

**List of Buildings for Slide Identification**

1. Monte Alban, Oaxaca, Mexico
2. Acoma, New Mexico
3. Mont St. Michel, France
4. "Falling Water," Bear Run, Pennsylvania
5. Condominiums, Sea Ranch, California
6. Taliesin West, Scottsdale, Arizona
7. Sea Ranch, California
8. The Woodlands, Texas
9. The Cloisters, Cincinnati
10. Hagia Sophia, Constantinople
11. Maisons Jaoul, Neuilly, France
12. Coliseum, Rome
13. Pont du Gard, Nimes, France
14. Town Hall, North Easton, Massachusetts
15. Ames Gate Lodge, North Easton, Massachusetts
16. Morse and Stiles Hall, Yale University, New Haven, Connecticut
17. Strimling House, Weston, Massachusetts
18. Lake Shore Drive Apartments, Chicago
19. Deere and Co. Headquarters, Moline, Illinois
20. Boston 5¢ Savings
21. S. Maria della Fiore, Florence, Italy
22. Cathedral, Amiens, France
23. Cameron Offices, Belconnen, A.C.T., Australia
24. Tenneco Building, Houston
25. Palace of Justice, Chandigarh, India
26. Assembly Building, Chandigarh, India
27. Dominus Winery, Napa Valley, California
28. Simpson-Lee House, Mount Wilson, Australia

**List of Architects for Slide Identification**

- A. Alvar Aalto
- B. John Andrews
- C. Filippo Brunelleschi
- D. Hardy, Holzman, Pfeiffer
- E. Kallman and McKinnell
- F. Le Corbusier
- G. Ian McHarg
- H. Mies van der Rohe
- I. MLTW (Charles Moore, et al.)
- J. Oglesby Group
- K. Hector Guimard
- L. H. H. Richardson
- M. Eero Saarinen
- N. Maurice Smith
- O. S.O.M.
- P. Frank Lloyd Wright
- Q. Herzog and de Meuron
- R. Glenn Murcutt
- S. No architect noted

**PART I. IDENTIFICATION (20 points)**

From the attached lists select the appropriate building name and architect for each of the slide pairs shown. Write the number or letter of the description beside the number of the slide pair.

Building Name	Architect	
_____	_____	slide #1
_____	_____	slide #2
_____	_____	slide #3
_____	_____	slide #4
_____	_____	slide #5
_____	_____	slide #6
_____	_____	slide #7
_____	_____	slide #8
_____	_____	slide #9
_____	_____	slide #10

**PART II. OBJECTIVE (30 points)**

Mark the best selection in the space provided to the left of the number.

1. Which of the following best describes the hypothesis with which Heschong says she began the work on *Thermal Delight in Architecture* in the preface to the book?
  - (a) The thermal function of a building could be used as an effective element of design. Thermal qualities might be included in the architect's initial conception and could influence all phases of design.
  - (b) Thermal conditions should be standardized through the sophisticated technology of modern mechanical systems. Environmental control systems can ideally be the "Cinderella of architecture," maintaining an elegance of light, form, and structure invisibly and almost magically.
  - (c) After a building is designed, it is then the architect's job to make it truly functional by adding thermal devices at the end.
  - (d) Currently we have many more thermal devices (especially solar devices) to attach to the design of buildings than were available previously.

2. In her Preface to *Thermal Delight in Architecture*, Heschong makes which of the following statements about the historic role of a fireplace in a house?
  - (a) It was an extremely efficient heating mechanism providing even steady-state temperature stability at very little cost.
  - (b) It was an inefficient means of heating indoor spaces which also contributed to creating smoky, soot-filled urban environments.
  - (c) Its dancing light, smoky smells, and warm crackling created an ambience that made a house more a home.
  - (d) Its suffocating smokiness, enticing temptation for adventuresome children, and hazard for house fires created a danger that could only be remedied by safer mechanical systems.
  
3. In her chapter on "Sacredness," Heschong makes the point that a thermal system may be used to reinforce the significance of other architectural symbols becoming an expression of social ideals in a society. Which of the following is not a point she makes in describing this principle?
  - (a) The air conditioner in the boss' office is a mark of executive prestige.
  - (b) In Saudi Arabia, if a family can only afford to air condition one room, it is most likely to be the men's visiting room even though it is the room used least frequently since hospitality is an essential value of Saudi society.
  - (c) The Roman statesman, Agrippa, created free public baths as a grand egalitarian gesture.
  - (d) In the last few years, we have been able to afford uniform thermal comfort everywhere, the significance of thermal symbols has pretty much disappeared.
  
4. In her chapter on "Sacredness," Heschong talks about passive solar heated buildings (which we also discussed in class). Which of the following is not an observation she makes about them?
  - (a) She thinks they embody "an attitude that we should not use technology to distance ourselves from the natural world."
  - (b) She believes they represent an attitude that strives for a "more intimate, even symbiotic, relationship with natural forces."
  - (c) She admires the fact that they provide "the convenience of a constant indoor temperature" with an air temperature flux of no more than a few degrees per day.
  - (d) She believes a solar house, geared to both the people who live in it and the cycles of the sun, can be seen to exemplify the human relationship to the natural world.

5. In her chapter on “Sacredness,” Heschong emphasizes the connection of nature, climate, and weather to cultural and religious attitudes using several examples from the Islamic faith. Which of the following best describes an observation she makes in this regard?
- (a) The wrath and fury of God was seen to be embodied in storms and drought. Nature was a scary and dangerous force emphasizing human alienation from God.
  - (b) Nature was seen as something to be tamed or conquered with the aid of God and the Prophet. Elaborate prayers sought divine intervention to remedy the travails of weather and support the growth of healthy crops.
  - (c) God was identified with nature controlled and managed as in the garden. Native landscape and vegetation as well as erratic weather patterns were identified with the devil. Mankind and nature were at odds just like God and the devil.
  - (d) The most benevolent aspects of the weather, the cool breezes and the rain, were identified with either God or the Prophet. The garden became a metaphor for the human condition with the soil identified with human mortality.
6. Which of the following best describes the siting of Mont St. Michel, which we looked at in the lecture on “Buildings and Land”?
- (a) In its mountainous alpine context, the building becomes yet another mountain emulating the natural forms around it in a very literal fashion.
  - (b) It is an example of a building placed in beautiful contrast to its natural environment. It is a strictly man-made mountain jutting out of a flat, featureless prairie.
  - (c) It is a magnificent partnership between a bold, exceptional landform that juts prominently out of a flat coastal landscape and a building that extends that landform and makes it more dramatic.
  - (d) It is not a mountain at all but a low, unobtrusive structure named for a mountain nearby, which it generously defers to.
7. At the end of the lecture on “Buildings and Land,” we compared two buildings by Frank Lloyd Wright. At the end of the lecture on “Structure and Materials,” we compared two buildings by Eero Saarinen. What was the point of the two comparisons?
- (a) Both Wright and Saarinen had their own distinct “styles,” and the two buildings by each of them are similar enough to each other to make their authors clearly identifiable.
  - (b) The two buildings noted for each architect were distinctly different from each other because the architects paid attention to physical considerations that shaped each building.
  - (c) Wright had his own distinct “style” that made his buildings look alike, but Saarinen responded to different physical considerations that made each of his buildings unique.
  - (d) Saarinen had his own distinct “style” that made his buildings look alike, but Wright responded to different physical considerations that made each of his buildings unique.

8. In the lecture on “Structure and Materials,” we discussed the relationship between different forces considered in the design of buildings. Which of the following best describes those relationships?
- (a) A combination of bending on one side and compression on the other side creates tension in the whole member.
  - (b) A combination of tension on one side and compression on the other side creates bending in the whole member.
  - (c) A combination of tension on one side and bending on the other side creates compression in the whole member.
  - (d) Tension, compression, and bending are each independent forces and no two can co-exist in the same member.
9. In the lecture on “Architecture in Response to Climate,” we looked at two office buildings in the early part of the lecture—Cameron Offices in Australia and the Tenneco Building in Houston. Which of the following is true of both of these?
- (a) They both have extensive areas of glass protected by deep sun shading to reduce heat gain.
  - (b) Though they are subjected to very different sun conditions and climatic variables, they both employ high thermal mass effectively.
  - (c) They are both in hot humid climates and use low-mass wood frames to reduce heat retention.
  - (d) They both employ horizontal sun shading on one side of the building, vertical sun shading on two sides and no sun shading on the fourth side, acknowledging the very different solar circumstances of each façade.
10. In the lecture on “Climate/Energy,” the three buildings we discussed by Le Corbusier at Chandigarh were all noted for:
- (a) their perfect north/south/east/west orientation.
  - (b) their careful use of sunshades or “brise soliel.”
  - (c) their use of light weight, low thermal mass materials appropriate to a hot, humid climate.
  - (d) their powerful and effective air conditioning systems.

**PART III. ESSAYS (50 points)**

1. In the chapter titled “Delight” in Thermal Delight in Architecture, Heschong states, “Looking at a photograph of a place, we are limited to purely visual clues about its thermal qualities, yet we can perceive it to be a warm or cool place...” Compare and contrast the reading room in Battle hall Library and the lobby of the Dell Computer Science Building with regard to their “visual clues about thermal qualities.”

2. Compare and contrast the Graduate School of Business (GSB) and Perry Castañeda Library (PCL) diagonally across 21st Street from it in terms of their climate responsiveness as discussed in the lecture on Climate/Energy. At a minimum, you should discuss massing, fenestration, and solar shading.