shade to prevent the high-angle summer sun falling on the facade, but also to allow the low-angle winter sun to provide some [passive solar heating](#).

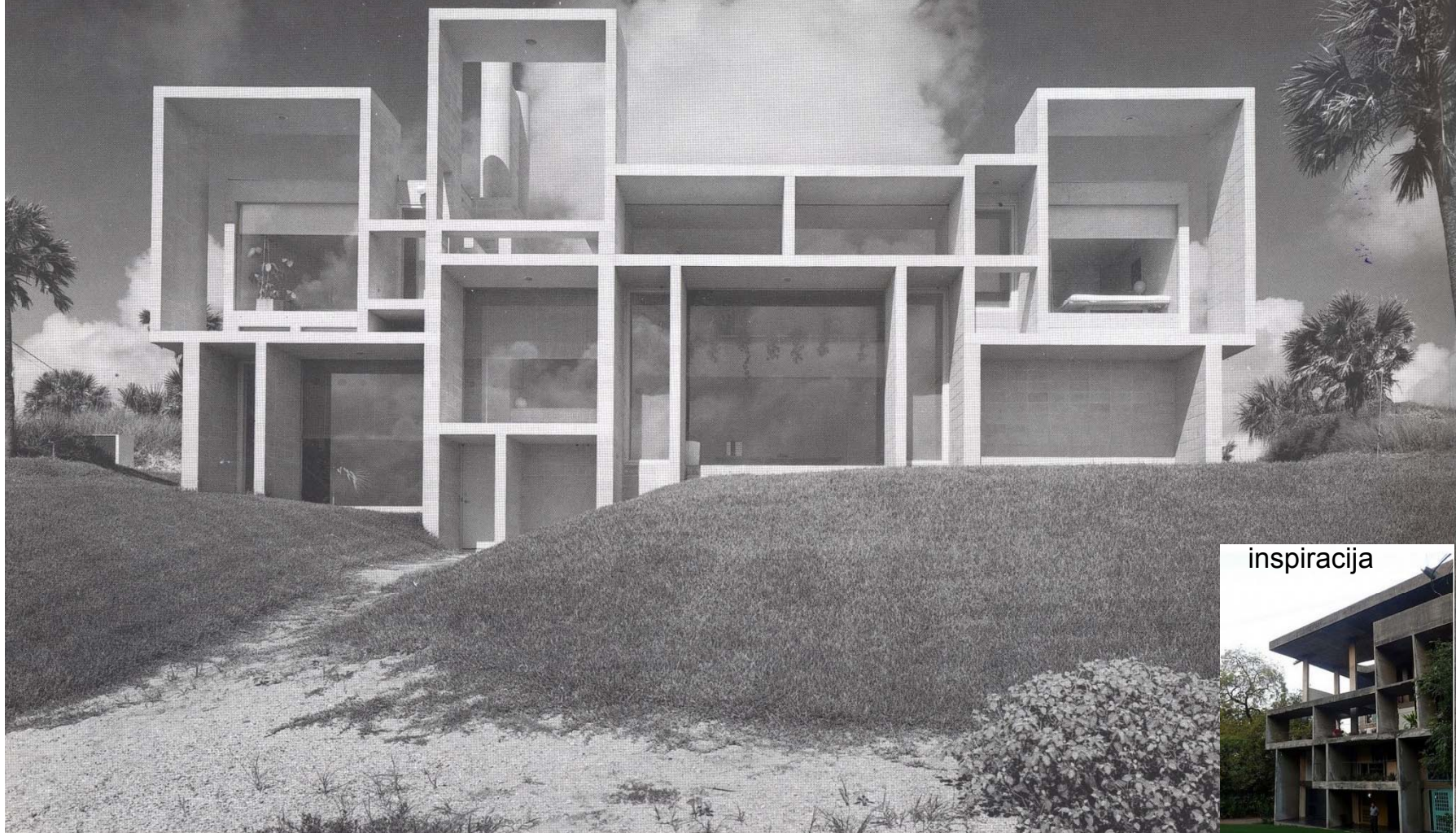




Le Corbusier: Villa Shodhan, 1951-56, Ahmadabad, Indija, geog. širina = 23 stupnja

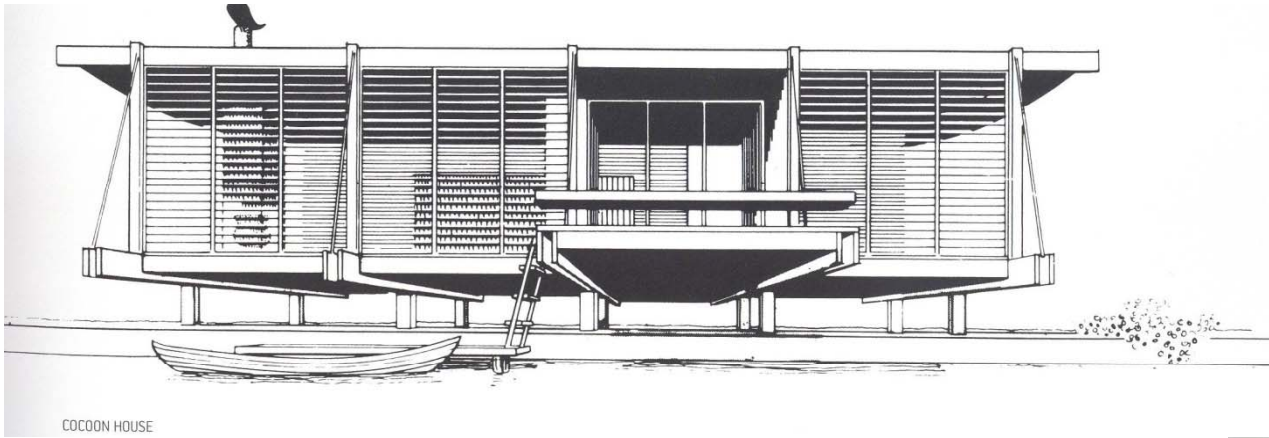
MILAM RESIDENCE *Istočno pročelje*

PONTE VEDRA
1959-1961

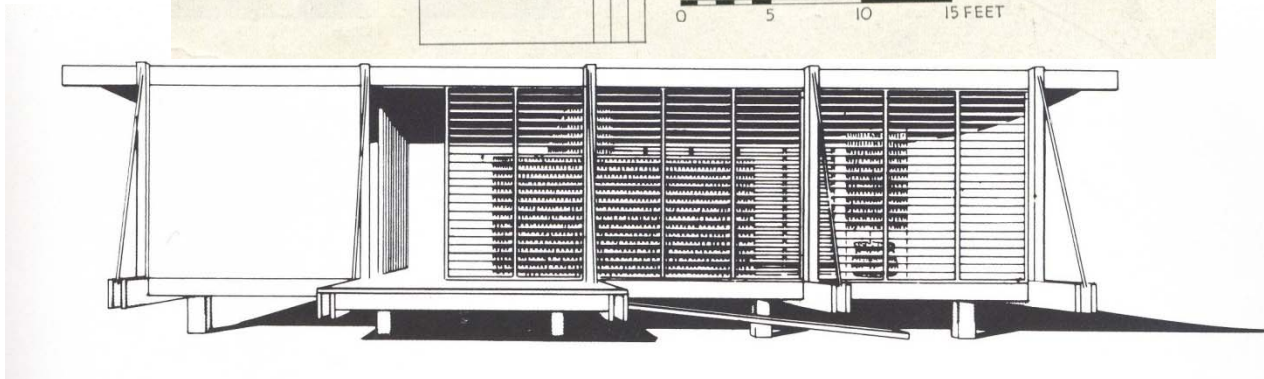
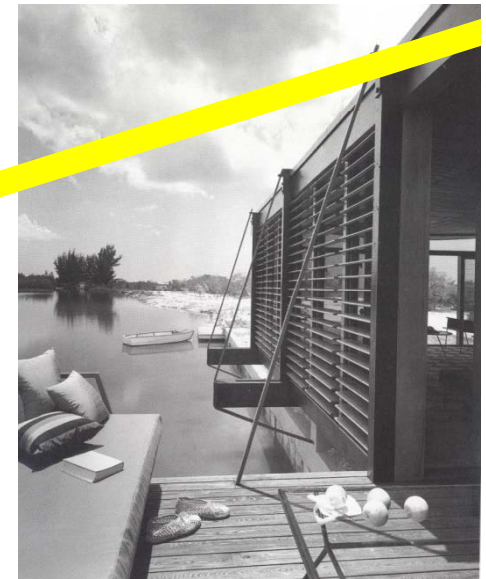
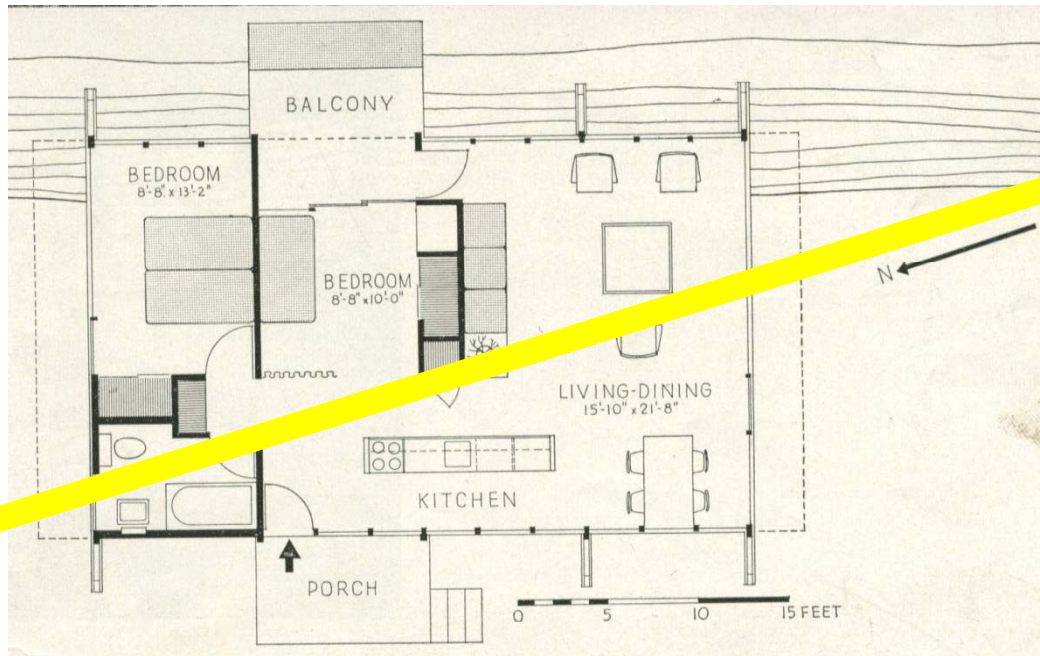


inspiracija

Paul Rudolph: Millam Residence

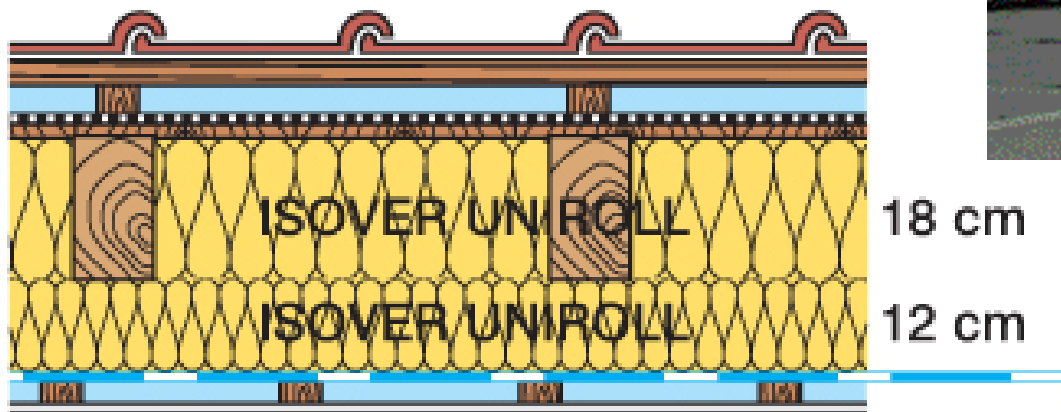
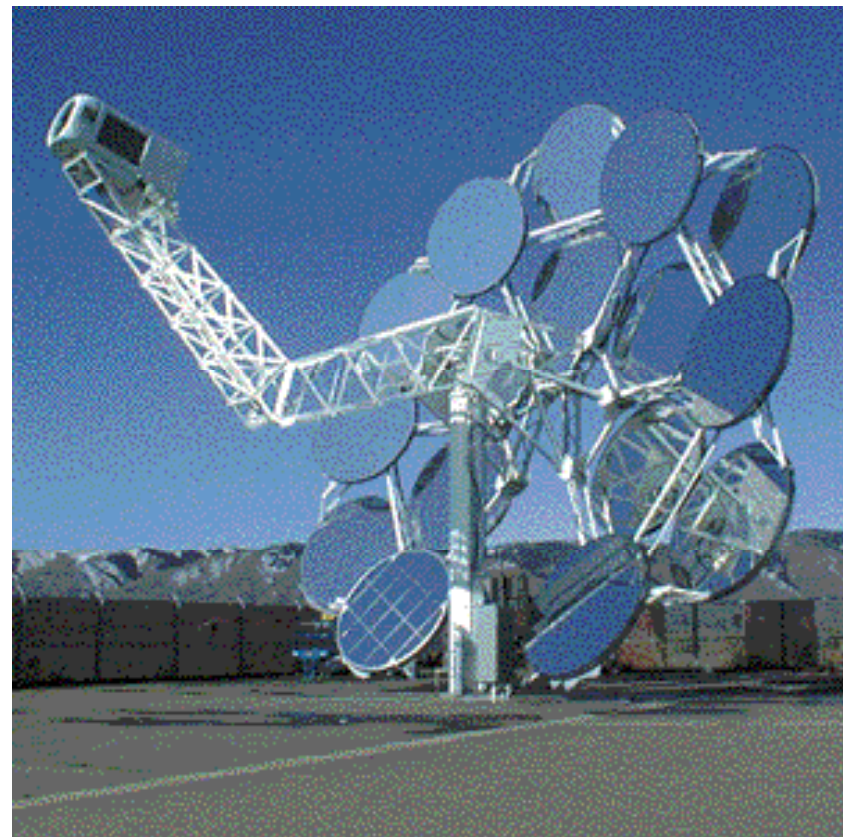
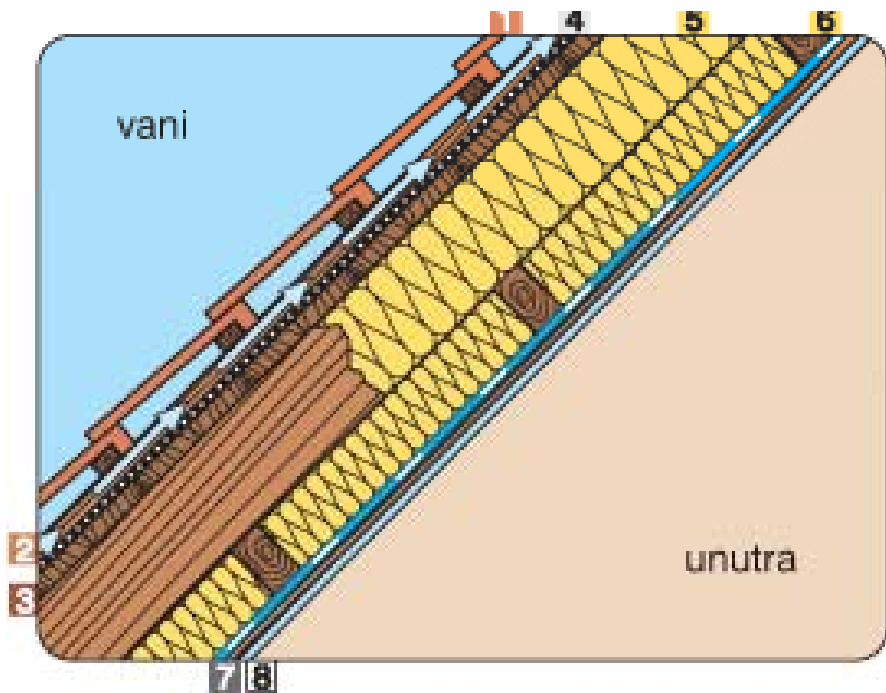


COCOON HOUSE



Paul Rudolph: Cocoon House
Siesta Key in Sarasota, Florida.
1951.

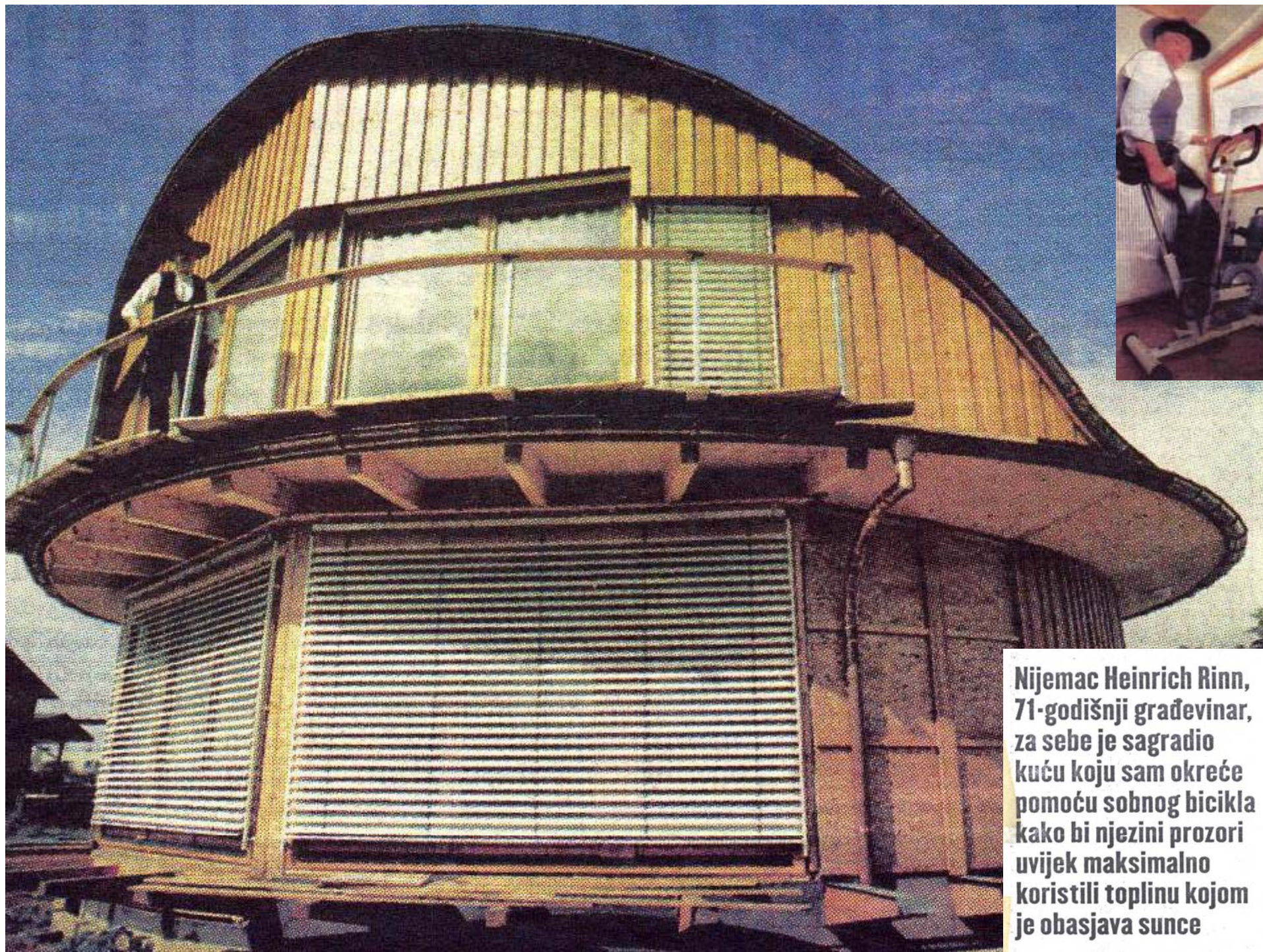




Ukupna debljina izolacije: 30 cm



Niles&McCarthy: Houses, Malibu, California, 1994.

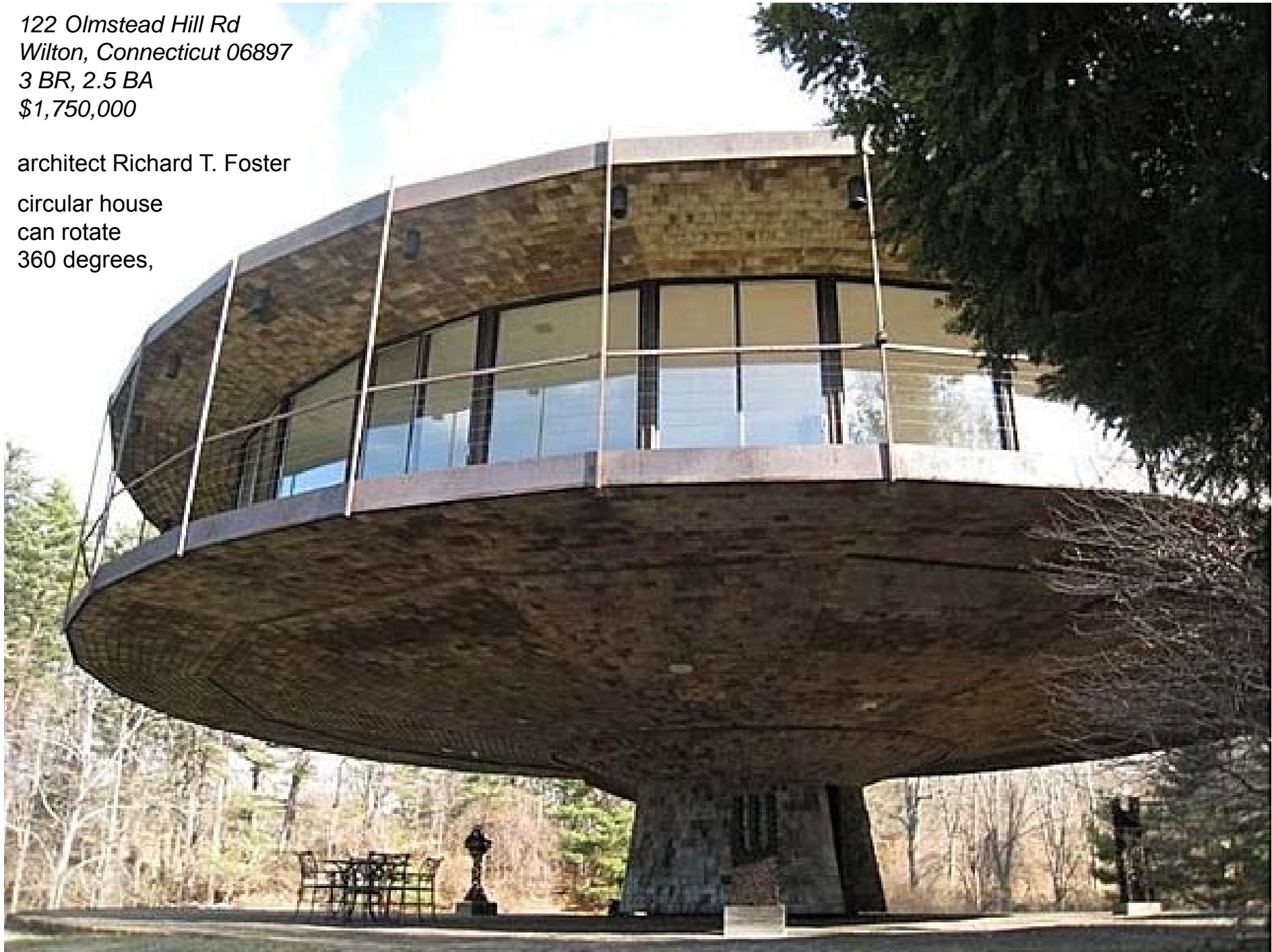


Nijemac Heinrich Rinn, 71-godišnji građevinar, za sebe je sagradio kuću koju sam okreće pomoću sobnog bicikla kako bi njezini prozori uvijek maksimalno koristili toplinu kojom je obasjava sunce

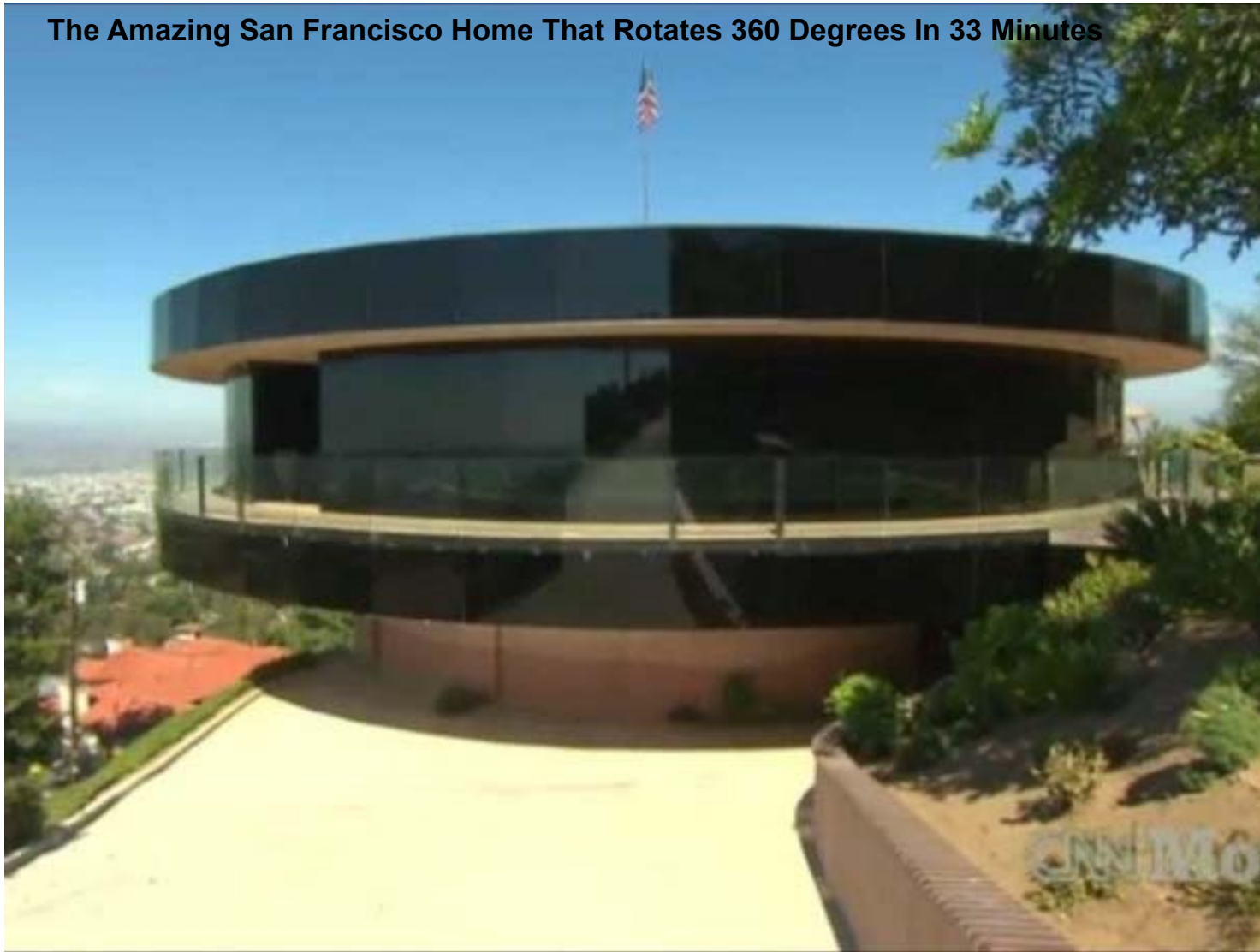
122 Olmstead Hill Rd
Wilton, Connecticut 06897
3 BR, 2.5 BA
\$1,750,000

architect Richard T. Foster

circular house
can rotate
360 degrees,



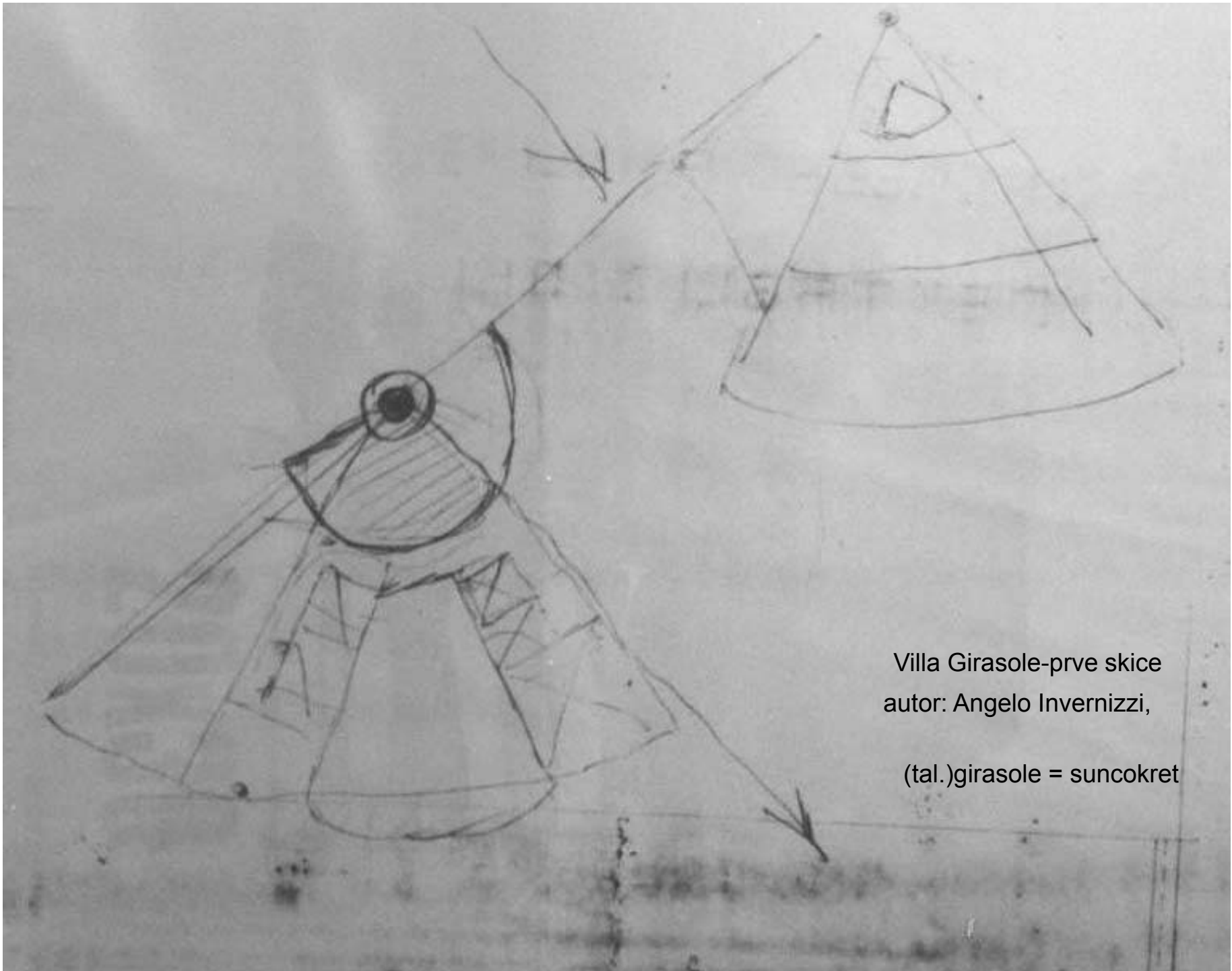
The Amazing San Francisco Home That Rotates 360 Degrees In 33 Minutes



What do you do when you have this nice view overlooking the city? You can't possibly have every room sharing the same view towards the city, can you? Well, Janet Johnstone did exactly that and they built a house near the top of **Mountain Helix, San Diego**. Reason being that they couldn't decide which room should get the best view. The owner also the designer, design the glass sheathed house to rotate once every 30 minutes, this new design or invention earn him two patents. Construction took six years and making him almost \$1 million poorer, he was told that the idea could not work but he silent his buddies with the final product.



Paul Klee. *Revolving House*. 1921. Oil on cotton cloth. 37.5 x 52.2 cm. Thyssen-Bornemisza Collection, Madrid,



Villa Girasole-prve skice
autor: Angelo Invernizzi,
(tal.)girasole = suncokret

Villa Girasole

autor: Angelo Invernizzi,

- 1929. - 1935.

- Marcelise kod Verone

- težina gornjeg rotirajućeg dijela = 1500 tona

- visina = 42.35m

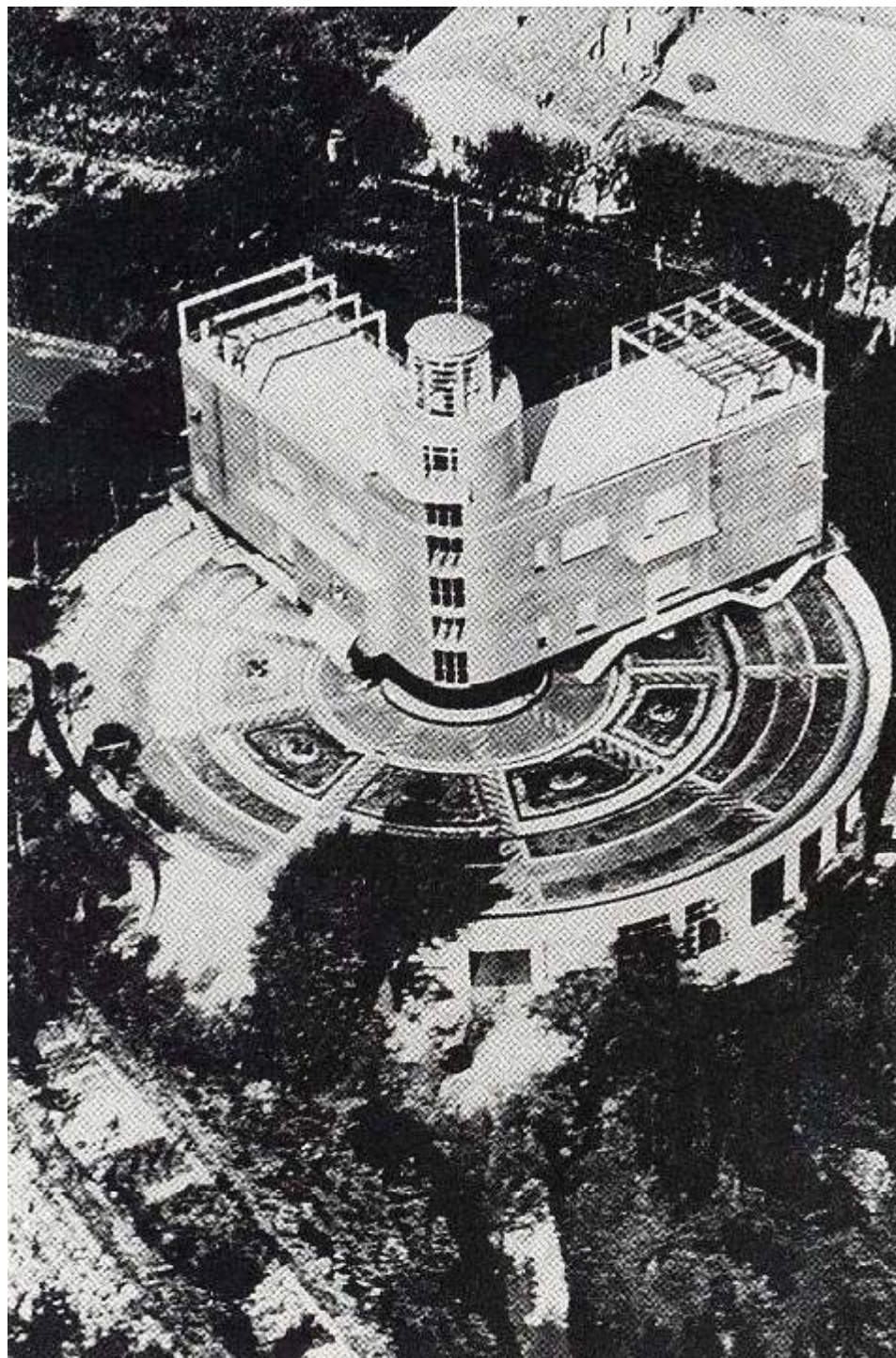
- materijali:

- AB skeletna konstrukcija
- "eraklit" u vanjskom zidu
- aluminijski lim na pročelju

- potrebno vrijeme za puni krug rotacije = 9h i 20min

- potrebna sila za okretanje = 3 konjske snage

- sistem dovoda vode kao i sistem otpadnih voda riješen je kao kod brodova



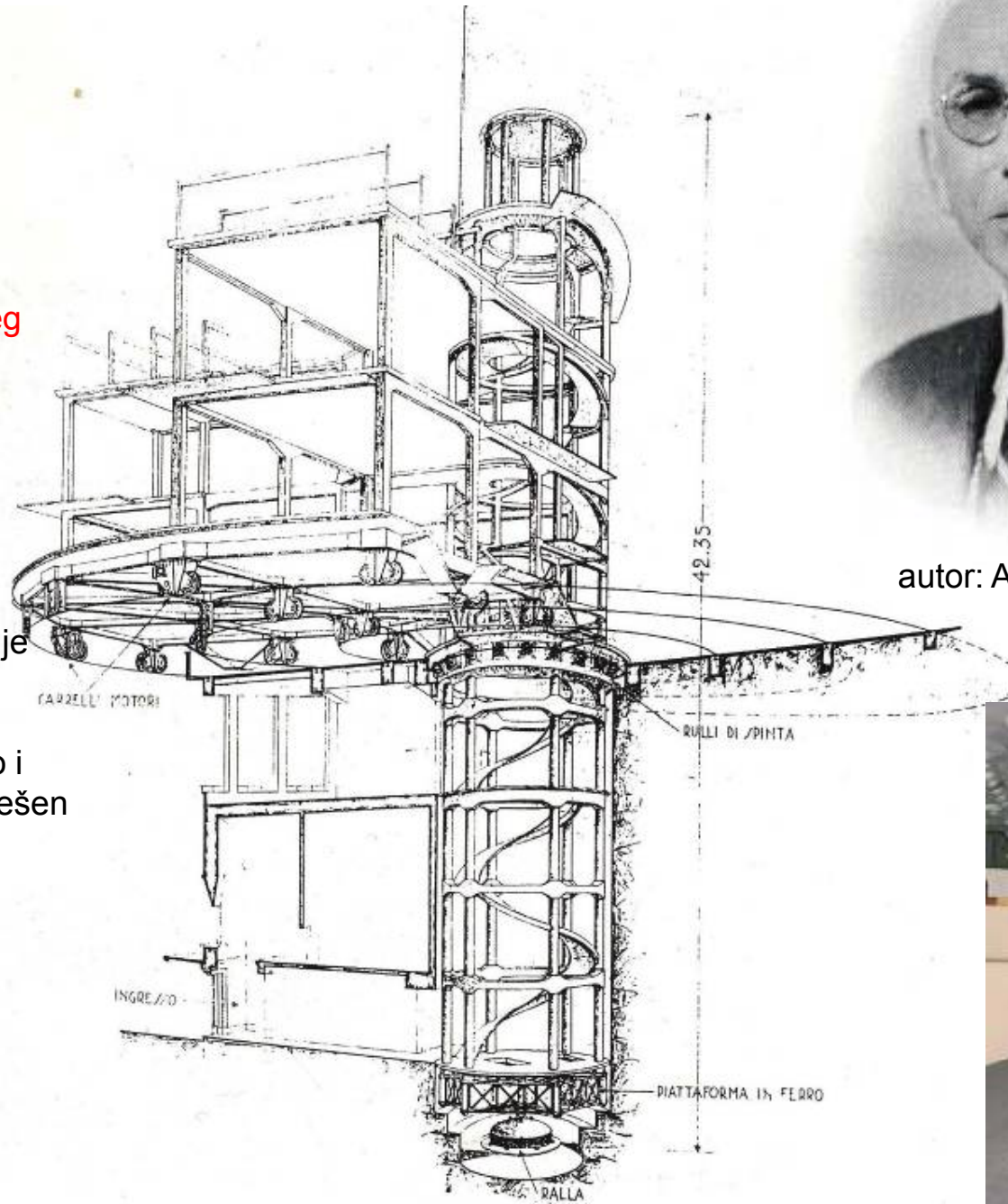
- 1929. - 1935.
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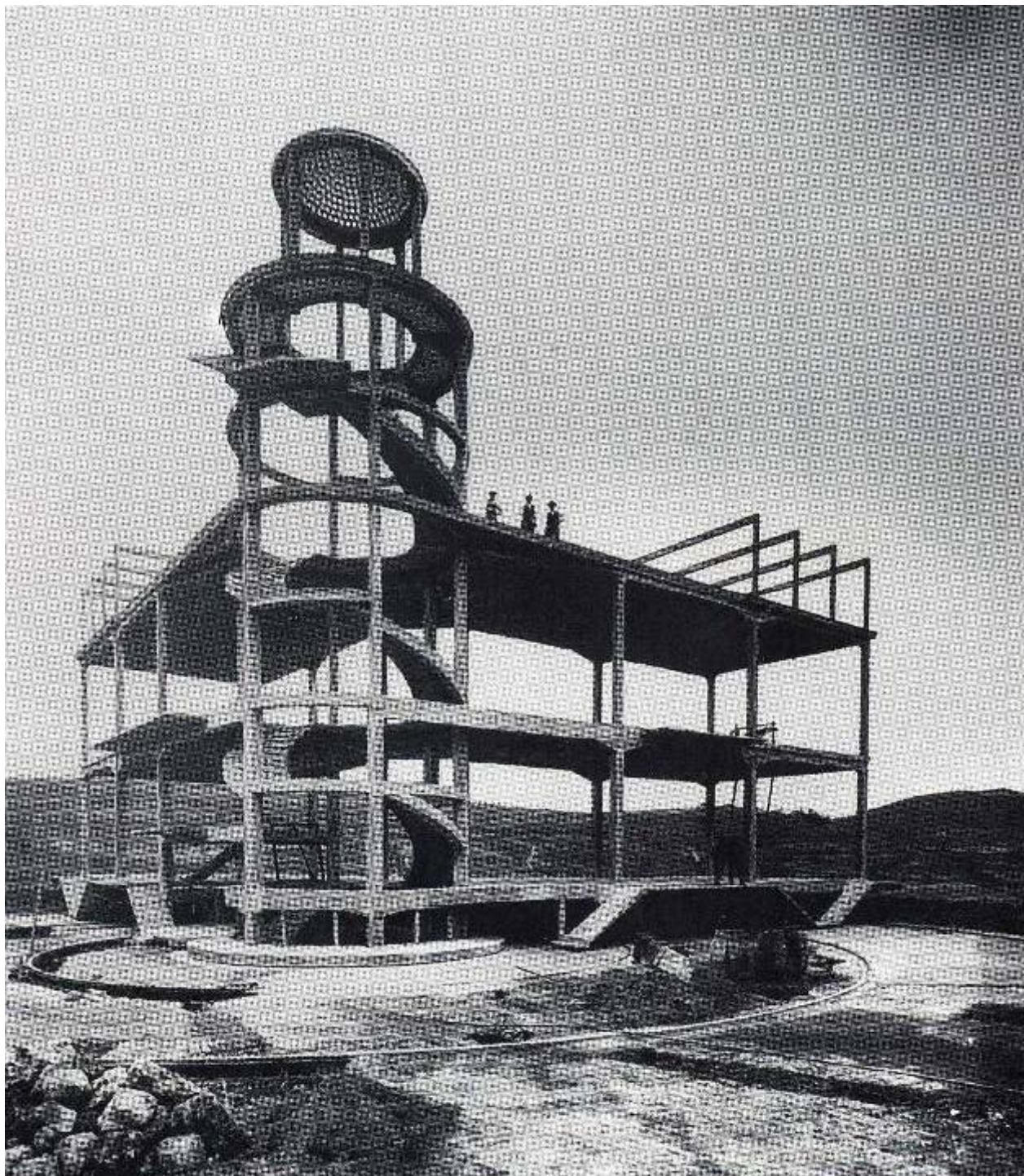
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autor: Angelo Invernizzi,

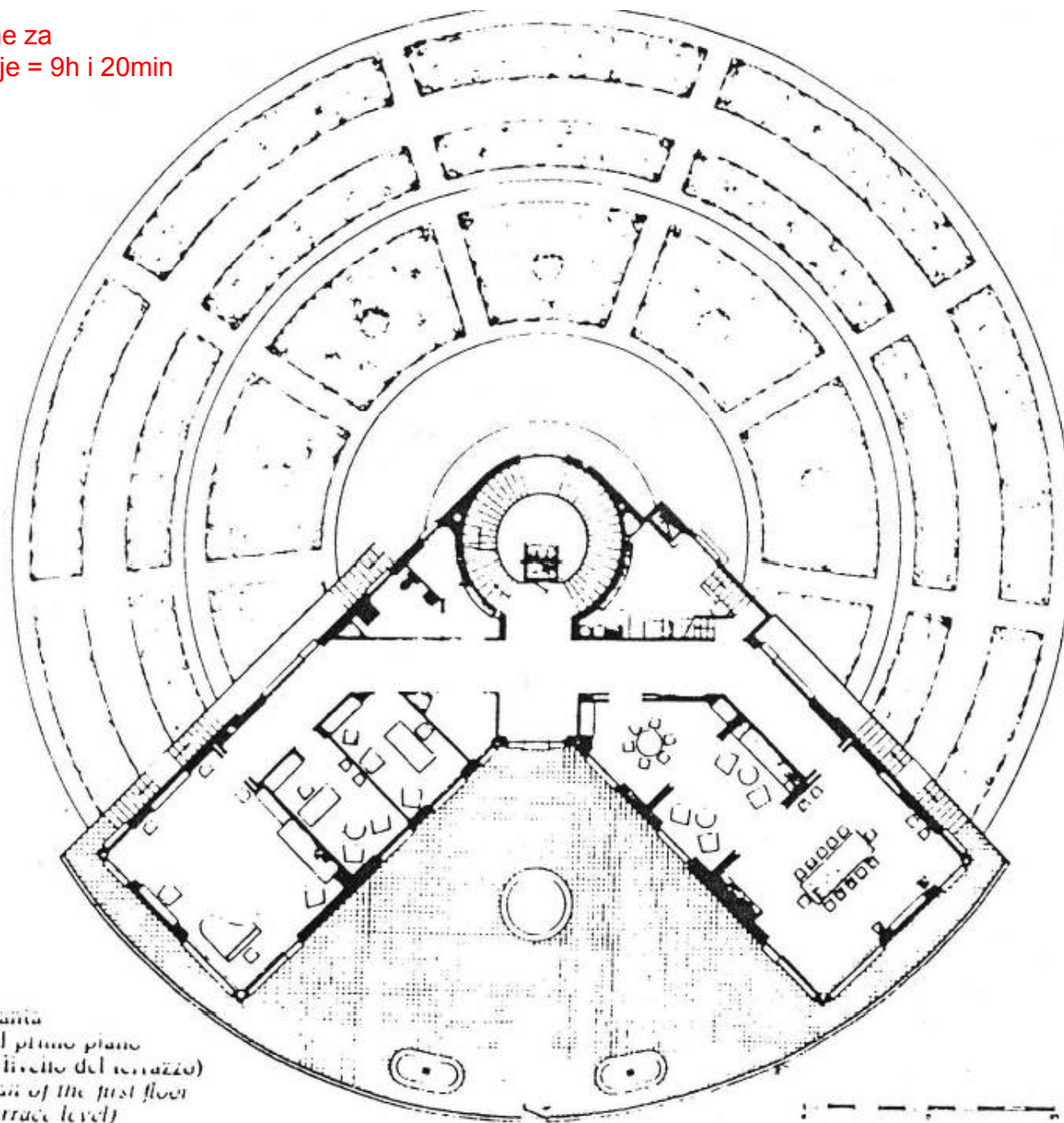


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“eraklit” u vanjskom
zidu
aluminijски lim na
pročelju

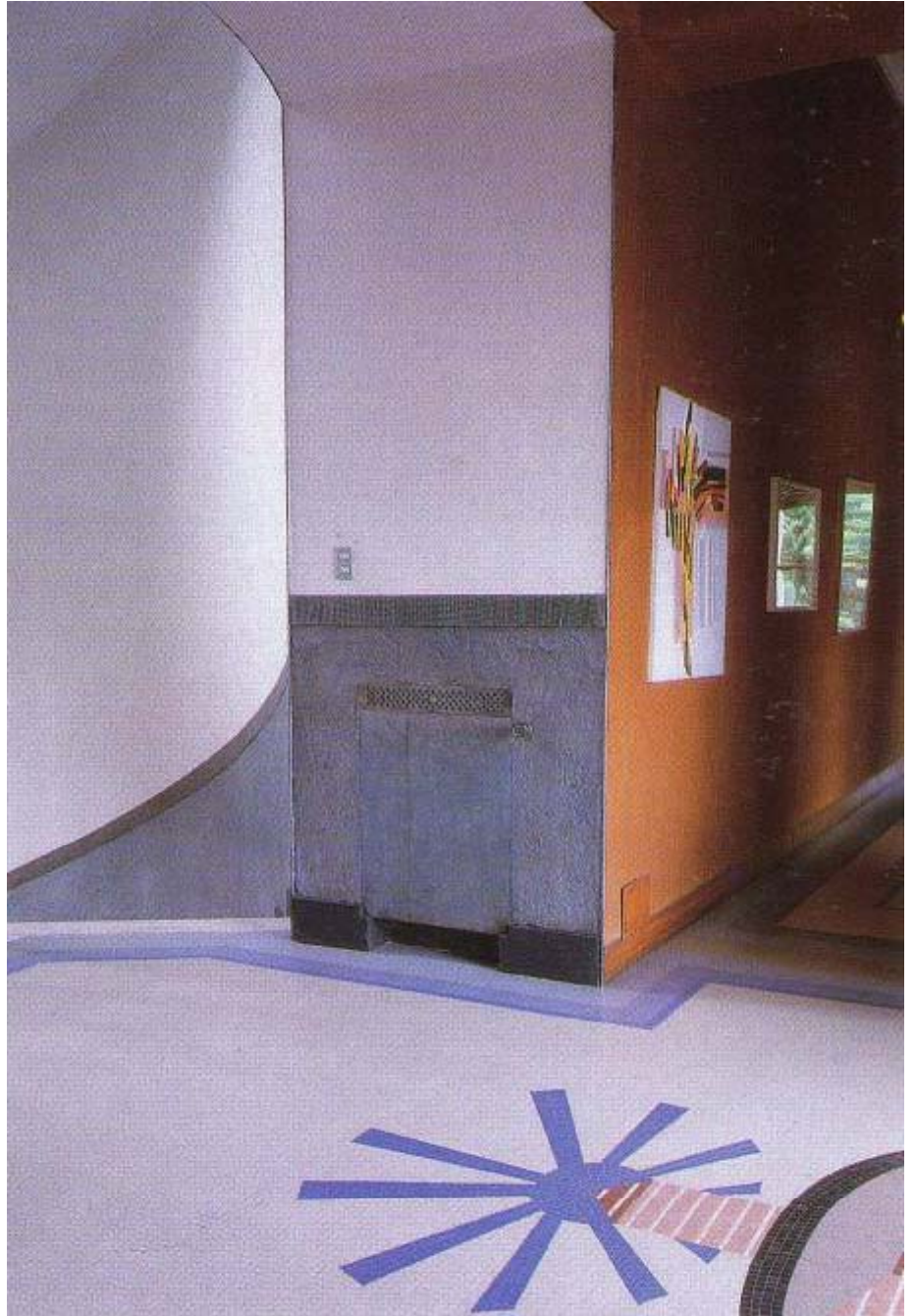


Villa Girasole

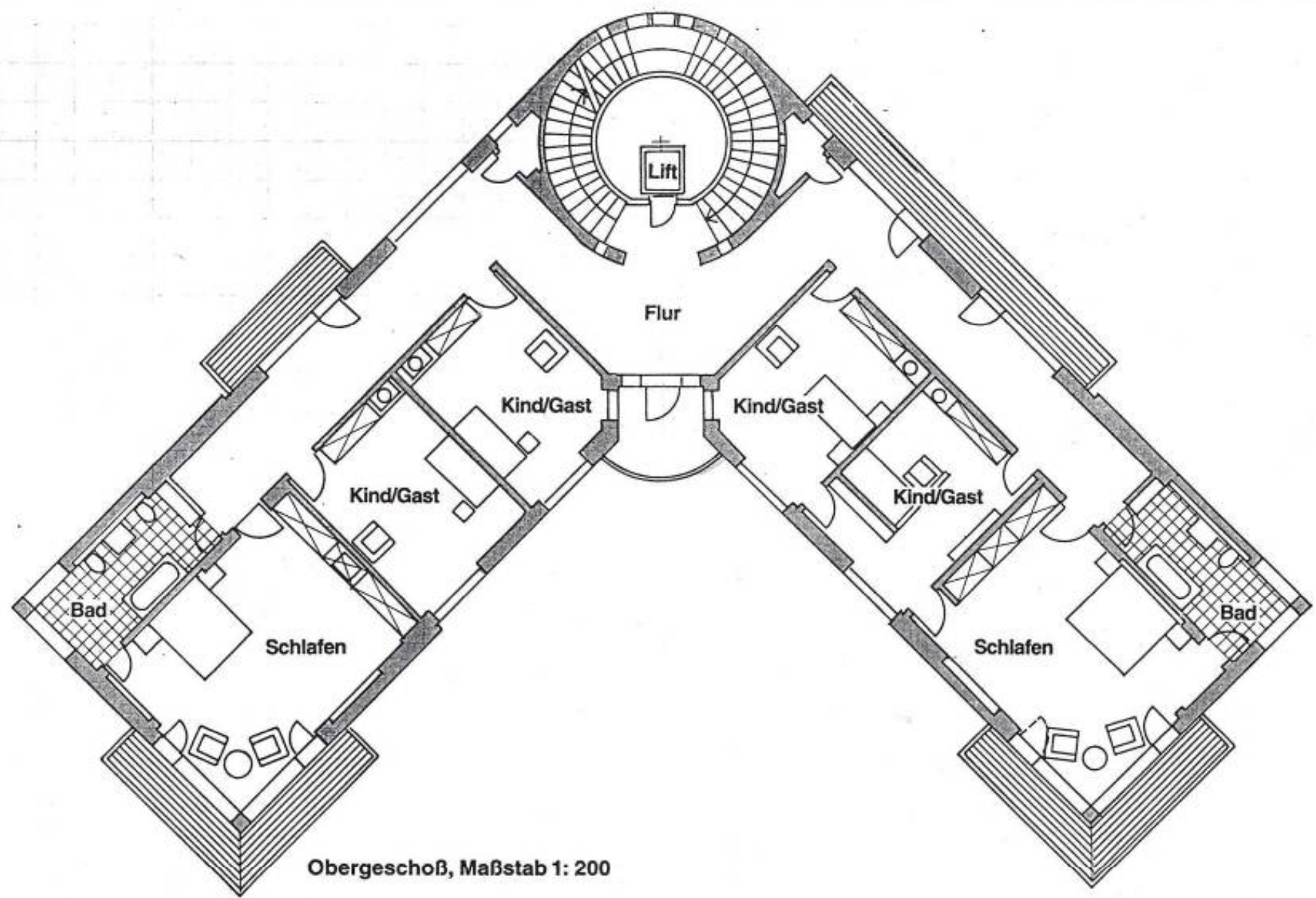
- potrebno vrijeme za
puni krug rotacije = 9h i 20min



Pianta
del primo piano
(a livello del terrazzo)
Plan of the first floor
(terrace level)



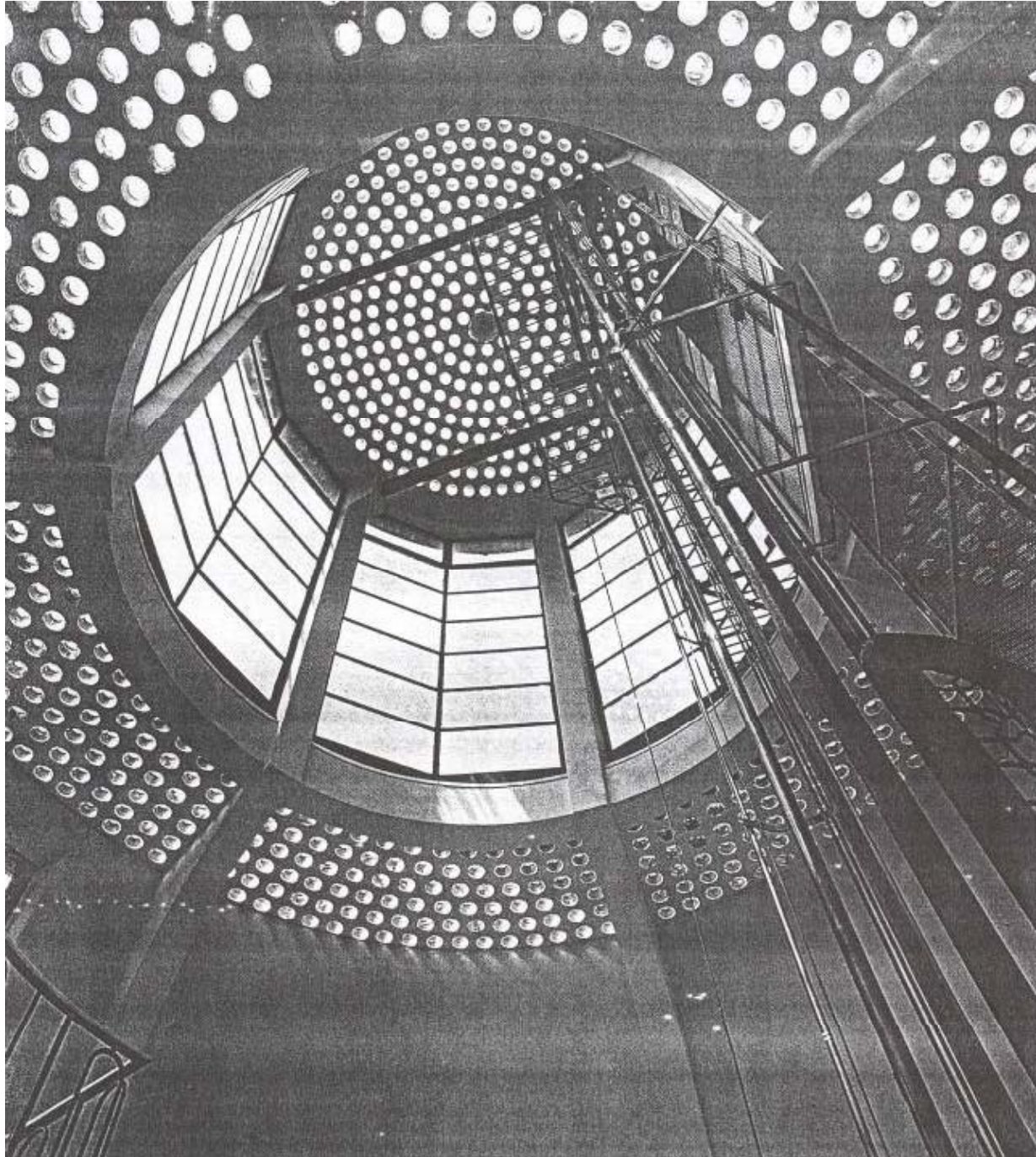
17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 1

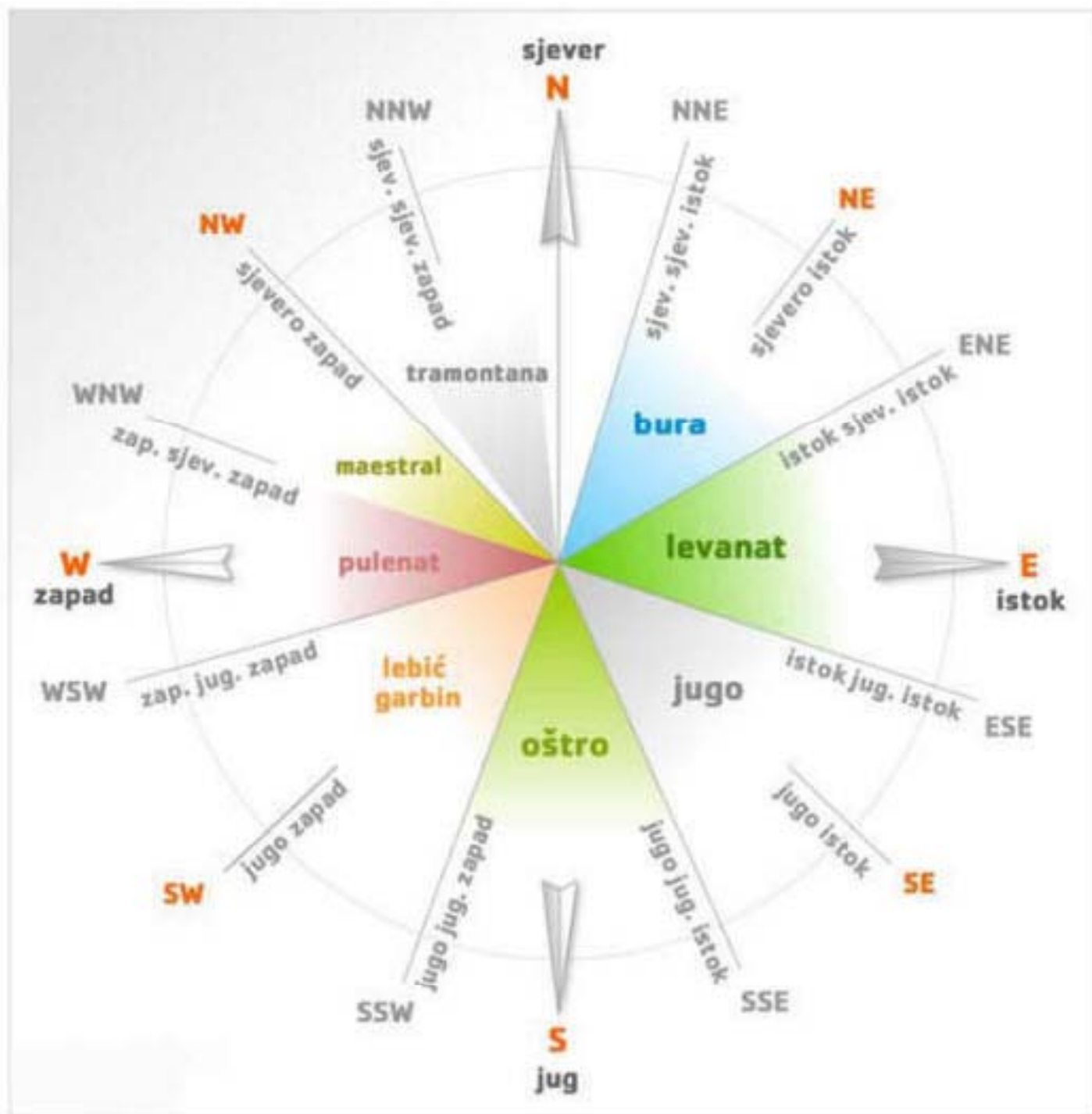


Obergeschoß, Maßstab 1: 200

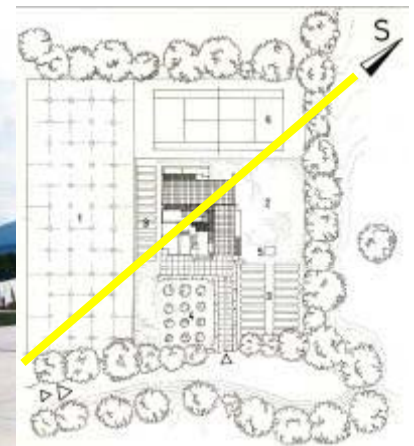
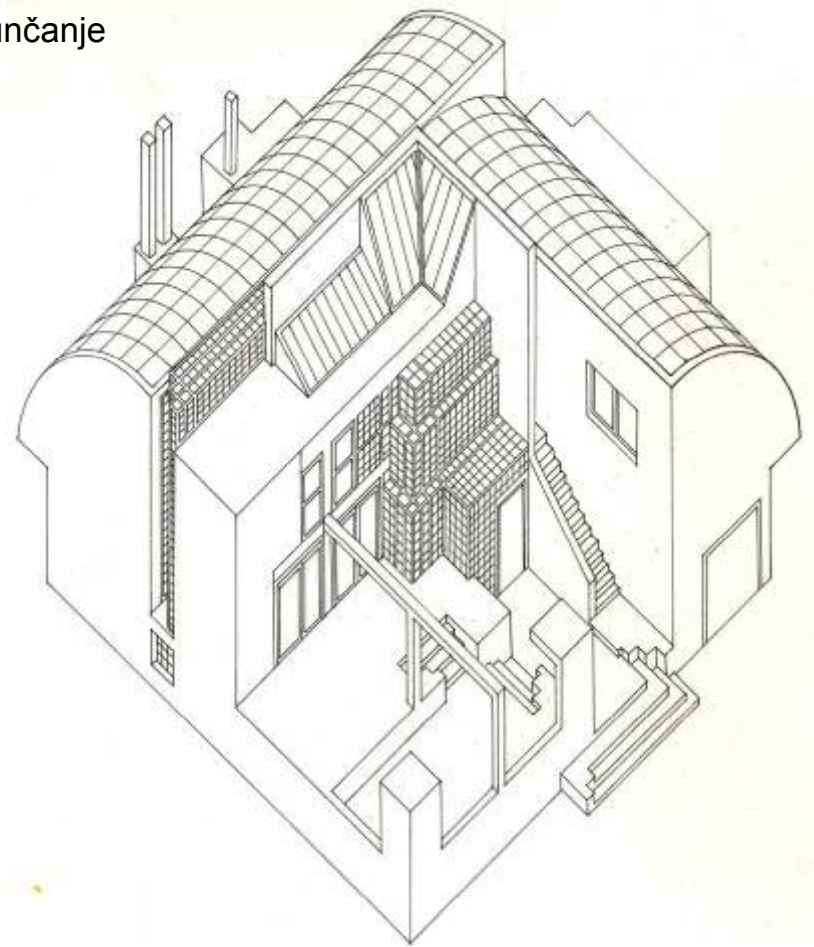
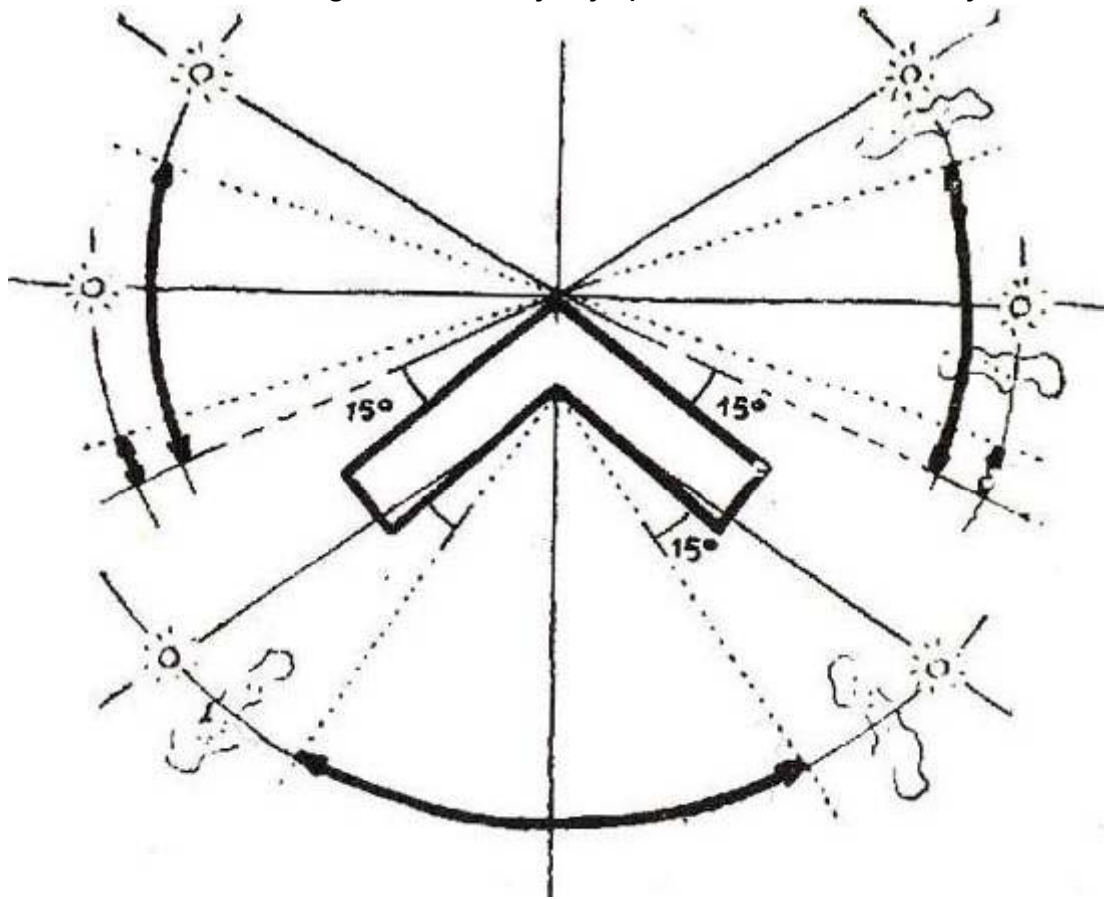


“eraklit” u vanjskom zidu
alumijski lim na pročelju

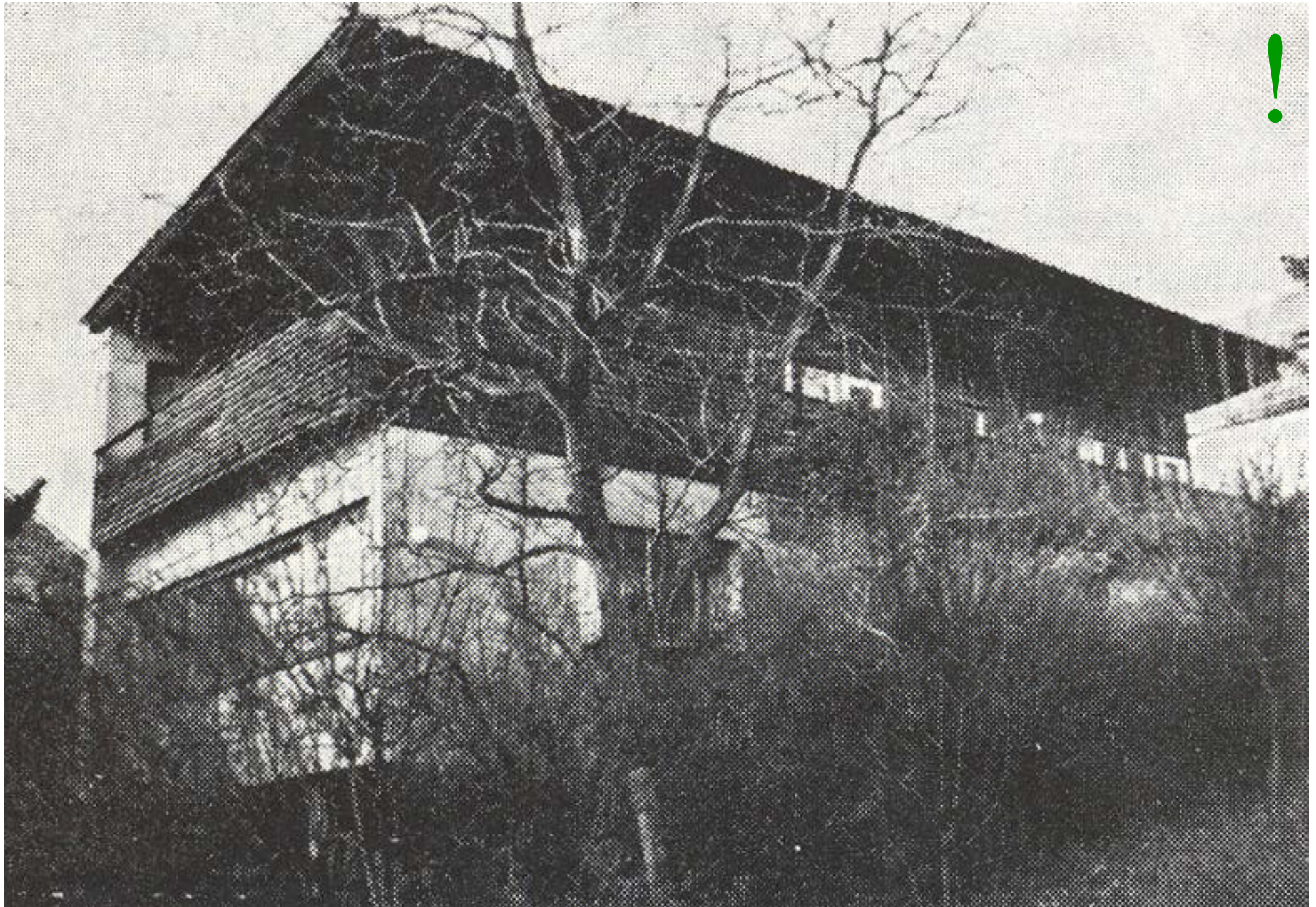




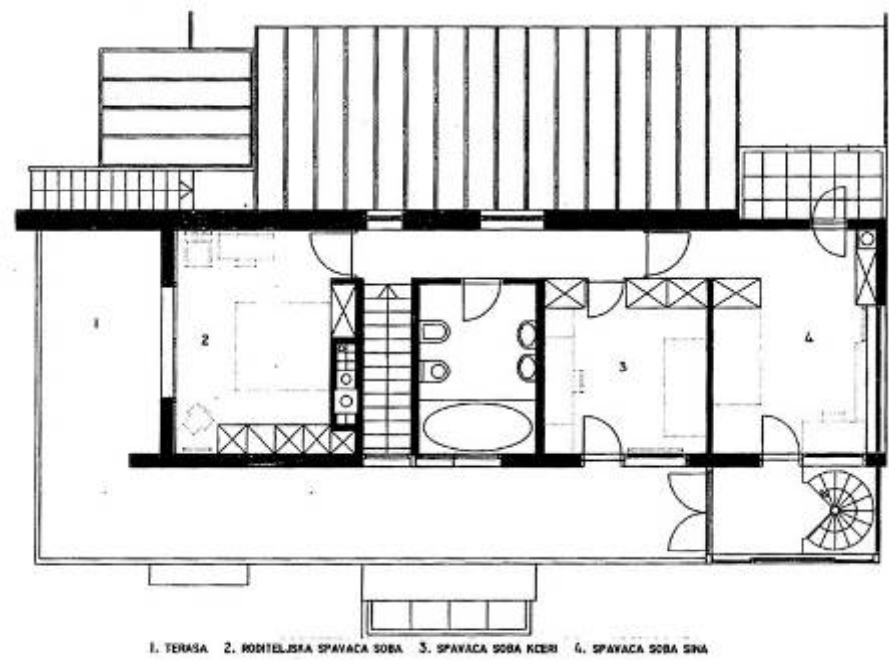
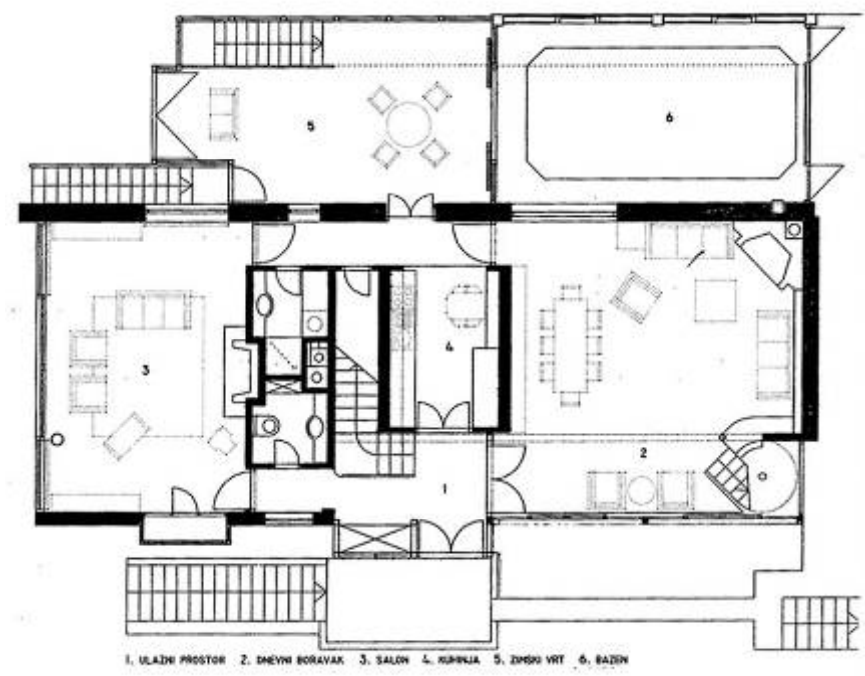
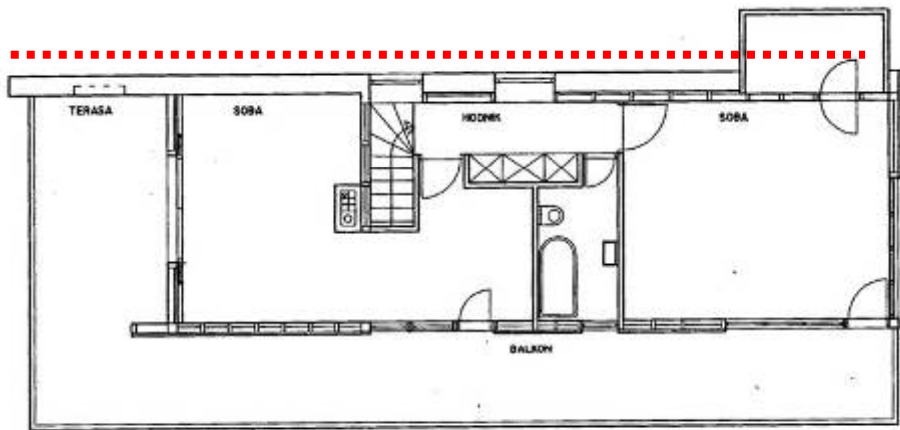
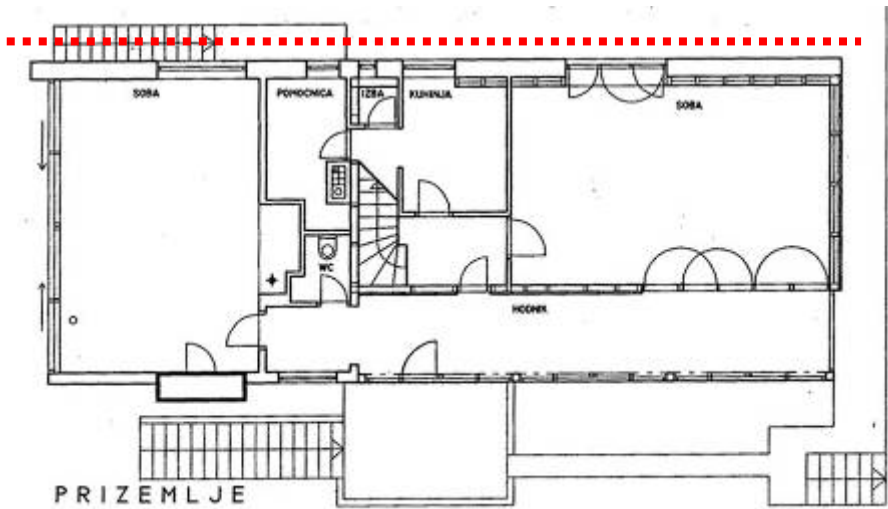
Z. Strižić: izbor L-gabarita i najbolja postava obzirom na vjetar i osunčanje



Ivan Crnković: Obiteljska kuća Dropuljić, Proložac pokraj Imotskog 1981.



Drago Galić: vlastita kuća, Istarska 28, 1932./38. + 1997.

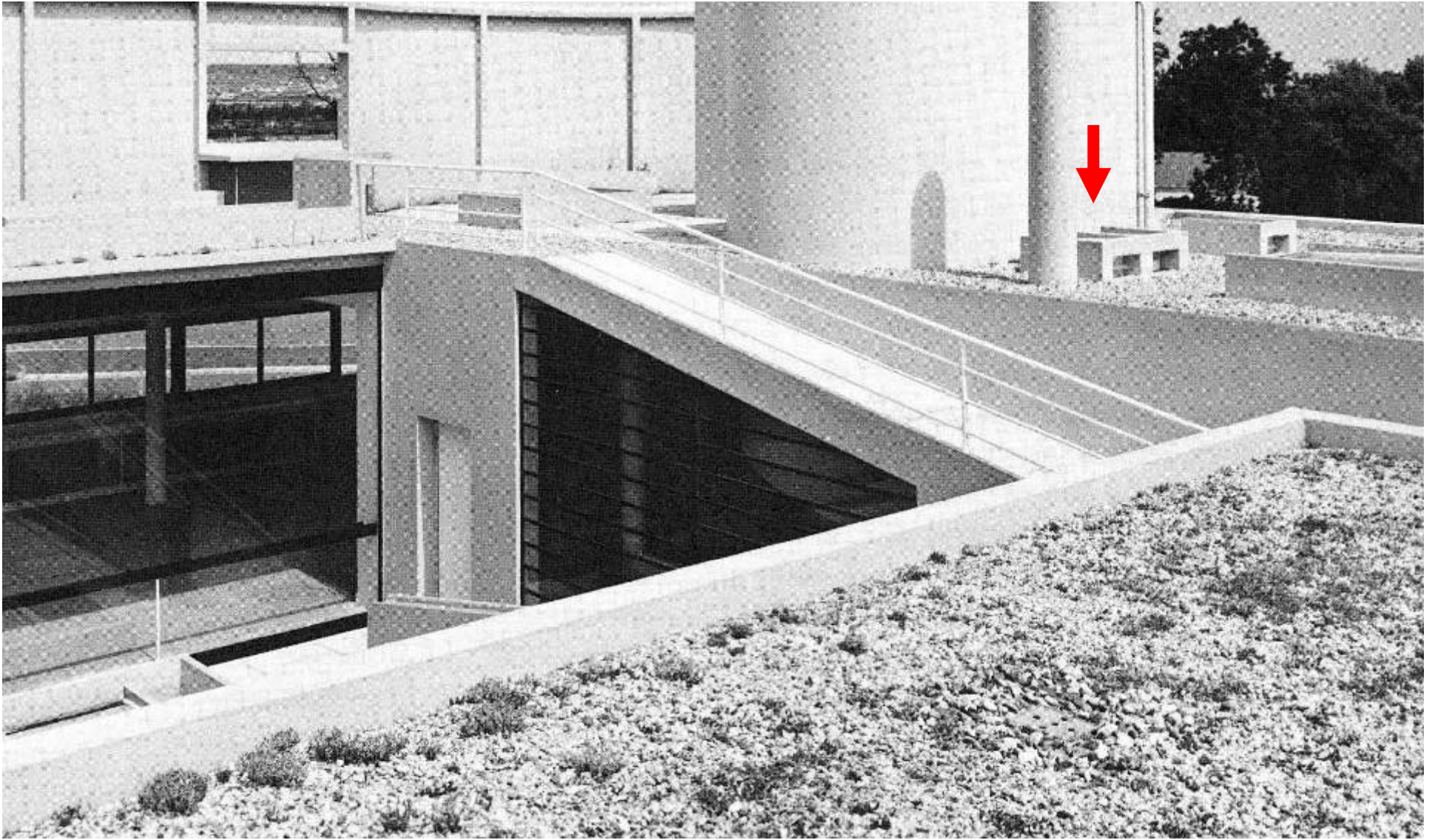


Drago Galić: vlastita kuća, Istarska 28, 1932./38. + 1997.

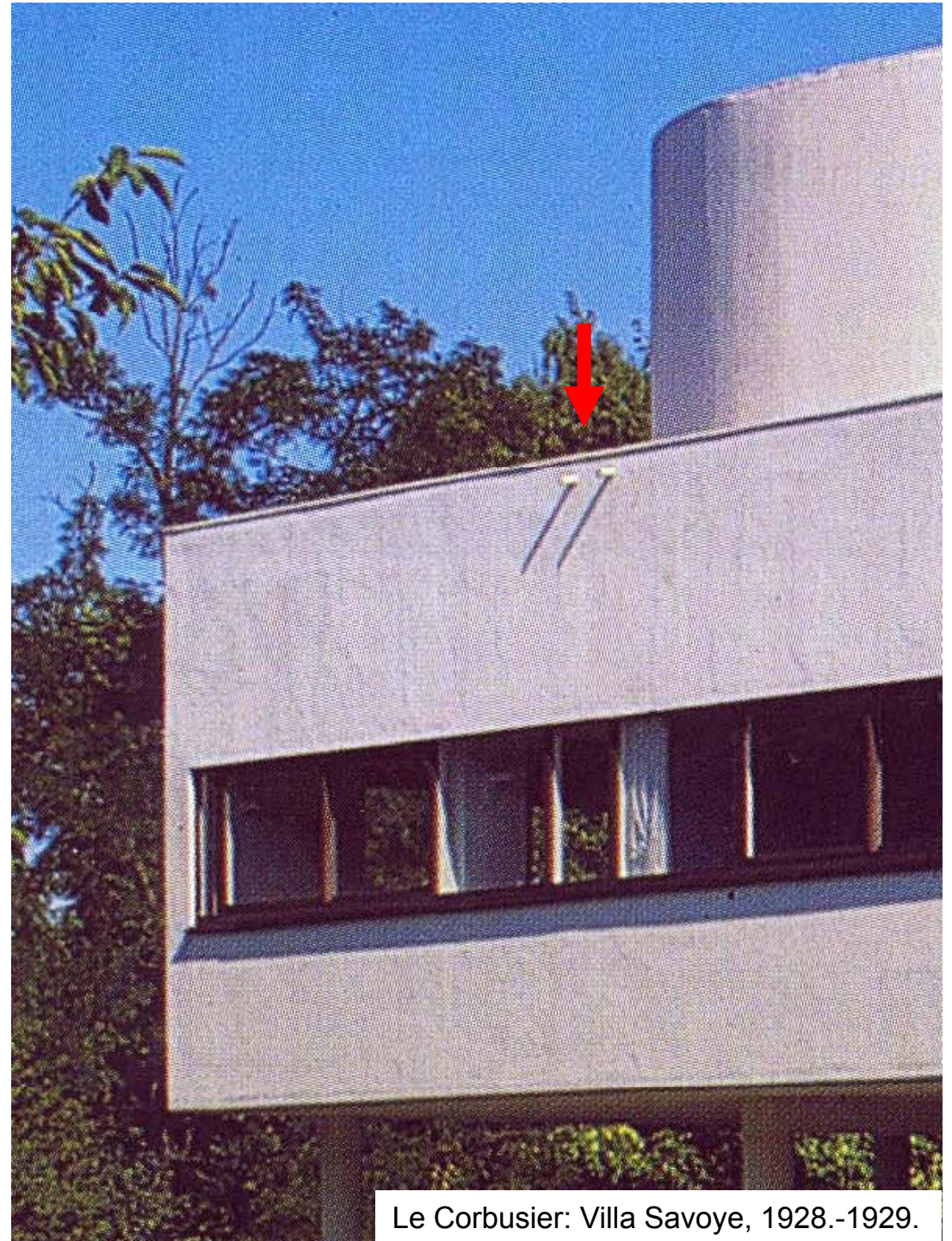
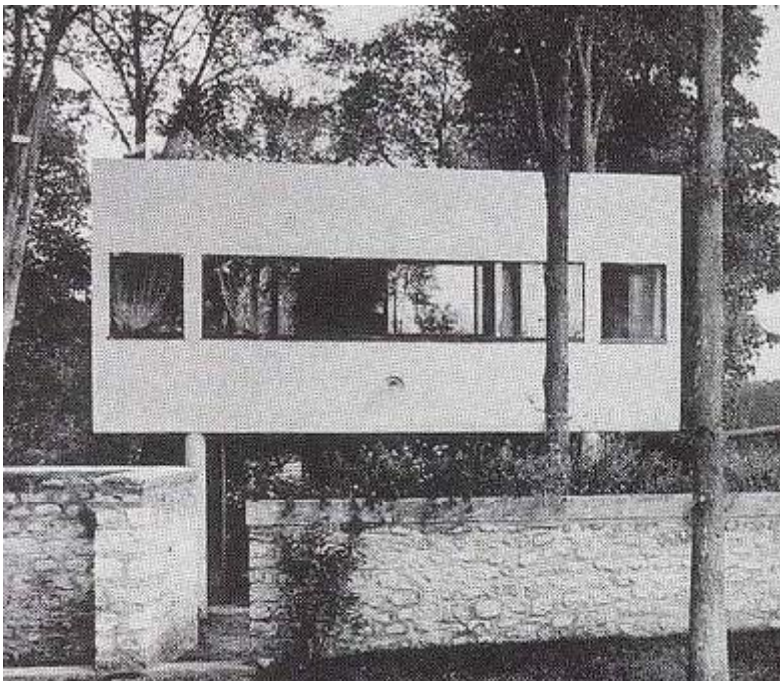
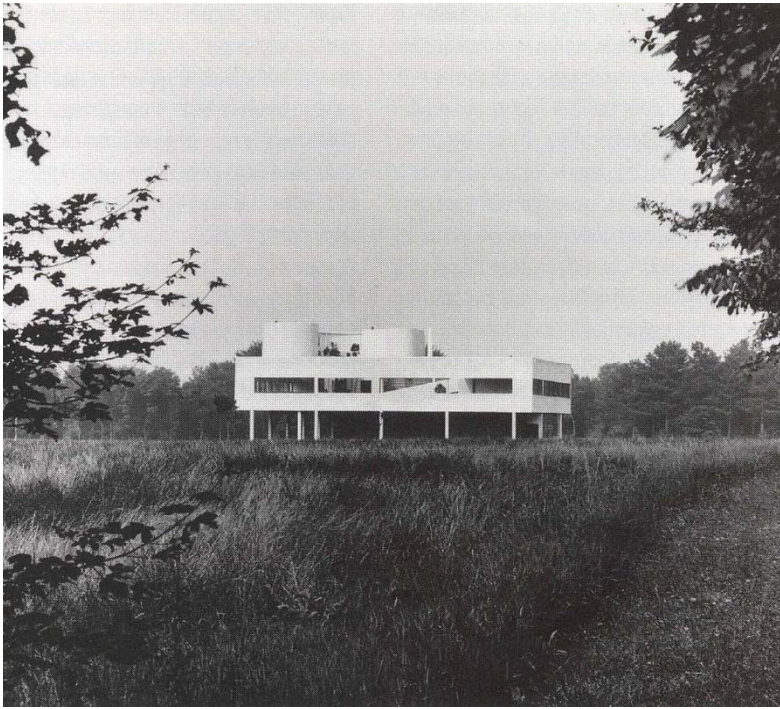




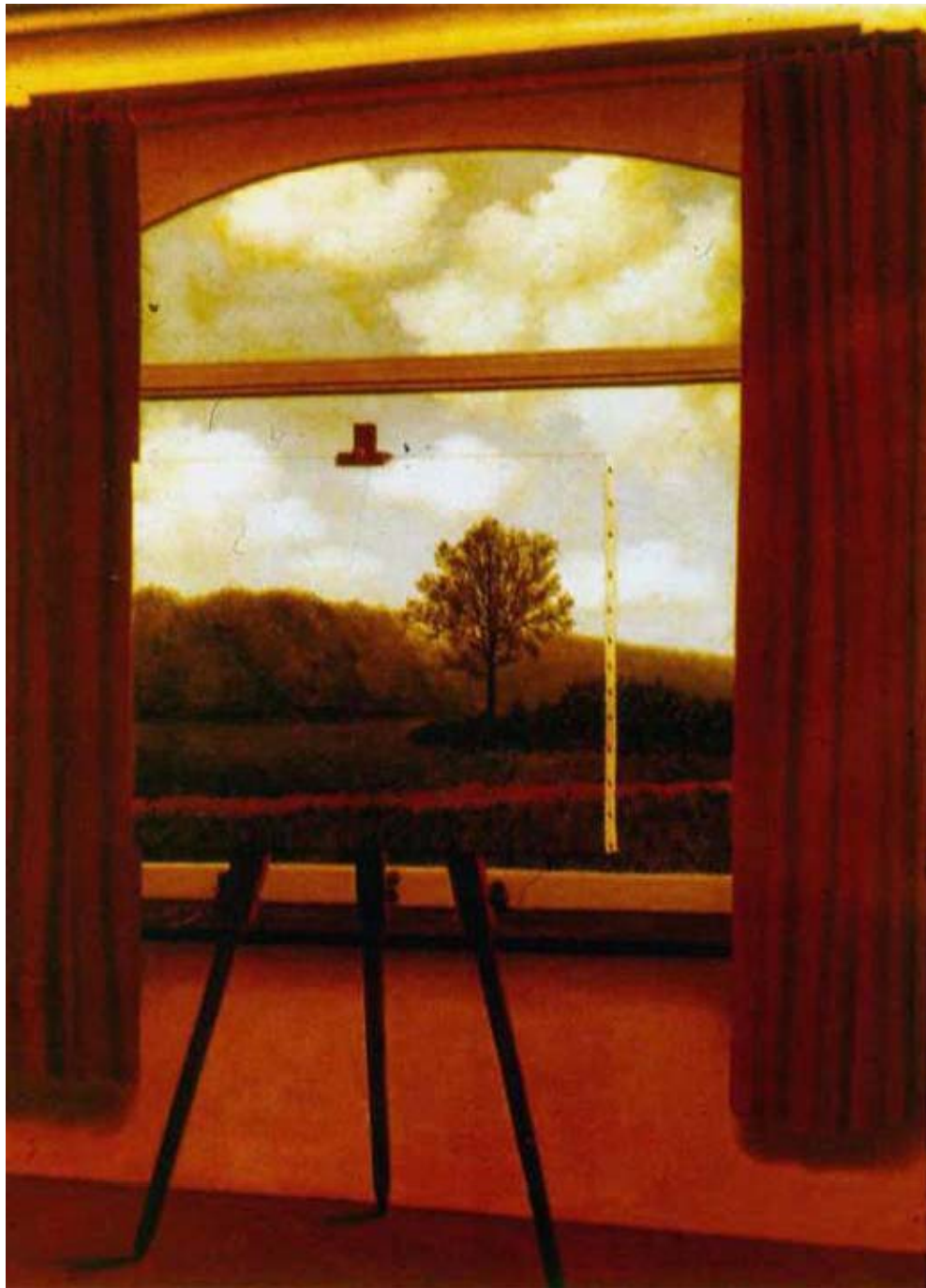
Le Corbusier: Villa Savoye, 1928.-1929.



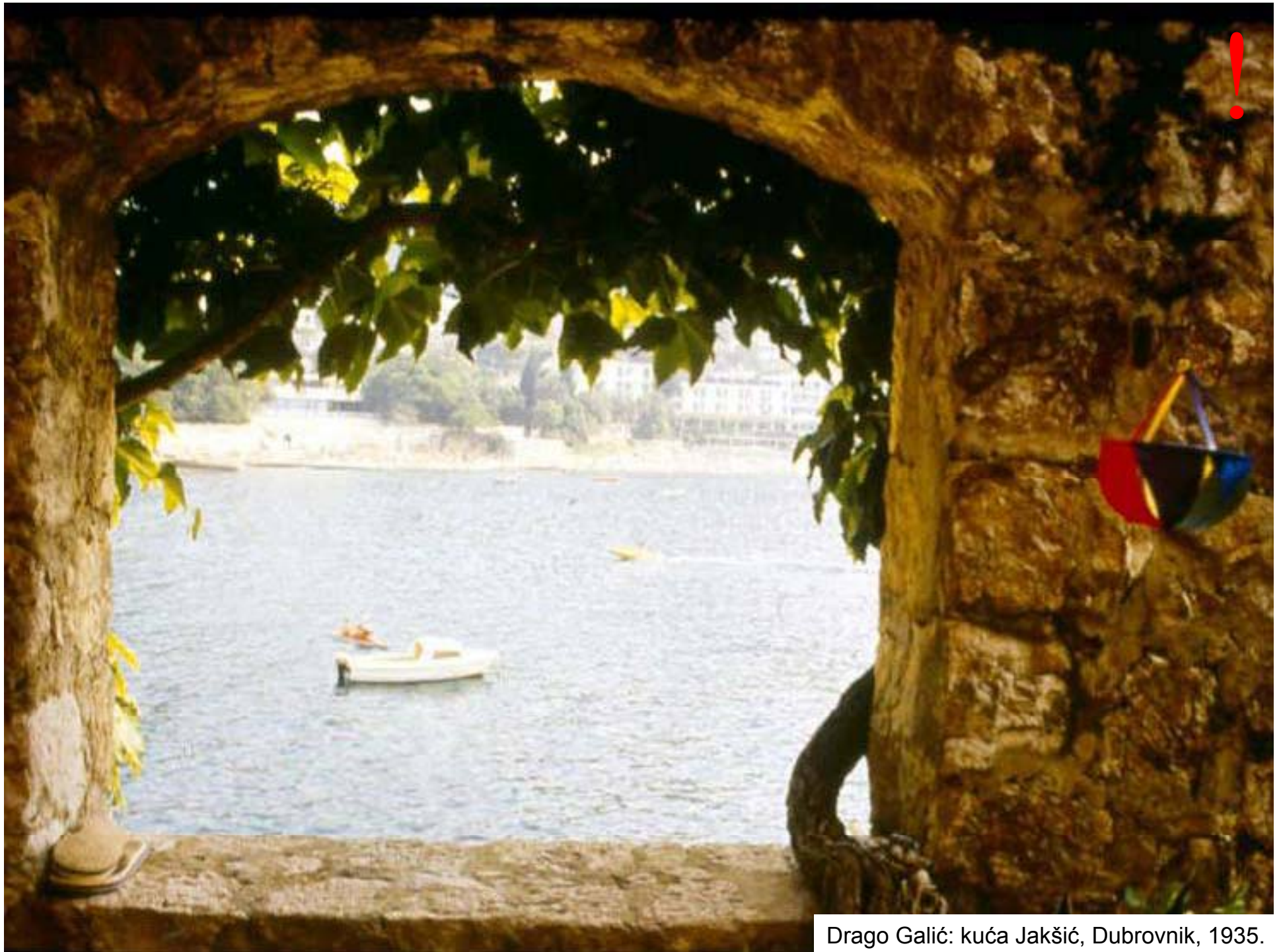
Le Corbusier: Villa Savoye, 1928.-1929.



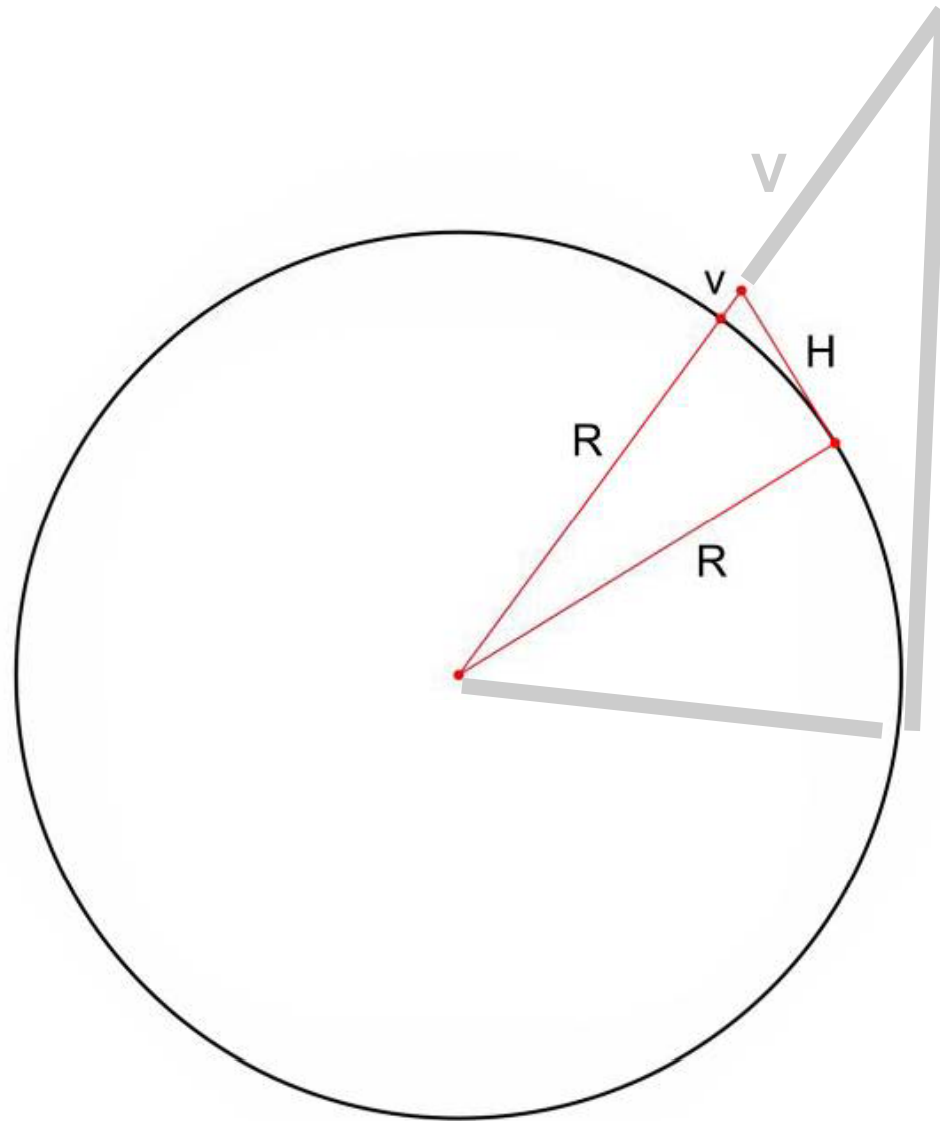
Le Corbusier: Villa Savoye, 1928.-1929.



Rene Magrite: The Human Condition 1935



Drago Galić: kuća Jakšić, Dubrovnik, 1935.



H

$$H = \sqrt{(R+V)^2 - R^2}$$

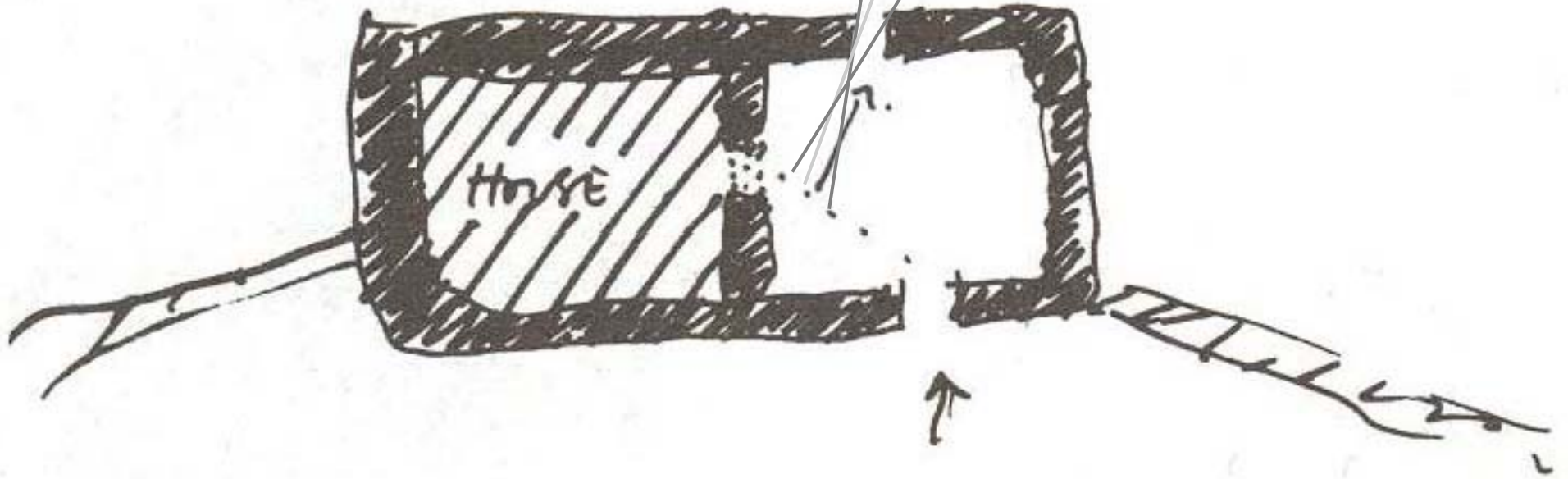
$$H = \sqrt{R^2 + 2Rv + v^2 - R^2}$$

$$H = \sqrt{2Rv + v^2}$$

R = 6378km



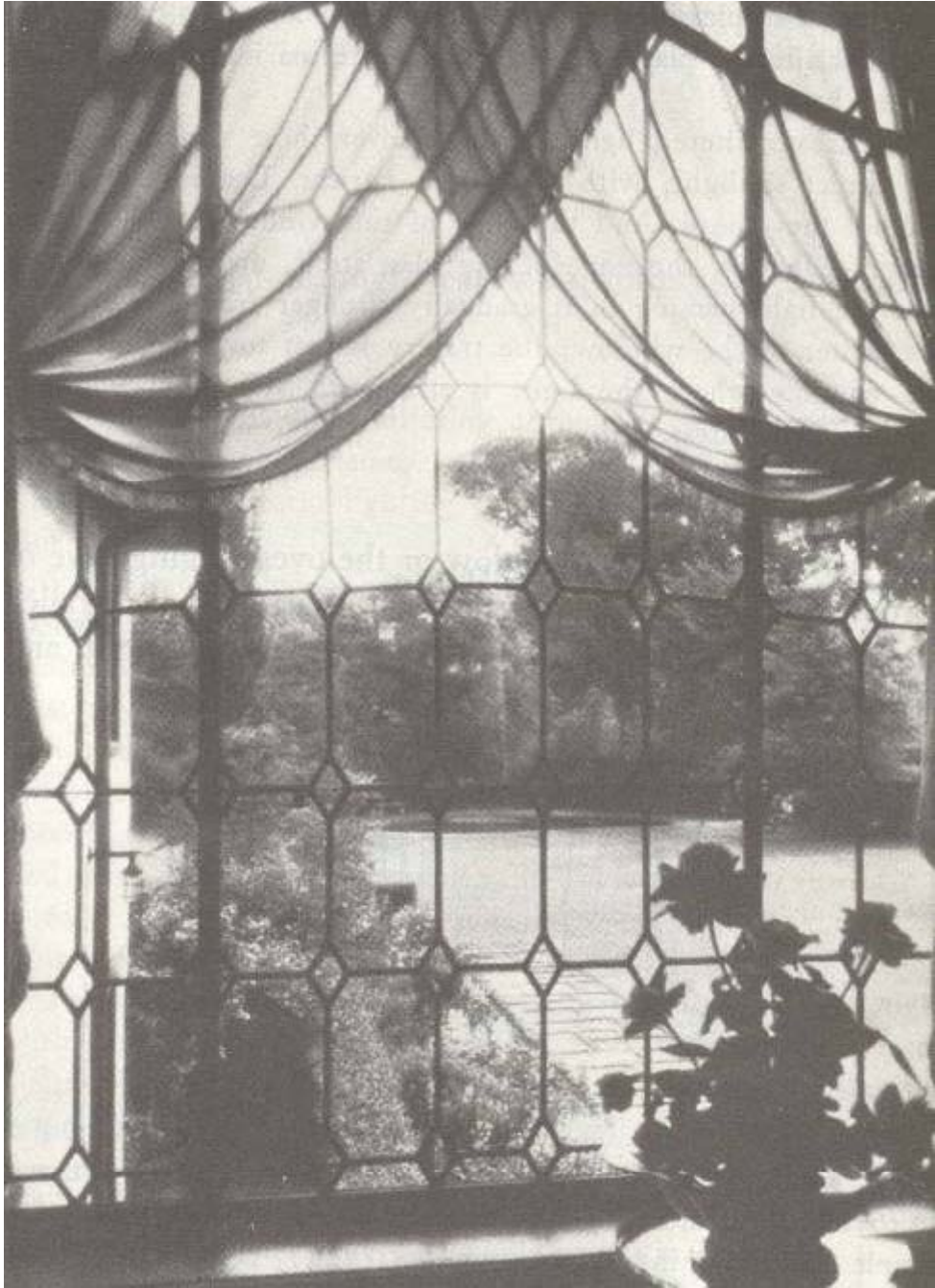
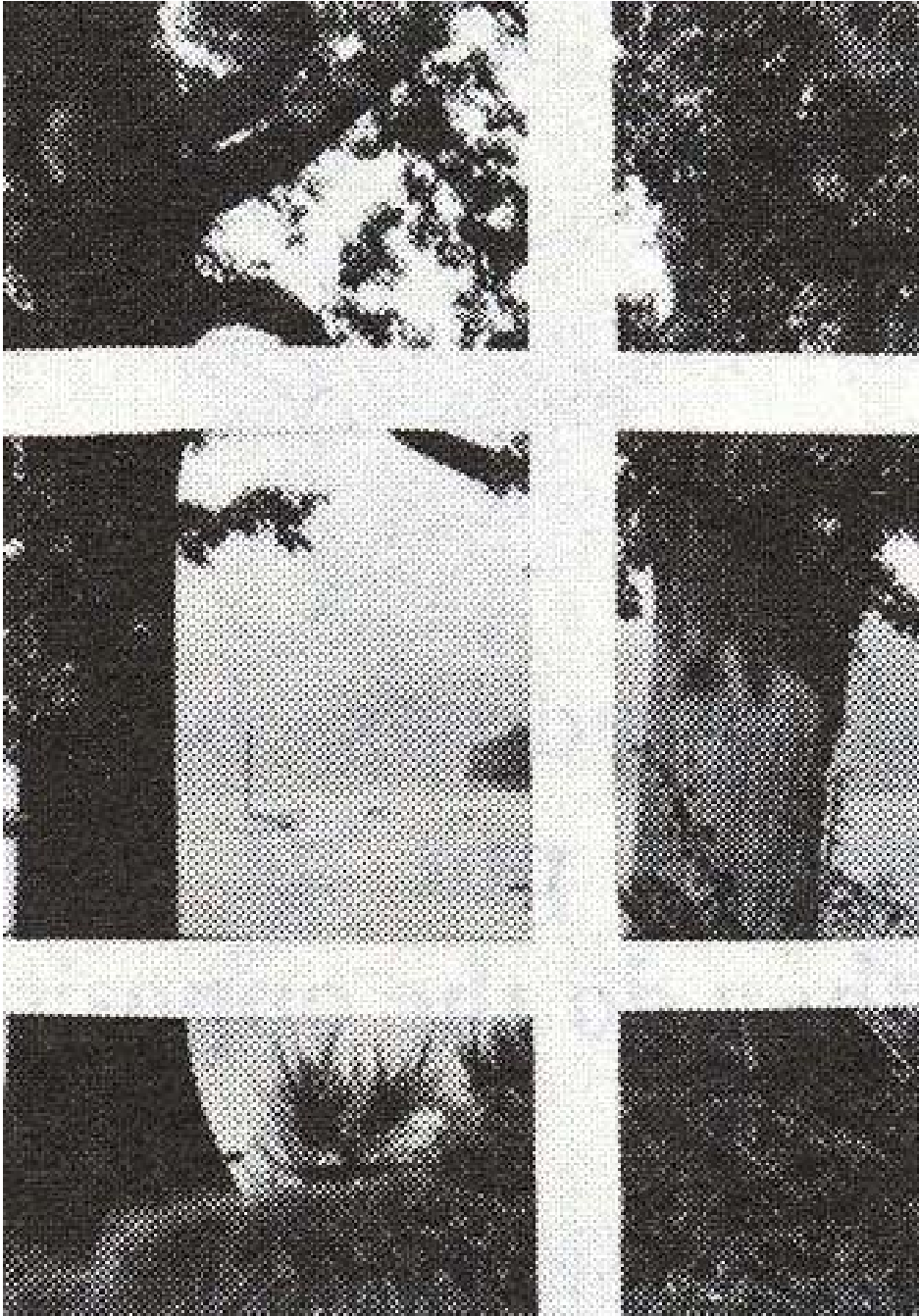
new



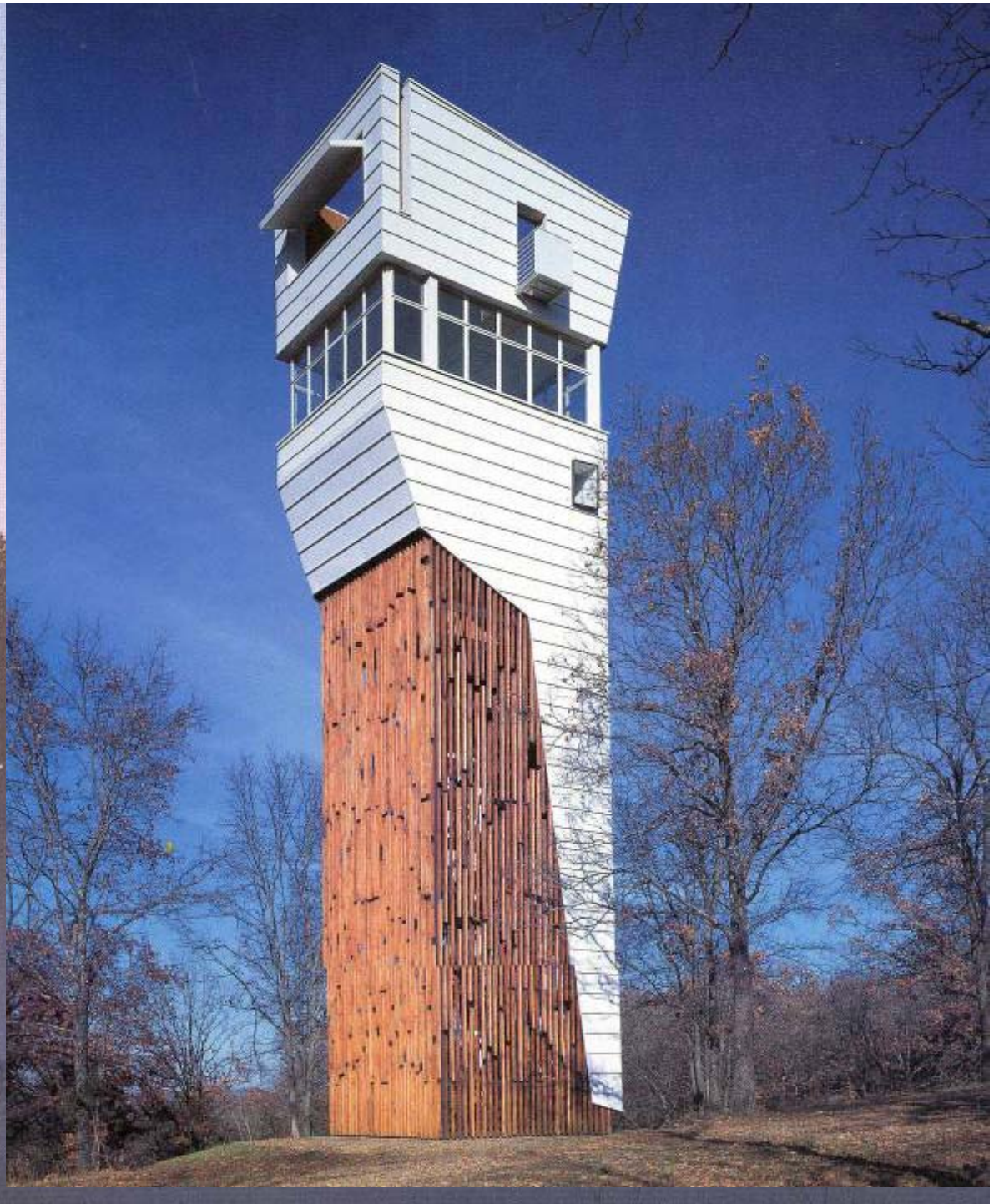
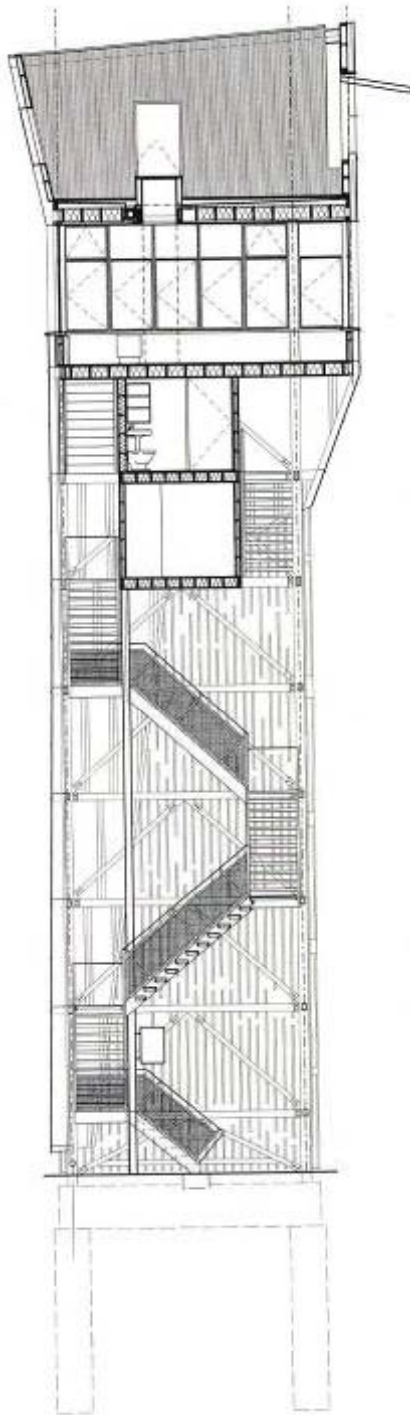
The monk's house.



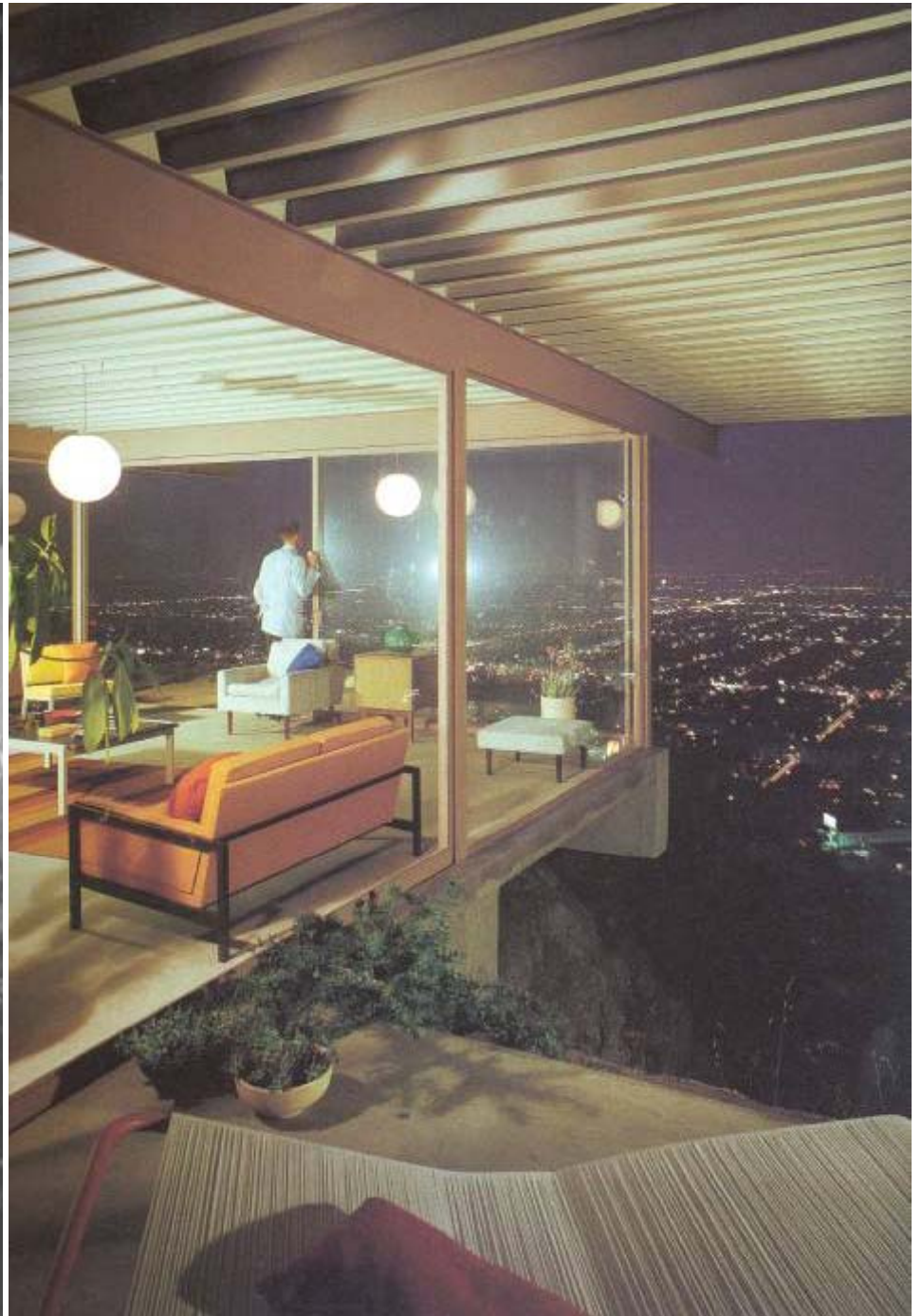
Project: Resor house, Jackson Hole, Wyoming. 1938. View from interior











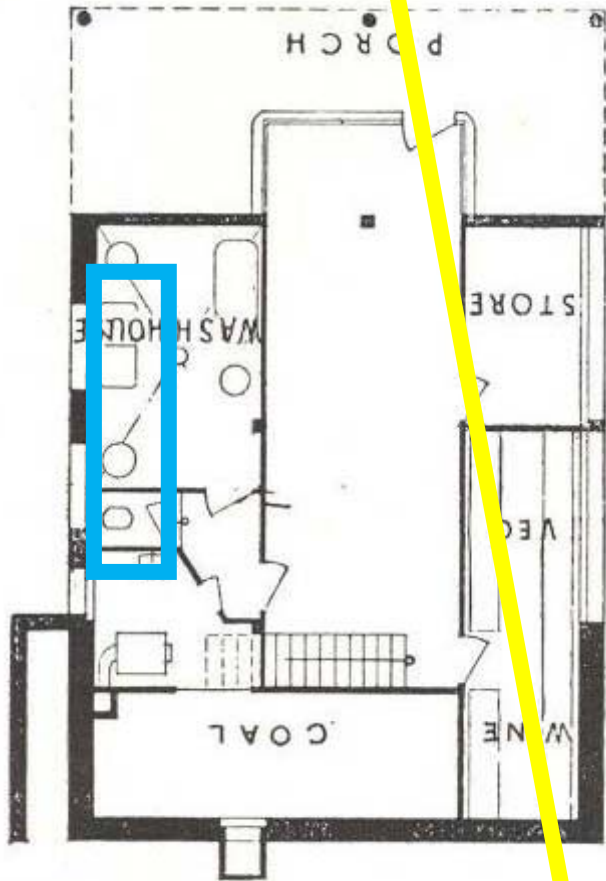
P. Koenig: Case Study House #22, Hollywood, 1960.

Otto Senn: Villa Binningen, CH, 1936.

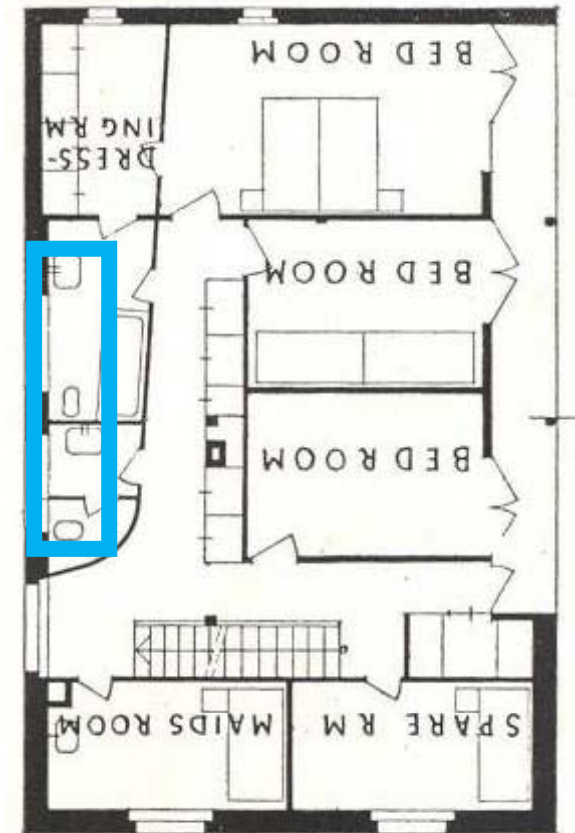
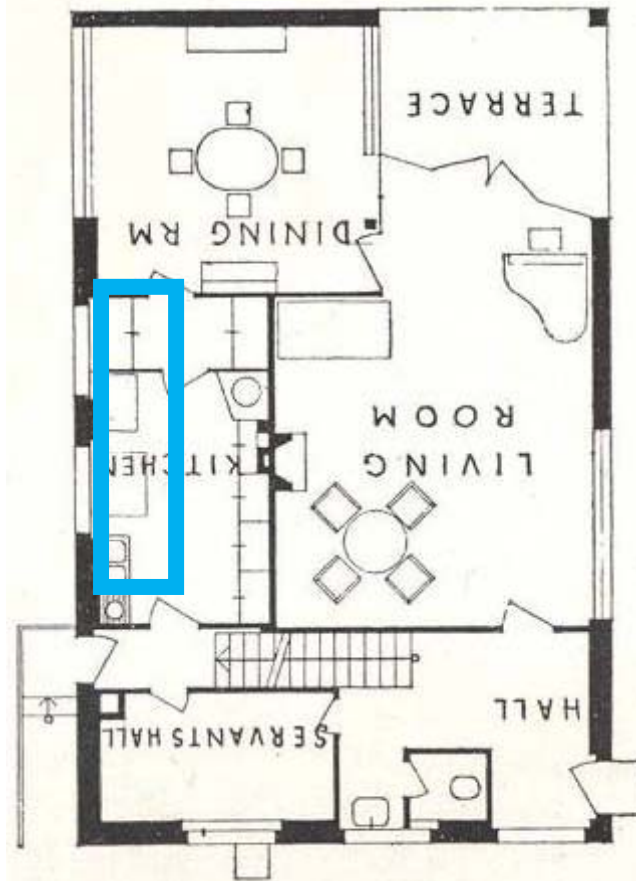




LOWER GROUND FLOOR



UPPER GROUND FLOOR



Otto Senn: Villa Binningen, CH, 1936.

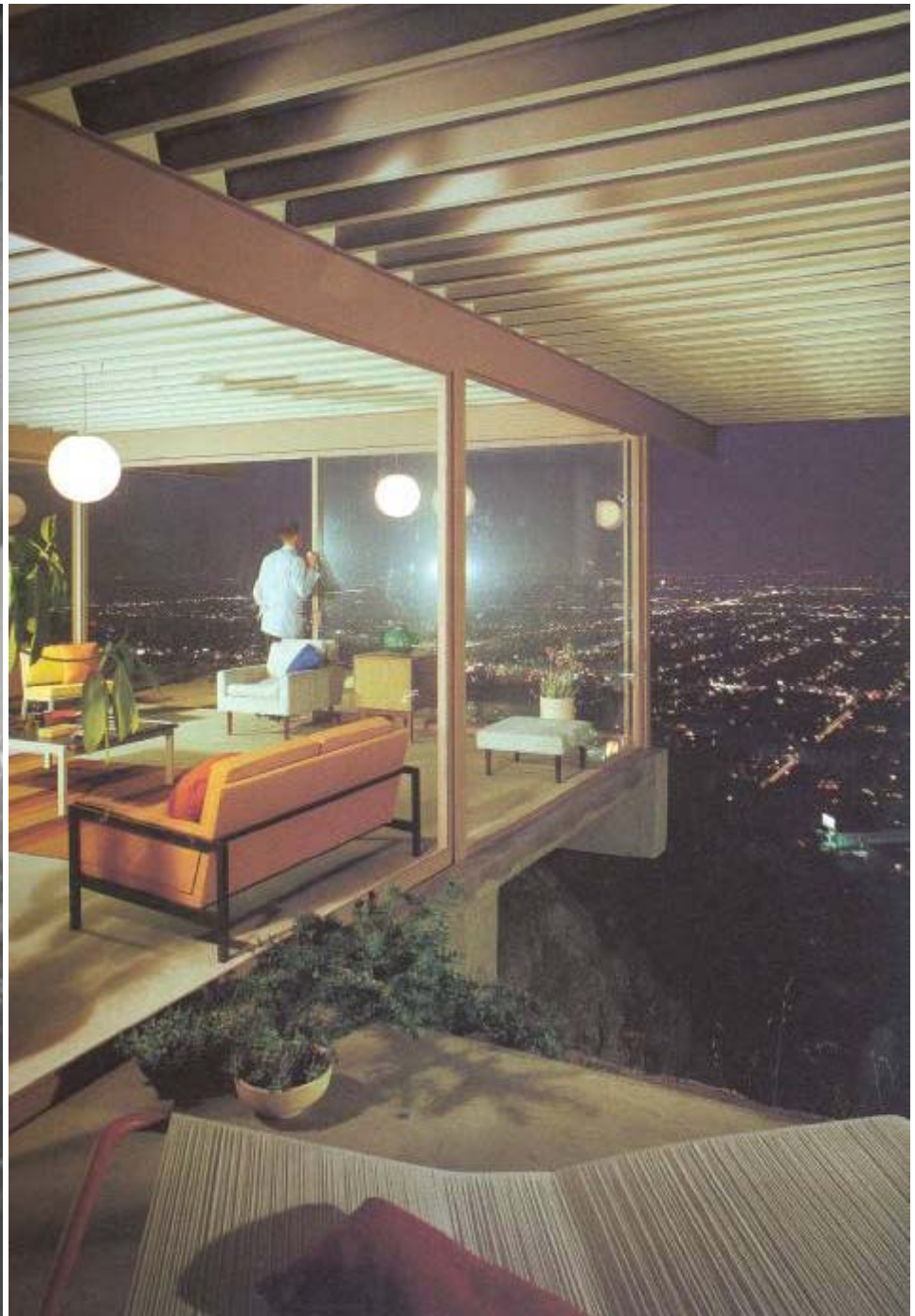
CSH-Case Study House

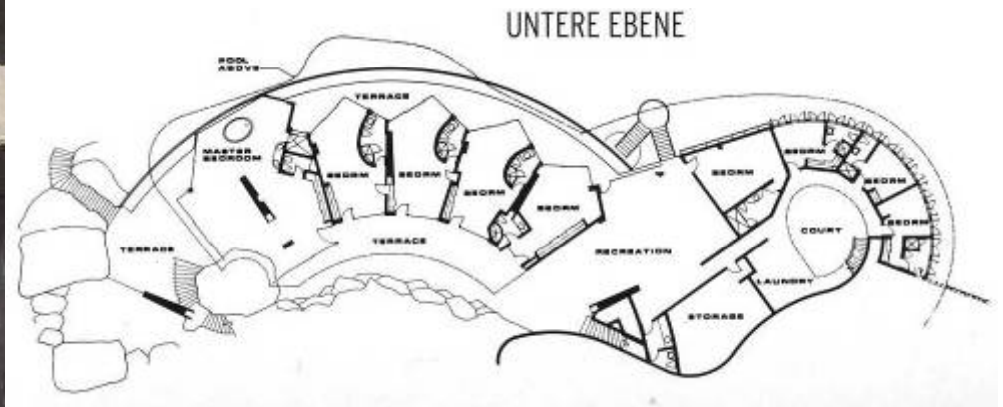
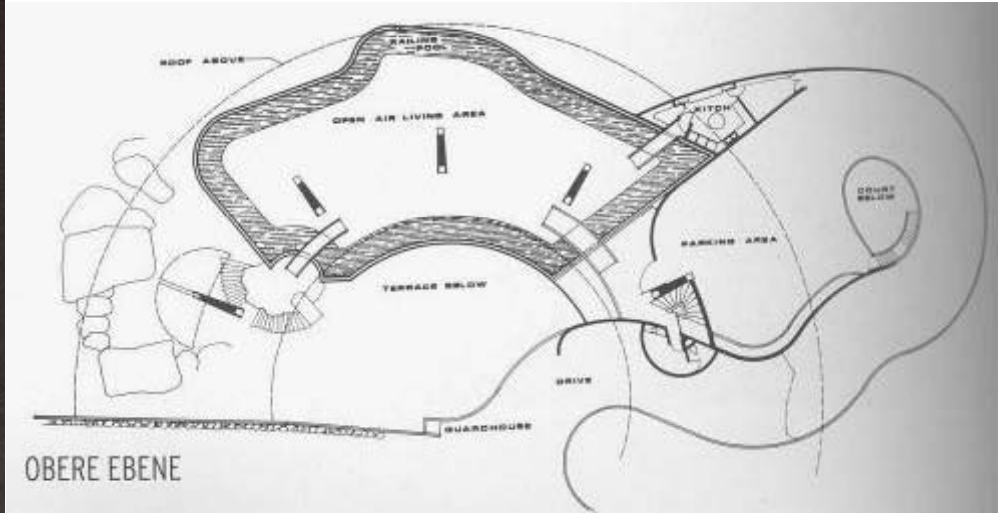
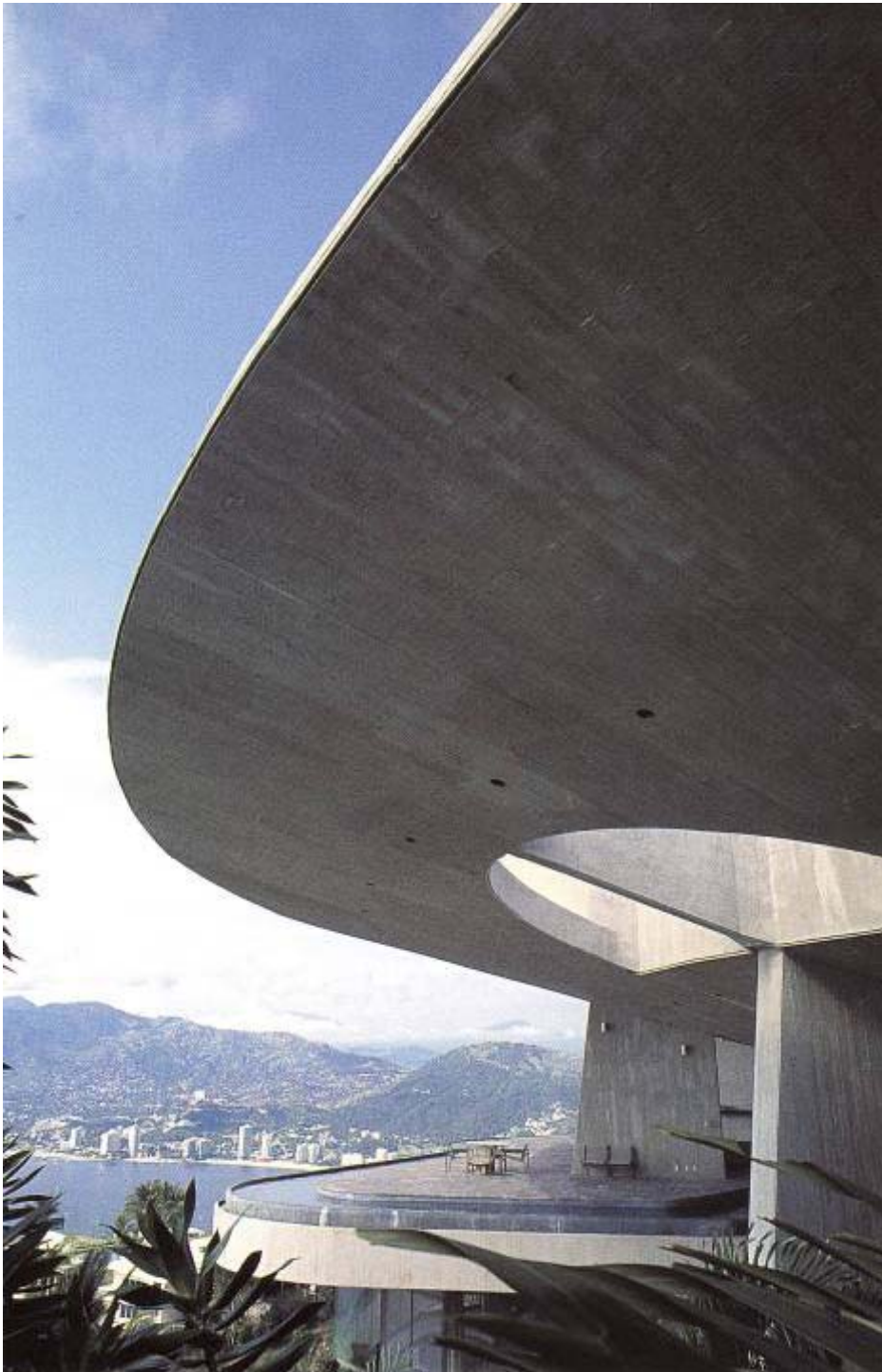


Hollywood

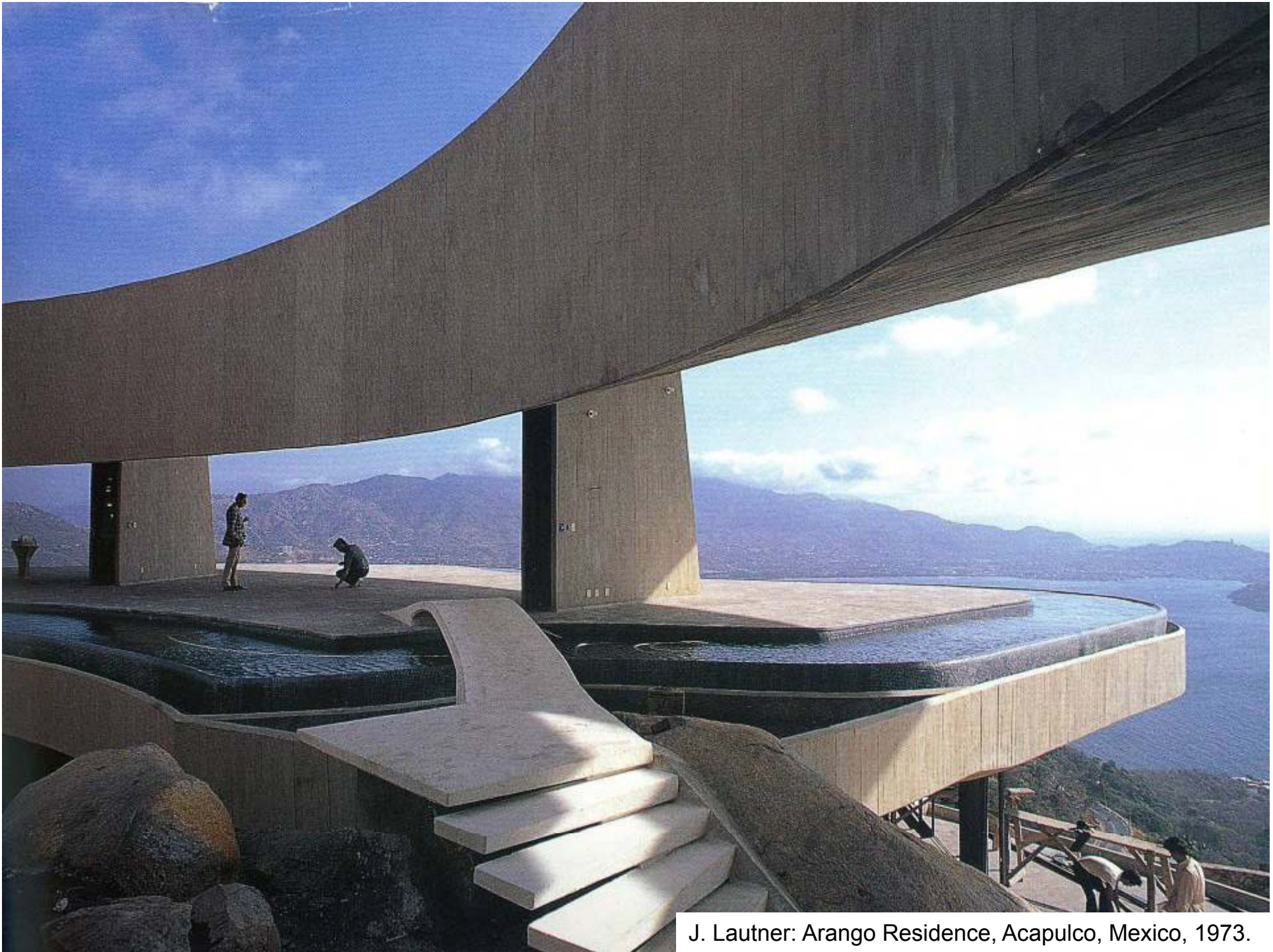
Photo: Julius Shulman

P. Koenig: Case Study House #22, LA, 1960.





J. Lautner: Arango Residence, Acapulco, Mexico, 1973.



J. Lautner: Arango Residence, Acapulco, Mexico, 1973.



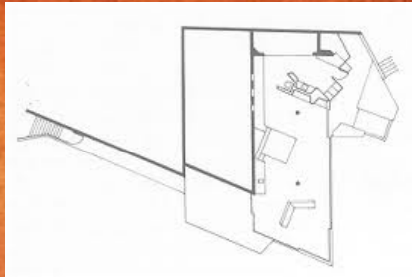
Kuća u Japanu



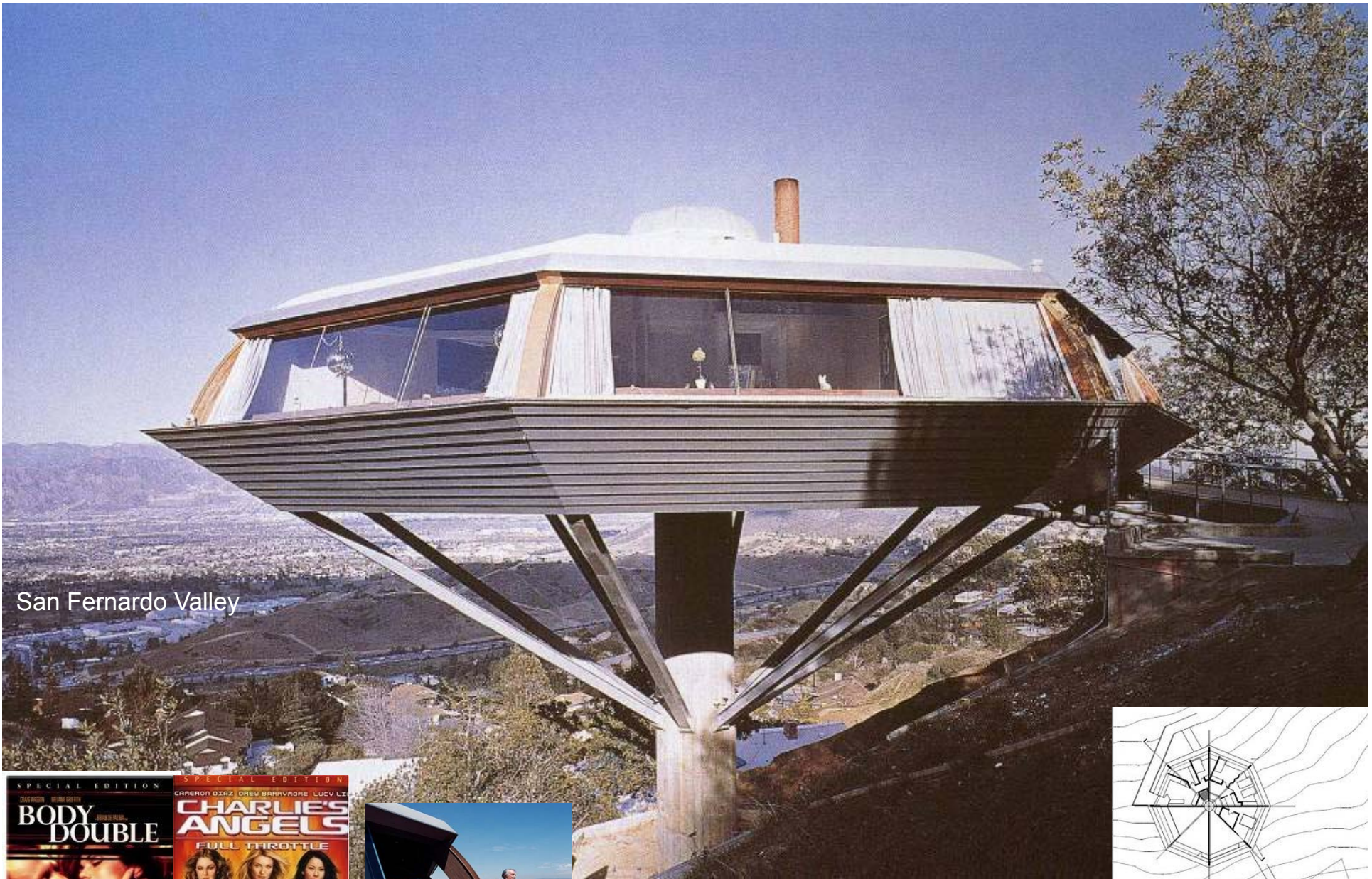
Kuća u Japanu



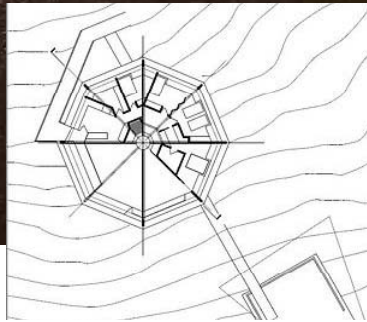
Rem Koolhaas, Villa dall'Ava, 1991. Pariz



John Lautner: L.A. Sheats Residence 1963./1989.



San Fernando Valley

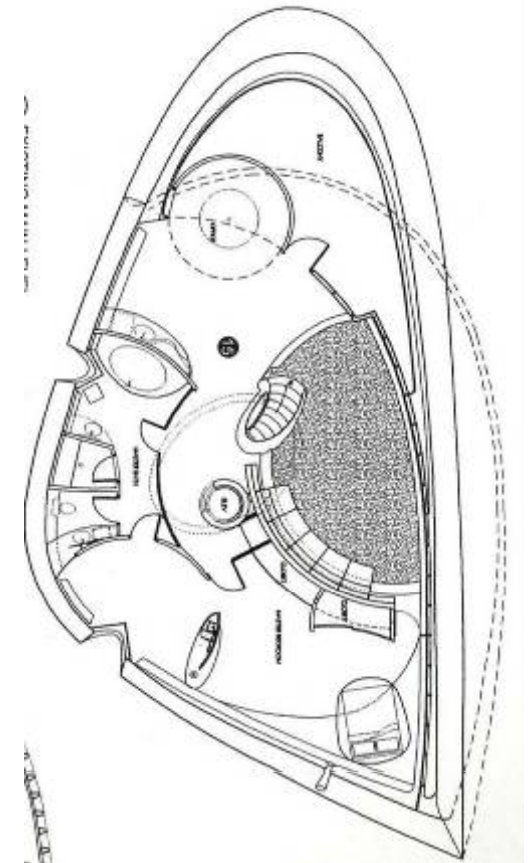


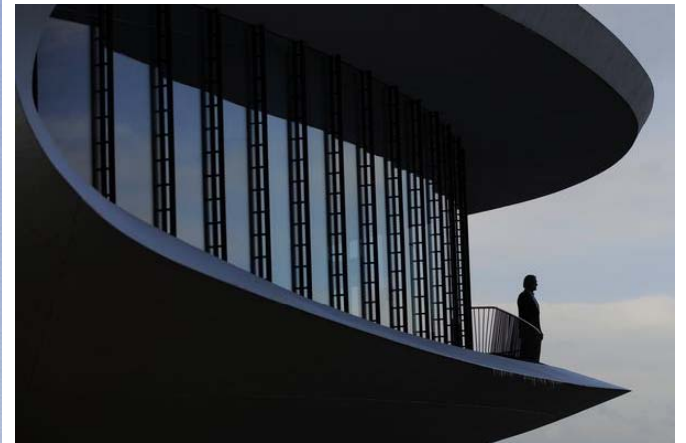
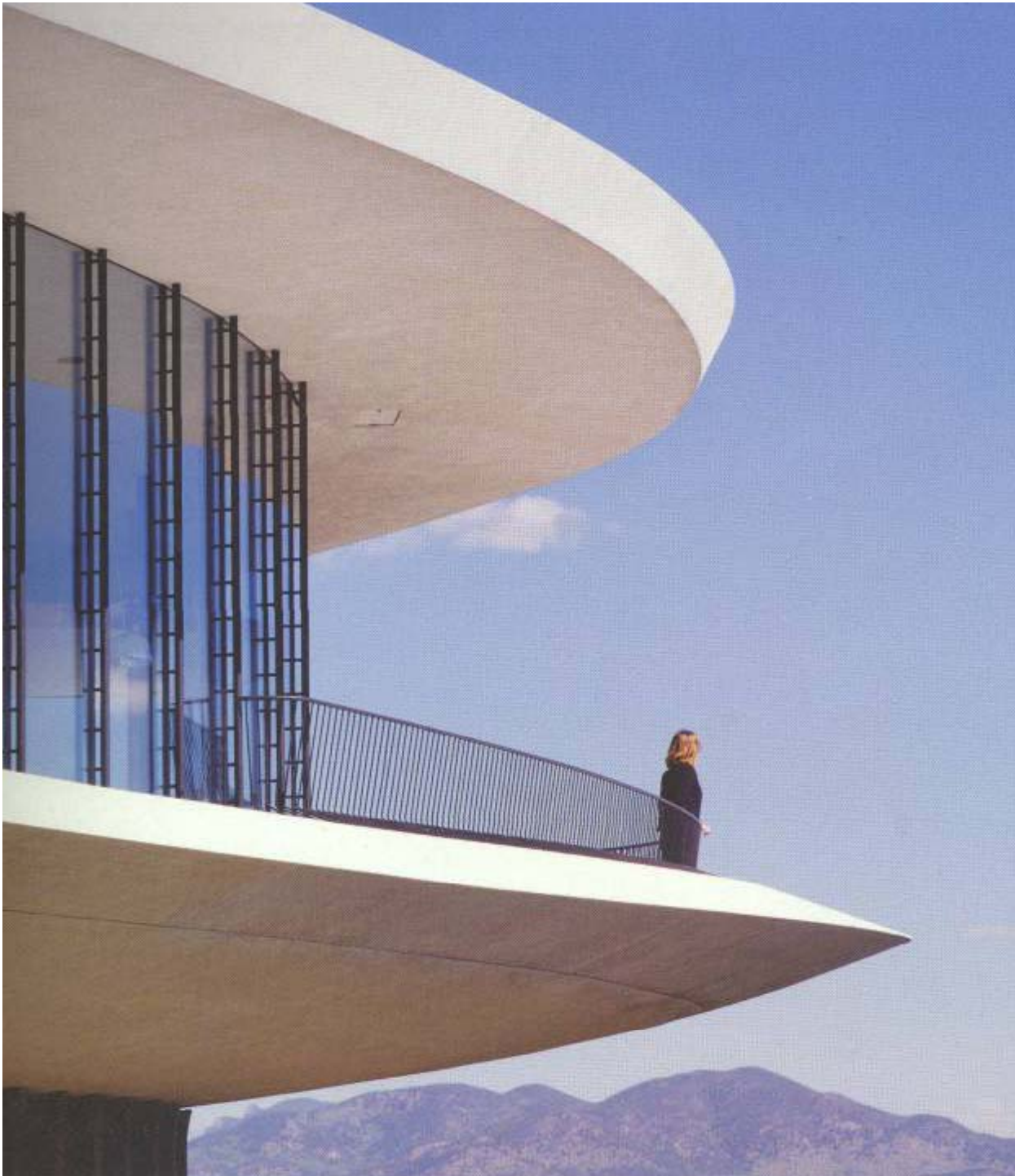
(Julius Shulman)

John Lautner: Chemosphere (1960), Los Angeles



Charles Deaton: Sculptured House, 1963.

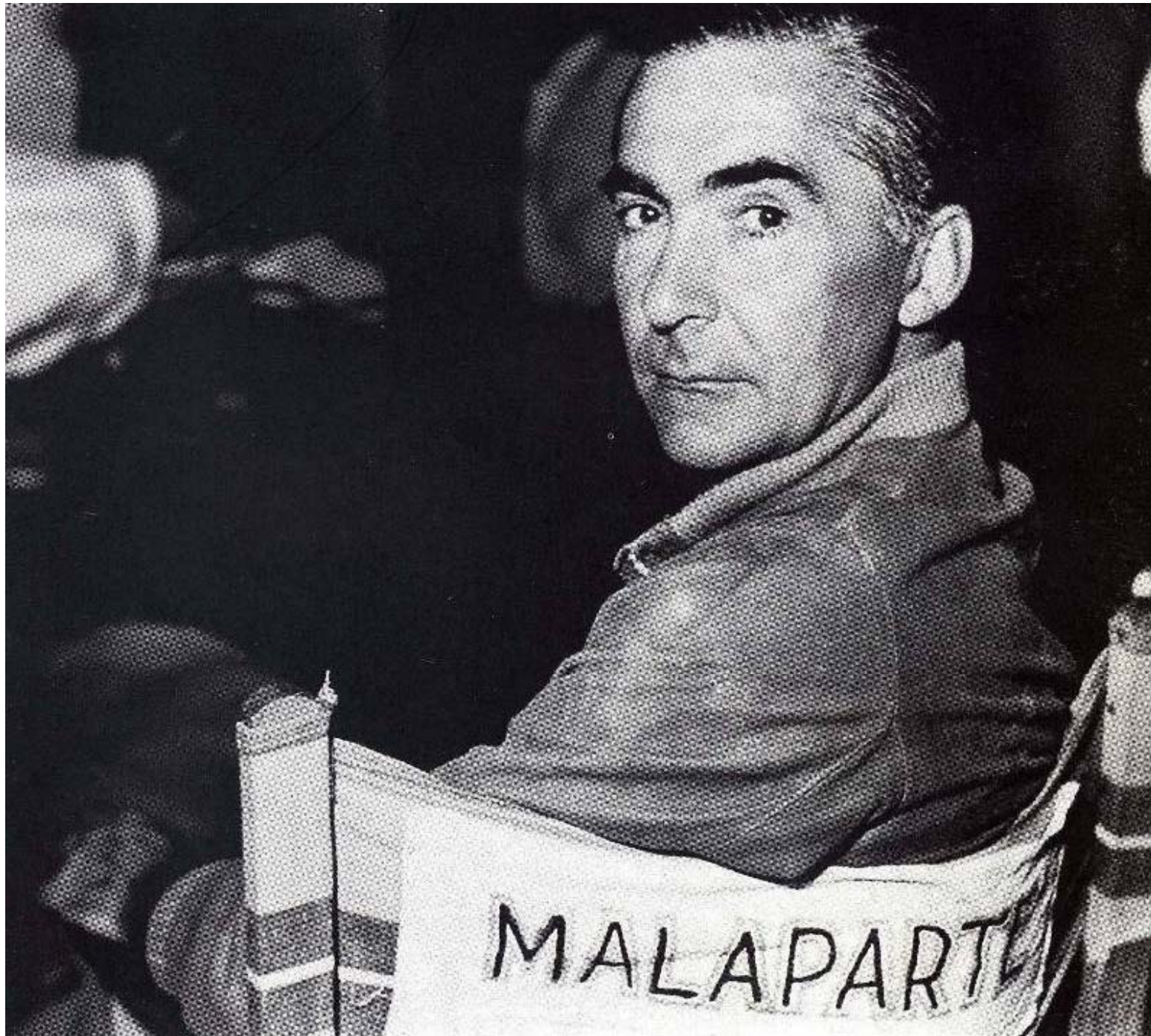




Charles Deaton: Sculptured House, 1963.







Curzio Malaparte (1898.-1957.) (Kurt Erich Suckert)

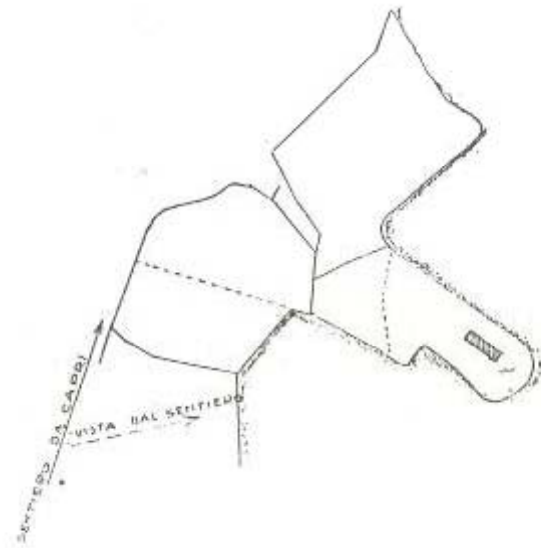


PROGETTO DI VILLETTA
DI PROPRIETÀ DEL SIG. CURZIO MALAPARTE

1498
1938

SCALA 1:100

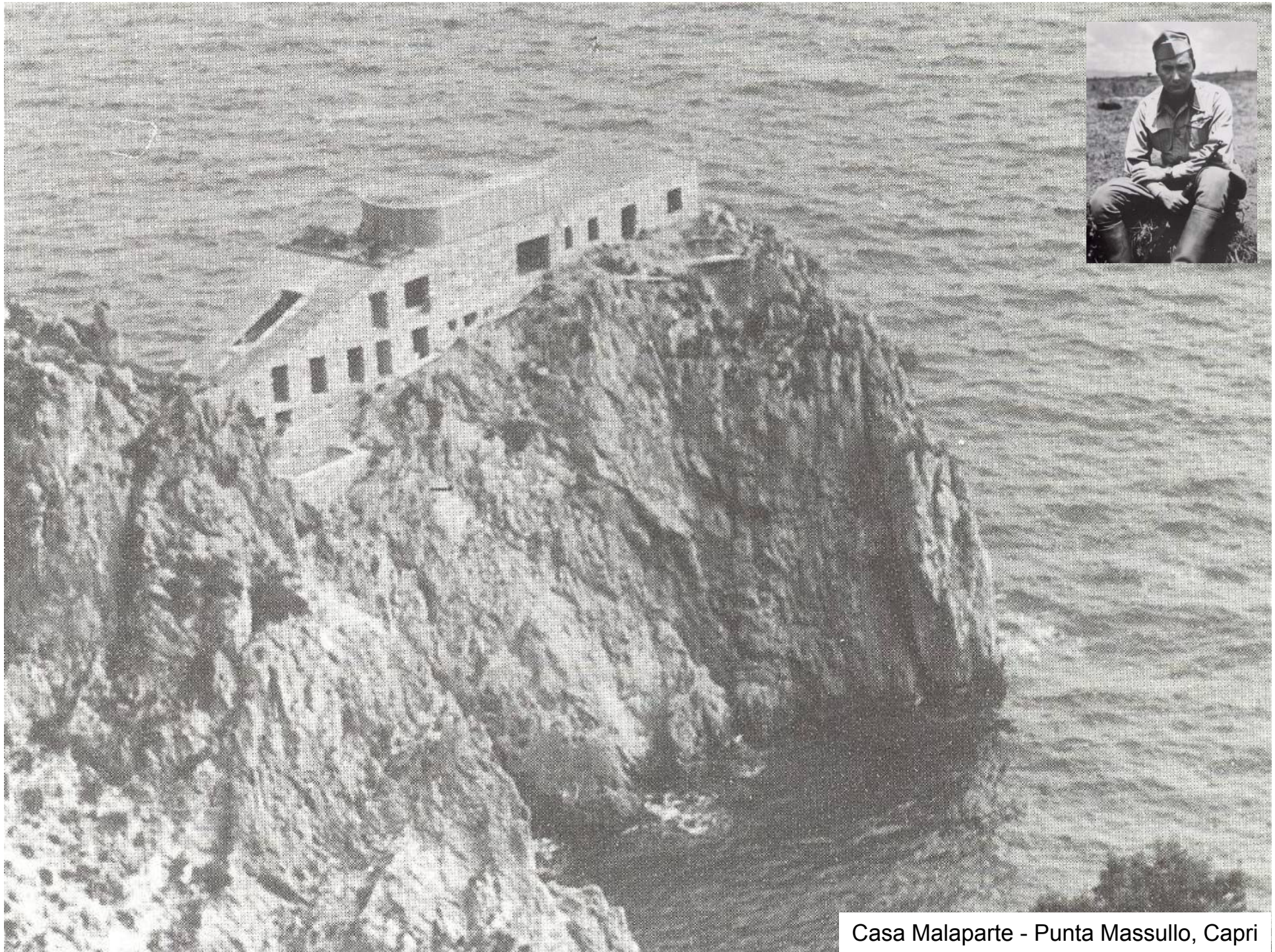
Dot. Arch. Ludovico Giba



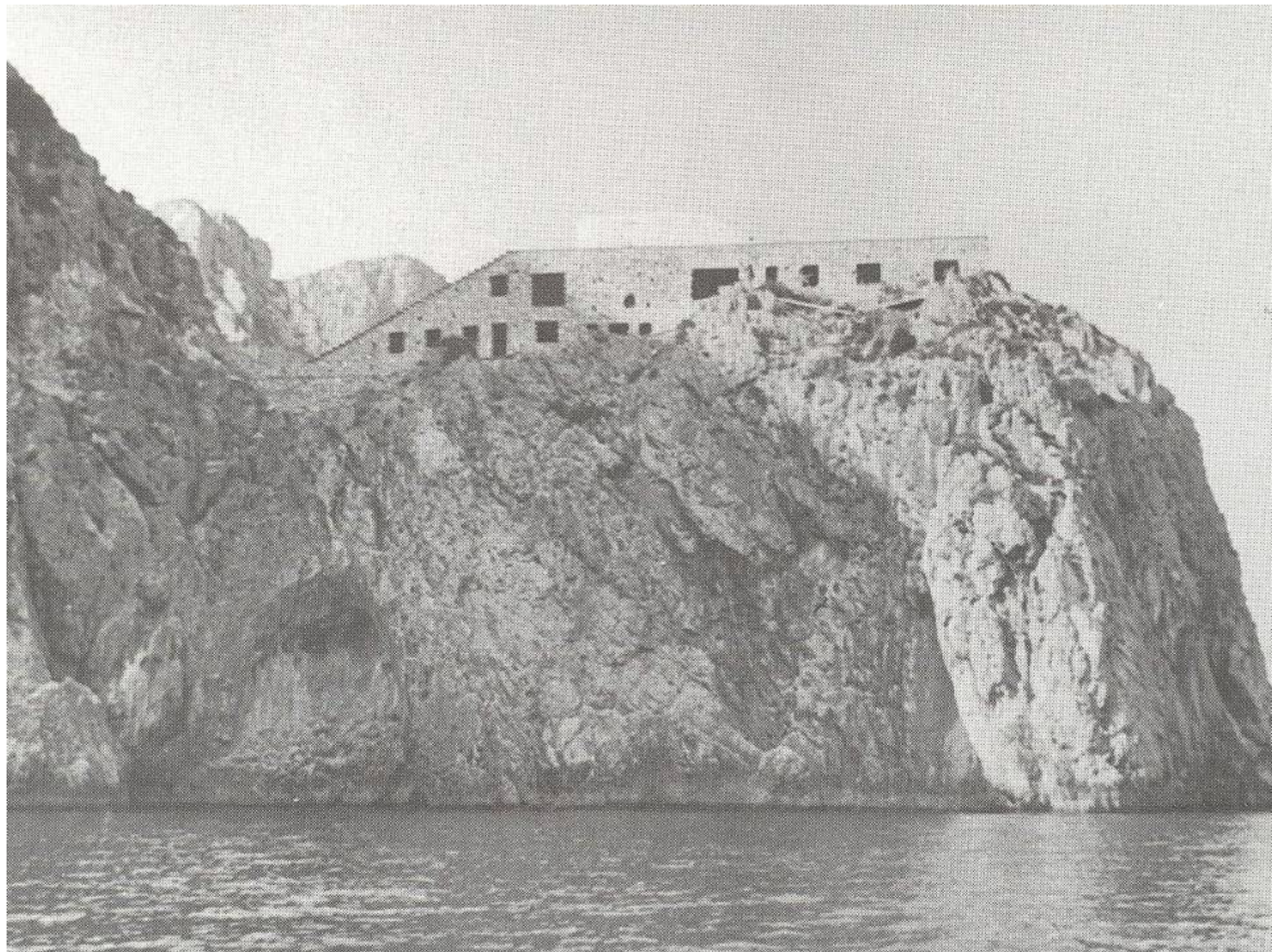
“Casa come me”

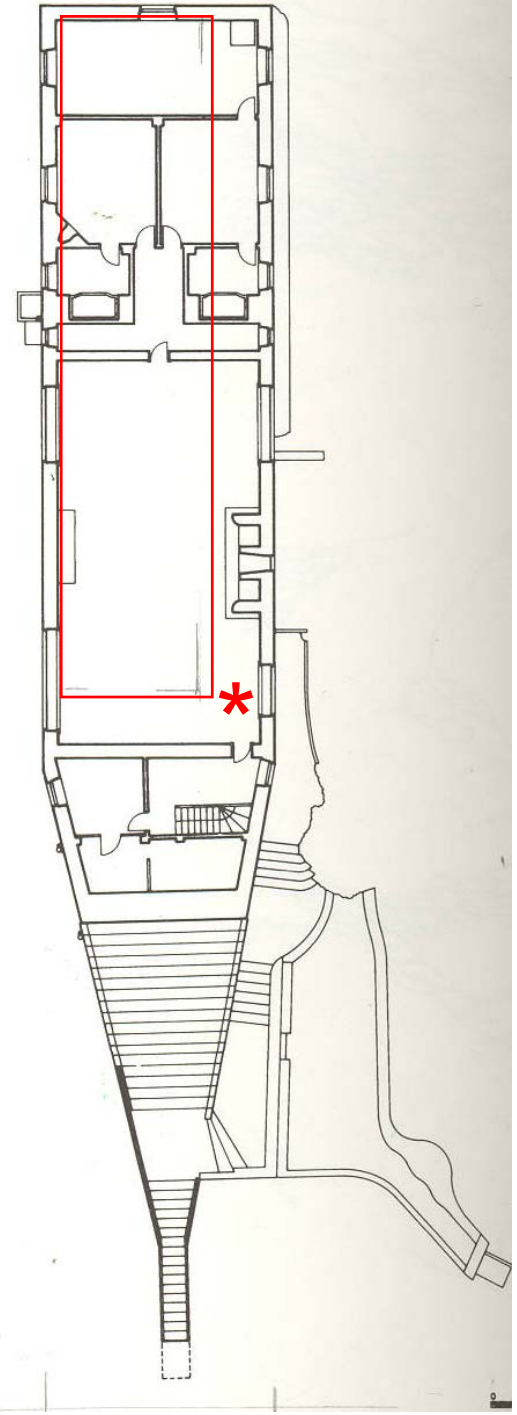
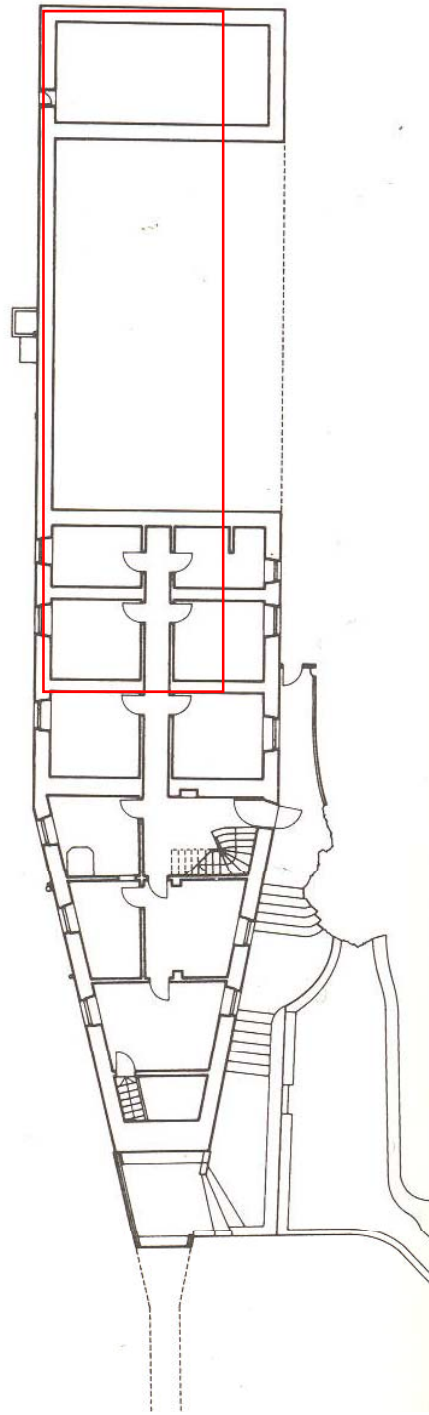
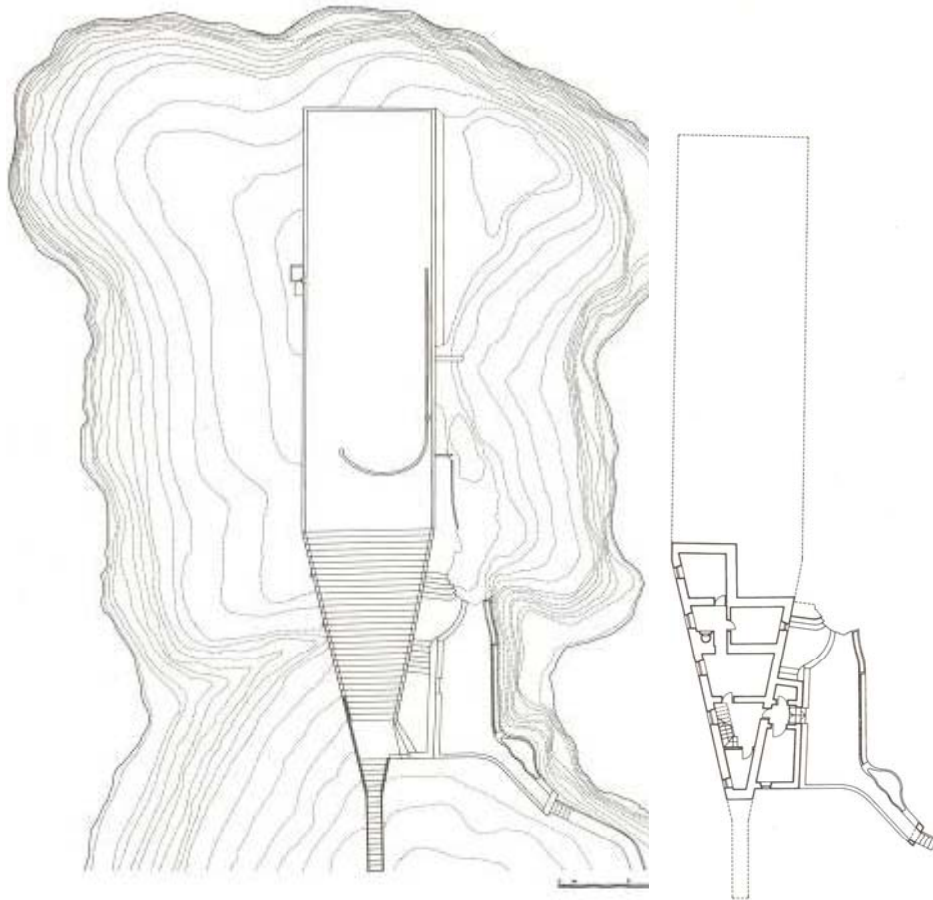


Lipari, 2.XII, 1933.

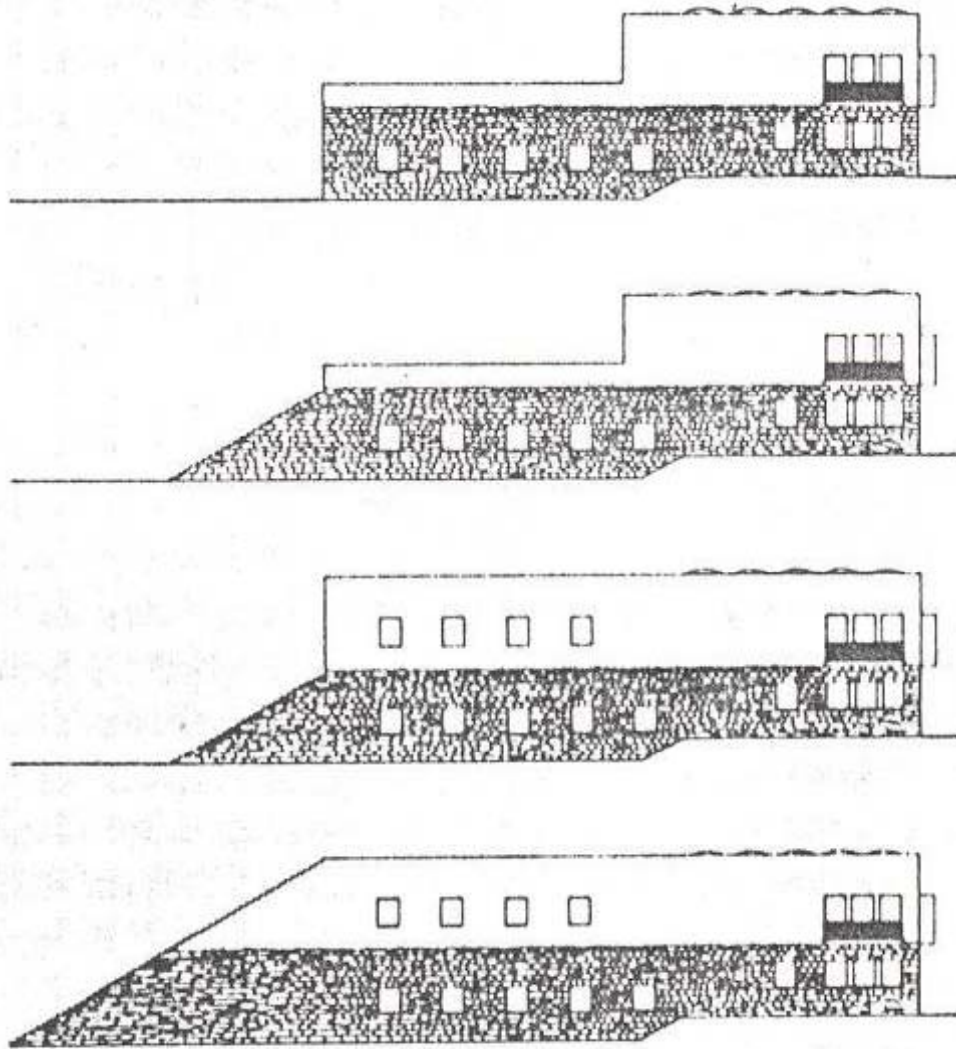


Casa Malaparte - Punta Massullo, Capri





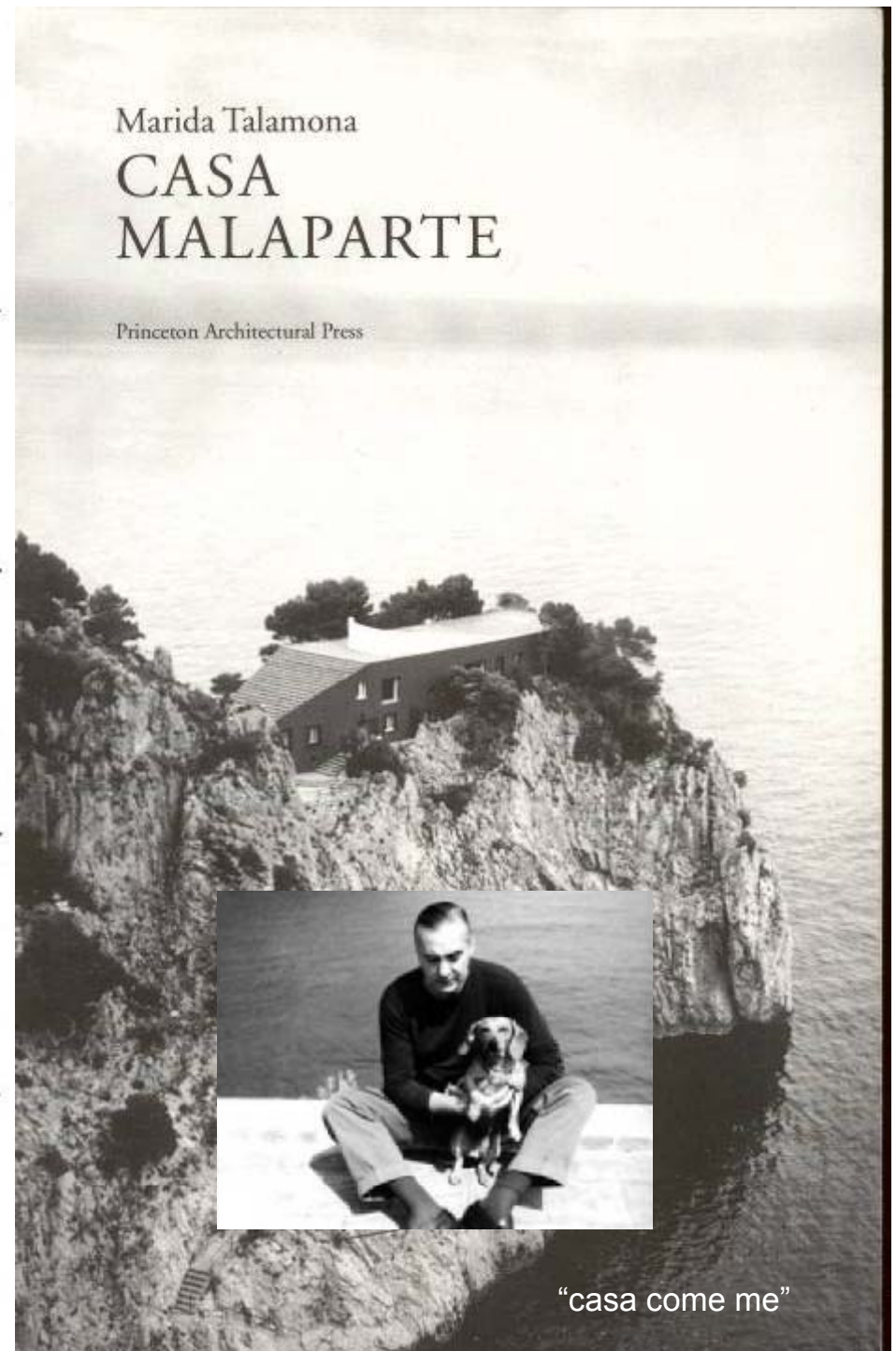
* soggiorno (dnevni boravak, leaving room, hall)



Evolution du projet Libera selon Franco Purini,
in Casabella 582.

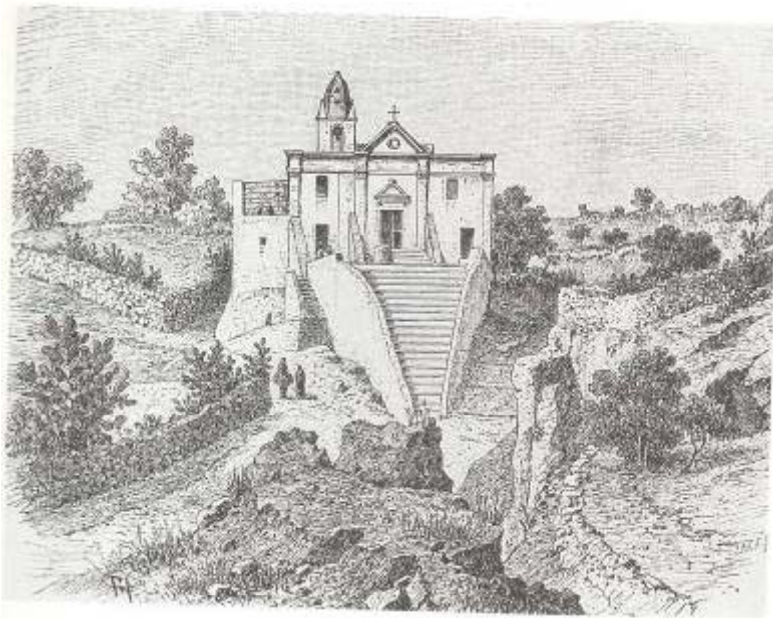
Marida Talamona
**CASA
MALAPARTE**

Princeton Architectural Press

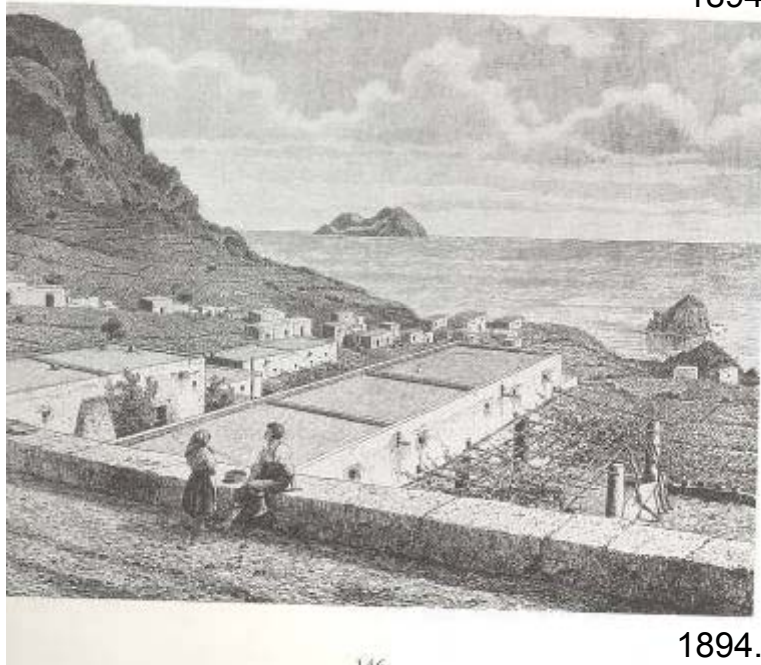


“casa come me”

Lipari – church of the Annunziata



1894.

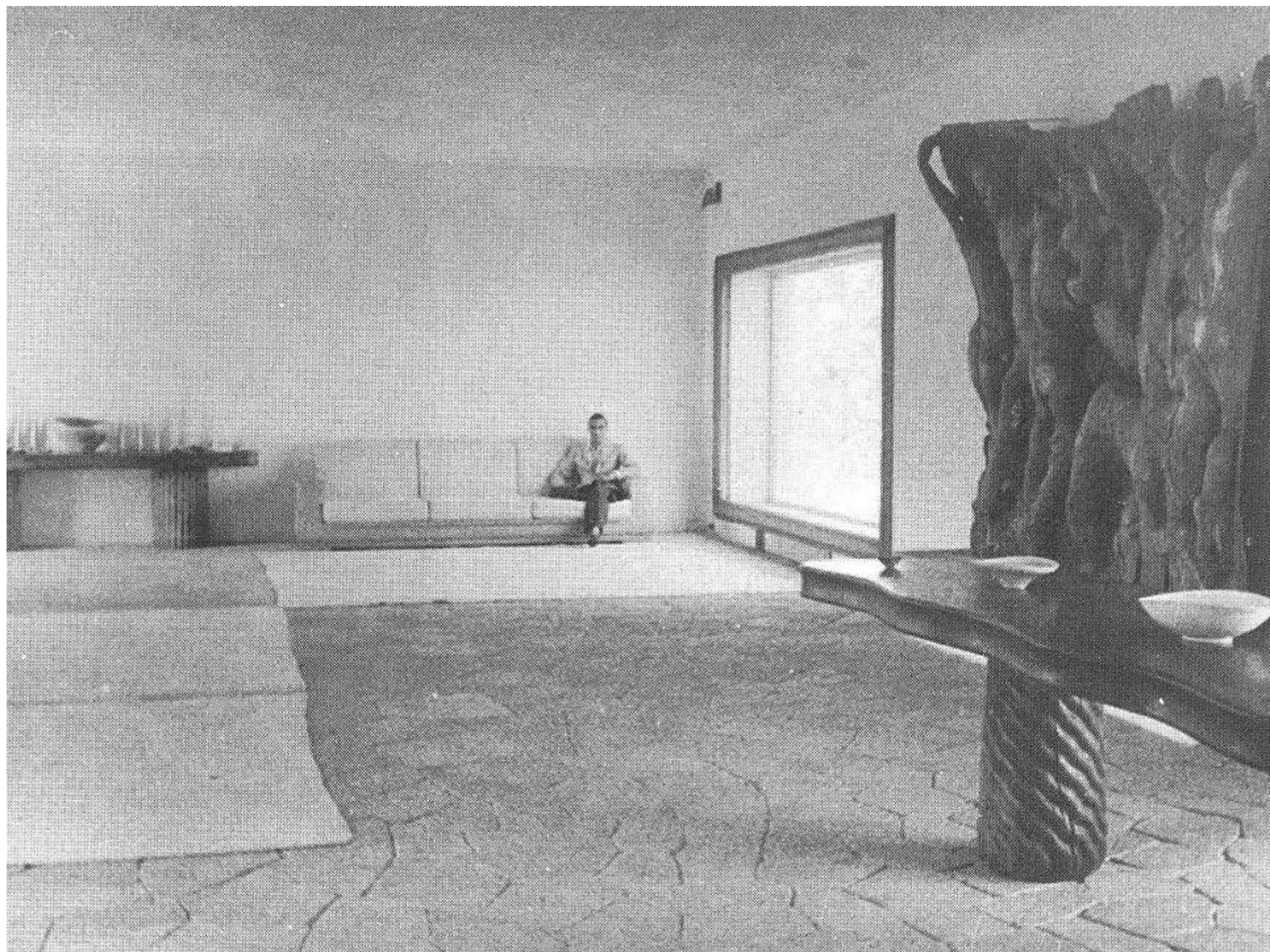


1894.



1934.







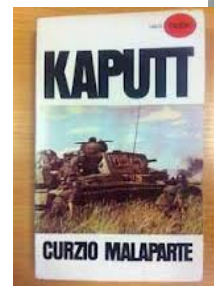
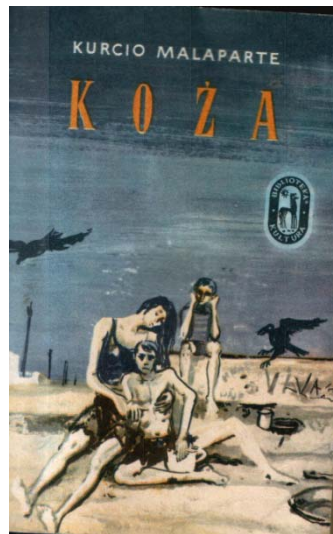
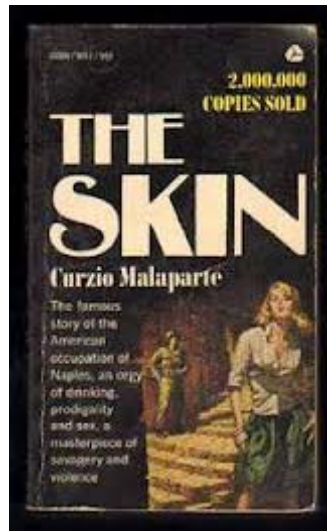
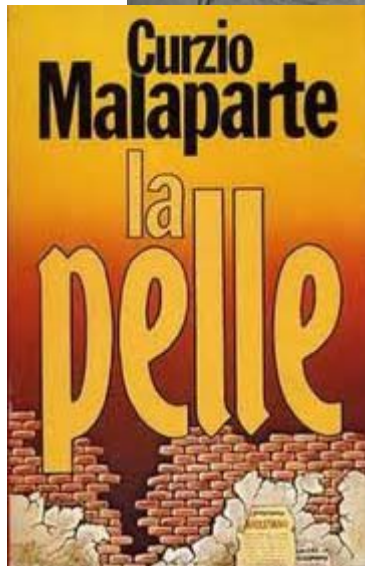
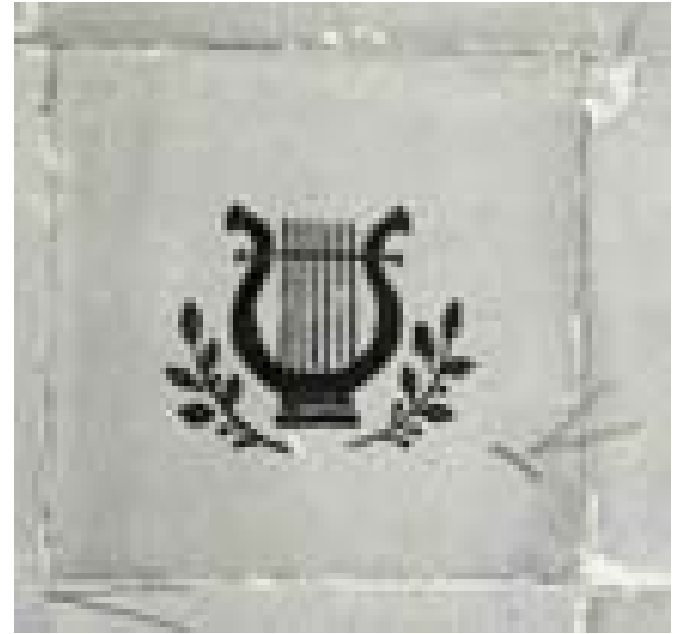
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v

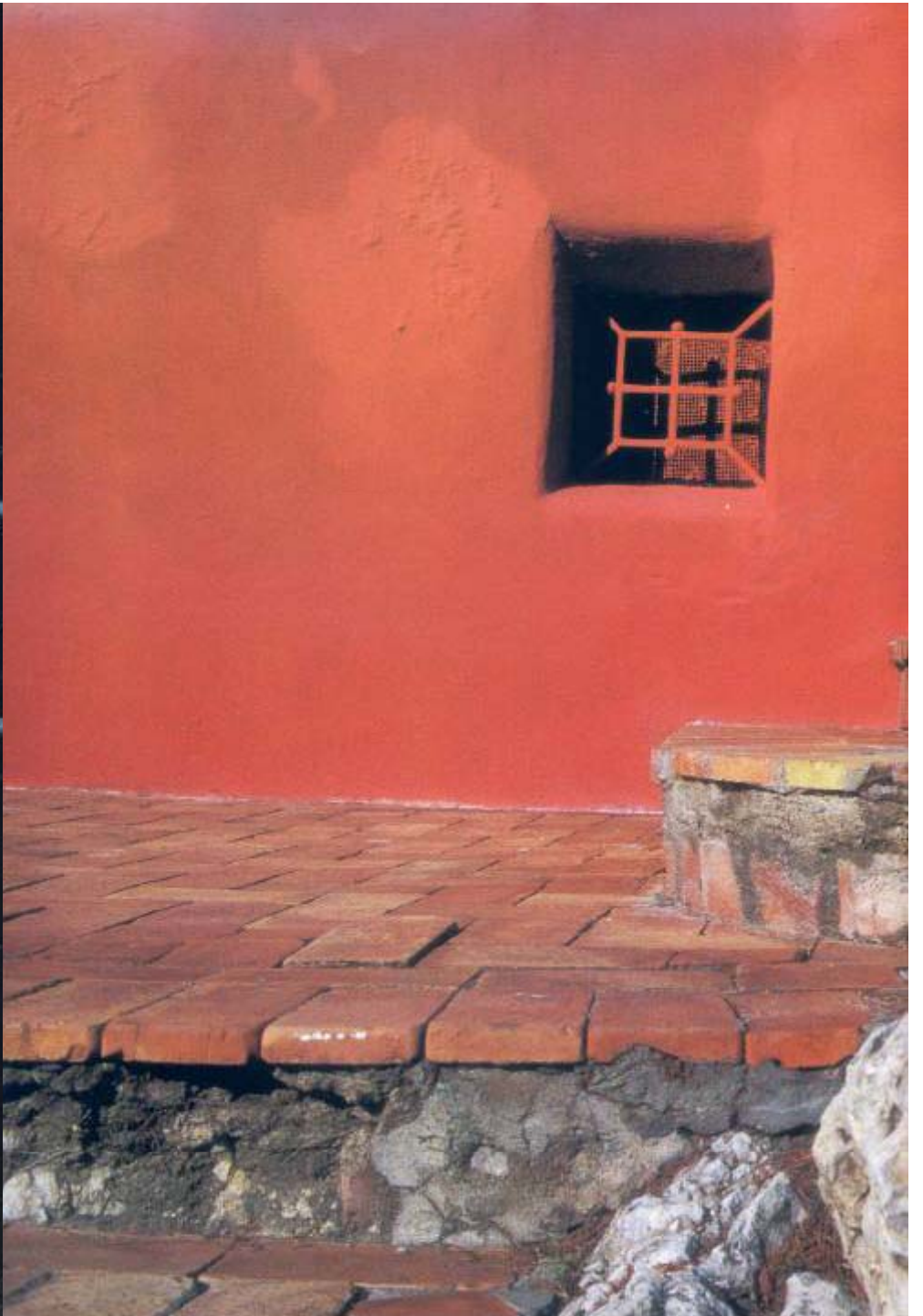
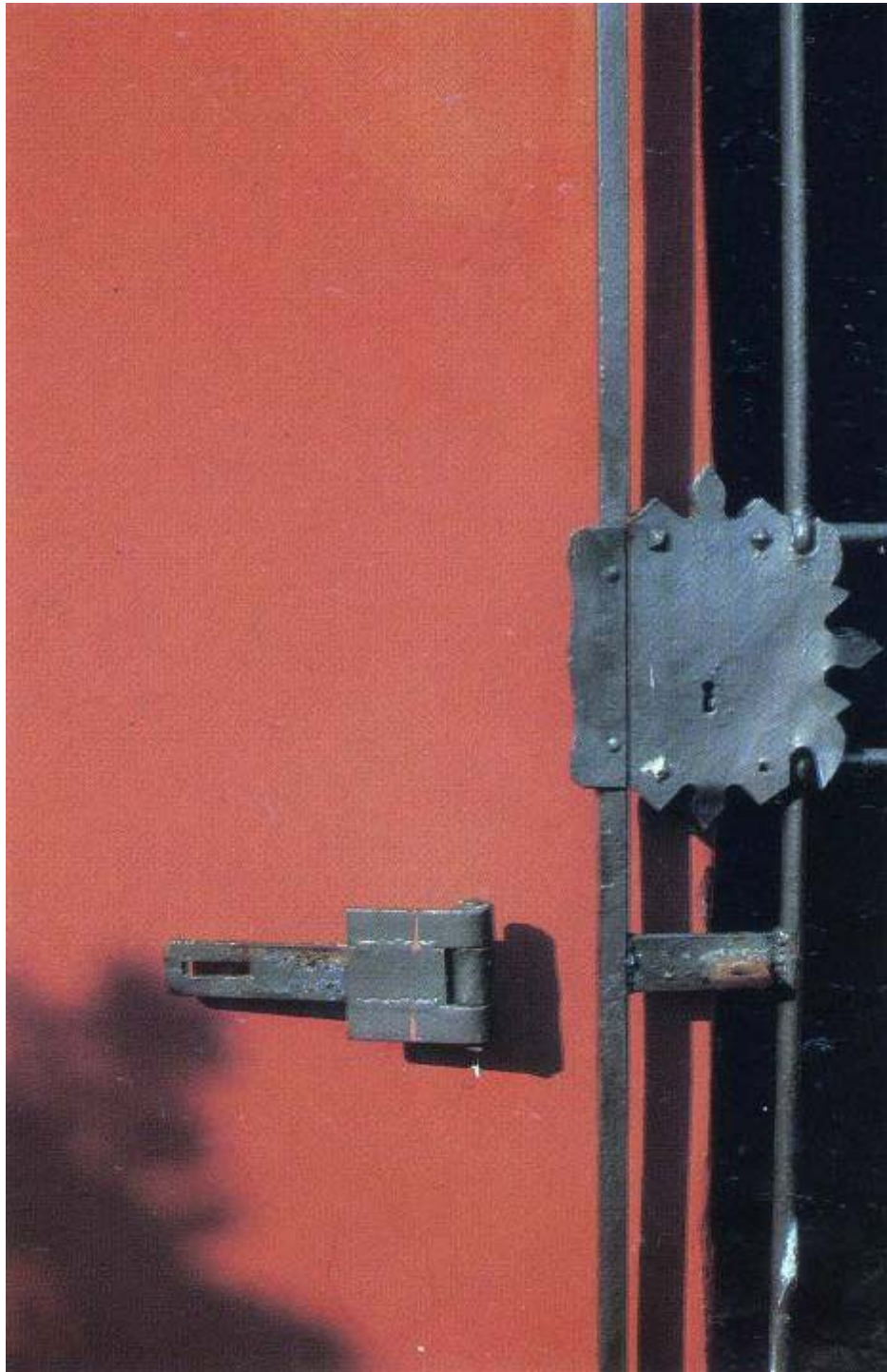
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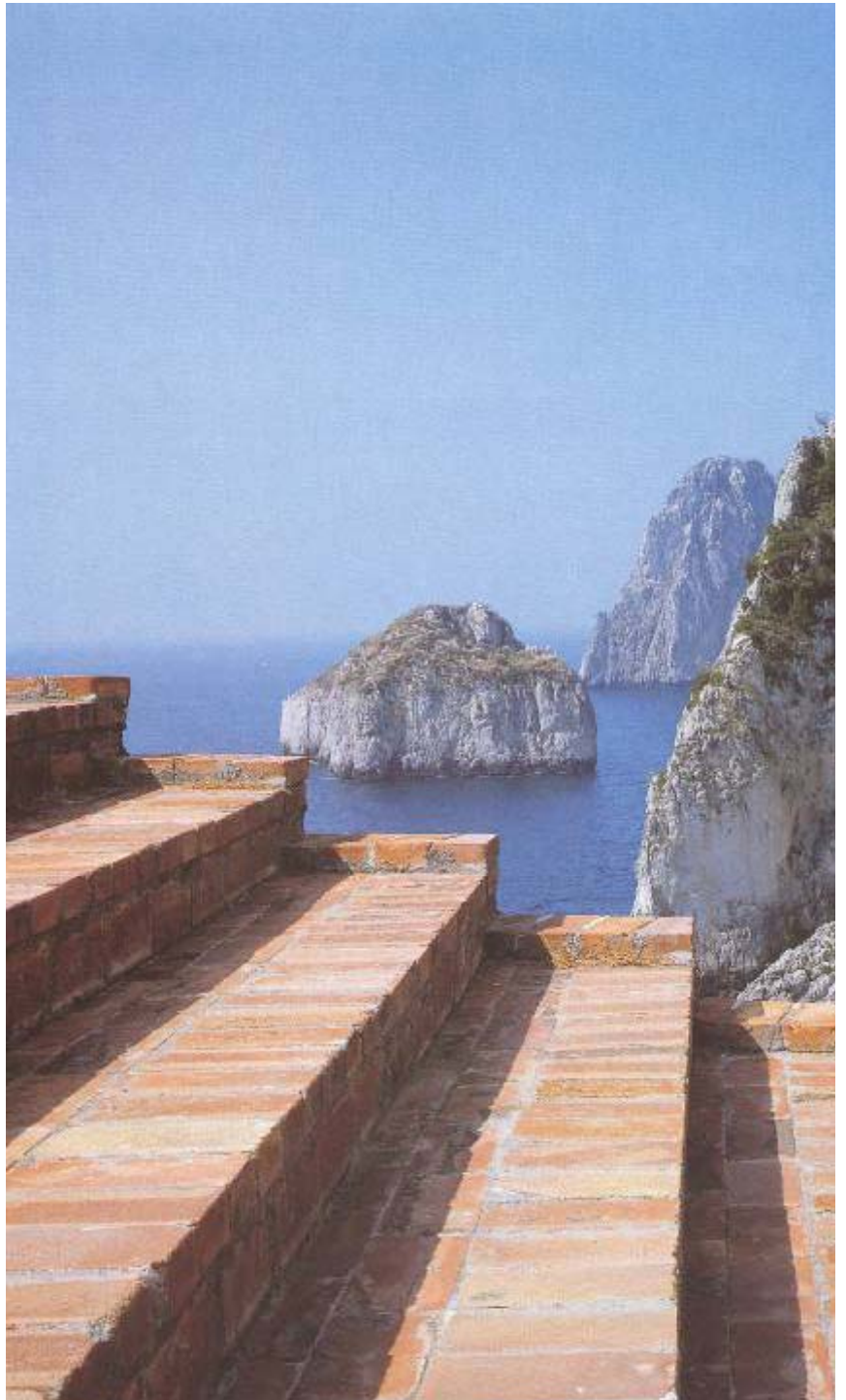
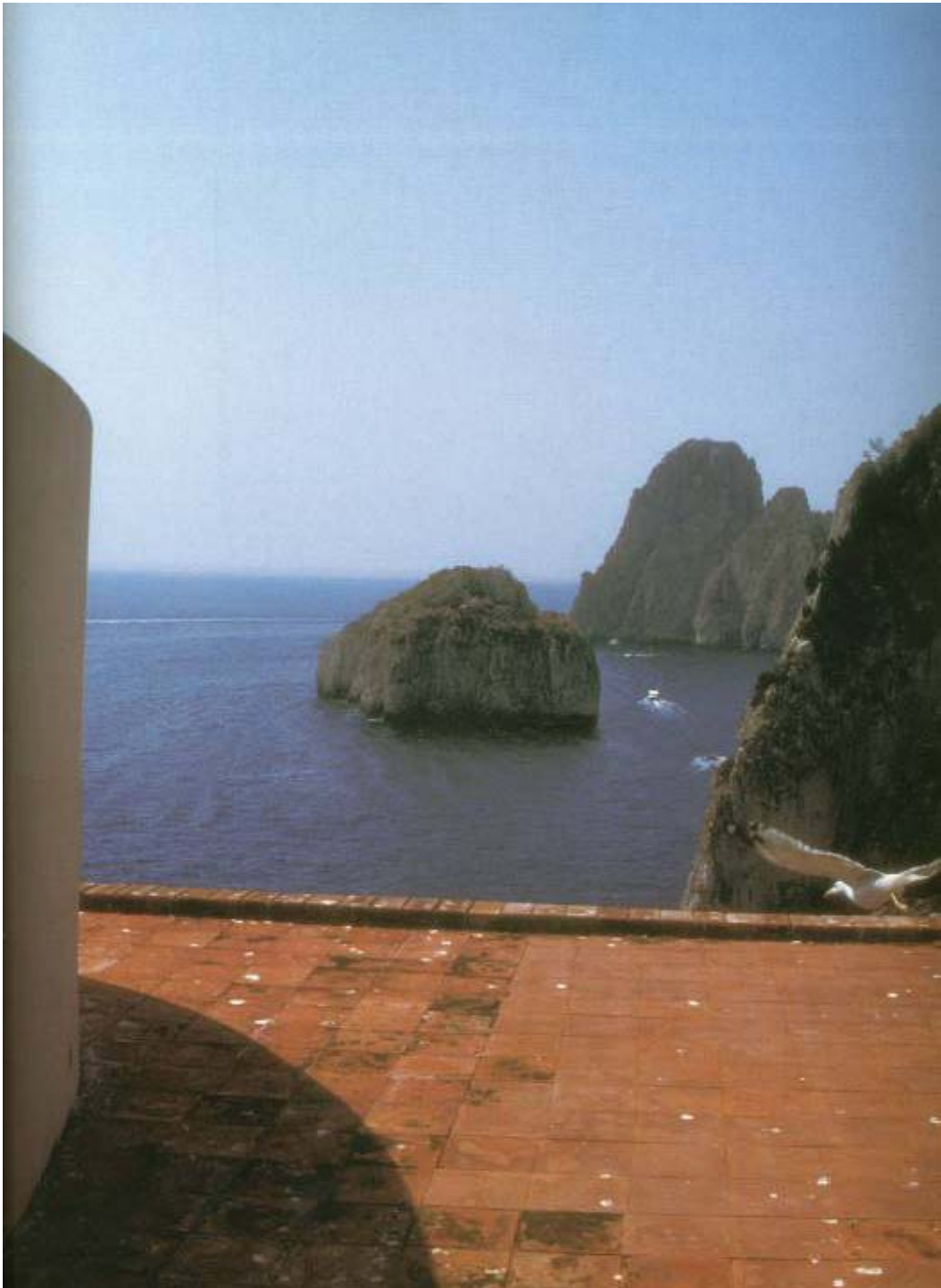




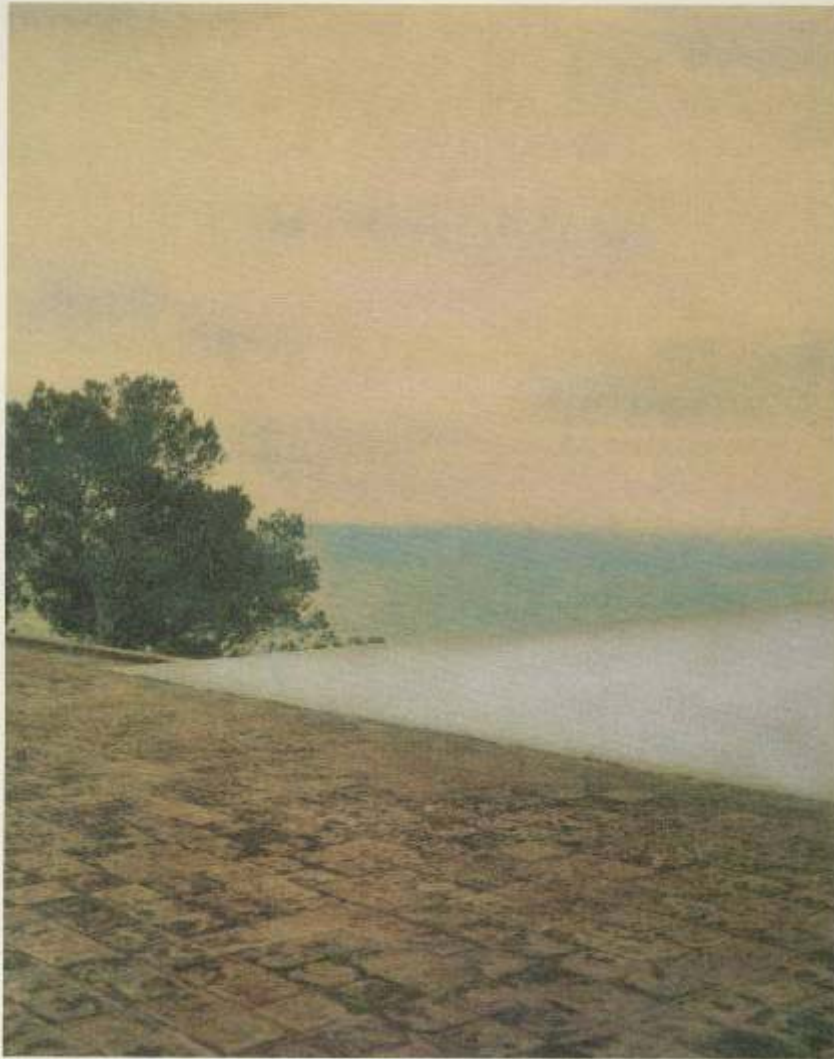






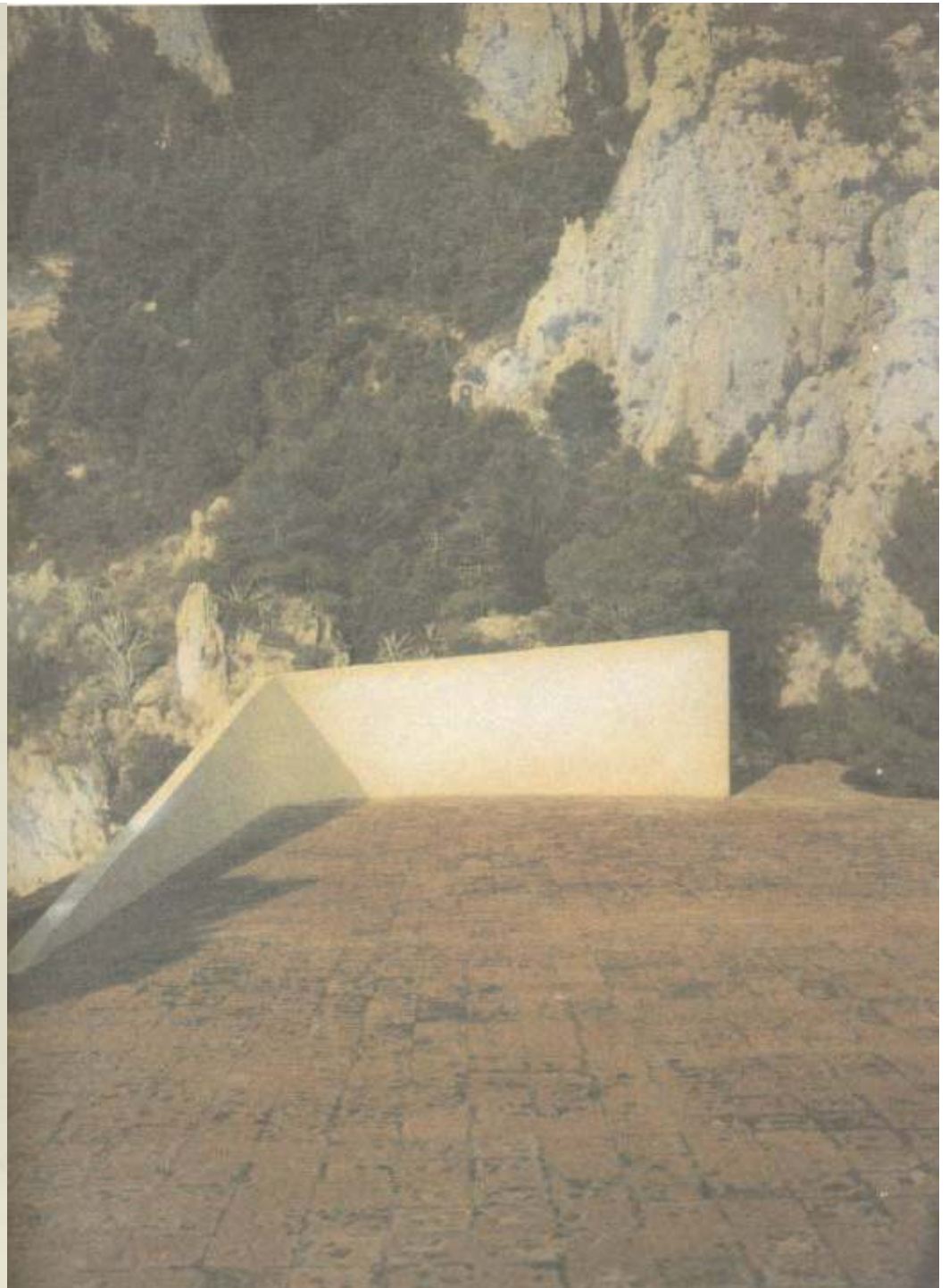


KARL LAGERFELD



CASA MALAPARTE

Steidl

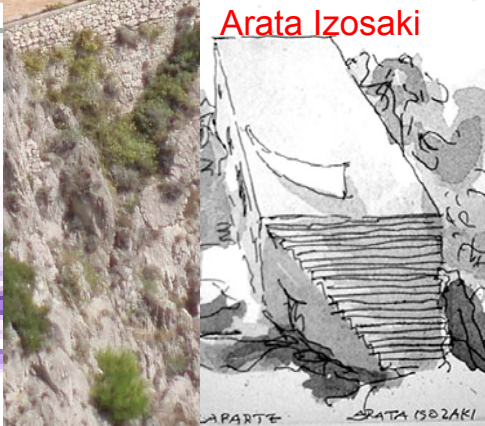








Steven Holl



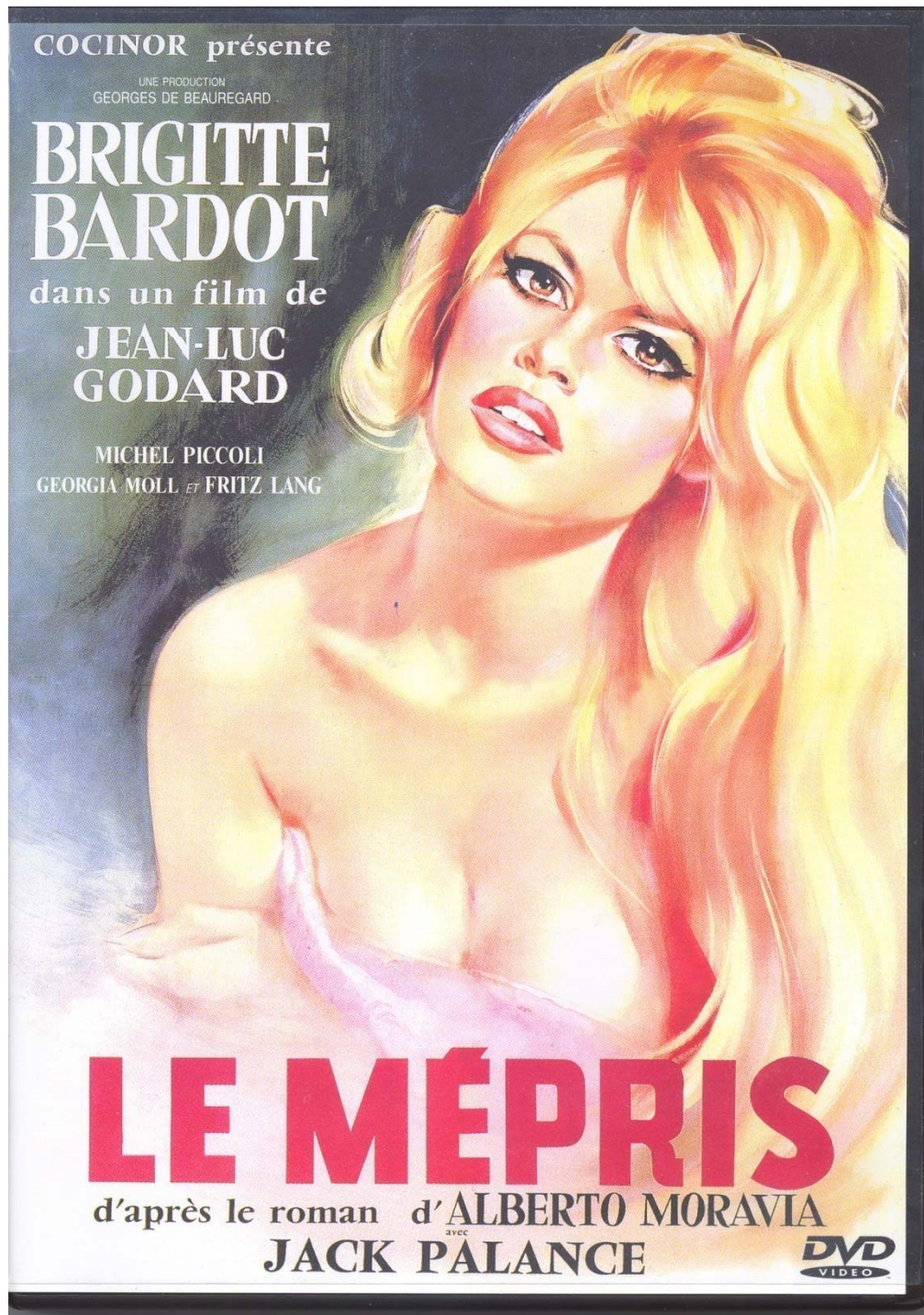
Arata Isozaki



Mario Botta







Najava za slijedeće predavanje:



Waterwoningen IJburg - Architectenbureau Marlies Rohmerby

[You Tube_Waterwoningen IJburg \(9:22\)](#)

[You Tube_bouwen-drijvende-ijburg.avi \(44:15\)](#)

[You Tube_Steigereiland IJburg te Amsterdam /Block Waterbuurt \(3:48\)](#)

[Film Discovery Channel](#)

[Film Deutsche Welle](#)

[Film 13e Architectuur Biënnale van Venetië](#)

[Film BBC The Culture Show](#)