



Japanese Housing

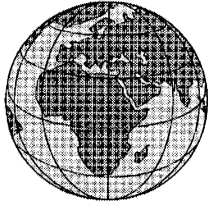
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TEACHER'S GUIDE

Asian Educational Media Service, Center for East Asian
and Pacific Studies, University of Illinois

Social Science Education Consortium

2000



JAPANESE HOUSING: CUSTOMS IN TRANSITION

Teacher's Guide

by Lynn Parisi

The Asia Video Reports series was created and compiled at the Asian Educational Media Service in the Center for East Asian and Pacific Studies at the Urbana-Champaign campus on behalf of the Board of Trustees of the University of Illinois.

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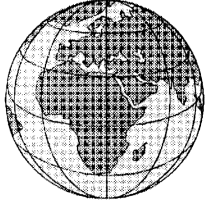
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JAPANESE PRONUNCIATION TIPS

by Mary Hammond Bernson and Evon Tanabe

Vowels: There are only five vowel sounds in Japanese. Here they are in Japanese order:

a sounds like the a in father. Example: *san*

i sounds like the i in machine or pizza. Example: *kimono*

u sounds like the u in flu or food, but is of shorter duration. Example: *mura*

e sounds like the e in pet but is shorter. Example: *sake*

o sounds like the o in comb or most. Example: *obi*

Japanese syllables are “open syllables” and almost always end in a vowel. There is very little stress on different syllables, so try to give equal stress and duration to each syllable. Some vowels, however, are long vowels in the sense of being held longer. The rhythm changes, but the pronunciation does not change as in English long vowels. When romanizing Japanese (writing it in the alphabet we use), long vowels are generally indicated by a double vowel or a line over a vowel, if noted at all. For example, *ojisan* means uncle and *ojiisan* (or *ojisan*) means grandfather.

The vowels u and i are sometimes not voiced at all when they appear at the end of a word or between such letters as f, h, k, p, s, t, ch, and sha. For example, *desu ka?* (is it?) is pronounced *deska*, and *sukiyaki* sounds like *skiyaki*.

Japanese also has some combined sounds.

ai sounds like the ai in kaiser. Example: *samurai*

ei sounds like the ei in rein. Example: *geisha*

Consonants: Most Japanese consonants sound very much like their English equivalents. The most notable differences are:

r sounds somewhat like a cross between r and l, as in the Spanish language

f sounds like a cross between f and h

g is always hard, as in go

n is more nasal than in the English language

ch sounds like the ch in cherry

ts sounds like the final ts in bits

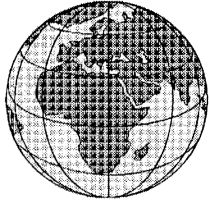
z is a hard sound, as in adds

Reprinted with permission from *Teaching About Japan: Lessons and Resources*, edited by Mary Hammond Bernson and Linda S. Wojtan (Bloomington, IN: ERIC Clearinghouse for Social Studies/Social Science Education, 1996), p. 108.

Double consonants are both pronounced, so for example, *ss* sounds like the two sounds in the words *chess set*.

Sometimes a consonant is followed by a *y*. This does not start a new syllable. *Kyushu*, for example, is a two-syllable word sounding like *sue-shoe*. The “*kyo*” in *Tokyo* and other words is one syllable.

Practice dividing the words in these lessons. *Fukuwarai* is *fu-ku-wa-ra-i*. *Haiku* is *ha-i-ku*. *Daruma* is *da-ru-ma*. Now try pronouncing two frequently mispronounced words: *i-ke-ba-na* (flower arranging) and *bon-sa-i* (miniature plants).



SECTION 1 JAPANESE HOUSING: CUSTOMS IN TRANSITION

Introduction

Much has been written about Japanese housing—both positive aspects (such as the ingenious use of space and the emphasis on nature in home design and decoration) and negative aspects (such as cramped quarters and high prices). In both its positive and negative aspects, Japanese housing can be seen as a response to that nation's geography and environment, much as it embodies lifestyles and culture. This is as true for new directions in contemporary housing as it is for traditional-style home design.

In this learning module, students consider several traditional customs related to housing and home decor, then take a look at two new trends in Japanese home design. As a complete program, the videos, video-viewing activities, and lessons provide a basis from which to consider the broad theme of “customs in transition” as it relates to housing. Video segments and individual lessons also may be used independently at the teacher's discretion.

Among specific aspects of housing that students will consider are the aesthetic appeal of traditional elements of home design (e.g., the emphasis on nature and natural elements such as *tatami* mats and natural wood furniture, the importance of texture, feel, and design), issues of limited space and population density as they affect everyday life, and new directions in housing and home technology in Japan.

Module Objectives: Students will be able to:

- Identify their preconceptions of Japanese housing and the sources of their information.
- Describe several traditional and innovative features in contemporary Japanese homes and appreciate the value placed on each of these features.
- Analyze the relationships among geography, environment, housing, and lifestyle and explain how specific aspects of Japanese traditional and contemporary housing reflect these relationships.
- Consider how pressures on living space have influenced Japanese lifestyles and defined some social issues.
- Solve hypothetical problems involving space and living conditions.

Module Themes

- Tradition and change, including the value placed on tradition in contemporary life.

- Home design as a reflection of aesthetic and cultural values.
- Home design, decoration, and style as reflections of and adaptations to geographic and environmental influences and socioeconomic realities.
- Cultural transmission, borrowing, and adaptation.

Module Components

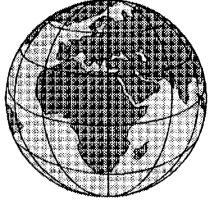
Section 1. Japanese Housing: Customs in Transition. This introductory section concludes with background readings on traditional housing and contemporary trends and issues in Japanese housing. The first reading, an excerpt from the classic volume on Japanese housing by Edward Morse, offers a vivid description of the structure and interior decoration of 19th-century Japanese homes that is still appropriate reading today. Susan Hanley’s article, “Traditional Housing and Unique Lifestyles: The Unintended Outcomes of Japan’s Land Policy,” analyzes the impact of cramped housing on Japanese lifestyles today.

Section 2. Video Stories. The learning module contains five short video stories, each of which looks at a dimension of housing and home furnishing in Japan. The first three video segments focus on specific aspects of traditional housing that continue to be incorporated and valued in Japanese homes and contemporary customs—the *tatami* mat, the practice of removing shoes at the door, and the aesthetics of natural wood construction and furniture. The remaining two segments focus on changes in housing and home life precipitated by the high standard of living in contemporary Japan—specifically, the increase in American-style homes and trends in “high-tech” interior design and home conveniences. Altogether, these five stories should provide surprising and challenging contrasts for the students’ consideration.

The video section of the teacher’s guide contains (1) a brief overview of each video story, (2) procedures for introducing and guiding student viewing and discussion of the videos, and (3) transcripts of the video stories.

Section 3. Learning Activities. Two print activities that support and extend learning from the video module are provided in this section. Picking up the topic of *tatami* mats, Lesson 1 provides a problem-solving activity in which students must adapt their own lifestyle to fit comfortably in a typical Japanese size bedroom. Lesson 2 also focuses on the issue of limited space and how this reality affects housing options and lifestyles for the Japanese. Students simulate Japanese population density; consider social, family, and housing problems and adaptations that can arise as a result of high population density; then look at technological options improving home life in Japan. This lesson extends learning about housing innovations as adaptations to environmental influences and social realities introduced in video segments 4 and 5.

Section 4. World Wide Web Resources. The final component of the module is a listing of relevant online resources.



Japanese Homes and Their Surroundings: “Interiors”

by Edward S. Morse

The interior of a Japanese house is so simple in its construction, and so unlike anything to which we are accustomed in the arrangement of details of interiors in this country, that it is difficult to find terms of comparison in attempting to describe it. Indeed, without the assistance of sketches it would be almost impossible to give a clear idea of the general appearance, and more especially the details, of Japanese house-interiors. We shall therefore mainly rely on the various figures with such aid as description may render.

The first thing that impresses one on entering a Japanese house is the small size and low stud of the rooms. The ceilings are so low that in many cases one can easily touch them, and in going from one room to another one is apt to strike his head against the *kamoi*, or lintel. He notices also the constructive features everywhere apparent—in the stout wooden posts, supports, cross-ties, etc. The rectangular shape of the rooms and the general absence of all jogs and recesses save the *tokonoma* and companion recess in the best room are noticeable features.

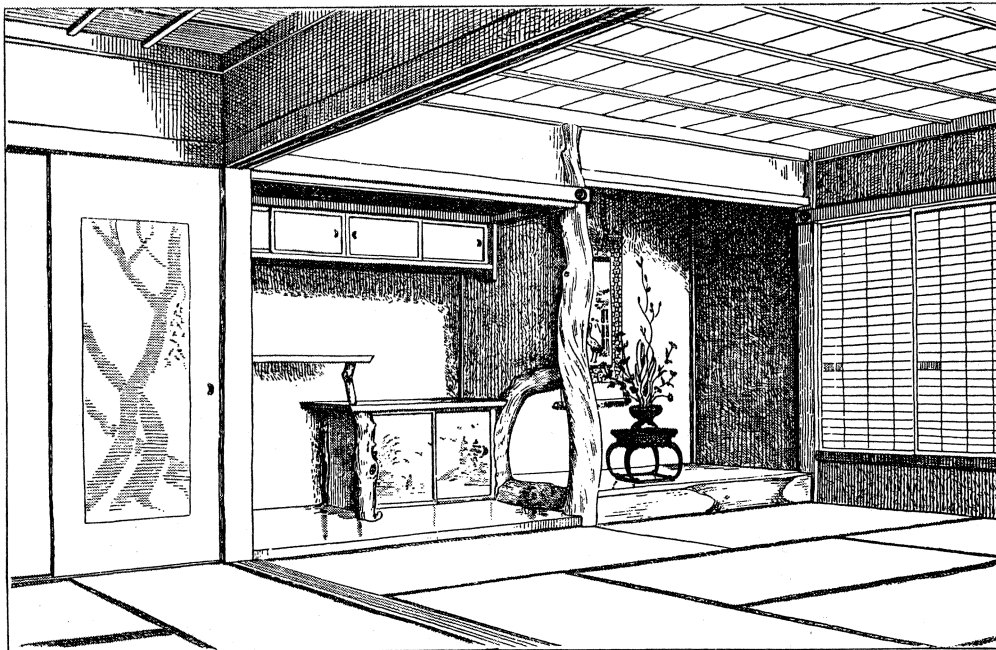


Figure 1. Guest Room in Hachi-ishi.

Reprinted from Chapter 3 of *Japanese Homes and Their Surroundings*, by Edward S. Morse (New York: Dover Publications, Inc., 1961). Morse's book was originally published in 1886.

These recesses vary in depth from two to three feet or more, depending on the size of the room, and are almost invariably in that side of the room which runs at a right angle with the verandah; or if in the second story, at a right angle with the balcony. The division between the recesses consists of a light partition, partly or wholly closed, which generally separates the recesses into two equal bays. The bay nearest the verandah is called the *tokonoma*. In this recess hangs one or two pictures, usually one; and on its floor, which is slightly raised above the level of the mats of the main floor, stands a vase or some other ornament. The companion bay has usually a little closet or cupboard closed by sliding screens, and one or two shelves above, and also another long shelf near its ceiling, all closed by sliding screens. At the risk of some repetition, more special references will be made farther on to these peculiar and eminently characteristic features of the Japanese house.

In remarks on Japanese house-construction in Chapter I, allusion was made to the movable partitions dividing the rooms, consisting of light frames of wood covered with paper. These are nearly six feet in height and about three feet in width. The frame-work of a house, as we have already said, is arranged with special reference to the sliding screens, as well as to the number of mats which are to cover the floor. In each corner of the room is a square post, and within eighteen inches or two feet of the ceiling cross-beams run from post to post. These cross-beams have grooves on their under side in which the screens are to run. Not only are most of the partitions between the rooms made up of sliding screens, but a portion of the exterior partitions as well are composed of these light and adjustable devices.

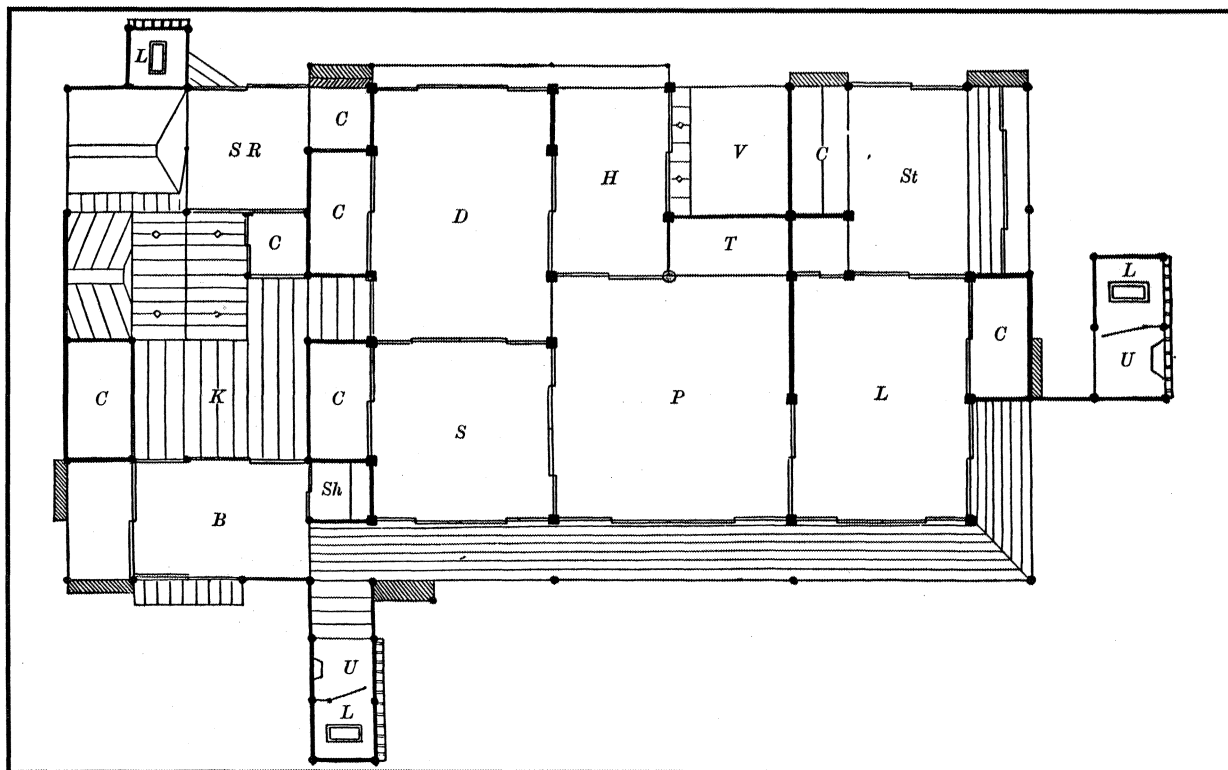


Figure 2. Plan of Dwelling-house in Tokyo.

P, Parlor or Guest-room; S, Sitting-room; D, Dining-room; L, Library; St, Study; SR, Servants' Room; B, Bed-room; K, Kitchen; H, Hall; V, Vestibule; C, Closet; T, Tokonoma; Sh, Shrine; U and L, Privy.

A house may have a suite of three or four rooms in a line, and the outside partitions be made up entirely of these movable screens and the necessary posts to support the roof—these posts coming in the corners of the room and marking the divisions between the rooms. The outer screens are covered with white paper, and when closed, a subdued and diffused light enters the room. They may be quickly removed, leaving the entire front of the house open to the air and sunshine. The screens between the rooms are covered with a thick paper, which may be left plain, or ornamented with sketchy or elaborate drawings.

The almost entire absence of swinging doors is at once noticeable, though now and then one sees them in other portions of the house. The absence of all paint, varnish, oil, or filling, which too often defaces our rooms at home, is at once remarked; and the ridiculous absurdity of covering a good grained wood-surface with paint, and then with brush and comb trying in imitate Nature by scratching in a series of lines, the Japanese are never guilty of. On the contrary, the wood is left in just the condition in which it leaves the cabinet-maker's plane, with a simple surface, smooth but not polished—though polished surfaces occur, however, which will be referred to in the proper place. Oftentimes in some of the parts the original surface of the wood is left, sometimes with the bark retained. Whenever the Japanese workman can leave a bit of Nature in this way he is delighted to do so. He is sure to avail himself of all curious features in wood: it may be in the effect of some fungoid growth which marks a bamboo curiously; or the sinuous tracks produced by the larvae of some beetle that oftentimes traces the surface of wood, just below the bark, with curious designs; or a knot or burl. His eye never misses these features in finishing a room.

The floors are often roughly made for the reason that straw mats, two or three inches in thickness, cover them completely. In our remarks on house-construction, allusion has already been made to the dimensions of these mats. . . . As no room contains any article of furniture like a bedstead—the bed consisting of wadded comforters, being made up temporarily upon the soft mats—it is obvious that the bedding can be placed in any room in the house. The absence of nearly all furniture gives one an uninterrupted sweep of the floor, so that the entire floor can be covered with sleepers if necessary, a great convenience certainly when one has to entertain unexpectedly a crowd of guests over-night. Certain closets are used as receptacles for the comforters, where they are stowed away during the day-time.

The absence of all barns, wood-sheds, and other out-houses is particularly noticeable, and as the house has no cellar, one wonders where the fuel is stowed. In certain areas of the kitchen floor the planks are removable, the edges of special planks being notched to admit the finger, so that they can be lifted up one by one; and beneath them a large space is revealed, in which wood and charcoal are kept. In the vestibule, which has an earth floor, is a narrow area of wood flush with the floor within, and in this also the boards may be lifted up in a similar way, disclosing a space below, wherein the wooded clogs and umbrellas may be stowed out of sight. These arrangements in the hall are seen in the houses of the moderately well-to-do people, but not, so far as I know, in the houses of the wealthy.

In this house the dining-room and library are six-mat rooms, the parlor is an eight-mat room, and the sitting-room a four and one-half mat room; that is, the floor of each room accommodates the number of mats mentioned. The last three named rooms are bordered by the verandah. . . . Simple as the house just given appears to be, there is quite as much variety in the arrangement of their rooms as with us. There are cheap types of houses in Japan, as in our country, where room follows room in a certain sequence; but the slightest attention to

these matters will not only show great variety in their plans, but equally great variety in the ornamental finishing of their apartments. . . .

The owner of a house in Tokyo often welcomed me to its soft mats and quiet atmosphere, and in the enjoyment of them I have often wondered as to the impressions one would get if he could be suddenly transferred from his own home to this unpretentious house, with its quaint and pleasant surroundings. The general nakedness, or rather emptiness, of the apartments would be the first thing noticed; then gradually the perfect harmony of the tinted walls with the wood finish would be observed. The orderly adjusted screens, with their curious free-hand ink-drawings, or conventional designs on the paper of so subdued and intangible a character that special attention must be directed to them to perceive their nature; the clean and comfortable mats everywhere smoothly covering the floor; the natural woods composing the ceiling and the structural finishing of the room everywhere apparent; the customary recesses with their cupboard and shelves, and the room-wide lintel with its elaborate lattice or carving above—all these would leave lasting impressions of the exquisite taste and true refinement of the Japanese.

I noticed that a peculiarly agreeable odor of the wood used in the structure of this house seemed to fill the air of the rooms with a delicate perfume;¹ and in this connection I was led to think of the rooms I had seen in America encumbered with chairs, bureaus, tables, bedsteads, washstands, etc., and of the dusty carpets and suffocating wall-paper, hot with some frantic design, and perforated with a pair of quadrangular openings, wholly or partially closed against light and air. Recalling this labyrinth of varnished furniture, I could but remember how much work is entailed upon some one properly to attend to such a room; and enjoying by contrast the fresh air and broad flood of light, limited only by the dimensions of the room, which this Japanese house afforded, I could not recall with any pleasure the stifling apartments with which I had been familiar at home. . . .

We are digressing, however. In the plan referred to, an idea of the size of the rooms may be formed by observing the number of mats in each room and recalling the size of the mats, which is about three feet by six. It will be seen that the rooms are small, much smaller than those of a similar class of American houses, though appearing more roomy from the absence of furniture. The three rooms bordering the verandah and facing the garden are readily thrown into one, and thus a continuous apartment is secured, measuring thirty-six feet in length by twelve in width; and this is uninterrupted, with the exception of one small partition.²

In the manner of building, one recognizes the propriety of constructive art as being in better taste; and in a Japanese house one sees this principle carried out to perfection. The ceiling of boards, the corner posts and middle posts and transverse ties are in plain sight. The corner posts which support the roof play their part as a decorative feature, as they pass stoutly upward from the ground beneath. A fringe of rafters rib the lower surface of the wide overhanging eaves, and these in turn rest firmly on an unhewn beam which runs as a girder

1. An odor which at home we recognize as "Japanesy," arising from the wood-boxes in which Japanese articles are packed.

2. In the plan (fig. 2) P is an eight-mat room; D and L are six-mat rooms; S is a four and one-half mat room; B, H, and St. are three-mat rooms; S, R. and V are two-mat rooms.

from one side of the verandah to the other. The house is simply charming in all its appointments, and as a summer-house during the many long hot months it is incomparable. In the raw and rainy days of winter, however, it is not so pleasant, at least to a foreigner—though I question whether to a Japanese it is more unpleasant than the ordinary houses at home are with us, with some of the apartments hot and stifling, and things cracking with the furnace heat, while other parts are splitting with the cold; with gas from the furnace, and chimneys that often refuse to draw, and an impalpable though tangible soot and coal-dust settling on every object, and many other abominations that are too well known. The Japanese do not suffer from the cold as we do. Moreover, when in the house they clothe themselves much more warmly; and for what little artificial warmth they desire, small receptacles containing charcoal are provided, over which they warm themselves, at the same time keeping their feet warm, as a hen does her eggs, by sitting on them. Their indifference to cold is seen in the fact that in their winter-parties the rooms will often be entirely open to the garden, which may be glistening with a fresh snowfall. Their winters are of course much milder than our Northern winters. At such seasons, however, an American misses in Japan the cheerful open fireplace around which the family in his own country is wont to gather; indeed, with the social character of our family life a Japanese house to us would be in winter comfortless to the last degree. . . .

A more minute description of the mats may be given at this point. A brief allusion has already been made to them in the remarks on house-construction. These mats, or *tatami*, are made very carefully of straw, matted and bound together with stout string to a thickness of two inches or more—the upper surface being covered with a straw-matting precisely like the Canton matting we are familiar with, though in the better class of mats of a little finer quality. The edges are trimmed true and square and the two longer sides are bordered on the upper surface and edge with a strip of black linen an inch or more in width. (fig.3).

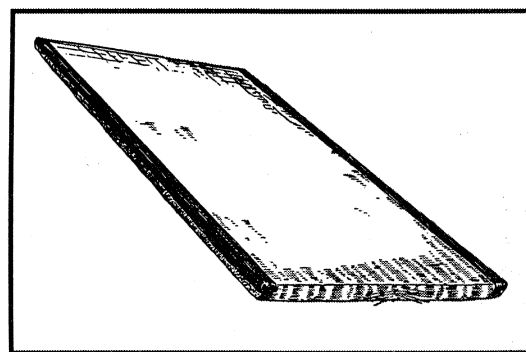


Figure 3. Mat.

The making of mats is quite a separate trade from that of making the straw-matting with which they are covered. The mat-maker may often be seen at work in front of his door, crouching down to a low frame upon which the mat rests.

As we have before remarked, the architect invariably plans his rooms to accommodate a certain number of mats; and since these mats have a definite size, any indication on the plan of the number of mats a room is to contain gives at once its dimensions also. The mats are laid in the following numbers—two, three, four and one-half, six, eight, ten, twelve, fourteen, sixteen, and so on. In the two-mat room the mats are laid side by side, or two mats in one way and the third mat crosswise at the end. In the four and one-half mat room the mats are laid with the half-mat in one corner. The six and eight mat rooms are the most common-sized rooms; and this gives some indication of the small size of the ordinary Japanese room and house, the six-mat room being about nine feet by twelve; the eight-mat room being twelve by twelve; and the ten-mat room being twelve by fifteen. The accompanying sketch (fig. 4) shows the usual arrangements for these mats.

In adjusting mats to the floor, the corners of four mats are never allowed to come together, but are arranged so that the corners of two mats abut against the side of the third. They are supposed to be arranged in the direction of a closely-wound spiral (see dotted line in fig. 4). The edges of the longer sides of the ordinary mats are bound with a narrow strip of black linen, as before remarked. In the houses of the nobles this border strip has figures worked into it in black and white, as may be seen by reference to Japanese illustrated books showing interiors. These mats fit tightly, and the floor upon which they rest, never being in sight, is generally made of rough boards with open joints. The mat, as you step upon it, yields slightly to the pressure of the foot; and old mats get to be slightly uneven and somewhat hard from continual use. From the nature of this soft-matted floor shoes are never worn upon it, the Japanese invariably leaving their wooden clogs outside the house, either on the stepping-stones or on the earth-floor at the entrance. The wearing of one's shoes in the house is one of the many coarse and rude ways in which a foreigner is likely to offend these people. The hard heels of a boot or shoe not only leave deep indentations in the upper matting, but oftentimes break through. Happily, however, the act of removing one's shoes on entering the house is one of the very few customs that foreigners recognize, the necessity of compliance being too obvious to dispute. In spring-time, or during a rain of long duration, the mats become damp and musty; and when a day of sunshine comes they are taken up and stacked, like cards, in front of the house to dry. They are also removed at times and well beaten. Their very nature affords abundant hiding-places for fleas, which are the unmitigated misery of foreigners who travel in Japan; though even this annoyance is generally absent in private houses of the better classes, as is the case with similar pests in our country.

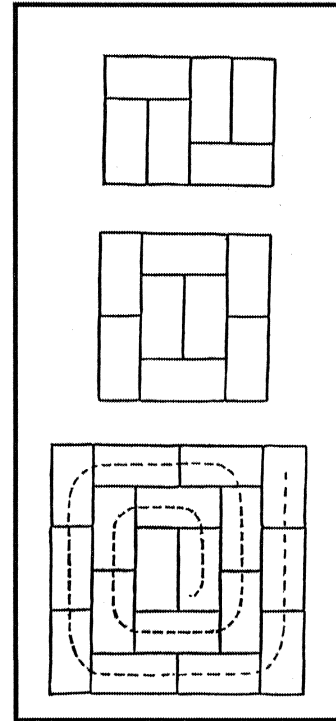


Figure 4.
Arrangement of
Mats in
Different-sized
Rooms.

Upon these mats the people eat, sleep, and die; they represent the bed, chair, lounge, and sometimes table, combined. In resting upon them the Japanese assume a kneeling position, the legs turned beneath, and the haunches resting upon the calves of the legs and the inner sides of the heels; the toes being turned in so that the upper and outer part of the instep bears directly on the mats. Fig. 5 represents a woman in the attitude of sitting. In old people one often notices a callosity on the part of the foot which comes in contact with the mat, and but for a knowledge of the customs of the people in this matter might well wonder how such a hardening of the flesh could occur in such an odd place. This position is so painful to a foreigner that it is only with a great deal of practice he can become accustomed to it. Even the Japanese who have been abroad for several years find it excessively difficult and painful to resume this habit. In this attitude the Japanese receive their company. Hand-shaking is unknown, but bows of various degrees of profundity are made by placing the hands together upon the mats and bowing until the head oftentimes touches the hands. In this ceremony the back is kept parallel with the floor, or nearly so.

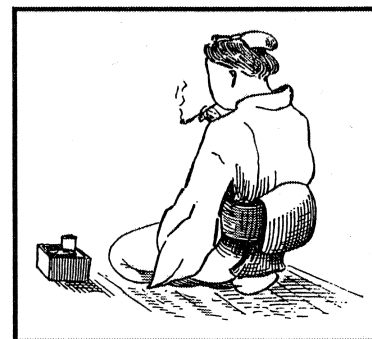


Figure 5. Attitude of
Woman in Sitting.

At meal-times the food is served in lacquer and porcelain dishes on lacquer trays, placed upon the floor in front of the kneeling family; and in this position the repast is taken.

At night a heavily wadded comforter is placed upon the floor; another equally thick is provided for a blanket, a pillow of diminutive proportions for a head-support—and the bed is made. In the morning these articles are stowed away in a large closet. Reference has already been made to the sliding screens, and as they form so important and distinct a feature in the Japanese house, a more special description of them is necessary. . . .

From the adjustable nature of these sliding partitions one may have the opening between the rooms of any width he desires. There are two forms of these sliding screens—the one kind, called *fusuma*, forming the partitions between rooms; the other kind, called *shoji*, coming on the outer sides of the rooms next to the verandah, and forming the substitutes for windows (fig.6).

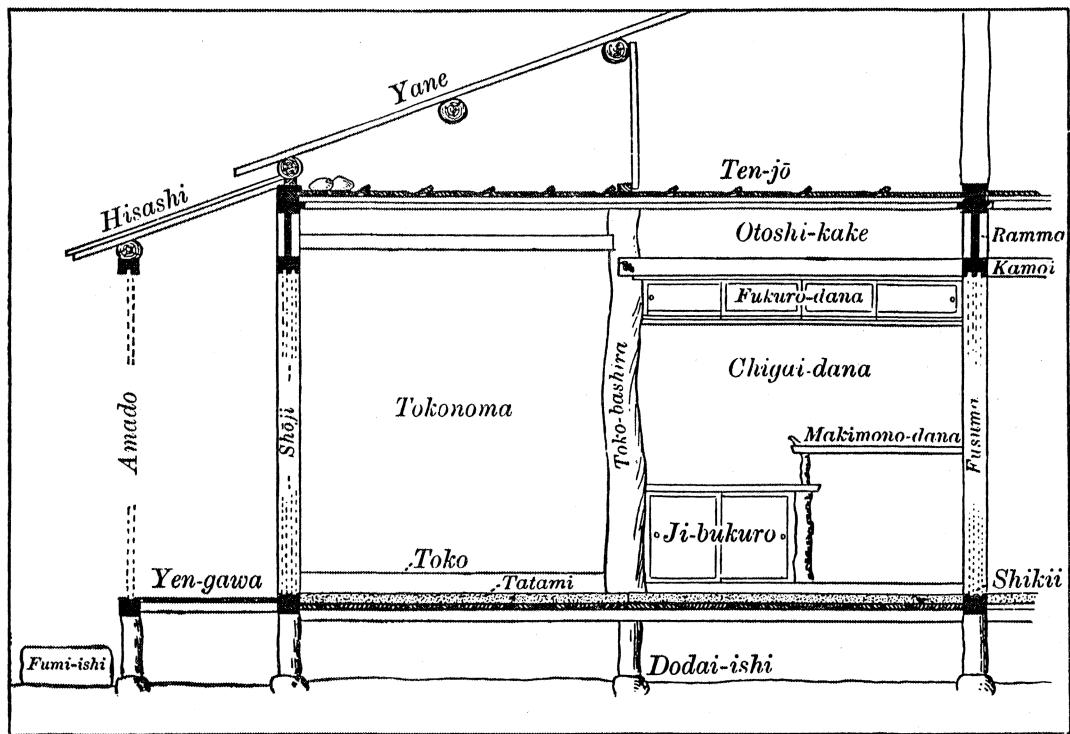
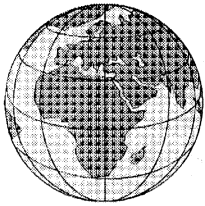


Figure 6. Section through Verandah and Guest-room.



Traditional Housing and Unique Lifestyles: The Unintended Outcomes of Japan's Land Policy

by Susan B. Hanley

Media and scholars alike attribute much of the behavior of the Japanese to the high cost of land, everything from lavish spending on entertainment outside the home, foreign travel, and other luxuries to high saving rates. It is argued that the Japanese are saving to buy a house¹ or that they are spending their money on other things because they cannot hope to own a house. But neither observers nor policy makers seem to be aware of the effect on basic lifestyles that the extraordinarily high land prices have had in Japan. Japan's land policy may be made by political parties, various interest groups, and the bureaucracy for their own purposes,² but the spin-off effects on the lives of the Japanese people have been considerable and largely unintended.

The argument of this paper is that Japan's abnormally high land prices, particularly in the largest urban area, have forced the Japanese to make decisions regarding housing that have influenced not only the type and style of housing they live in, but also the number of children they have, care of the elderly, women's labor force participation, consumption patterns, social life, family relations, and the way they spend their time. The high price of land is not the only factor affecting these decisions; equally important and related are Japan's continued high growth rate in the postwar period and the accompanying rise in the standard of living. High land prices, however, have transformed lifestyles to the extent, I believe, that much of what is attributed to Japan's uniqueness in the modern world is the result of these artificially maintained high land prices. That is, the high land prices have caused the Japanese to act in ways they would not have otherwise, and it is this behavior that makes them seem different from the people in other industrialized nations. Thus it is not Japan's Asian cultural heritage that sets its people apart from those in Western nations so much as the result of its artificially high land prices.

This paper will look first at what the Japanese would prefer in housing if they had the money and then will analyze what the realities of housing are for most Japanese and how they cope to try to achieve the lifestyle they prefer.

1. In Japan, buying a house means buying land since the average cost of the structure is no more than 40 percent of total cost anyplace in the country and in metropolitan areas the percentage of the value of the structure in the total price is so low that it is almost ignored in calculating the value of a residential lot.

2. See the essays in Haley and Yamamura by Anchordoguy, Woodall, and Yamamura.

Excerpted with permission from "Traditional Housing and Unique Lifestyles: The Unintended Outcomes of Japan's Land Policy," by Susan B. Hanley, in *Land Issues in Japan: A Policy Failure?*, edited by John O. Haley and Kozo Yamamura (Seattle: Society for Japanese Studies, 1992), pp. 195-222.

Housing Preferences

A poll taken by the Prime Minister's Office in November 1990 in and around Tokyo, Osaka, Kyoto, and Kobe revealed that 83.4 percent of those interviewed wanted to live in a house rather than an apartment.³ This detached house would be one that is a mixture of Japanese and Western style rooms, but it is difficult to select an "ideal" kind of house Japanese would prefer because so much variety is available, particularly among more expensive houses. Since I am arguing that Japanese would prefer to live much as Westerners do, I have chosen for discussion the floor plan of a house at the upper end of the income scale that is the most traditionally Japanese from a collection of house designs selected from 15 companies and published under the title of "modern Japanese-style houses." Figure 1 is the floor plan of the house from this collection that has the largest number of Japanese-style rooms.⁴

From plans for contemporary Japanese-style houses, it is clear that most Japanese prefer a predominantly Western-style house, though they would like to have at least one traditional room, that is, a room with *tatami* (rush matting) flooring and furnished and decorated for use without chairs with people seated on the floor. But even housing advertised as "Japanese style" has a Western-style kitchen and dining area as well as a Western-style toilet and children's rooms. In fact, the Japanese-style rooms are used primarily for guests and for the grandparents, if they live with the family, and the most frequently used rooms are Western in style.

Westerners, and especially Americans, are familiar with the layout of the house in Figure 1.⁵ The entry is from a porch into a spacious hall leading to a stairway to the second floor, and doors to the living room, kitchen, and bath-toilet-sink rooms are on one side and a Japanese-style section on the other. While this example has four rooms with *tatami* flooring—most have only one or two—still the majority of rooms are Western, that is with flooring meant for Western-style furniture and to be used with footgear, that is, house slippers.

What makes this house so "Western" is that every single room in it is private, with only the two main Japanese-style rooms built to open up and be used together. Guests see only as far into the house as their hosts permit, and the kitchen and other service areas can be hidden from view and approached from a hall without going through the guest rooms. All of the Japanese-style rooms, and all of the rooms on the second floor, have built-in closets, and the master bedroom even has a walk-in closet to accommodate the myriad of possessions that postwar Japanese own. In short, though this house and the thousands like it have Japanese design elements and entire rooms or sections that are traditional in style, any American would immediately know how to use it and which room is designed for what activity and would feel comfortable living in it.

3. *The Japan Times*, April 1, 1991, p. 2.

4. The example presented here is from *Hausumeekaa no gendai wafuu juutakushuu* (a collection of contemporary Japanese-style houses for "housemakers"), a supplement to *Hausu & hoomu* (House and Home), May 1989, pp. 12-13.

5. The size of the model house shown in Figure 1 is 243.4 square meters, or 2,620 square feet, which is larger than most urban houses in the United States but by no means palatial.

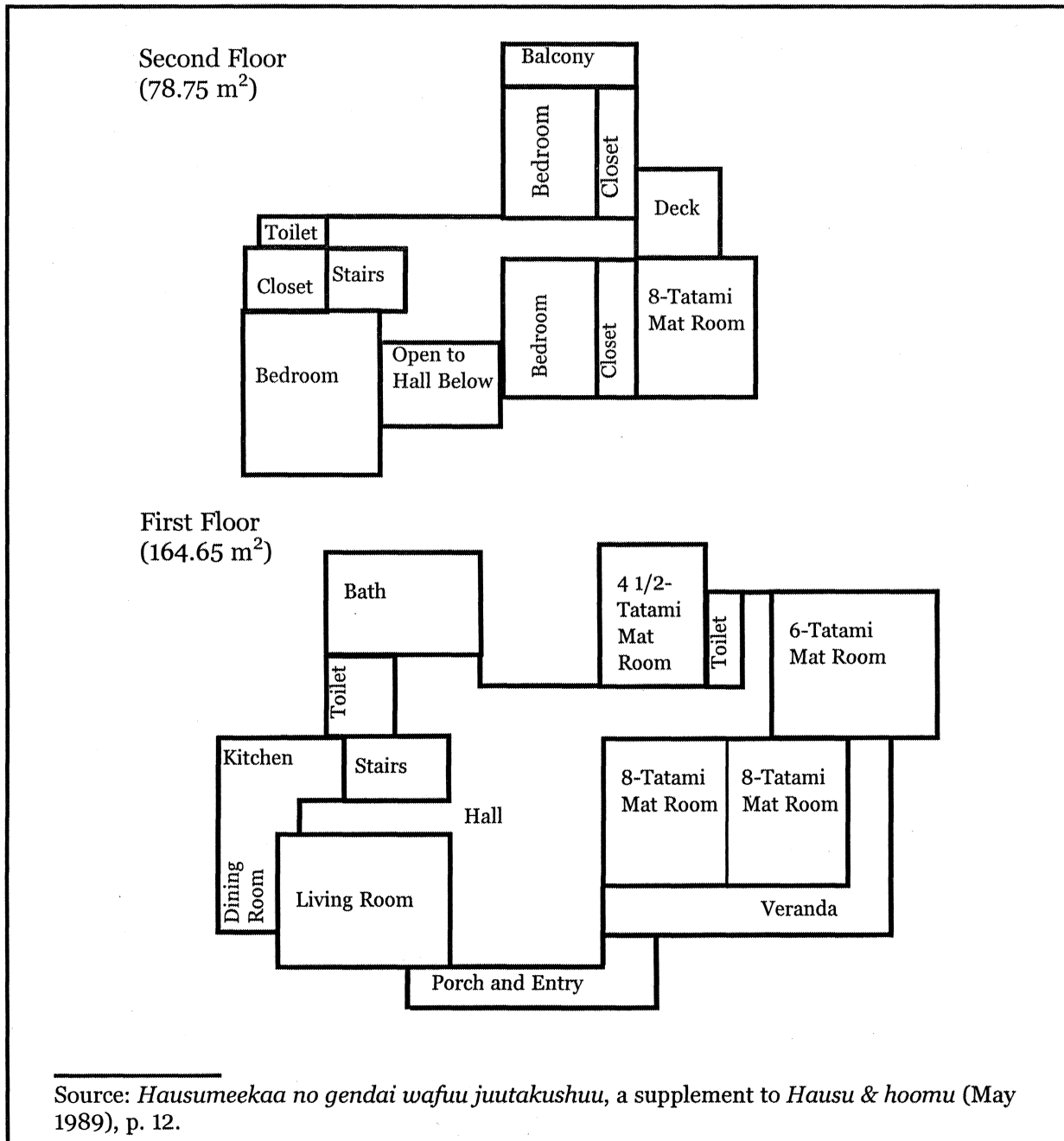


Figure 1.
Example of a Contemporary Japanese-style House

It is the emphasis on privacy that makes this floor plan so different from traditional Japanese plans in which most rooms open up into one another through sliding paper doors, making aural privacy virtually impossible to achieve. Japanese now want separate bedrooms with walls between them for family members past early childhood, the ability to use the house for multiple activities simultaneously, and separate space for house guests and/or elderly parents if they live with the family. The core of the Japanese house has become the dining-kitchen, a

Western-style room with table and chairs that has replaced the *chanoma*, the guest-cum-family room with *tatami* flooring, as the center of the home where family members gather for meals and talk. For formal occasions, Japanese want a living room with sofa and chairs but also a Japanese-style room with *tatami* and the traditional built-in decorative elements, including *tokonoma* (decorative alcove), *fusuma* (sliding paper doors), and *oshiire* (cupboards for bedding and storage). House designs always include Western-style rooms for children to accommodate desks and enable quiet study, and increasingly they have Western-style toilets. Thus despite the desire to retain something of the traditional in their houses with a least one formal *zashiki* (*tatami*-floored guest room), the rest of the house has become what Japanese see as "Western" in style. If the contemporary Japanese-style house we've examined is so predominantly Western in layout and function, then how much more so are those with just one or two *tatami* rooms used only infrequently.

Housing Realities and Coping Strategies

What do Japanese actually live in? The answer is obviously a variety of types and styles ranging from large 100-year-old farmhouses to cramped, one-room apartments in large high-rises in the city. More than 60 per cent of Japanese own their own homes, and over the years the size has increased from 96.4 square meters (1,038 square feet) in 1971 to 134 square meters (1,442 square feet) in 1989.⁶ In 1988, average floor space per dwelling in Tokyo was only 60.3 square meters; in the bedroom prefectures of Saitama, Kanagawa, and Chiba, 79.4, 70.3, and 81.5 respectively; in Osaka, 68.9; and in Kyoto 83.8. In contrast, at least 10 of the 47 prefectures had average floor areas two or more times greater than Tokyo's, with Toyama the largest with 153.2 square meters. Thus metropolitan living space is considerably smaller than in the rest of the country. Using American measures, the average residence in the largest and richest city in Japan is only 649 square feet.

Urban-rural differences in housing are even more apparent when room size and number of people per room are compared. Urban Japanese build smaller rooms and there are more people per room in the city than in the countryside. Thus, in Tokyo, each person has the equivalent of 7.9 *tatami* of space (35.5 square feet) in contrast to 12.9 in Toyama. There are 0.76 persons per room in Tokyo, 0.53 in Toyama. To make their small houses and apartments livable, metropolitan Japanese divide their units into smaller rooms and live together with fewer people than in the outlying areas.

While the young are more apt to live in the metropolitan areas, the elderly are more likely to live in the outlying prefectures in which there is more floor space per person. Only 6.9 percent of the population in the bedroom prefecture of Saitama is aged 65 or older; in Kanagawa, 7.2 percent; and Chiba, 7.6 percent. Tokyo and Osaka have 8.5 percent and 7.9 percent, respectively, all lower than the national average of 9.9 percent. In contrast, 13 percent of Yamagata's population is elderly, and the figure is higher than 12 percent in Akita, Niigata, Fukui, Wakayama, and Okayama, all of which have more floor space per person than the national average. This means that the old people often live in lonely splendor in big, old houses in the countryside while the young families in the most prosperous areas are crammed into tiny houses and apartments.

6. Kensetsushoo, ed., *Kensetsu hakusho* (white paper on construction) (Tokyo: Ookurashoo Insatsukyuko, 1990), p. 194.

Clearly those worst off in terms of housing are renters. In contrast to other groups in Japan, their situation has worsened in the past decade. The high cost of land has caused an absolute decrease in the size of rental housing: while the average size of rental housing rose from 45.9 square meters (494 square feet) in 1971 to a high of 57.1 in 1980, it dropped back down to 45.8 in 1989.⁷ Thus, in one of the richest nations in the world, families that must rent live in less than 500 square feet of space. And these are national averages; given the high price of urban land, the smallest living quarters are those of the urban renter.

Despite the increasing average size of houses, Japanese who set out to buy them have found it ever more difficult during the postwar decades. The price of residential land in the six largest cities increased by a factor of over 200 from 1955 to 1989, in contrast to the consumer price index which rose by a factor of just five during the same period. With down payments in the range of 25 per cent, most young married couples cannot afford to buy a house. If they do manage to purchase a lot, they will have little money left over for the structure itself. In Tokyo, the price of a single-family house is almost entirely the cost of the land. For example, a two-generation house with six rooms and two kitchens for sale in Asagaya in spring 1991 had an asking price of ¥ 20.5 million (\$1,576,923 at the prevailing rate of \$1 = ¥ 130) of which only 2.4 per cent represented the value of the structure.⁸ Houses that are cheap to build do not last and have little resale value. . . .

What is astounding is that so many Japanese in the 1990s live in very small quarters. With the rise in the standard of living and the great boom in consumer goods, Japanese have had to use innovative ways to cope with such cramped conditions.

Coping through Housing Design

Whereas the designs for detached houses available for families at the upper end of the income scale are similar in principle to Western houses, designs for small urban rental units are very different. Despite the fact that these are designed for younger Japanese in metropolitan areas—those who would be expected to live the most modern of lifestyles—they retain many features of the premodern urban house. In fact, it is by preserving some of the features in layout of the premodern city dwelling that today's urban Japanese cope. Let us examine the most typical urban apartment, the layout of which can be found in virtually any newspaper or magazine ad for housing. (See Figure 2.)

The most typical urban housing in the past two decades has been the apartment or condominium that is 3LDK in size; that is, has a combined living room, dining room, and kitchen along with three other rooms plus a balcony and a hygiene area—a toilet, bath, and sink, usually in three separate compartments. Such units are almost always long and narrow in order to squeeze the maximum number of units into a building and have floor-to-ceiling windows on one end and the entry on the other. The larger the unit is, the more apt it is to have one or more rooms without windows in the center. The most typical floor plan has a small entry hall, the room for the bath/toilet/sink on one side of it, and a small room on the other. In the center of the unit is the LDK, and at the window end there are two more rooms and a balcony. One or two of the rooms usually has *tatami* flooring, but never the LDK portion.

7. Ibid.

8. Information on a house for sale through the Mitsui no Rihausu Ogikubo branch, March 1991.

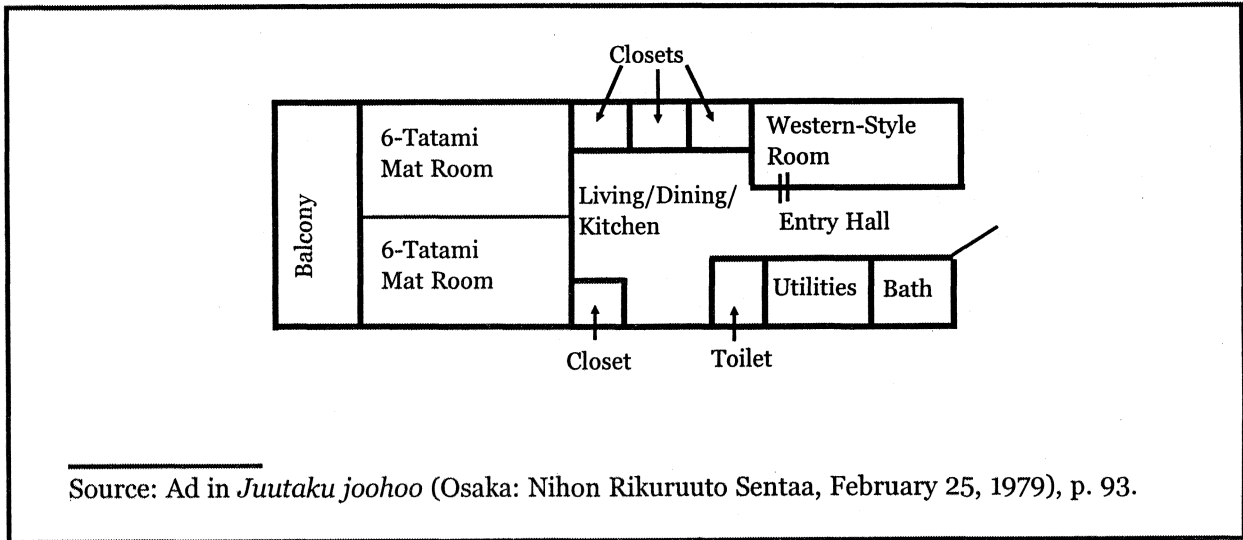


Figure 2.
Typical Floor Plan of Urban Apartments.

The layout of these small urban apartments has a number of features that are very different from the single-family house shown in Figure 1. These include a kitchen in the windowless middle of the unit, the necessity to go through the “service” area to reach the guest room or living room, the large proportion of space given over to hygienic functions, the toilet embarrassingly close to the entry, and the use of a disproportionate amount of space for an entry hall. All of these features, however, are readily explainable if one looks at the principles of layout of premodern housing, both urban and rural.

First, since frontage was important in the premodern city—and it still is today for merchants—lots were long and narrow.⁹ The result is that a long and narrow house—like the narrow apartment—is often found on shopping streets, whether there is a shop at the front or not. Apartment buildings built on the same principle enable the maximum number of units on a given piece of land and are cheaper to build than units with more windows per apartment.

Each narrow apartment unit has an entry with a place to remove shoes as outdoor footwear is never worn on any floored area of a Japanese home. Although this tradition began when the Japanese installed flooring or mats used for sitting and sleeping—later developing into *tatami* flooring—the custom has been retained in this country with ever-present volcanic dust, long periods of rain, and a greater proportion of unpaved roads than any other industrialized nation. The entry and hall also afford privacy, so that anyone who comes to the door on business cannot see into any of the interior rooms. The toilet is placed near the entry so that one can use it without going into the house, but more importantly, so that it is not near any of the most used living spaces or guest rooms. (This location was important prior to the

9. Susan B. Hanley, “Tokagawa Society: Material Culture, Standard of Living, and Life-Styles,” in John Whitney Hall, ed., *The Cambridge History of Japan, Volume 4: Early Modern Japan* (Cambridge: Cambridge University Press, 1991), pp. 670-71.

installation of flush toilets as it kept the smell away from the living areas and enabled the waste to be carted off without being carried through the house.)

Puzzling to Americans is the location of the kitchen. Most would locate it next to the door, or certainly in a daylight room, as so much time is spent here, usually by the wife, and to enable cooking odors to escape. Location in the middle of the house also means that guests must go through the family living area to reach the guest room. Although this location seems in contrast to the prewar convention of locating the kitchen away from the guest rooms, usually to the north, the principle that the kitchen is an unimportant room, a comment on the status of the housewife, is upheld in the modern apartment.

Although one architect has argued that prewar houses were designed around guests and postwar houses with the individual or family in mind,¹⁰ families without the space or funds to build houses with separate rooms and separate entries just for guests have had guests traipse through the service and family living quarters for generations. One could also argue that families living in small quarters have neither the status nor the living arrangements to entertain formally.

The one fully private room in this most typical layout is the room next to the entry that opens only onto the hall. One might call this a vestige of the Meiji-Taisho parlor, a separate room next to the entry for guests in which they could be isolated from family life and entertained in style, in prewar years, in the only Western-style room in the house.¹¹ In the modern apartment this room can serve any one of a number of functions: to discuss business with outsiders, to give piano or English lessons, to serve as the family changing and junk room, or to be used as the children's study. What is important is that the need for at least one private room is so great in modern families that it is a part of virtually all floor plans in all but the tiniest apartments.

The smaller the housing unit in modern Japan, the more apt it is to be anachronistic in terms of what the Japanese really want in housing. But the reason it is anachronistic is that the premodern floor plan gives the Japanese what they still want most from their housing: privacy from the outside world, at least one private room within, separate rooms for the various hygienic activities, and the best rooms given over to use by guests. But when the Japanese can afford it, it is clear from the larger houses they build that they want individual privacy for all of the family activities, separate guest rooms, a modern Western-style kitchen, daylight in all of the rooms, lots of storage space, a spacious hall, and Western-style rooms for the primary living space. They live in anachronistic housing only because of the high cost of land.

But if Japanese are having to make do with rather outdated floor plans in their tiny apartments, their housing today is very different from in prewar times, just as is their lifestyle. Instead of wood, bamboo, and *tatami*, modern housing is made of ferro-concrete, plaster, and carpeting. Instead of decorative elements built in—*tokonoma*, *fusuma*, and the exposed beams of a room—an unfurnished apartment today is a naked, white-plastered box with slid-

10. Makoto Matsuda, in the column "Sumai saikoo," *Asahi shinbun*, Jan. 23, 1979, p. 13.

11. This conclusion comes from a personal survey by the author of a number of house plans, as well as visits to houses built in this period.

ing glass doors at one end rather than *shooji*. And the furnishings themselves have changed from the traditional Japanese rather sparse style of a low table and cushions to the Western-style sofa, dining table and chairs, and beds, even in the smallest, most cramped apartments.

Japanese became enamored of things Western in the Meiji period.¹² Upper middle-class urban families began to include a Western-style parlor, furnished in full Victorian style, in their plans for a new house. The wealthy industrialist, Yataroo Iwasaki, who founded the Mitsubishi *zaibatsu*, built an entire Western-style house next to the Japanese mansion he lived in. Like the Iwasakis, most professional families continued to lead a Japanese lifestyle at home and use the Western-style quarters only for entertaining formal guests and business contacts who would likely arrive in Western-style clothes. But after World War II, as the economy rapidly grew, things Western-style became part of the fabric of Japanese life. In the transition period, Japanese adopted Western-style clothing and dietary habits, which are relatively easy to change quickly, and then began to cram Western-style furniture into their Japanese-style houses. Today, and for the past couple decades, new houses are the reverse of the Meiji pattern: they have one Japanese-style *zashiki* or parlor, and the rest of the house is Western-style.¹³

The lure of the Western lifestyle can be seen even today by the use of Western-style furnishings in housing that would seem most logically furnished with a minimum of objects in order to make it more spacious. Much of the change may be due to economic reasons; it is now more expensive to install and maintain *tatami* than wall-to-wall carpeting, and many people who live in rental housing cover their *tatami* with carpets to protect it from damage. Traditional craftsmen must make and refurbish *tatami*, as well as the other decorative elements in traditional rooms, such as the wood and paper that go into posts, *tokonoma*, *fusuma*, and the like. These are not factory-produced like much of postwar housing. However, the shift to Western-style modes of life, which followed the high status attached to things foreign after World War II, is primarily responsible for this change in architecture and furnishings.¹⁴

The most important reason for this transformation in lifestyles was the postwar economic growth that brought tremendous prosperity to the Japanese, raising the standard of living for all. The number of consumer durables people "cannot live without" has increased dramatically each decade. By 1989, more than 99 percent of Japanese households owned washing machines and color TV sets, more than 98 percent owned vacuum cleaners and refrigerators, and more than 77 percent owned cars, despite the traffic jams and lack of parking space. The change in home furnishings can be seen from the statistics showing that by 1989, 64 percent of Japanese had carpets, almost half had beds, and nearly 70 percent owned dining room

12. See for example the writings of Isabella L. Bird, Mary Crawford Fraser, and Clara A.N. Whitney for numerous examples.

13. *Hausumekaa no gendai wafuu juutakushuu*, May 1989. Even in houses advertised as "modern Japanese-style," there are usually only one or two rooms with *tatami*; rather, the Japanese style is used in decorative elements of Western-style rooms.

14. In the 1950s and 1960s, the status attached to Western furnishing was such that a young Japanese diplomat and his wife put beds and chairs into their government apartment consisting of two six-mat rooms and a kitchen. One room was filled with the beds and a second with chairs, but there was so little space that the only way they could entertain friends was by opening the *fusuma* into the bedroom and seating people on the edge of one bed with their feet in the living room.

sets (a table with four chairs). The items most quickly becoming “necessities” during the 1980s were room air conditioners and compact disc players. Amazingly, for every thousand households surveyed, there were 1,685 color TV sets as early as 1984.¹⁵ In contrast to the aesthetic, sparsely furnished traditional room—if in fact there ever was such a thing outside of formal reception rooms—the Japanese home by the 1980s was crammed with modern goods and furnishings.

With so many possessions, a major problem became storage. Instead of one wardrobe that will hold the Western-style clothing for the entire family, plus one or two Japanese *tansu* for traditional clothing and underwear, each member of the family needs a closet, and more often than not the smallest room in the house is given over to use as a storage-cum-dressing room that is so tightly crammed and so messy that it is the one room in the house no outsider is permitted to view. Thus the number of *tatami* per person is no longer a valid way to measure space in the Japanese residence; so much of it is taken up with furniture and storage containers that residual floor space would provide a better measure. The authors of a book on how to solve storage problems ask readers at the outset to consider the price of the land on which rest the items they store!¹⁶ They say that if you make this calculation, something received for free is in fact a very expensive object to own.

Setting up housekeeping in Japan becomes similar to scientifically solving a puzzle. In the United States one can find articles in popular magazines on how to make a small house seem larger and ads featuring closet storage systems; in Japan the problem is so severe that in any given month any corner bookstore will offer numerous magazines and books devoted to the use of space. For example, the April 1991 issue of the popular magazine *Fuerika* (or *Ferika*) is entitled *Iejuu no semasa kokufuku*, which might be translated as the “conquest of cramped space throughout the house.” The basic theme of the issue is how to make small living quarters seem larger, and the major problem to be overcome is storage. Nearly all of the apartments and rooms photographed would have been considered adequate, and possibly spacious, by urban living standards in the Tokugawa period, but even the relatively spacious examples in this issue look hopelessly crammed by American standards. Not only are the smallest of them filled with Western-style furniture, all have at least one TV set, most have stereo systems, all have bookcases, collections of one sort or another displayed, and every spare corner is filled with ingeniously designed storage cabinets. Ideas featured in this issue including storing children’s toys in the seats of the benches of the dining table; stowing more toys underneath the bench, hiding them with a curtain, putting in shelving around a room just a few feet below the ceiling to store and display china; and covering an occasional table with a cloth so that books and magazines can be stowed beneath it.¹⁷

Apartments that are barely adequate for a married couple suddenly seem impossibly small when one or two children arrive on the scene. Whereas in prewar times, the birth of a child might mean mostly the addition of a *futon* in terms of space, it is mandatory to give today’s children a desk and the privacy to study. One child can be adequately provided for even

15. *Nihon tookei nenkan* (Japan Statistical Yearbook), Vol. 40 (Tokyo: Statistics Bureau, Management and Coordination Agency, 1990), pp. 546-47.

16. Takenobu Watanabe and Ken Hayashida, *Sumai no shuumoo 100 shoo* (100 ideas on storage in homes) (Tokyo: Kagoshima Shuppankai, 1989), pp. 14-15.

17. *Iejuu no semasa kokufuku* (How to overcome lack of space throughout the house), title of *Fuerika*, No. 46 (April 1991).

in a room as small as 4.5 mats; the problem is when there are two, particularly of different sexes. All sorts of designs exist showing how to divide a room into two, providing usually only the basic necessities of bed and desk, plus some minimal storage space. One design divides the room using bunk beds, with the lower half in one room and the upper in the other, thereby giving each child a few extra feet of space. Often the traditional *oshiire* are converted either to bunk beds with curtains to provide privacy or the doors and shelf are removed and desks are built in.¹⁸ Alternatively, a desk can be built into the wall to be pulled out or down when needed.¹⁹

But if a small room might be made into study and sleeping space for two children, what does one do for three? One solution is Murphy beds that fold up into the wall in the daytime.²⁰ One ingenious plan for a 5.5-mat room, which would have been cramped just to have three children sleep in it, was redesigned to accommodate three desks as well as sleeping space for a boy aged 13 and his two younger sisters, 11 and 7. Nooks were made for the desks by dividing them with storage areas and curtains that would provide privacy, while the boy slept on a bunk above two of the desks and the girls on the floor. The tone of the explanation of the ingenuity to provide for three school-age children in a 2DK rental apartment indicates that most people wouldn't expect anyone to be able to do this.²¹

In addition to desks, children must be provided with pianos and organs, and the producers of musical instruments have been fairly successful in convincing parents that they must start children off on lessons on an organ before they graduate to a piano, so many households contain both. By 1989, nearly 23 percent of Japanese households contained an organ, and many of these proudly take up precious space in six-mat living rooms. Just as Western furnishings became popular before houses and apartments were built to accommodate them, so have Japanese consumers made the decision to purchase status and luxury goods despite the fact that they make for a very cramped lifestyle. Since many families have little hope of obtaining better housing in the foreseeable future, they have given up and are spending their increased incomes on goods that will give them status and pleasure, at the expense of living in impossibly crowded quarters.

Despite the fact that many people have to just fit their goods and furniture into their living space as best they can—with little regard for which activities are best carried on next to each other—most magazines and house advertisements indicate that there is an overwhelming concern for using space as advantageously as possible.²² What has been done to create more space, or at least the feeling of more space, is to revert to traditional treatments of

18. See for example *Konnichiwa*, Feb. 1991, pp. 58-59.

19. MAG Kenchiku Sekkei Guruupu, *Kodomobeya* (Children's rooms) (Tokyo: Keizai Choosakai, 1988), p. 176.

20. *Chiisa na ie no shuunoo koofu zenjitsurei* (Practical examples of storage ideas for small houses), special issue of *Utsukushii heya* (Beautiful rooms), Nov. 1989, pp. 52-53, 104-5.

21. *Ibid.*, pp. 172-173. Another family gave over the living room to its three young boys, furnishing it only with a piano, a swing set, a TV, and a bench used to store toys. *Fuerika*, No. 46 (April 1991), pp. 50-51.

22. The importance of space is illustrated even in the form of housing ads in Japan; they invariably include very detailed floor plans, whereas similar ads in the United States and France, for example, tend to show photos or drawings of the buildings, rather than floor plans, whether detached houses or condominiums.

space even while housing is being converted to Western styles in form. Japanese design elements are in fashion, in the most expensive houses and in the tiniest apartments. What the Japanese have done is to adapt Western-style furniture to make it fit into a room that feels Japanese in its treatment of space. The furniture is low to the floor, giving a feeling of height, and there is a minimum of it. Expensive examples illustrate a Western-style use of space with a Japanese feeling to the decor, through use of such features as *shooji*, the kind of beams one might find in traditional farmhouses, and in the use of wood. The decor in tiny apartments is more apt to be Western in terms of the fabrics used and the pictures and decorative objects, but the rooms are used in the way that traditional rooms were—by sitting on the floor on carpeting or cushions, or on extremely low sofas or a combination of these.²³

Thus, the Japanese have made some interesting shifts in lifestyle in the past century that are not linear. In the Meiji period, the well-to-do installed a Victorian parlor, and all those who could afford it or had access gradually replaced paper windows with glass and traditional lamps with electric lights. Kitchens in urban areas began to be raised and floored with wood, and families began to eat around low tables, rather than on individual trays or grouped around the *irori* (open fireplace). Basically, Western-style rooms were for public use or guests, while Japanese-style rooms were reserved for family life.²⁴ Then, after World War II, the combined kitchen-dining room came into being, largely as a space saver and because it was convenient to have a table and chairs in the increasingly Western-styled kitchen. If the living area is added to this space, this too must become Western, and as it became de rigueur to provide children first with desks, and then with private study space, it was easiest to give them Western-style rooms with beds. Had the price of land made housing as available to Japanese as it is to Americans and other industrialized peoples, the Japanese might have ended up with housing that is similar to European, perhaps with one traditional room—the model seen in upper middle-class housing.

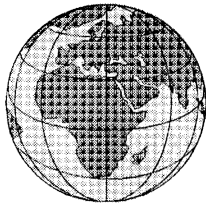
However, the combination of the lack of sufficient space for many Japanese in their housing arrangements combined with a plethora of modern goods forced the Japanese to take a step backward in housing and revert to premodern principles. The 1LDK is reminiscent of medieval housing in which Japanese basically lived in one room, with a corner given over to sleeping arrangements or made into an enclosed space called the *nando*. Medieval housing, however, meant for the vast majority of Japanese an earthen floor, and as housing improved over the centuries, the sitting and sleeping areas were raised from the ground, but the earthen “service area”—where the cooking, washing, and other chores were done—was

23. If the magazines and popular books giving hints on how to make maximum use of space are often useful, they also set up criteria and ideas that are impossible for most Japanese to achieve. An article on taboos in decorating, for example, suggests seating arrangements to make a room seem more spacious but which in fact are not practical; chairs facing each other would be replaced by a corner sofa that would be terribly cramped for conversation by mere acquaintances. *Futari no sumai* (Homes for two), special issue of *Fuerika*, Spring/Summer 1991, p. 116. Magazines advertising housing for sale play tricks to make rooms seem more spacious, such as placing a sofa and a coffee table in the living room alcove with no other furniture. Konnichiwa, p.71. Are two people engaged in conversation supposed to sit side by side facing a blank wall? One frequently finds deceptive advertising in Japan designed to make housing seem more spacious than it is.

24. Susan B. Hanley, “The Material Culture: Stability in Transition,” in Marius B. Jansen and Gilbert Rozman, eds., *Japan in Transition* (Princeton: Princeton University Press, 1986), pp. 447-59.

retained, even in houses of the very rich. To have a split-level room in a modern apartment would be impractical, and thus multiple-use rooms today are Western, so that people sit on chairs and are not towered over by those performing tasks while standing.

At the same time, the lack of space made it optimal to reduce the amount of furniture and to create a feeling of spaciousness through the decor, and these considerations led back to use of traditional Japanese decorating principles, but within the limitations imposed by having Western-style furniture. Instead of increasingly Western-style houses to go along with their new lifestyle, goods, and principles of privacy, the Japanese have had to revert to layouts that resemble the town house of the Tokugawa period and the traditional farmhouse more than the modern houses they would prefer.



SECTION 2 VIDEO STORIES

Video Viewing Guide and Discussion Questions

This video has five segments:

Segment 1. A Tradition Continues (4 minutes 4 seconds). *Tatami*, or Japanese straw-mat floor covering, has a long history of use. This segment profiles a master *tatami* craftsman and his apprentice son, highlighting the process of *tatami* construction and the value placed on high quality *tatami* in contemporary housing.

Segment 2. Shoes at the Door (2 minutes 18 seconds). A special exhibition helps Japanese explore the reasons for the custom of removing shoes when entering a room.

Segment 3. Traditions in Wood (4 minutes 15 seconds). The traditional process of furniture making emphasizes the natural beauty of wood and nature still prized in Japanese home decoration today.

Segment 4. Imported Home (3 minutes). Made more accessible by the favorable international exchange rate, Western-style modular homes offer challenges to some traditional Japanese customs and solutions to some enduring housing challenges. Interviews with Japanese buyers of these homes illustrate aspects of cultural borrowing and adaptation in action.

Segment 5, High-Tech Housing (2 minutes 10 seconds). This segment profiles a house that incorporates a surprising range of cutting-edge technologies, some of which are already available in Japanese homes, others of which offer promise for more comfortable living in the near future.

Transcripts for the five story segments follow this viewing guide.

Set the stage for this learning module and the video viewing by asking students to consider how geography and environment influence architecture and housing. To help students clarify their ideas, ask them to consider housing in the United States. Depending on your students' own experiences, you may want to bring in photos of housing in different regions of this country. Ask how housing design, materials, and size vary depending on the region of the United States. For example, what is a common house design in the Southwest? In New England? What materials tend to be used in each region and why? How do materials, windows, roofs, etc. reflect environmental influences? Do architecture and home design reflect variations in population size and density across different regions or communities?

Students should be able to identify regional architectural differences reflecting the use of locally plentiful building material—for example, Southwestern houses made out of adobe or brick, New England houses made out of stone, brick, wood; mountain houses made out of wood. Students may also be able to identify regional styles that reflect environmental influences, such as steep roofs and fireplaces in snowy climates; single story homes and adobe in various hot climates; south-facing homes and large passive solar windows in mountain climates, etc. Students should note that sizes of homes tend to vary depending on land availability, land prices, and population density. Large, single-family homes are less prevalent in large urban areas; high rise apartments are common in densely populated cities while single- or double-story apartment complexes are common in suburban areas or small towns.

Ask students to consider if and how housing and home design may reflect American society and culture. Is there such a thing as “American” style—what about Southwestern style or other regional styles? Does housing design or decoration reflect anything about how we feel about nature, about family life, privacy, etc?

Students may be able to identify such things as fenced yards, private patios, or balconies as a reflection of value placed on privacy; gardens and picture windows as a reflection of value placed on connections with nature; family rooms as a reflection of the importance of family life.

Ask students to volunteer what they know about housing design in Japan, specific features that may be considered characteristic of Japanese homes. Students may know that Japanese homes have woven mat (*tatami* mat) floors in one or more rooms. They may also have heard that Japanese homes have sliding doors and walls; that people may sit, eat, and sleep on the floor; and that shoes are not worn in the house. Ask students what they think the rooms of a Japanese house are—would they expect to see the same rooms as in an American house? Would they expect to see the same kinds of furniture? The same household appliances and technological conveniences? Why or why not?

Explain that, as a class, you will be viewing five short video stories that relate to the broad topic of homes in Japan. Through the videos and related activities, students will be learning more about the issues that the class has just considered—specifically, how Japanese housing has developed to respond to geography, environment, and social realities; traditional features in Japanese homes; contemporary Japanese homes as examples of continuity and change in Japanese society; and lifestyle adaptations that have developed in response to the realities of limited space and crowded conditions.

Show the video module in two installments. Explain that the class will first view three short video stories (segments 1-3), each of which explores a specific aspect of traditional housing and traditional household custom that has been maintained in Japanese homes today. You may choose to distribute Handout 1 to help focus student attention during viewing.

Use the topic of *tatami* mats to begin discussion. Ask if students find it strange that contemporary homes still use straw mat flooring. Why do students think that the Japanese continue to value this aspect of housing design? Students should have noted on their viewing guides the emphasis on “clean lines,” simplicity, the aesthetics of *tatami* and Japanese home design and furniture in general. Specifically, the videos note the value placed on the smooth look and feel of *tatami* and wood furniture and on natural materials and natural appearance,

Japanese Housing: Video Viewing Guide

Traditional Housing Feature or Custom	How Used	Importance of Feature to the Japanese	Japanese Values
1. <i>Tatami</i> mats			
2. Hand-made wooden furniture			
3. Removing shoes at the door			

the beauty of the wood grain, the emphasis on comfort of the *tatami*. What is the relationship between the use of *tatami* floors and the custom of removing shoes? (Protect the *tatami* from damage and dirt, be able to feel the soft smoothness of the *tatami*) Did students note the point made in all three video segments that the *tatami*, furniture, and shoe customs contribute to comfort and relaxation? We can infer that the Japanese home is seen as a haven—a place to relax and unwind. Do we have a similar perception of “home” in this country?

Introduce the remaining two video segments, explaining that they provide a glimpse of home innovations and “customs in transition.” As such, they will offer a contrast to the traditional features of some Japanese homes that students saw in the first three video segments.

Explain that one of the practical repercussions of being an island nation with a large population is that land is at a premium in Japan. As a result, Japan is generally characterized by high-density housing, especially in urban areas. That is, homes tend to be small and high rise; multiple-home units are common. Ask students to consider ways that people might improve their quality of life and home environment even if they could not live in homes as spacious as they might wish. Help students recognize that people can improve their homes and their lifestyles in other ways—for example, through furniture and decorations, redecorating and remodeling projects, or the installation of technological features that make life easier or more enjoyable. These options are pursued in the United States, as well as Japan and other countries. Explain to students that the final video segment illustrates one way that some Japanese are seeking to improve their homes and the quality of their lives, despite lack of space.

Write the following three themes on the board: **tradition and change, cultural borrowing and adaptation**, and **housing as a reflection of environment and society**. Review the meaning of each of these themes with students, then divide the class into three sections, assigning each section to record examples of one of the themes as they watch the two video segments.

To debrief these segments, have the students discuss the following questions:

- Share the information (cited in Susan Hanley’s article in Section 1) that Japanese families want Western-style homes. Are the students surprised by this information? What reasons can students offer for why Japanese might want imported homes—that is, with what might Japanese associate Western-style homes? (Space, luxury)
- Were students surprised by the degree of “change” reflected in these homes? What concerns about lifestyle and tradition did families have over living in a Western-style home? In what ways did the families in the video adapt Western housing design to incorporate important Japanese home traditions? (Students should note the families’ concerns that Western design would not suit the needs of Japanese family life, but that the families adapted by including a traditional *tatami* room in their Western-style homes.)
- In what ways did the imported and high-tech houses seem to offer solutions to some enduring challenges of Japanese home life? That is, how did they offer adaptations to environmental and social concerns? (Students should note the recurring themes of space, storage, crowding, and convenience. The Japanese families noted that the high ceilings and innovative window designs in their Western-style homes

afforded greater light and the feeling of space. They also noted that the insulation solved some of their worries over privacy and noise.)

Extend video viewing with either or both the print lessons provided in the Learning Activities section of this module.

A Tradition Continues (4 minutes 4 seconds): Video Transcript

NAKAJIMA SEWING	This steady hand belongs to Toshio Nakajima, a <i>tatami</i> maker for 37 of his 65 years.
TATAMI	<i>Tatami</i> , or Japanese straw flooring, has a venerable history of use, and its simple, clean lines have an aesthetic appeal that attracts the eye.
WOMAN ENTERING HOME	Shoes are removed before walking on its smooth but delicate surface. As these ancient prints confirm, <i>tatami</i> has been an essential ingredient of Japanese life for centuries.
WOMAN PERFORMING TEA CEREMONY	The rituals of the tea ceremony require a <i>tatami</i> setting ...
JUDO	... and the soft surface of <i>tatami</i> cushions falls when practicing judo.
WOMEN ON TATAMI	<i>Tatami</i> also provides just plain old comfort when neighbors gather for a chat.
NAKAJIMA IN SHOP, ETC.	Mr. Nakajima assembles the <i>tatami</i> parts into the finished mat. The main body is compressed straw that is then covered by a tightly woven straw layer that must be cut and fixed to cover all sides.
CLOSE UP OF TOOLS	Mr. Nakajima's tools show the results of constant use.
PAN TO SON	Mr. Nakajima's apprentice is his eldest son Hiroaki. While far less experienced, his father rates his son's work as good and is pleased that he is a partner and not a potential rival.
CLOSE UP OF SEWING ON EMBROIDERY	The final touch requires covering the <i>tatami</i> 's edges with an embroidered trim. This gives each mat a distinctive, finished look. Though most <i>tatami</i> have a life span of about 10 years, Mr. Nakajima says that a well-made mat should last about 30.
HIROAKI	For certain chores, Hiroaki prefers using a machine, but admits that his father's hand stitching work produces a superior result. Though their techniques somewhat differ, both are dedicated to the craft of <i>tatami</i> making and put in long hours at their work. Perhaps that is why their shop has prospered.
BOTH SEATED, AT REST	Even when taking a well-earned work break, father and son invariably discuss their trade.
WALKING THROUGH SCHOOL	Leisure time is precious. Even so, Mr. Nakajima makes room in his busy schedule to teach younger persons attracted to the <i>tatami</i> -making trade. Finer points are best taught by demonstrating. This ensures the traditions of this uniquely Japanese craft will be continued.

VAN CARRYING TATAMI

Today, a customer awaits his new *tatami*. Even the latest Tokyo high rises have at least one Japanese room, and the Nakajimas deliver their *tatami* to a new residence. Japanese rooms are scaled to mat size so that the *tatami* always fits perfectly and the floor is soon laid.

FATHER AND SON AT WORK

Contentedly working side by side, the Nakajimas take pride in carrying on an ancient tradition.

Shoes at the Door, Please (2 minutes 18 seconds): Video Transcript

REMOVING SHOES

The Japanese remove their shoes as they enter their homes.

EXHIBITION HALL, EXTERIOR

A recent exhibition explored the reasons for this cultural trait.

VISITORS COME IN

Visitors remove their shoes before entering the hall so that they can experience the sense of feeling with their feet.

SHOT OF VESTIBULE WITH SHOES IN A ROW

Why do the Japanese remove their shoes at the door? One reason is that it is a way for people to relax at home.

SHOT OF WOMAN DUSTING

Another reason could be appreciation of cleanliness. In a clinic, people take off their shoes and put on slippers. Even in Western rooms, people still wear slippers.

SHRINE, THEN MARTIAL ARTS

People also take off their shoes when entering sacred places. Even martial arts practitioners perform without shoes.

PEOPLE SITTING ON TATAMI

The purpose of this event is to get people to think about why the Japanese take off their shoes. These women say the exhibit has encouraged them to continue the practice.

PEOPLE IN EXHIBITION HALL

There seems little doubt that taking one's shoes off helps relax both body and mind.

Traditions in Wood (4 minutes 15 seconds): Video Transcript

MEDICINE CABINET

In constructing traditional Japanese furniture, nails are never used. Parts must fit like a glove, held together by intricate joints.

DRAWERS

This chest of drawers is solidly built - it's almost airtight.

STREET

In downtown Tokyo, Yoshio Inoue has been working with wood for 32 years; he's one of fewer than 100 people still making traditional Japanese furniture.

He works as Japanese furniture makers always have, with his leg pressing the lumber to keep it tight. The wood he uses must be the proper type. Its color and grain are also important.

JOINTS

All joints must be invisible, says Mr. Inoue, but a good master craftsman knows where they are, and can even visualize how they look deep inside.

SON

Working with him is his son, Takeshi. Takeshi also says he enjoys making Japanese furniture, though some may think his profession is antiquated. He feels great pride when a piece is perfectly done.

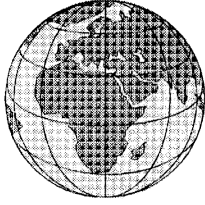
INSTRUCTION	Teaching apprentices is part of Mr. Inoue's day; what he knows must be passed on to those who will follow.
PLANING THE WOOD	As he planes the wood, he examines his strokes to ensure that they are nice and even.
FINISHED SEAMS	Fine Japanese furniture looks as if it is made from a single piece of wood. The flow of the wood grain from the top to the sides must appear seamless. This not only shows the wood worker's skill but also his love for his craft—traditions that still endure.

Imported Homes (3 minutes): Video Transcript

CLUSTER OF IMPORTED HOUSES	Traditionally, many Japanese have perceived houses from North America and Scandinavia as exotic luxury items.
FOYER	But Japanese lifestyles are changing, and now it's the functionality of these imports that is drawing attention. And with the rising yen, their prices are lower.
HOUSING VILLAGE	Here on the outskirts of Tokyo, the first in a series of imported housing fairs is attracting people in the market for comfortable, attractive, quality housing.
INSIDE	For many of us, the purchase of a house is the biggest one we'll ever make. We do our homework carefully, checking out all the details before signing on the dotted line.
INTERVIEW	Most visitors say that they are primarily interested in the functionality and the designs of the houses.
SALESMAN	According to one salesman, it used to be that most people in the market for an imported house had lived overseas. Nowadays, the range of customers is broader and covers all age groups.
STAIRS	He adds that soon after visitors enter one of these homes, you can hear them saying "wow" to the open space and quality components.
PIANO PLAYING	The Konishis bought an imported house two years ago.
SOFA	They insisted on including a Japanese room for entertaining.
KAZUKO	Kazuko liked the open layout and ample storage space.
CLOSING THE SASHES	She appreciates the quality of the window and door frames and the flooring. And the homes are well-insulated so she doesn't have to worry so much about disturbing the neighbors.
SAITO FAMILY	The Saito family moved into its imported home two months ago.
INTERVIEW	Esao explains that initially he was concerned about whether an imported home would be appropriate for the Japanese climate and lifestyle. But now he feels right at home.
FAMILY	Esao says there's nothing particularly odd about Japanese living in imported homes.
ATSUMIGAOKA HOUSING VILLAGE	It seems that some doors are opening in the Japanese housing market.

High-Tech Housing (2 minutes 10 seconds): Video Transcript

OUTSIDE SHOT	This Japanese home looks rather plain, but let's visit inside. It is computer-operated throughout—a model of homes to come.
FLOOR	The floor has built-in heating
GLASS DOOR	. . . and frosted glass that turns clear at the flick of a switch.
GARDEN	An interior garden is automatically watered and drained. . .
WINDOWS	. . . and windows open and shut, depending on the weather, and it has its own mini weather station.
BATHROOM	Bathing is done while a TV monitor watches other parts of the premises—to keep an eye on the children or the approach of visitors.
TOILET	The toilet tests health data—the blood pressure and the body fluids, saving the need for such examinations at hospitals.
WASHING HANDS	Hand washing is automated. Sensors dispense warm water and soap.
ENTERING KITCHEN	In the kitchen, menus and the instructions for a variety of cuisines are called up on a TV. The cooking range is synchronized to the cooking instructions displayed on the screen and is programmed to turn on and off automatically when needed.
CLOSET	Closets are a switch. Touch it and stored items are brought up from the basement. A video camera identifies the contents of each locker.
MONITOR - LIVING ROOM	Shopping is by computer. You can even book an international trip. Want to move in? Sorry, there's a waiting list.



SECTION 3 LEARNING ACTIVITIES

This section contains two print lessons for deepening students' knowledge of housing and home design as a reflection of Japan's culture, society, and environment. The print lessons are related to topics within the video stories that students have viewed and discussed. Teachers may choose to use one or both of the lessons, depending on time and curricular fit.

Lesson 1. Tatami and Japanese Homes. This lesson extends student learning about *tatami* rooms and housing design introduced in the video stories. Through the lesson, students consider the issues of space and space flexibility in Japanese homes by exploring the practical repercussions of the limited space in Japanese homes. Students are challenged to adapt their own personal needs and lifestyles to fit within the limitations of a six *tatami*-mat room typical in Japan.

Lesson 2. Crowded Urban Life: Problems and Solutions In Japan. This lesson begins with a classic simulation on population density that provides students with a firsthand experience from which to hypothesize about the relationship between population density and housing/lifestyles in Japan. Through readings and a problem-solving activity, students consider specific problems that Japanese people have addressed in adapting to high-density housing and limited living space.

Suggested extension/enrichment activities conclude the lesson.



Lesson 1. *Tatami* and Japanese Homes

by Mary Hammond Bernson

Introduction

The smaller size of Japanese homes was in the past accommodated through an approach to furniture and home furnishings that was simple and uncluttered. Today, Japanese homes are less likely to feature the traditional *tatami* room. In this lesson, students learn about *tatami* and explore the implications of limited residential space.

Objectives: Students will be able to:

- Describe the basic spatial unit of Japanese homes.
- Compare Japanese preferences in the purchase of household appliances and furniture they own.
- Explore some of the implications of limited residential space.

Teaching Time: 1-3 class periods

Materials: Handouts 2 and 3; butcher paper or masking tape

Procedure

1. Explain to the class that the average Japanese house or apartment is much smaller than its American counterpart. There are many reasons for this:
 - Japan's overall population density is 12 times as high as that of the United States. Since much of Japan is not suitable for building cities, urban population density is extremely high.
 - Most of Japan's people live in cities, where land is very expensive. The percentage of people who live in urban areas is 77 percent, very similar to the 76 percent in the United States.

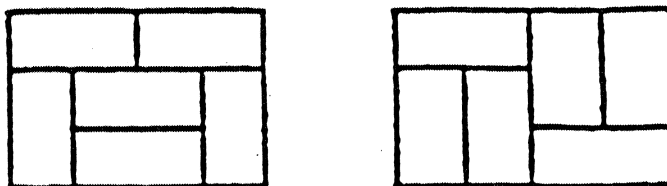
Adapted from pp. 80-83 of *Teaching About Japan: Lessons and Resources*, edited by Mary Hammond Bernson and Linda S. Wojtan (Bloomington, IN: ERIC Clearinghouse for Social Studies/Social Science Education, 1996). Reprinted with permission of the ERIC Clearinghouse for Social Studies/Social Science Education and the National Clearinghouse for U.S.-Japan Studies at Indiana University.

- Energy costs for building or maintaining homes are very high. Japan must import 84 percent of its energy, compared with 14 percent for the United States.
- Cultural and historical factors affect people's housing choices. People may have limited options or may prefer to spend their money in other ways.

2. Ask students to read Handout 2 or read it aloud to them.

3. Ask students to identify which characteristics of Japanese homes, either apartments or houses, are the same as in the United States and which characteristics are different. Point out that both countries have a wide variety of housing.

4. Create a six-mat room in the classroom. This is the most common size room, although many homes may have larger rooms. Create the room by marking the space on the floor with masking tape or by arranging six 6-foot-wide strips of butcher paper. Two common arrangements are:



Using tape or markers on the paper, outline a table in the middle of the "room." A traditional arrangement would be a low table with no chairs.

5. Ask small groups of students to sit in the "room." Discuss questions such as:

- How big can the table be?
- Where can they put their legs? If there were guests, it would not be polite to stick them straight forward. The most polite option is to sit on their feet until the host invites them to relax. Then boys may cross their legs and girls may either sit on their feet or sit with both feet out to one side.
- How many can fit in the room Japanese style?
- How many people can fit in the room American style, with standard furniture?
- Where would they put appliances or furniture?
- How would two families' activities differ if one spent its evenings in a room of this size and the other spent its evenings in a larger room or several separate rooms?
- Most Japanese households now have electronic equipment, such as VCRs, CD players, and computers. How might this affect family interactions?

6. Brainstorm as a group what qualities students would look for in furniture to use in small rooms. Possible characteristics include small size, pleasing appearance, and multi-purpose use. The group can identify solutions to space shortages in their own homes, such as the use of bunk beds or shelving that reaches the ceiling.

7. Distribute Handout 3. Ask the groups whether their choices about appliances and furniture would be the same as those reflected in the handout. Why or why not?

8. Because energy is very expensive and central heating is rare, many Japanese homes have *kotatsu* (low tables with heaters underneath them). If the students and their families spent their evenings gathered around the *kotatsu*, how would their activities differ from what they do now?

9. Conclude this lesson by asking students to write three facts about Japanese homes and three opinions or feelings about what they learned.

***Tatami* and Japanese Homes**

Tatami are mats used to cover the floors in traditional Japanese homes. They are made of two inches of thick straw padding covered with a mat woven from reeds. The padding and mat are sewn together at the edges with cloth strips. The *tatami* are about six feet by three feet in size and form a smooth, greenish-gold surface for the floors.

The custom of using *tatami* is over a thousand years old. Originally, they were used as a place to sleep. Eventually they were arranged to completely cover the floors, in the same way that some Americans use wall-to-wall carpeting. Each room in a traditional Japanese house was designed to contain a certain number of *tatami*. Common sizes were four-and-one-half-mat rooms and six-mat rooms.

People were expected to take their shoes off before stepping on the *tatami*. It is still the custom to leave your shoes at the front door when entering a Japanese home.

Old Japanese houses did not have much furniture. People sat directly on the *tatami*-covered floor. A low table used for eating and other purposes was put away at bedtime. The same room was then used as a bedroom. Soft mattresses and quilts were stored in cupboards or chests during the daytime and spread out at night.

Traditional Japanese houses were simple and often very beautiful. The colors were the natural colors of wood, reeds, and plaster. A corner of a room was often set aside as a place to display a piece of artwork or a flower arrangement. People around the world have copied some features of Japanese house design, such as alcoves for displaying art.

Nowadays in Japan, houses that have *tatami* and just a few pieces of furniture are becoming rare. More and more people live in city apartments or in houses that are very international in style. Still, traditional house design can be found in inns, rural areas, designer homes like those shown in magazines, or in special places such as small houses used in tea ceremonies.

Many people choose to have a combination of *tatami* rooms in their houses or apartments. More than 90 percent of modern apartments have one *tatami* room.

The size of the *tatami* continues to be used as a unit of measurement even when a room does not actually have any *tatami* on the floor. Newspapers often carry ads for “one four-and-one-half-mat room, one six-mat room, and a combination dining area and kitchen.” That ad tells the room sizes in an apartment, but not whether the apartment actually contains any *tatami*.

Think about the furniture and appliances a Japanese family might buy to furnish that apartment.

Appliance and Furniture Ownership

The list below shows the kinds of appliances and furniture now found in modern Japanese homes—whether houses or apartments. A family's possessions must fit into homes that average about 900 square feet per family. Homes are larger in rural areas than in cities, but overall Japanese homes are smaller than those in the United States.

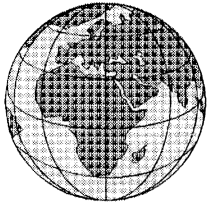
The following percentage of Japanese households owned each item in 1998:

Color television	99.2%
Washing machine	99.3%
Microwave oven	91.7%
Refrigerator with freezer	98.1%
Stereo	55.2%
CD Player	59.9%
Videocassette recorder	76.8%
Satellite receiver	34.7%
Personal computer	25.2%
Living room set*	38%
Bed*	50%
Piano	22.3%
Dining Table and Chairs*	69%

Japanese homes generally do not have conventional ovens, central heating, dishwashers, or clothes dryers.

* Data from early 1990s.

Sources: *Japan 1999: An International Comparison*, edited by Yoshitaka Arai (Keizai Koho Center, 1999) and *Japan Almanac 1994* (Asahi Shimbun).



Lesson 2. Crowded Urban Life: Problems and Solutions in Japan

Introduction

The impact of population density on everyday life is sometimes hard for students to grasp. Part 1 of this lesson involves students in a quick but vivid simulation, enabling students *to feel* the effects of high population density such as that in Japan. They then hypothesize about how population density affects housing space and size as well as lifestyles, particularly in Japanese cities. In Part 2, students learn about some of the real problems high-density living and limited space can create and consider technological innovations that alleviate real problems or otherwise enhance lifestyles.

Objectives: Students will be able to:

- Explain why Japan is a crowded nation.
- Make inferences about housing size and space, ways of living, and social issues in Japan.
- Analyze potential benefits of “better living through technology.”

Teaching Time: 1-2 class periods

Materials: Handout 4 and 5, five chairs

Procedure

Part 1

1. Ask students if they can imagine one million people. Can they imagine 125 million people? Explain that some numbers are so large that it is hard to get an idea what they really mean.

2. Explain that Japan is a nation about the size of California in land area. Yet its population is more than 125 million people, compared to about 30 million in California. However, it

Part 1 of this lesson is derived from “Many People, Little Land,” by Lynn Parisi, *Japan in the Classroom* (Boulder, CO: Social Science Education Consortium, 1995) and “Using Statistics About People and Places,” by Elgin Heinz, *Opening Doors* (New York: The Asia Society, 1979).

is not just the number of people that makes Japan crowded. Geography and climate have made many areas of Japan uninhabitable; for example, vast areas of Japan's northern island, Hokkaido, are mountainous and cold; many of the inland areas of Japan's other islands are very mountainous. Explain that the class will conduct a quick simulation to get a better idea of the implications of population density in Japan.

3. Set out five chairs. Explain that each chair represents 30,000 square miles—together, a total of 150,000 square miles—the approximate size of California or Japan. Next, write on the board the following key: 1 student=10 million people; California=30 million people. Ask how many student volunteers will be needed to represent the population of California. Ask for three volunteers to represent the population of California and to sit on the assembled chairs. Ask if the volunteers are comfortable? Do they have enough room? Did each get his or her own space (chair)? Do they have room to spread out, change positions, etc.?

4. Explain that the class will now use the same five chairs to represent the size of Japan, also 150,000 square miles. Write Japan's approximate population of 125 million on the board, asking how many student volunteers will be needed to represent Japan's population. The class may choose to round up to 130 million or down to 120 million. Depending on their decision, ask for nine or ten additional student volunteers to join the three volunteers already sitting on the chairs. Caution the students that they must all be on the chairs—standing on the floor would be the equivalent of living in the ocean surrounding Japan.

Once students have situated themselves, repeat the questions about space and comfort asked of the three "California" volunteers. Could all of the students representing Japan fit on the chairs? What changes had to be made to try to accommodate the students? The entire class should be well aware that the students are crowded, sitting on top of each other or trying to stand, etc. What impressions do students have of Japan's population density? Finally, remind the class that much of Japan is uninhabitable and that to really get an accurate picture of Japan's population density, all 12 or 13 students would need to perch on less than 1/2 of a chair, or 1/6 of the land area of Japan!

5. To debrief the activity, volunteers may stay perched on the chairs or return to their seats. Ask students to hypothesize about the impact of population density on housing and lifestyles in Japan by answering such questions as:

- How large would you expect individual homes to be? How costly?
- What types of housing would you expect to see more frequently—single-family homes or high-density housing such as high-rise apartments?
- What might be some lifestyle issues associated with this degree of population density and limited space?
- What kind of yards do you think Japanese houses have?
- How might population density affect the amount of privacy people have? Can you think of any social problems or neighborhood problems that might arise from high population density?

Students should be able to guess that there would be many high-rise buildings in Japan, that large homes might be rare and expensive, that people living very close together might

have to adjust family lifestyles in terms of home entertainment, storage, privacy, possessions, noise, pets, and even family size. Record student hypotheses on the board or posting paper.

Note that visitors to Japan who have heard about high population density and/or the small size of Japanese homes are often quite surprised when they visit suburbs or rural areas to see that housing is quite spacious.

Part 2

1. Clarify for students that the relatively small size of Japanese homes compared to American homes is a reflection of limited land and not a reflection of the standard of living or wealth of that country. Explain to students that, since the 1970s, Japan's economy has prospered and that, despite a recent economic recession, Japan is still one of the wealthiest nations in the world. Japan has a high per capita income, which means that, as a nation, the Japanese people live comfortably and have a high standard of living.

Despite the fact that the Japanese, as a nation, have comfortable incomes and can buy many things, they are still faced with the environmental reality of limited land and space. Thus, the majority of Japanese, despite their family income, still live in relatively small homes. Limited space also has made housing very expensive: about half of Japanese families rent housing because they cannot afford to buy homes, which may cost as much as \$1 million for a modest house.

2. Distribute Handout 4, which spotlights three challenges and adaptations required of Japan's city dwellers—access to sunlight, noise problems, and pets. Have students read the entire handout or divide the class into three groups, assigning each group to focus on one of the three issues outlined in the reading. Following reading time, discuss the article in class. Are the three housing issues highlighted unique to Japan? To urban areas? Can students cite examples of these or similar housing/lifestyle issues in their own community or their own experience? What solutions have Japanese found for these problems? Are these solutions unique?

3. Explain that, as Japan's economy has continued to expand and incomes have increased, most Japanese have come to enjoy substantial buying power—that is, they have the money to buy things they need or want. The vast array of luxury items in Japanese department stores and electronics stores is just one indication of the buying power that Japanese feel and exercise. According to annual data published by the Keizai Koho Center, in 1998 more than 99 percent of Japanese households had color TVs, 77 percent had VCRs, and 83 percent had cars. Ownership of new technologies such as Direct Broadcast Systems, word processors, computers, and fax machines is growing rapidly (*Japan 1999*, Tokyo: Keizai Koho Center, 1999).

As one account has put it, the only thing that many Japanese still cannot afford is the house in which to put all these appliances. While some 80 percent of workers in an urban poll expressed the desire to own a home, a third of those could not afford to do so (*Understanding Japan*, November 1993, p. 1). Explain to students that the Japanese may always have to deal with the dual reality of limited space and expensive housing. Home ownership may be out of reach for some, and small homes may be a reality for many; still, the fact that many Japanese enjoy very comfortable incomes but do not have high mortgages means that they have more money to spend on luxuries.

Ask students to consider technology as a way to improve life at home for people in Japan, for whom housing size and price reflects limited space. Remind students of the final video segment in this module that focused on “high-tech homes” in Japan. What innovations were being included in these homes? Would students characterize most of these as necessities or luxuries?

4. Distribute Handout 5. Explain that this article describes a technological innovation many might consider frivolous, but it is one that is increasingly popular in Japan. Allow time for students to read the article, then conduct a class discussion on the article. Have students ever seen or used such a toilet? What do they think about it? What practical issues or problems does this innovative toilet solve? What features sound attractive? The article points out that these toilets are beginning to be marketed in the United States. Do students think they will catch on here? Why or why not? Do students think their families would invest in such a product?

5. As a class, brainstorm a list of housing or environmental issues in Japan that are brought about or complicated by limited space, high population density, and small living quarters. Based on their viewing of the video module and discussion of Handout 4, students should be able to identify such problems as land shortage, climatic and geographic factors that make some areas uninhabitable, cramped living quarters, lack of storage space, lack of hobby or play space around the home, noise, pets, yards, access to sunlight, etc. Create a second list of problems students and their families face in their own homes.

6. As a creative problem-solving project, have students work individually or in groups to create a description of a high-tech innovation that would solve a housing issue or environmental issue in either Japan or the United States that the class has identified through the brainstorming process. Provide guidelines for student projects depending on time available for this activity. Each student or team should create a problem statement, with an illustration of the problem and its effects, if possible. Students can then draw or create a model of their problem-solving technology. Allow time for groups to share their technology plans in class.

Rabbit Hutch Housing?

In 1979, a Japanese newspaper printed a translation of a European economic report stating, among other things, that the Japanese lived in housing that most Westerners would regard as “rabbit hutches.” This vivid picture of Japanese homes as small and very crowded angered and embarrassed many Japanese, who were very proud of their nation’s growing economic success. Yet the term stuck, and in the years since that report, many Japanese have used the “rabbit hutch” description to criticize the nation’s housing situation and point out the irony of a wealthy nation whose citizens must live in small, cramped housing.

Housing size and style vary throughout Japan just as in other countries. In rural areas and some suburbs, houses are surprisingly large by Japanese standards, featuring gardens, garages, and other space-consuming features. But, today, approximately 85 percent of Japanese live in urban areas, where they face the challenges of crowded city life. Three of these challenges are described below.

Sun. According to the publication *Understanding Japan*, the right to enjoy sunshine is one of the most well-known rights in Japan. Strict regulations protect against buildings or activities blocking anyone’s access to sunshine for more than a certain number of hours a day. This is not surprising in a nation where most people live in urban areas characterized by skyscrapers and high rises that block the sun. Just as in other cities around the world, Japanese urban dwellers will pay more for apartments on the upper floors of high-rise buildings or for homes with good southern exposure. The reasons for this are varied but may include the desirability of natural light, warmth, and the illusion of space afforded by numerous windows looking out on open vistas.

Neighborhood Noise. Noise is among the biggest complaints of Japanese urban apartment dwellers. In recent years, there have been efforts to improve high-density housing by increasing the sound insulation between apartment units. According to the Architectural Society of Japan, walls 7 inches thick can substantially improve sound insulation over walls 4 inches thick. For example, with a 4-inch wall, people can easily hear piano playing in a neighboring apartment, as well as some conversation and movement. These sounds are negligible when blocked by a 7-inch wall.

Pets. Like urban residents in other countries, Japanese city dwellers often find it difficult to keep pets. Pets are often prohibited in public and privately owned high-density housing buildings such as apartment complexes. According to one Japanese newspaper, apartment residents who insist on trying to keep pets anyway contribute to tension among neighbors and problems of sanitation, odor, and noise.

Sources:

Understanding Japan, Vol. 2, No. 7 (November 1993).

Japan 1996: An International Comparison (Tokyo: Keizai Koho Center, 1996).

Japan's High-Tech Toilets Can Put Foreigners on the Hot Seat

by Mary Jordan and Kevin Sullivan, Washington Post Service

TOKYO - An American diplomat was at a dinner party in a Japanese home when he excused himself to go to the bathroom. He did his business, stood up and realized he had no idea how to flush the toilet. The diplomat spoke Japanese, but he was still baffled by the colorful array of buttons on the complicated keypad on the toilet. So he just started pushing.

He hit the noisemaker button that makes a flushing sound to mask any noise you might be making. He hit the button that starts the blow-dryer for your bottom. Then he hit the bidet button and watched helplessly as a little plastic arm, sort of a squirt gun shaped like a tooth brush, appeared from the back of the bowl and began shooting a stream of warm water across the room and onto the mirror.

This is how one of America's promising young Foreign Service officers ended up frantically wiping down a Japanese bathroom with a wad of toilet paper. "It was one of my most embarrassing experiences in Japan," said the diplomat, who is posted to the U.S. Embassy and who asked not to be identified.

Forget that you need to know three alphabets to read a Japanese newspaper. Forget horse sushi. The most puzzling thing for many foreigners here is Japanese toilets. Many foreigners . . . are confused by the latest generation of Japanese toilets—high-tech sit-down models with a control panel that looks like the cockpit of a plane.

Japan is the world leader in high-tech toilets. Its biggest toilet company, Toto, is

working on a home model that will chemically analyze urine. Already selling well are toilets that clean themselves, that have coatings that resist germs and that spray pulsating water to massage your backside. The toilets basically look like standard American models except for the control pad, which sometimes comes with a digital clock to tell you how long you've been in the bathroom. Some of the buttons control the temperature of the water squirted onto your backside. The bottom-washer function, combined with bottom blow-dryer, is designed to do away with the need for toilet tissue. Other buttons automatically open and close the lid—the button for men lifts lid and seat, while the button for women lifts the lid only. Some toilets even have a hand-held remote control. Many foreigners say that once you get used to these toilets—which cost \$2,000 to \$4,000—it is hard to do without them, especially the automatic seat warmer.

Harry Sweeney, an Irishman who raises horses on the cold northern island of Hokkaido, said he knew a man who drove two and a half kilometers out of his way each morning to use a public toilet with a heated seat. "It gets very cold up here in the winter," Mr. Sweeney said, "so those heated seats aren't a luxury, they're a necessity."

But some people never get the hang of it—they are panicked, trapped in stalls unable to figure out how to flush. Worse, they find themselves stranded on the toilet, unsure how to shut off the spraying bidet and unable to get up without soaking themselves and the bathroom.

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Hubert Igabille, a salesclerk in nearby Aoyama, said he thought the computerized toilet in his shop needed a bilingual panel. Some customers take one look at the Japanese characters on the control panel and decide to skip it, he said.

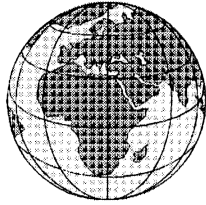
Mr. Igabille sees the bathroom gadgetry as a logical extension of high-tech Japan, where airport vacuums whiz around without human help, many cars are equipped with digital displays that use satellite technology to plot the driver's exact location, and researchers are planning to use cockroaches fitted with miniature cameras to inspect sewer pipes.

Toto sells about \$400 million of high-tech Washlet toilets a year, and it estimates that it has only half the market here. It has expanded that market with the Travel Washlet, a portable hand-held bottom-washer. Toto now wants a piece of the U.S. market, so it is starting with a less expen-

sive, less complicated model. The U.S. Toto is a \$600 seat, lid and control panel that attaches to a regular American toilet bowl. It features a heated seat, the bottom-washer and a fan that "breaks down odorous molecules and returns clean air into the bathroom environment," according to a Toto brochure.

Toto has gone to great lengths to make its toilets, bathtubs and other products user-friendly. Thousands of people have collected data on the best features of a toilet, and at the company's "human engineering laboratory," volunteers sit in a Toto bathtub with electrodes strapped to their skulls, to measure brain waves and "the effects of bathing on the human body."

A Toto spokesman, Yojiro Watanabe, said the toilets were popular because they made the bathroom a place where people wanted to relax.



Extension and Enrichment

1. Several of the Asia Society *Video Letters* contain footage of Japanese homes. In addition, a poster provides contrasting illustrations of traditional and contemporary Japanese house architecture and design. The *Video Letters* are available from the Asia Society Education Department at 212/288-6400; 725 Park Avenue, New York, NY 10021.

2. Lessons in the activity book *Tora No Maki* explore issues related to Japanese housing. In “Japan: The Best Place to Live?” by Patricia J. Morris, students use statistical data and news articles to consider the quality of life in Tokyo. “Housing-Living With Nature,” by Rita Geiger, considers the theme of harmony with nature as it applies to Japanese housing style and furnishings. *Tora No Maki* (1996) is available from the National Council for the Social Studies, Box 2067, Waldorf, MD 20604-2067.

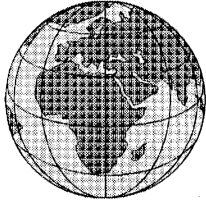
3. Through library or Internet research, students can learn more about space saving or environmental adaptations developed in Japan’s past that are still used today—for example, *kotatsu* (a kind of Japanese space heater/table), stair *tansu* (storage chests that double as stairs), *futon* (portable bedding), and sliding/removable walls. Students might report on why these items were developed, what problems they solved, and how they compare to contemporary technologies developed to solve housing problems in Japan or the United States.

4. “Keeping Warm: A Case Study in Energy Conservation in Japan” is a short lesson that focuses on the *kotatsu* as a distinctive and traditional Japanese home furnishing that doubles as a space heater. See the activity book *Japan in the Classroom: Elementary and Secondary Activities* (1995), available from the Social Science Education Consortium, Box 21270, Boulder, CO 80308-4270; 303/492-8154.

5. This module considers the theme of cultural borrowing and adaptation as it applies to Japanese adaptations of Western-style houses. Have students consider this theme by exploring reverse influences—ways in which Americans have borrowed and adapted housing designs or furniture from Japan. Specifically, students might research reasons for the popularity of *futon* in the United States, how *futon* use has been adapted in this country, etc.

6. Students may be interested in reading portions of Edward Morse’s classic study, *Japanese Homes and Their Surroundings* (New York: Dover, 1961).

7. Students with a special interest in adaptation to limited space in Japan can conduct library and Internet research to learn more about *bonsai*, rooftop gardens, and other techniques for adapting nature for a compact culture.



SECTION 4 WORLD WIDE WEB RESOURCES

The World Wide Web provides an almost inexhaustible supply of background material, additional classroom activities, and research information to meet the needs of students and teachers. The following list is only a sample of what is available. As content and online addresses change frequently, the URLs (uniform resource locators) listed here in print may no longer be valid. If this is the case, use your favorite search engine to locate the sites listed.

Sites Related to Japanese Housing

Irasshai Launch Pad (<http://www.peachstar.gatech.edu/irasshai/culwww/homepg.htm>)

Check out the section “Life in Japan” for information on etiquette and Japanese homes.

Kids Web Japan: Daily Life (<http://www.jinjapan.org/kidsweb/japan/a.html>)

This site provides a pictorial tour, plus answers to questions about the size of Japanese homes, the tradition of removing one’s shoes, bathing, and pets at home.

Living with a Japanese Family

(<http://kgu-web.kansai-gaidai-u.ac.jp/bekka/student/gaic9.html>)

This site from Kansai Gaidai University provides detailed information about Japanese home life, covering such topics as toilets, etiquette, heating, and privacy. Designed for students who will be staying with Japanese families.

Teenage Tokyo: The Story of Four Japanese Junior High School Students

(http://www.askasia.org/adult_free_zone/afz_frame.htm)

This online *manga* (illustrated narrative in comic-book form) traces the daily activities of Mika, Kenji, Akiko, and Yuichi. Click on “Virtual Gallery” and then “Exhibitions” to find Teenage Tokyo.

Sites with General Information about Japan

Asian Educational Media Service (<http://www.aems.uiuc.edu/>)

A national clearinghouse for information about audiovisual materials on Japan and Asia. Database is searchable by country, media type, audience, or subject.

Ask Asia (<http://www.askasia.org/>)

Features resources for the K-12 classroom including lesson plans, readings, bibliography and images for use in teaching and learning about the countries of Asia.

Irasshai (<http://www.peachstar.gatech.edu/irasshai/>)

This site produced by Georgia Public Broadcasting invites users to voyage to Japan through the World Wide Web. The "Launch Pad" includes a list of 23 major topics with dozens of subcategories linking to relevant sites or materials selected for their appeal to middle and high school students. The site's unique frame-design returns users to Irasshai after sojourns to linked sites, keeping students on task.

Japan Information Network (<http://www.jinjapan.org/>)

Maintained by the Japan Center for Intercultural Communications (JCIC), this site offers statistics, regional information, and links to other sites in Japan.

Japan Window (<http://www.jwindow.net/>)

A collaborative project between Stanford University and NTT Japan, this site offers information about Japanese science and technology, business, economics, education, and government. Also includes information about working, studying, living, and traveling in Japan and daily news headlines. This is the entry point to Kid's Window.

Kids Web Japan (<http://www.jinjapan.org/kidsweb/>)

Part of the Japan Information Network and managed by the Japan Center for Intercultural Communications, this colorful site for school kids has many graphics and photographs. The site provides basic information on many aspects of Japan. It includes facts about daily life, history, economy, and other topics, monthly news of interest to kids, links to other sites, games, and an interactive form to ask questions about Japan.

National Clearinghouse for U.S.-Japan Studies (<http://www.indiana.edu/~japan>)

This adjunct clearinghouse of ERIC based at Indiana University offers two searchable databases of information about print resources and lesson plans for teaching and learning about Japan, especially at the K-12 level. Also features virtual Japan kit of images and information and links to other sites about and in Japan.

NTT Japanese Information (<http://www.ntt.co.jp/japan/>)

Maintained by Nippon Telephone and Telegraph (NTT), this site offers information about the geography, culture, customs, government, sports, and tourist attractions of Japan.