

Recent Works with Natural Light: Six “T” Houses and a Building with Two Faces

Thomas L. Bosworth^{a)}, FAIA

Professor Emeritus, University of Washington, Bosworth Hoedemaker, LLC 1408 North 45th Street, Seattle, Washington

(Received 13 February 2003; accepted 20 June 2003)

This report provides a study of individual housing as seen in seven recent projects of mine, all designed for island sites in the San Juan Archipelago, on the Northwest coast of Washington State, USA. In each case a strict conceptual plan formula is adapted to specific and different site conditions. In each case the building design is shaped to provide an architectural setting for domestic human accommodations filled with natural light, which, hopefully, will continually encourage the inhabitants to be aware of their lives as part of the wondrous flow of time.

We follow the sun

And then the moon

Through the seasons

Until we tire

INTRODUCTION

The traditional Japanese tea ceremony [1] is a microcosm of human life focused on the activity of giving and receiving between two people in close proximity. It is rich with meaning and connotations, and is held in a small, simple space designed to foster a sense of intimacy. The teahouse, to me, is one of the most poignant building types in Japan (Fig. 1). It has inspired me to think about and incorporate into my designs an appreciation for small spaces and the modulation of natural light. In the tea house shown on the next page (Fig. 2), the human figure at right is transformed into a silhouette by the flat light of the shoji screens. The narrow crack between the screens is carefully adjusted to capture a fragment of the natural world outside. This small reminder emphasizes by contrast the purity of the ceremony, which is further intensified by the intimate scale of the room.

In this paper I will consider seven recent projects of my design, each one generated by a clear abstract concept, which is then adapted and altered to become part of a specific and particular setting in the landscape. The first six designs, modest in size, I call “T” houses, not because tea is necessarily served within, but because of their plan configuration. The seventh design is a building with two faces located on an

island property which has two beaches, one facing east and one facing west. I have dedicated this building to the Roman God, Janus. The “T” houses and the Janus building are designed to be receptive hosts to natural light which I believe to be an essential ingredient to salutary human life, and awareness of the flow of time [2].

The design of these buildings embodies six principles which have been important to me during the years of my practice. Briefly noted, they are: 1) **Natural Light** The building must receive and be shaped by natural light and by so doing encourage awareness of the passage of time. 2) **Landscape** The building must enhance the landscape in which it is placed, and be subordinate to it. 3) **Handcraft** The materials in the building must wear with pride the traces of skillful hands employed during construction. 4) **Symmetry** The building must be comfortably in balance about the dominate axis in plan and elevation, in a way which is natural and appropriate to program and spatial needs. 5) **Axiality** The building design must be organized around strong, clear axes which order the major symmetries and enfilades of passageways and light channels which connect aligned doors and windows. 6) **Memory** A building must stimulate the elusive awareness of an image which becomes embedded in memory, like an unforgettable face at a particular moment, or a haunting melody.

In using these principals to design buildings, which become architecture when luck, circumstance and divine inter-

a) Now at Bosworth Hoedemaker, LLC 1408 North 45th Street, Seattle, Washington 98103, tori@bosworthhoedemaker.com



Fig. 1. Prof. Shigemura demonstrates the tea ceremony to Prof. Bosworth in a 17th century tea house in Kyoto in 1982.



Fig. 2. Myoki-An Tea house, Kyoto.

vention are present, I have developed several plan-types which I call Great Room [3], Spine [4], Double Axis [5], String [6] and Courtyard [7]. The “T” plan and the Janus plan are variations on the Great Room and the String plan types, respectively. First, we will consider the “T” houses, and then the Janus plan.

SIX “T” HOUSES

The “T” plan is based on the idea that three rooms, each with windows on three sides, can be functionally joined together at their fourth windowless side. At this juncture is located the supportive functions (circulation, bathrooms, closets and utility spaces), which serve the three light-filled rooms. These buildings with their simple footprint have the potential to become architecture only when they incorporate the characteristics of a particular site in the landscape [8], and only when they are shaped to receive natural light with simple grace.

The “T” plan provides the opportunity for a primary axis along the stem which can be used to fix the building axially to the various conditions of the site and clarify the relationship of the building to its setting in the landscape. In contrast, a bilaterally symmetrical plan with two equal axes crossing at a 90 degree angle can only completely fulfill its poten-

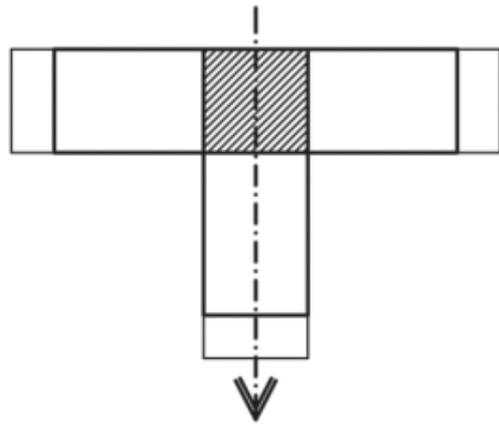


Fig. 3. Stem in Front Diagram.

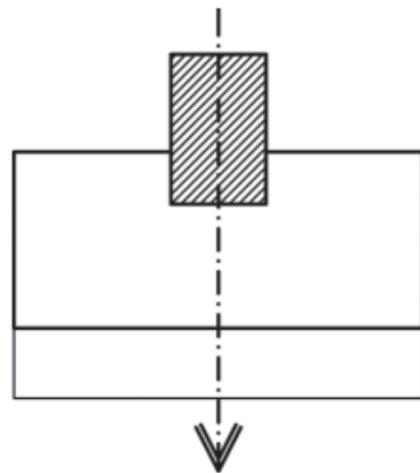


Fig. 4. Crossbar in Front Diagram.

tial on a flat, undifferentiated endless plane, a circumstance rarely encountered in nature.

I have divided the “T” house plan projects into two groups of three buildings each. The first (Fig. 3) has the stem containing the principle room at the front of the building; the second (Fig. 4) has the crossbar of the T containing the principal room at the front. The advantages of each scheme will be seen in the examples which follow.

Stem in front

These projects (Fig. 5) provide an opportunity to investigate plan variations within this three room footprint, to define specific design solutions to various site conditions, and to design fenestration which captures and enjoys natural light [9].

1) The Savage House, (2250 square feet), Shaw Island, completed in 1998. (Fig. 6)

This building faces south and looks across a sloping meadow to the sea. Located in the stem and along the main axis are the public activities of the house; cooking, dining and sitting

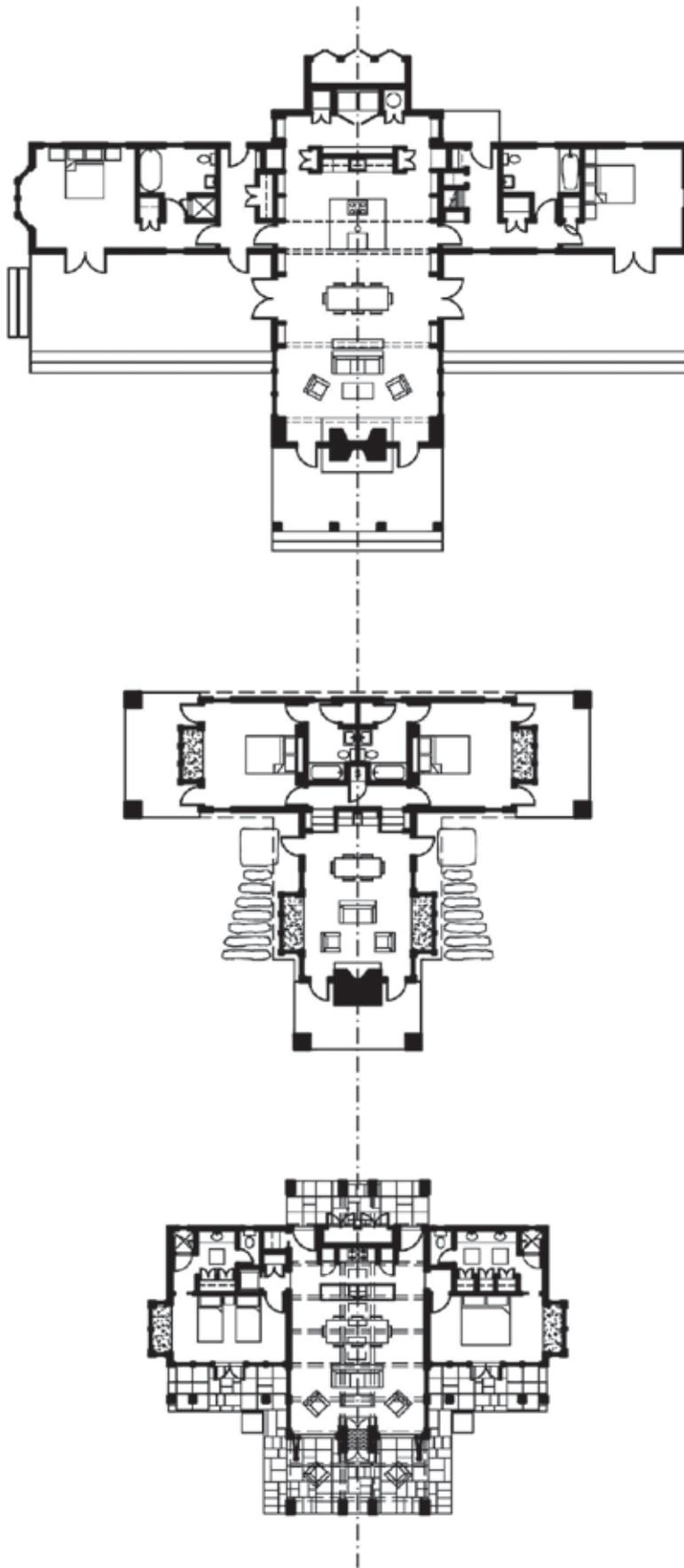


Fig. 5. Stem in Front Projects.

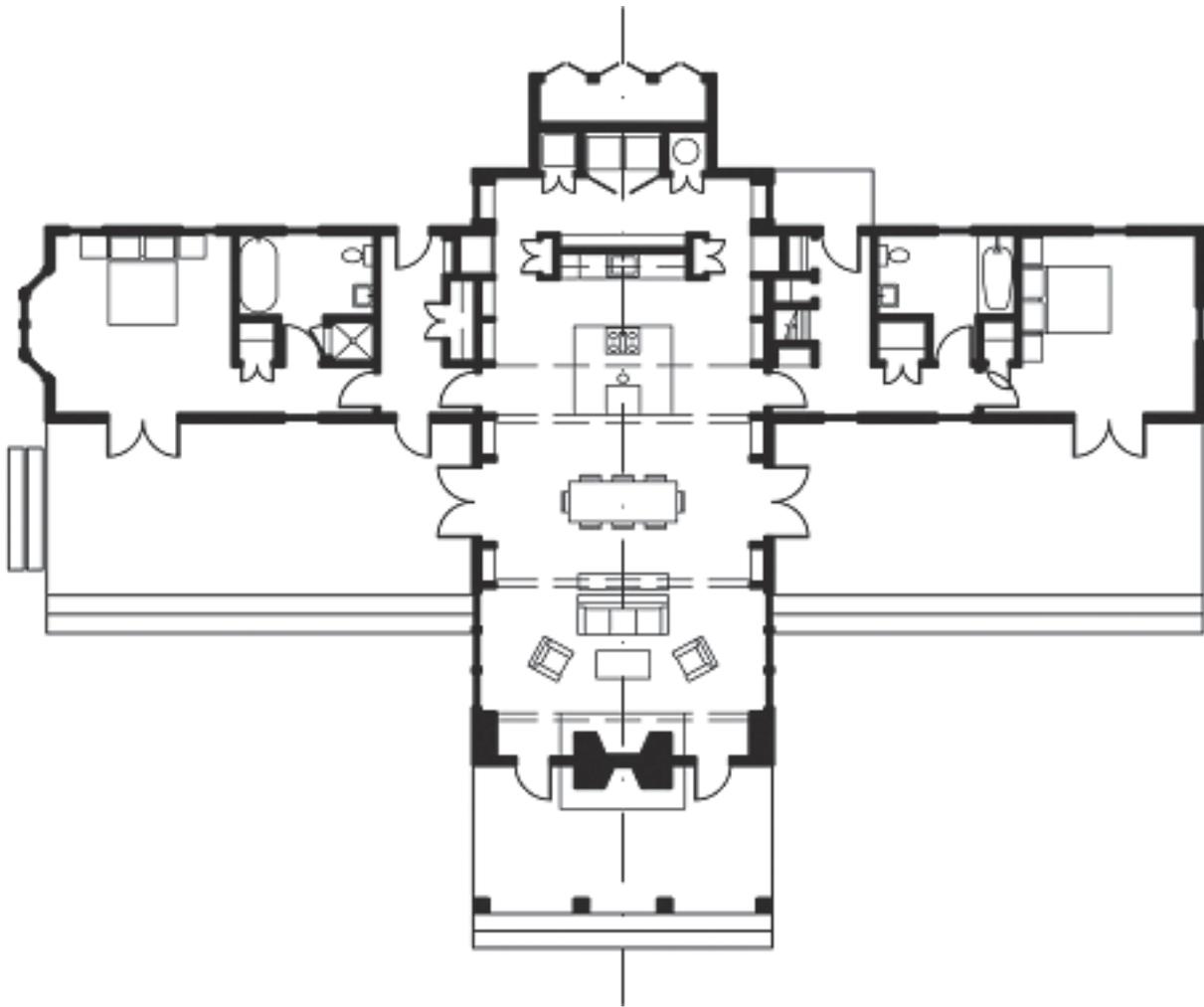


Fig. 6. Savage House Plan.

by the two fireplaces that share a common chimney mass. One hearth faces inward, the other outward onto the porch. The main axis of the building follows the gradual slope down the hill connecting the building with the sea and with the meadow along the way. Sunning decks bracket the dining area in the stem and also serve the bedrooms in the extremities of the cross bar. North of the house the meadow rises to a crest which defines the visual limits of the site in that direction. To the east and west the meadow ends at the edge of the forest in the middle distance.

Because of the exposed nature of this site, natural light is carefully admitted through tall shuttered windows in the walls, and through two shed dormers in the roof above the dining area.

2) The Tall Guest House, (1000 square feet) Henry Island, scheduled for completion in 2004. (Fig. 7)

The setting for this project is a small clearing in a dense forest. The building is placed with its back, the crossbar of the "T", against the southern edge of the clearing with the stem

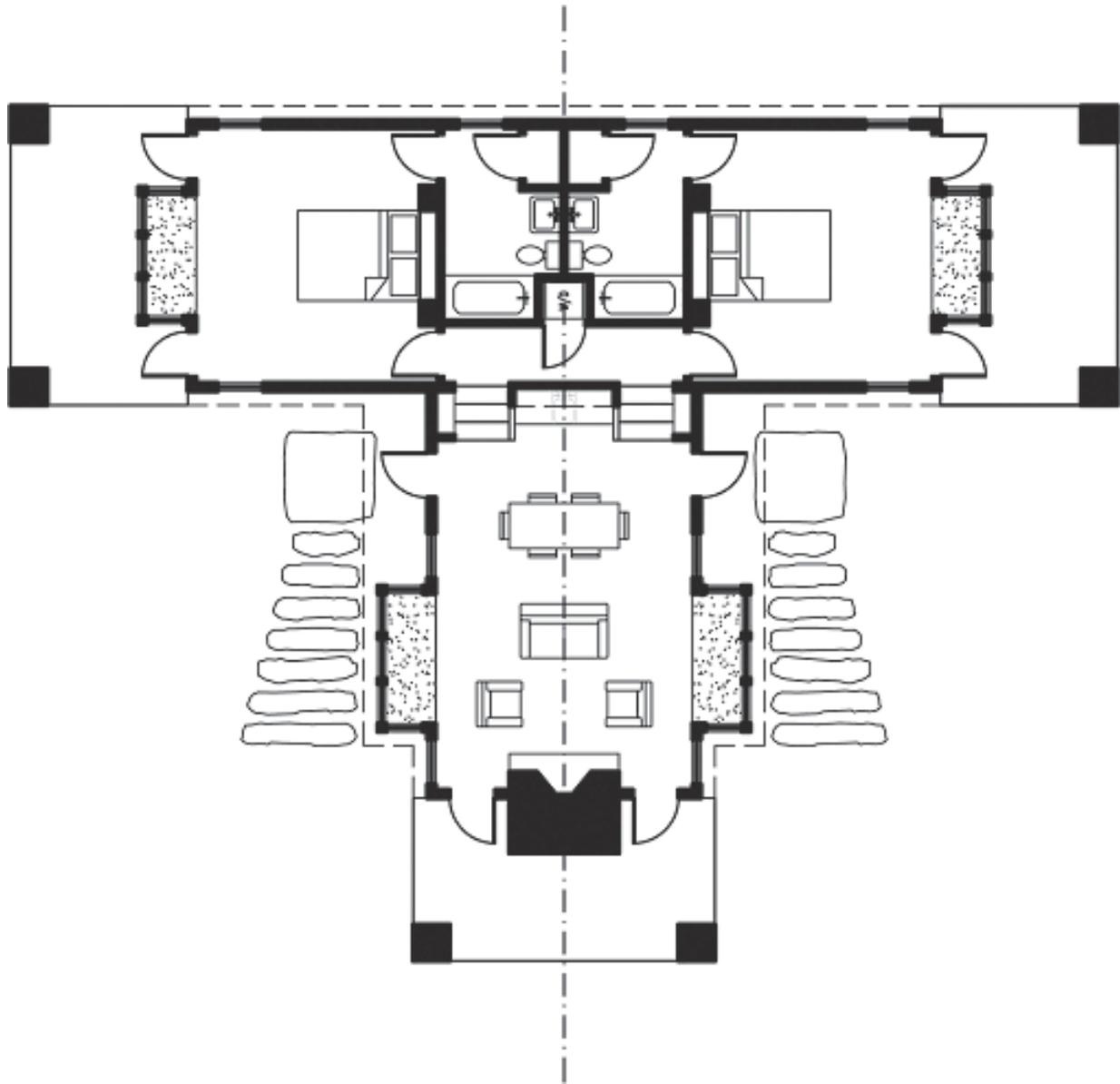


Fig. 7. Tall Guest House Plan.

extending northward and aligning with the axis of the clearing, through the clearing's entrance, and on to a view of water and a tree covered promontory beyond. Each end of the cross bar of the "T" faces a secondary event in the landscape; to the west a narrow alley cut through the trees to the rocky beach, and to the east, a path through the forest which leads to a small sunny space defined by a natural ring of beech trees surrounded by the more characteristic coniferous trees of the island.

The disposition of rooms and activities in this house and

the intrinsic conditions of natural light are similar to those of the Savage house. In this building, however, the two bedroom wings, as well as the main room in the stem, are terminated with porches to celebrate the special landscape events on the secondary lateral axis of the crossbar of the "T".

3) The Hughes Guest House (998 square feet), Lopez Island, completion scheduled for 2004. (Fig. 8)

The setting for this project is near the top of a rocky coastal cliff sixty feet above the water to the southwest. The steepness of the slope, the irregular contours and the substantial

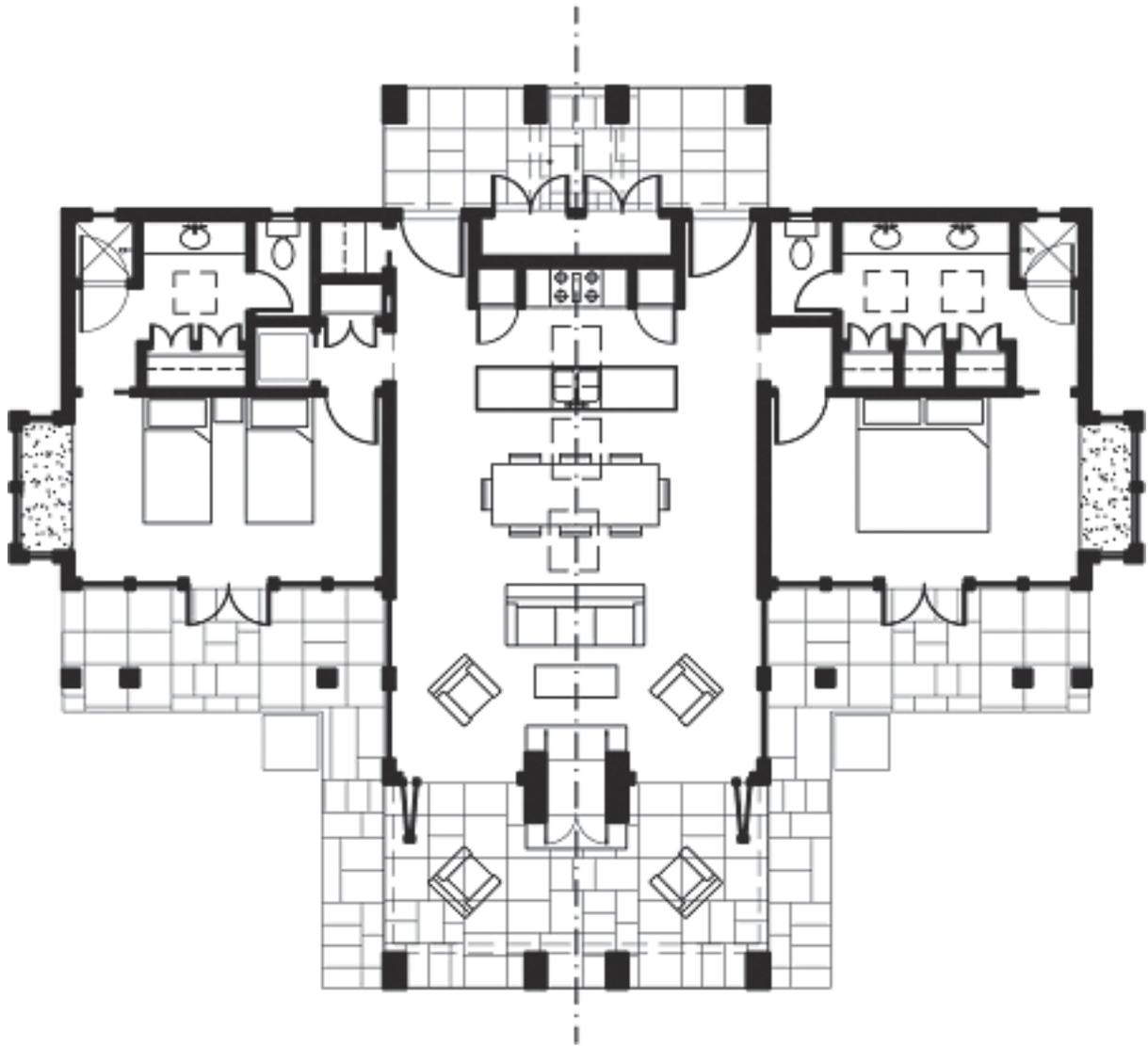


Fig. 8. Hughes Guest House Plan.

trees which cover the building site all serve to compress the footprint of the plan. The stem is partially pressed back into the crossbar, and the “displaced” spaces (bathroom and closets) are located behind the bedrooms on the uphill side of the building. Stone terraces mitigate the irregular topographical conditions in front, where the building faces the major view.

Natural light enters through tall windows in the walls, like the Savage and Tall projects, and through a strip of skylights along the spine of the stem’s roof. The bedrooms and bathrooms also host natural light from above through skylights and transom windows placed in notches (negative dormers) cut into the roof slopes at the rear [10].

Crossbar in front

On a small (18 acre) private island the Browns are building an extensive, rustic family retreat which includes a dock and

harbor facilities, athletic fields, paths and outside eating areas, and several buildings each located in a distinctive setting in the forested landscape. The three buildings I have designed for this project (Fig. 9) share the “T” plan concept, with variations in size and program accommodated by appropriate adjustments of proportion. These buildings all have a single room in the crossbar front, partially penetrated by the stem element behind. In this arrangement the single room in the crossbar can welcome natural light from four sides. The stem is relegated to a secondary service role.

1) The owner’s sleeping cabin, (865 square feet), Double Island, completed in 1999. (Fig. 10)

This small structure is placed among the trees at the top of a steep hill overlooking the harbor to the northwest. A broad porch shelters the main room behind where sleeping and sit-

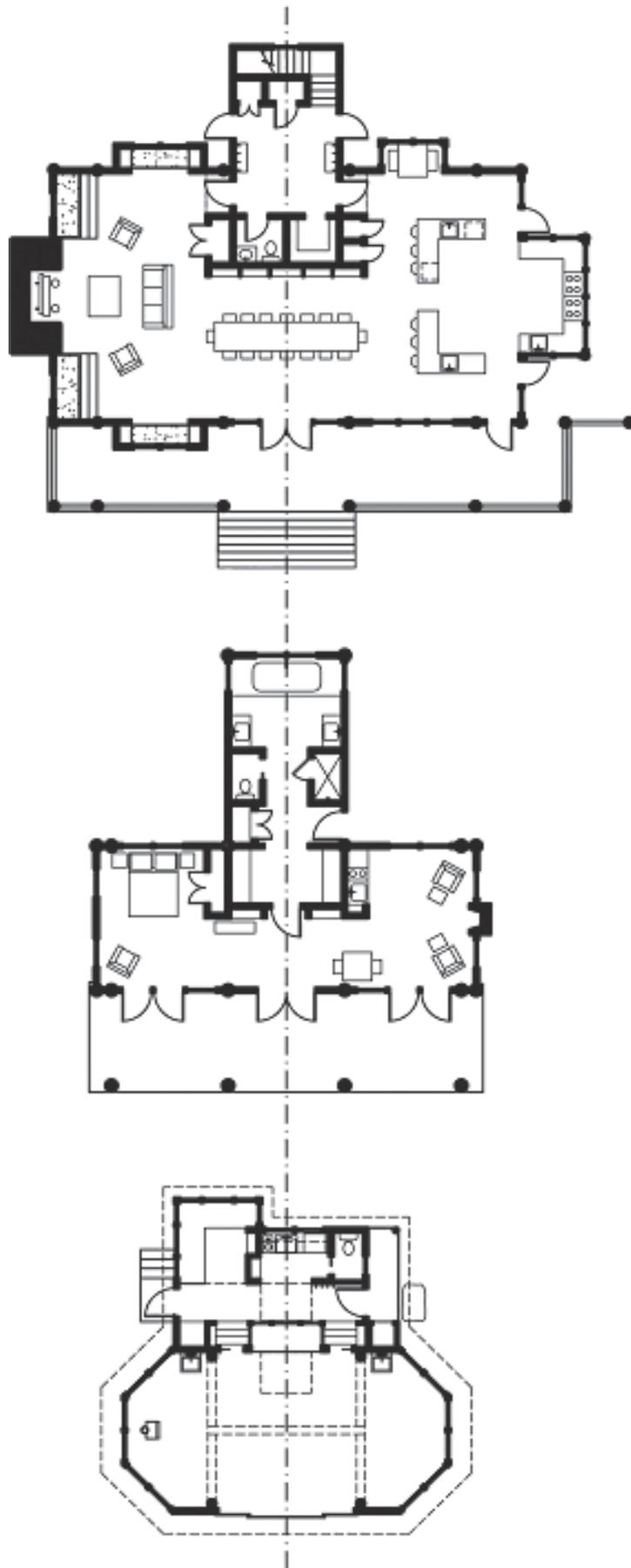


Fig. 9. Crossbar in Front Projects.

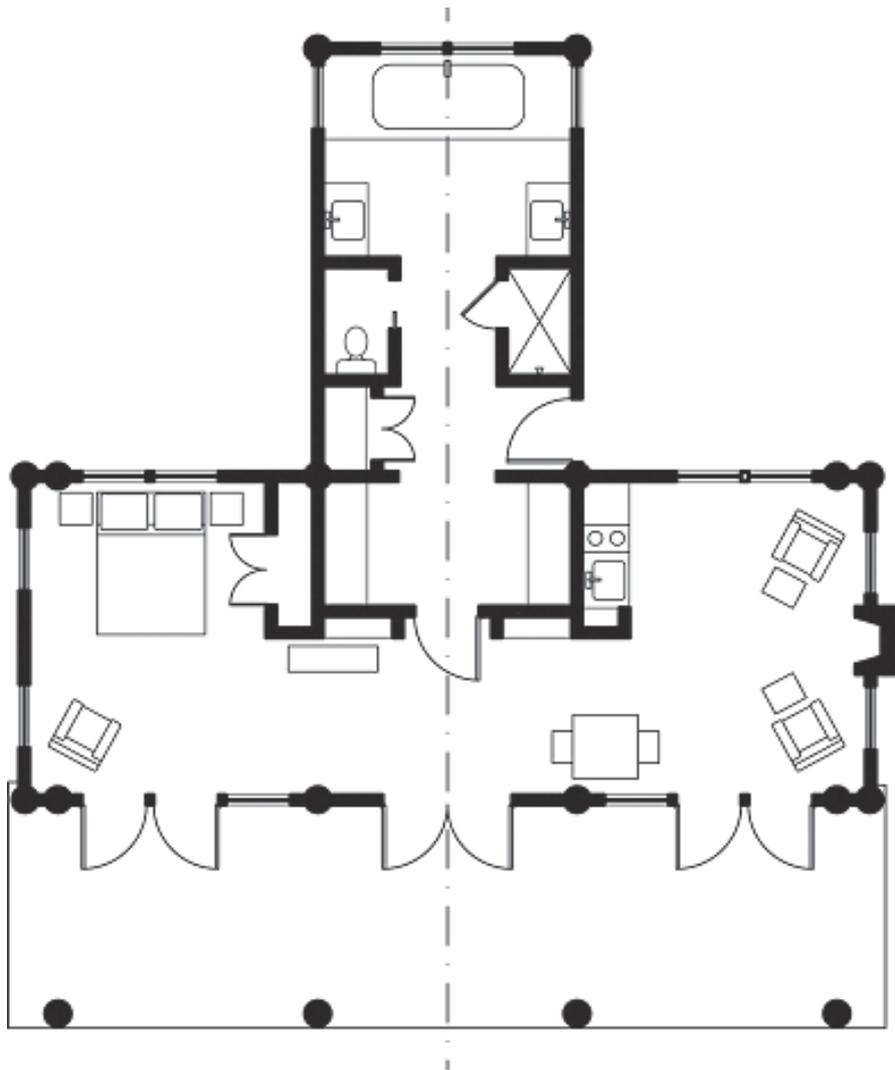


Fig. 10. Brown Sleeping Cabin Plan.

ting activities are located. At the rear of the stem is a roomy bathroom with windows on three sides, looking out into an enclosed garden.

Natural light in this building is subdued, arriving into the interior spaces only through tall windows in the side walls. The overhang of the porch roof adds to the ambience of quiet and privacy (Fig. 11).

2) The Great Lodge, (3200 square feet), Double Island, completed in 1999. (Fig. 12)

The center of life on the island is found in this large log structure. A great hall fills the crossbar and contains cooking, dining and lounging areas. A massive stone fireplace is on one

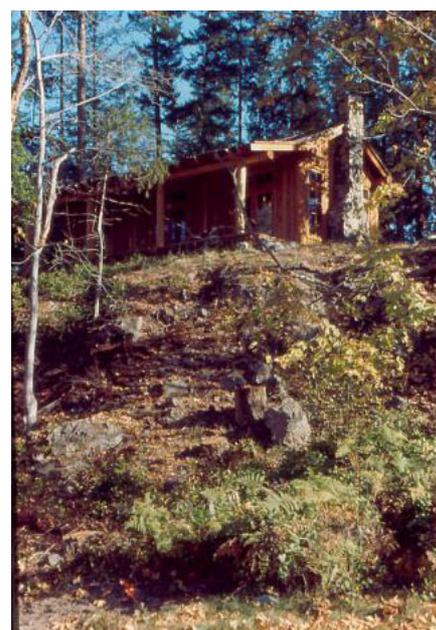


Fig. 11. Brown Sleeping Cabin.

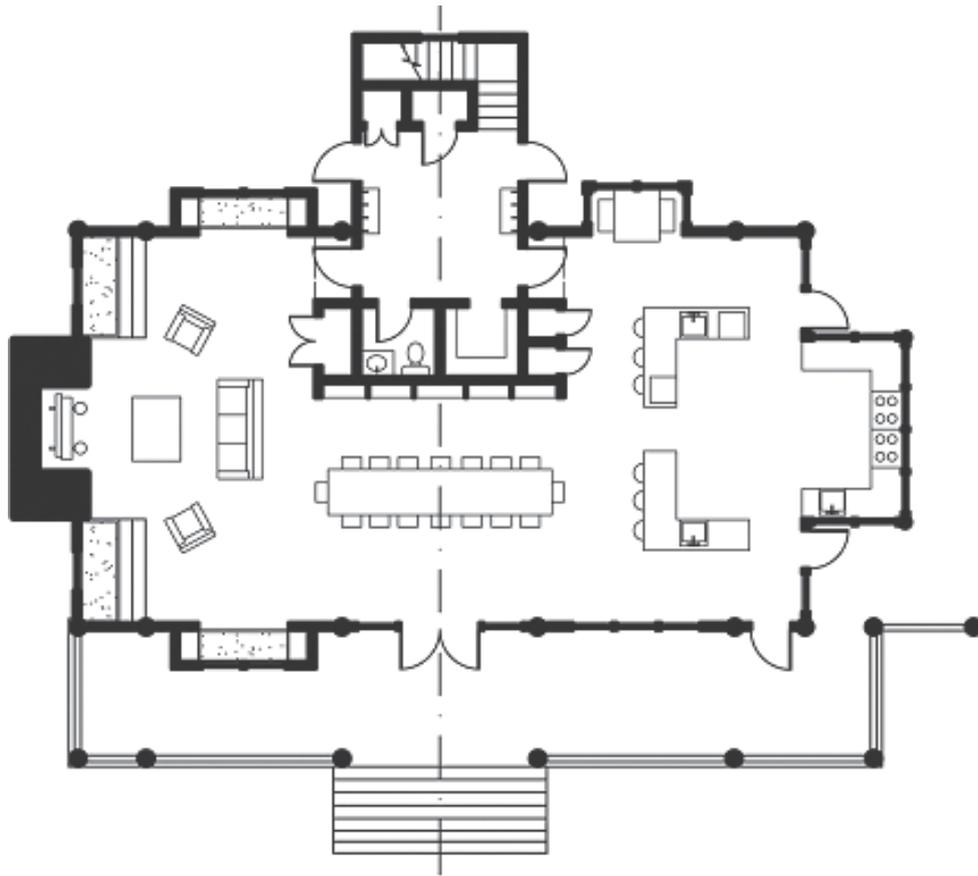


Fig. 12. Brown Lodge Plan.



Fig. 13. Brown Lodge Fireplace.



Fig. 14. Brown Lodge Porch Detail.



Fig. 15. Brown Lodge.

end (Fig. 13) and the kitchen facilities on the other. Across the front is a deep porch (Fig. 14) which faces northwest and looks upon a gradually sloping lawn (Fig. 15) leading down to a cove and the harbor facilities. The stem element behind the main room contains a vestibule, incidental storage, and stairs leading to rooms below which contain space for laundry facilities, communal bathrooms, exercise equipment, mechanical equipment and extensive food and supply storage.

Natural light enters the main room from several directions and with a variety of intensities; strong direct light through windows, transoms and shed dormers, and more muted light through the doors and windows opening onto the porch, and through wall niches containing window seats and bookshelves.

The main rooms in the lower floor receive natural light through deep apertures slotted into the foundations and adjacent land, which help create the illusion that this two-leveled structure is only one story in height and therefore compatible in scale with the other modest structures on the island.

The design intention in this building is to use natural light in a way which balances the sense of openness and enclosure.

3) The Studio, (822 square feet), Double Island, scheduled for completion in 2003. (Fig 16)

In this small building the studio workspace becomes a glass walled porch with apsidal ends. It forms the crossbar of the

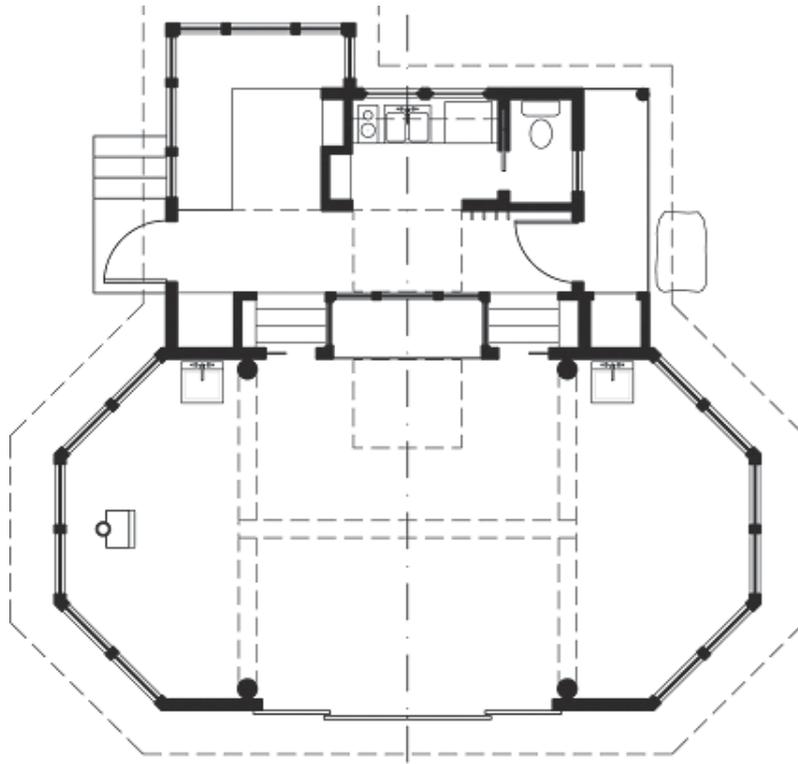


Fig. 16. Brown Studio Plan.



Fig. 17. Studio from Path.

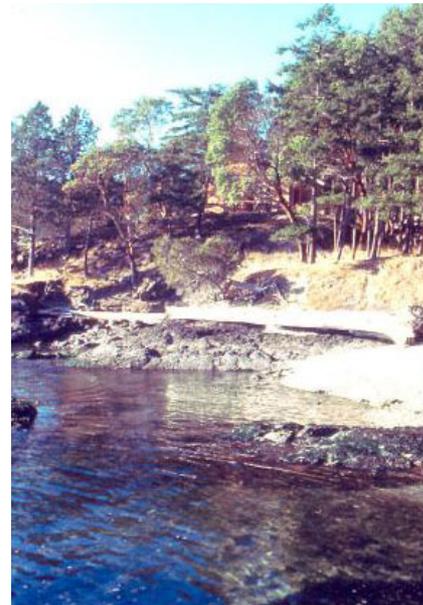


Fig. 18. Studio from Bay.

“T” plan and is placed on and behind a rock outcropping close to the shore. The stem, slightly lower than the workspace, contains a desk space, storage, a kitchenette and lavatory. On the small entrance porch (Fig. 17) is an outdoor shower. In front of the studio space is a small terrace on top of the rock outcropping. Beyond, to the east, and on the buildings axis, is a small sheltered bay (Fig. 18).

An abundance of natural light fills the studio space, enter-

ing through the glass walls on all sides, and through two reverse dormer windows on the axis of the stem which admit streaks of western light in the late afternoon.

A BUILDING WITH TWO FACES

The Tall House (4100 square feet), Henry Island, Scheduled for completion in 2004



Fig. 19. East Beach of Tall Property.



Fig. 21. Head of Janus



Fig. 20. West Beach of Tall Property.



Fig. 22. Tall Main House Site.

The island site for this project of several structures (dock, boathouse, utility buildings, guest house and main house) is blessed with an abundance of attractive natural features. It is covered with a mature forest of coniferous and deciduous trees, a varied terrain of moss covered rocks, and wetlands filled with wild life. Bracketing this diversity are two beaches. The eastern beach (Fig. 19), with dock and mooring facilities, fronts on the relatively quiet waters of Roche Harbor and the sheltering presence of Spieden Island. The western beach (Fig. 20), large and gradually curving, faces the broad reach of the Straights of Haro, a major shipping lane, and in the distance, the silhouette of Vancouver Island.

The dominant presence of these two beaches, one facing east, one facing west, evoked in my mind the Roman God Janus (Fig. 21) [11]. Janus is the spirit of the city gate, which faces outward to the countryside and inward to the city. He straddles time [12], seeing both into the past and the future. He looks simultaneously at both the rising and the setting

sun. He is the God of beginnings and endings. To represent these dualities Janus is depicted with a face on both sides of his head, facing forward and backward at the same time.

The site for the main house also suggests the presence of Janus (Fig. 22). It is located along the crest of a low, tree covered ridge with flanks sloping east and west. The house plan is placed to stretch along the ridge, and the main space, the common room, with two faces, one looking east and one looking west, is placed in the center (Fig. 23). At each end are sleeping pavilions (offset slightly from the ridge axis), which bracket the main space, the Janus space.

The Janus space has a covered porch on each side (Fig. 24), visors for the God's cap, defined by thick concrete piers (Fig 25), which rise up from the ground like primordial fingers of a hand which holds the house in its palm. These strong piers also serve as guardian sentinels for the interior spaces in the manner of ancient Greek peripteral temples (Fig 26) [13].

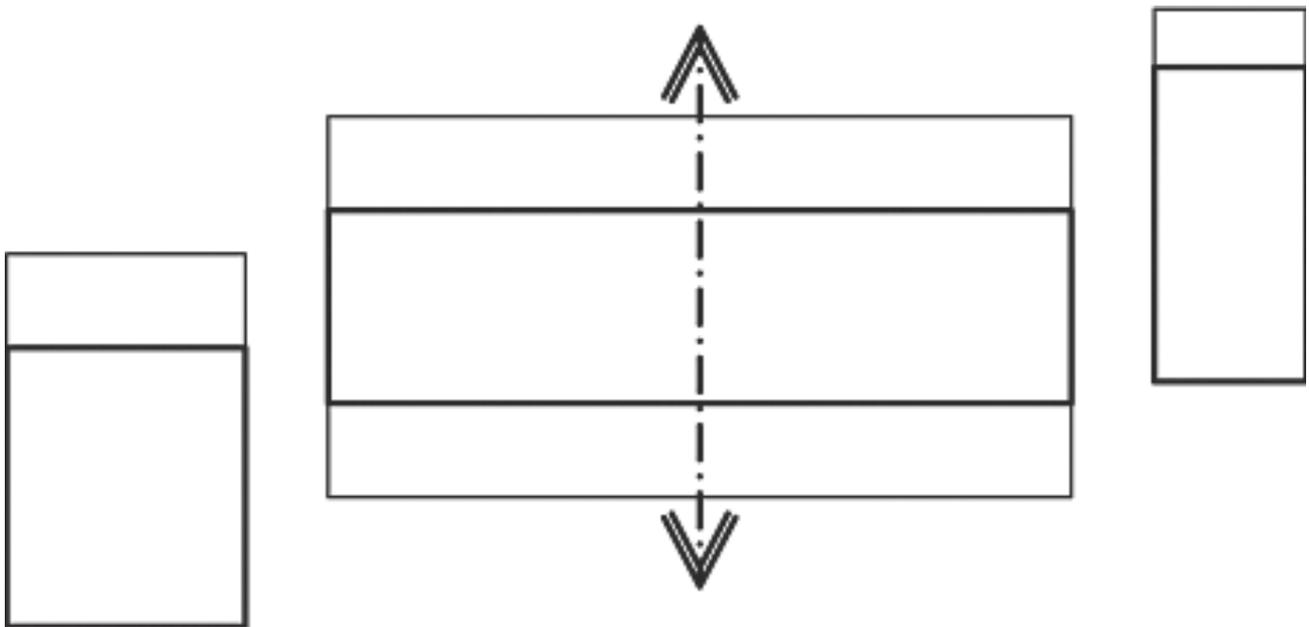


Fig. 23. Tall Main House Diagram.

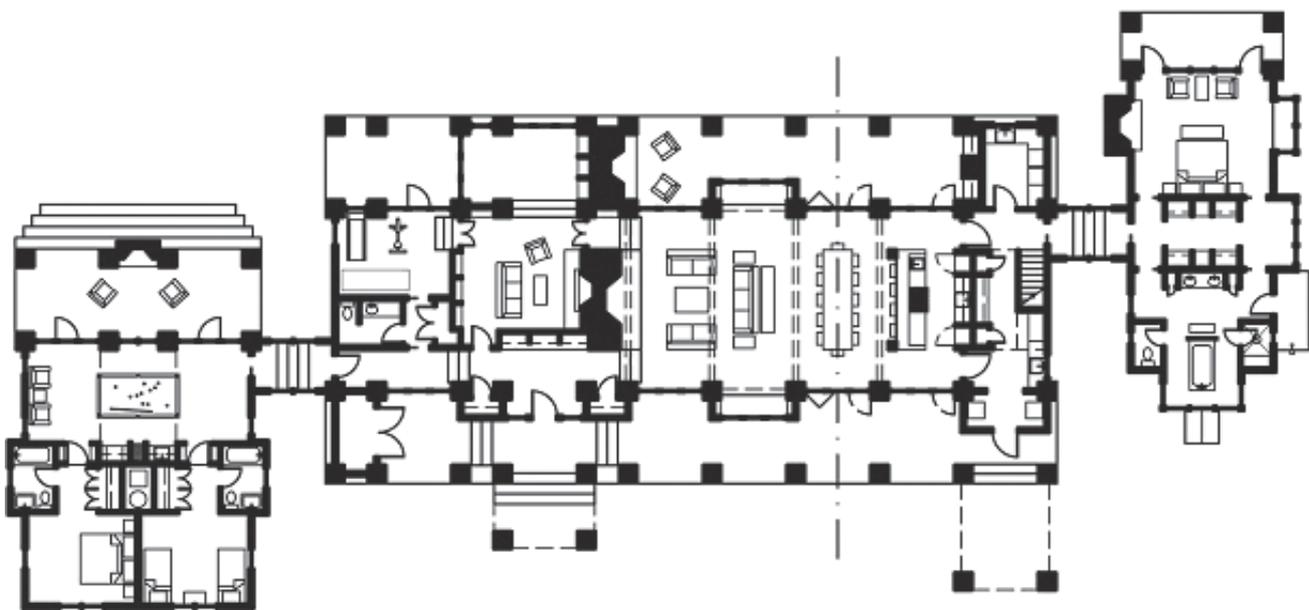


Fig. 24. Tall Main House Plan.

In this house the main source of natural light enters through the east and west walls, where tall windows and glass doors define the two faces of Janus (Fig.27). Above their openings are transom windows which admit light of a reduced intensity (Fig.28) because of the proximity of the porch roofs. Through the high dormer windows in the east and west surfaces of the main roof (Fig.29), above the heavy trusses, comes bright sky light in the morning and in the afternoon which

marks the passage of time with narrow streaks of direct natural light deep within the interior spaces of the building (Fig. 30) [14].

On days when there is an abundance of natural light the thick porch columns cast ample shadows which provide welcome relief from the sun's intensity.

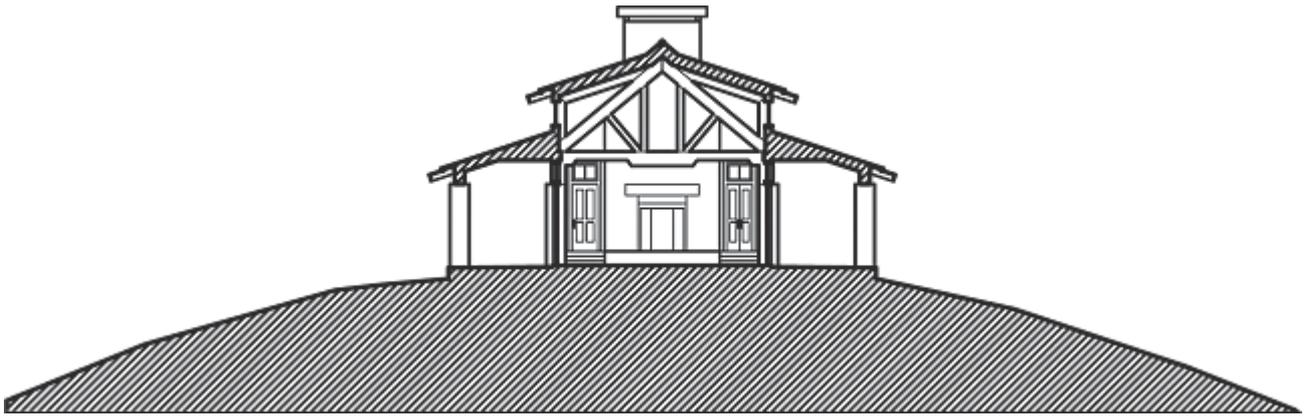


Fig. 25. Tall Main House Section.

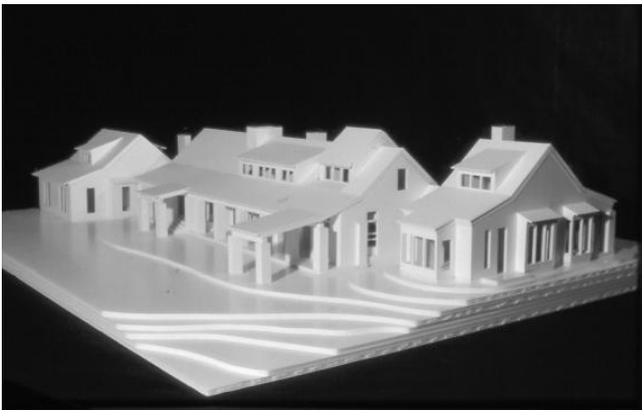


Fig. 26. Tall model from the south.



Fig. 27. Tall model from the north.



Fig. 28. Tall model from the north.

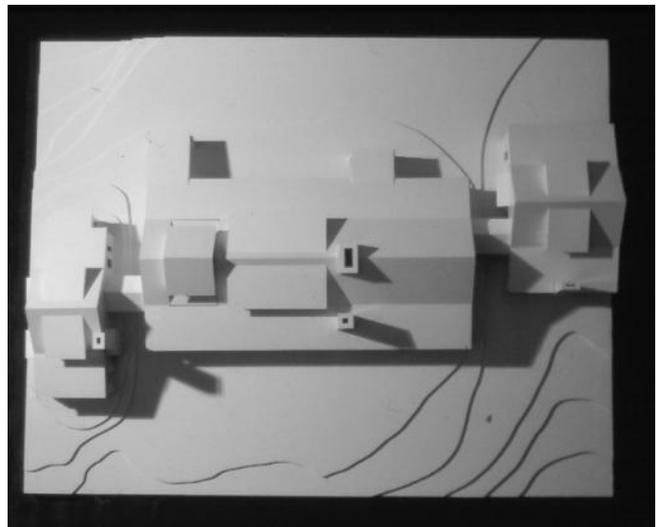


Fig. 29. Tall model from above.

CONCLUSION

In this report I have endeavored to show how an abstract concept (“T” house and Janus plan) can be applied to, and become modified by, a specific site. When the design is then taken further to accommodate program requirements, and also becomes a welcoming host to natural light, then we have the possibility of architecture. And architecture, if carefully structured and considered, can become an ordered setting for hu-

man life, and a vital participant in the natural environment. Hopefully, the final result will have the potential to contribute to the awareness of time[15] as experienced by the human body, the human mind, and by the creative energies of the individual.

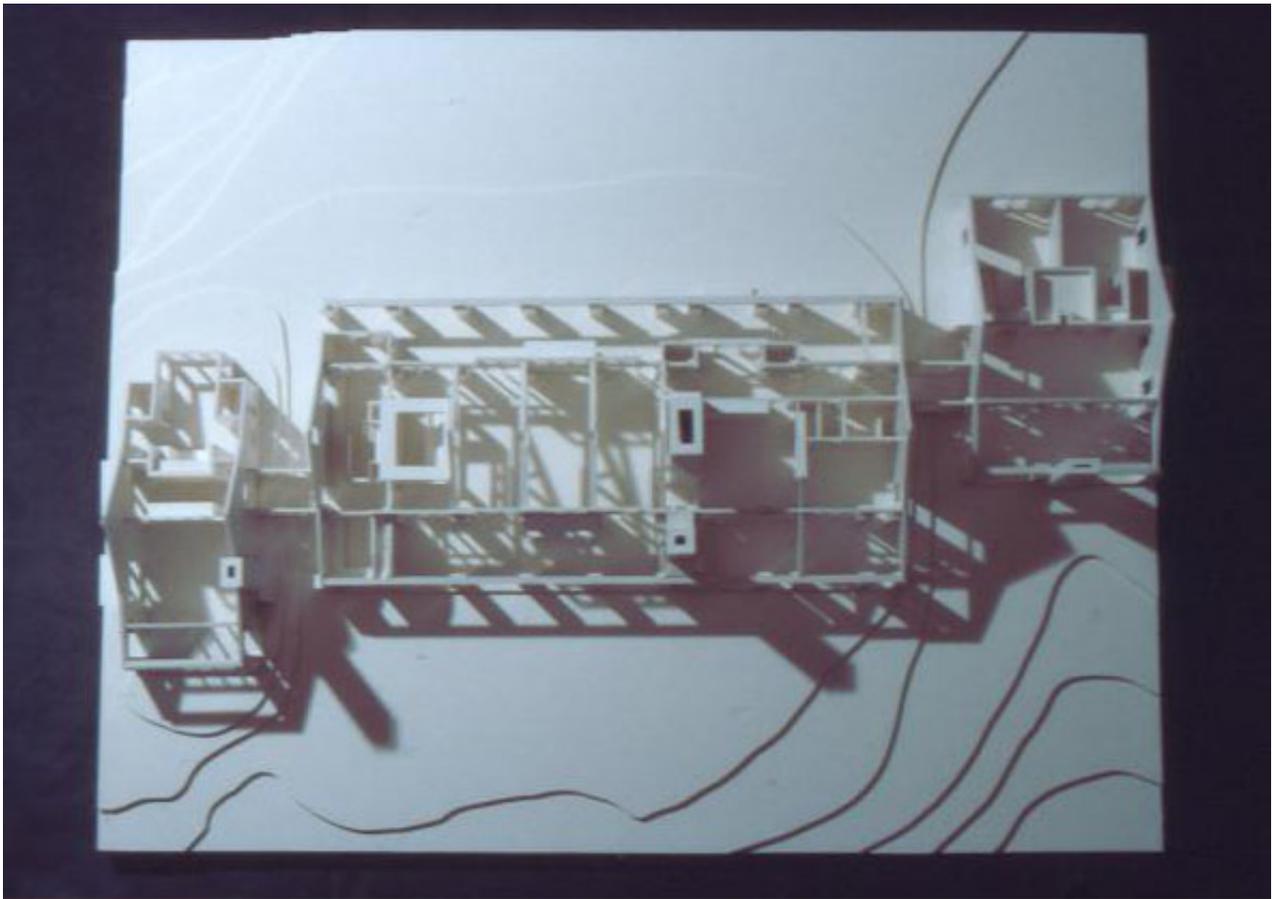


Fig. 30. Tall model from above.

*We move from sunlight
 Into the shadows
 To find relief
 And sadness*

REFERENCES AND NOTES

- [1] Okahura, K. *The Book of Tea*, Dover, New York: 1964. Santon, C. (1982). "Tea and the Arts of Japan", *Chanoyu Quarterly* No. 30, Urasence Foundation, Kyoto and Hawaii:1982.
- [2] Ando Y., Johnson, B. and Bosworth, T. "Theory and Planning Physical Environments Incorporating Spatial and Temporal Values", *Memoirs of the Graduate School of Science and Technology, Kobe University*, No. 14-A, March 1996, pp. 67-92, (pp. 75-79).
- [3] Ragen House, San Juan Island, WA, 1986. Pasette House, Decatur Island, WA 1995. Chesnut House, Ellensburg, WA, 2001.
- [4] Ensminger/Kellam House, Pasadena, MD, 1984. E. Bosworth House, Ridgeway, CO, 1987. T. Bosworth House, San Juan Island, WA, 1994.
- [5] Tobin House, Gig Harbor, WA, 1990. Rabel House, Whidbey Island, WA, 1992.
- [6] MacRae House, Dabob Bay, WA, 1981. Frankland House, Bainbridge Island, WA, 1987.
- [7] VonKorff/LeResche House, Seattle, WA, 1985. T. Bosworth House, San Miguel de Allende, Mexico, 2003.
- [8] Bosworth, T. "The Importance of Natural Light as a Determinant of the Planning and Design of Housing on Steep Slopes", *Planning of Hillside Residences*, A.I.J., Gihodo Press, Tokyo: 1995, Chapter 4.1.
- [9] Bosworth, T. "Dancing with Light", *Journal of the Monday Club*, University of Washington: April, 1994, pp. 2-7.
- [10] Jacobsen, M., Silverstein, M., and Winslow, B. *Patterns of Home*, Taunton Press, Newtown, CT: 2002, pp. 104, 215-223.
- [11] Bulfinch, T., *Bulfinch's Mythology*, Avenel Books, Crown Publishers, New York: 1979, pp. 227.
- [12] Ramo, H., "An Aristotelian Human Time-Space Manifold; From Chronochora to Kairotopos", *Time + Society*, Copyright 1999, Sage Vol. 8(2), London, Thousand Oaks, CA and New Delhi, pp. 309-328.
- [13] Hersey, G., *The Lost Meaning of Classical Architecture*, Cambridge, MA: 1988.
- [14] Bosworth, T. (1997). *Architecture as Light Sound and Time In: Concert Hall Acoustics*. Conference Proceedings of MCHA 1995, (Ed. Ando, Y. and Noson, D.). Academic Press London. Chapter 3.
- [15] Kubler, G. (1962). *The Shape of Time*. Yale University Press. New York and London.