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Example Taiwanese traditional houses

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Abstract. The derivations of four Taiwanese traditional vernacular houses, based on a shape grammar, are illustrated. We also discuss the role of grammars in describing design style, using the Taiwanese houses as exemplars.

In a previous paper, we developed a parametric shape grammar for Taiwanese traditional vernacular dwellings based on the actual design and construction process (Chiou and Krishnamurti, 1995b). In this paper we illustrate that grammar by considering four exemplar dwellings that were all built in the 19th century, in increasing order of complexity. Of these, the *Zhōu*[1] family house, *Dun-běn Táng*, and the *Lín* family great house were built in the latter half of the 19th century; the last example, the *Lín Ān-tài* residence was built in the 1820s. The *Zhōu* family house is a small house and exemplifies the basic type of *sān-hé-yuàn*. The *Dun-běn Táng* is an archetypal house. The *Lín Ān-tài* residence and the *Lín* family great house are mansions.

Figure 1, taken from Kwan (1989), illustrates typical site plans for Taiwanese traditional dwellings. The site plans corresponding to the four examples considered in this paper are indicated in the figure.

The generation of each example dwelling is given in a series of derivations, each of which may subsume one or more shape rule applications. The shape rules are listed, in the order in which the rules are applied, beneath the derivation symbol $\Rightarrow$. Where a rule is superscripted by a number, say n, the particular shape rule is applied n times in succession. Where a rule is enclosed within brackets, [ ], the effect of the rule application is not illustrated because of the scale or resolution of the illustration. The shape rules correspond to those described in Chiou and Krishnamurti (1995b).

Zhōu family house in Taipei

The *Zhōu* family house is a compact adaptation of a farmhouse, located in the Wan-hua (*Wàn-huá*) District, Taipei.[2] In plan, shown in figures 2 and 3, it bears a similarity to houses of limited space found in urban surroundings. The house has one main building, two secondary buildings, and three roms in the principal building.

The house is a variant of the enclosure-courtyard type known as a 'street house' (*jiē-wū*). In an urban setting, the site was rectangular with the narrow side facing the street. Urban traditional dwellings followed much the same principles of the enclosure-courtyard as their rural compact counterparts. As can be seen from the elevation, in figure 2, the roof is a *yàn-wěi* (swallow-tail) variation of the *yìng-shān* roof. The ridgepole is extended at either end and the roof is curved.

[1] The phonetic spellings for Chinese words in the paper are from *Learner's Chinese–English Dictionary* (8th edition) and correspond to the Pinyin system.

[2] *Wàn-huá* (also known as *Měng-jiă*) was the original city of Taipei.

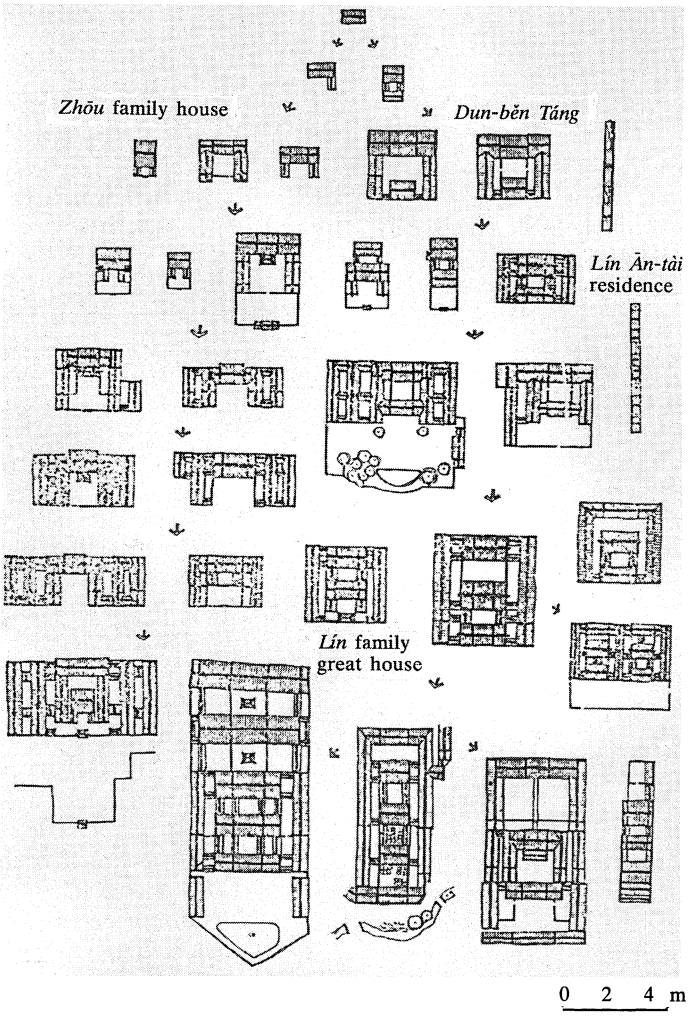


Figure 1. Site plans of Taiwanese traditional dwellings (after Kwan, 1989, page 36).

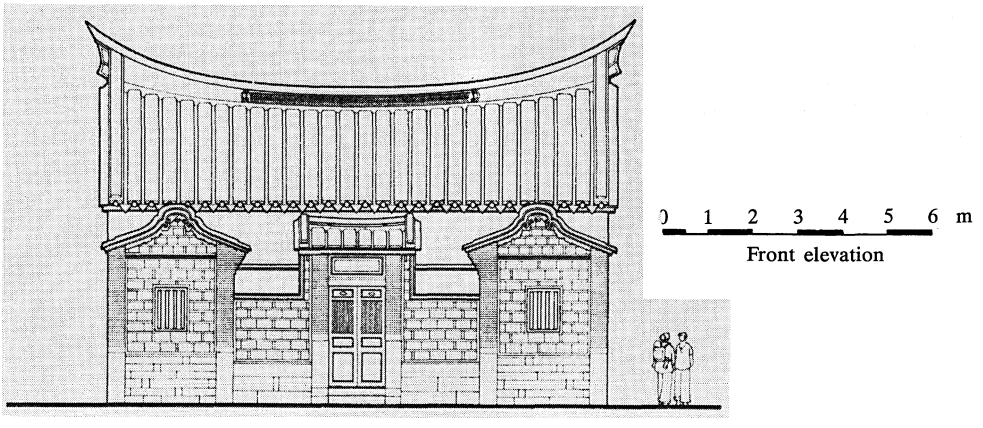


Figure 2. Front elevation of the *Zhōu* family house (after Dillingham and Dillingham, 1985, page 12).

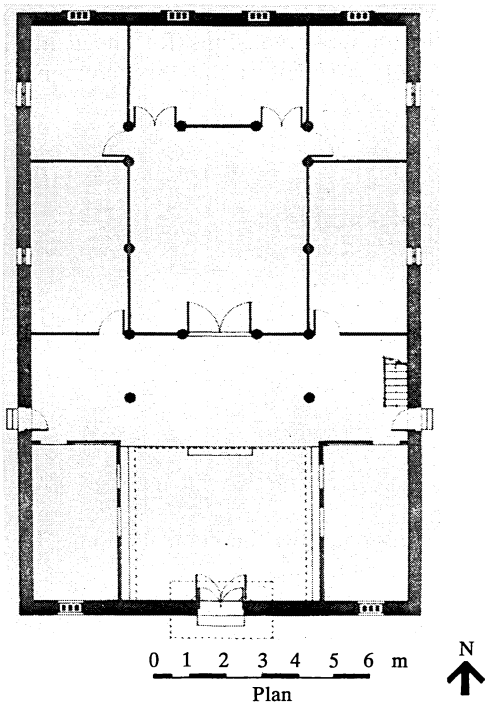


Figure 3. Plan of the *Zhōu* family house (after Dillingham and Dillingham, 1985, page 15).

We now illustrate the generation of the floor plan and the *yìng-shān* version of the roof profiles.

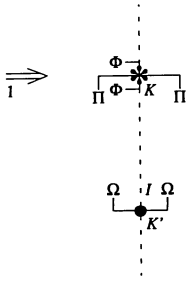
Defining the initial shape

The artisan starts with a site which we indicate by an asterisk that marks the *key brick*, a location that the geomancer determines as fortunate for the owner. This is the initial shape.

(0,0)✻

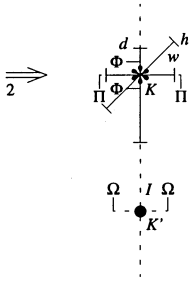
Defining the scales of the building

We approach the generation through the eyes of the artisan. The first step that the artisan takes is to decide upon the general layout and style in consultation with the owner, for example, the number of *jìn*'s (enclosures), *lù*'s (routes), and *jiān*'s (bays), and so on. For this example, the numbers of *jìn*'s (ΦΦ) and *lù*'s (ΩΩ) are each one, and the number of *jiān*'s (ΠΠ) is three. We apply rule 1 to specify these scale bars.



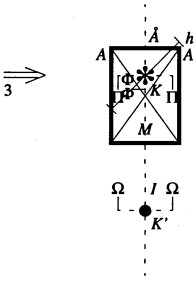
Computing the fortunate dimensions for the central room

Next, the artisan would have computed the fortunate dimensions for the central room (see Chiou and Krishnamurti, 1995a). Rule 2 specifies the three fortunate measurements: height, h, width, w, and depth, d.



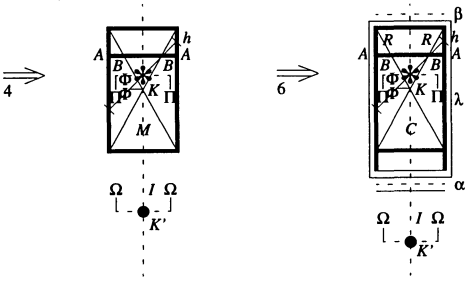
Generating the central room

Based on the fortunate measurements, the artisan generates the central room. The scale bars ΠΠ and ΦΦ are both decreased by one unit.



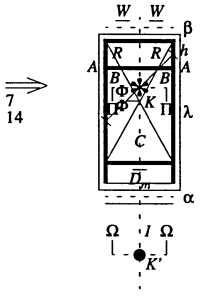
Adding extra space to the central room and refining it

By applying rule 4, the artisan adds an extra back space to the central room. The artisan can refine the central room by applying rule 6. He adds a front porch to the central room, marks the raised platform, and identifies the front and rear roofs. Once the central room has been refined, the label M is changed to C.



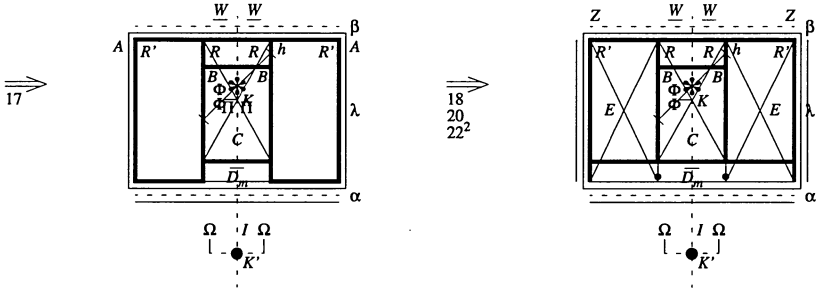
Adding openings to the central room

The artisan may add openings to the central room. Here, he applies rules 7 and 14 to add a main entrance to the front wall and two windows to the rear wall.



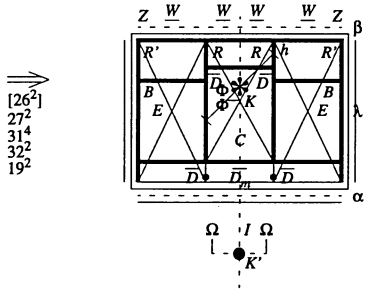
Extending the main building by adding rooms laterally on each side

Once the central room has been designed, the artisan extends the building laterally on either side until the total number of *jiān*'s in the principal building equals the intended value. The artisan applies rule 17 to add two rooms to the main building and decrease the scaler of bays (ΠΠ) by 2. As the scaler of bays becomes 0, he can apply rule 18 to mark the end room and take the scaler out. On the other hand, the artisan may extend the front porch by a *jiān* on each side (rule 20). For technical reasons, in order to apply rules in a later stage, rule 22 has to be applied.



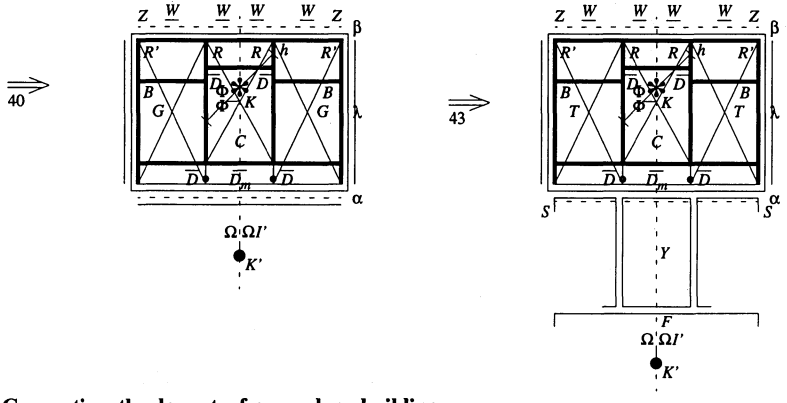
Refining the main building with openings and extra spaces

Before the artisan can finish the main building, he may add doors to the adjacent rooms (rules 26 and 27) and windows to each room (rule 31). Because the end room usually serves as a semipublic space, he may decide to replace the window by a door (rule 32). He may also decide to divide each room into two spaces (rule 19).



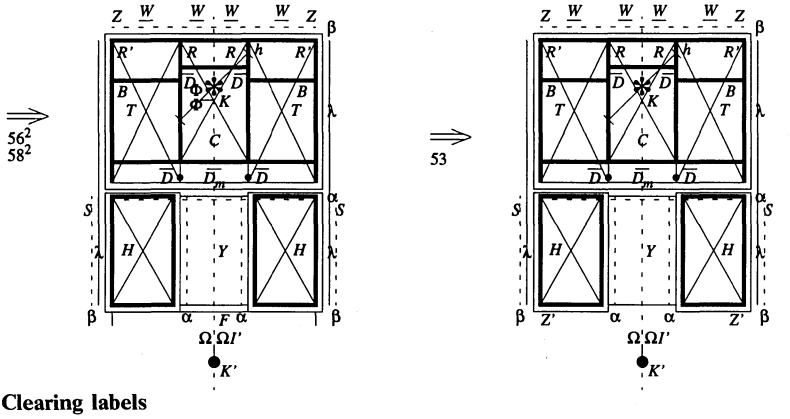
Generating a courtyard

In order to apply a courtyard in front of the main building, the artisan changes the label of end room to *G* and decreases the route scale bar ($\Omega\Omega$) by 2 for creating the inner secondary buildings (rule 40). Then, he applies rule 43 to create a courtyard, and marks the positions of the two inner secondary buildings.



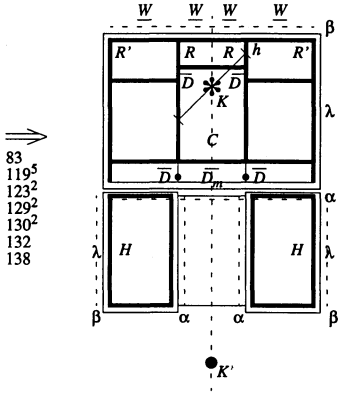
Generating the layout of secondary building

Now the artisan can add the label of raised platforms (rule 56) and rooms (rule 58) to secondary buildings. As the enclosure scale bar ($\Phi\Phi$) is 0, the label for generating the front-most main buildings is erased (rule 53).



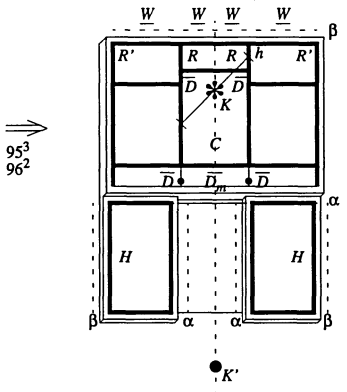
Clearing labels

Eventually, the artisan has designed the whole layout of the building. Then he may decide to clear some labels.



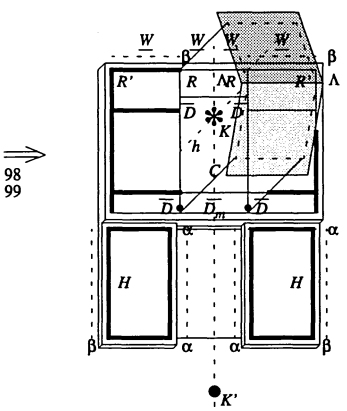
Generating the raised platform

The entire layout helps the artisan to start construction. Before this, he needs to work on the raised platform.



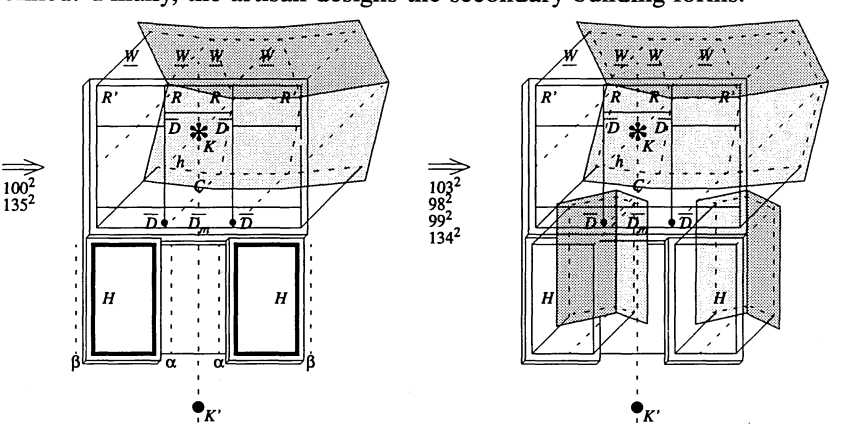
Generating the form of central room

The design of the central room always plays an important role in the design and construction process of a building. The artisan generates the three-dimensional form of the central room according to its layout and height.



Generating the entire forms of main building and secondary buildings

On the basis of the design of the central room, the entire form of the main building can be defined. Finally, the artisan designs the secondary building forms.



***Dūn-běn Táng* (the *Lín* family house in *Nán-tóu*)**

Dūn-běn Táng was built by *Lín, Yuè-tīng*[3] in 1893. It is located in *Zhú-shān, Nán-tóu*, a village about 50 miles from Taichung, the third largest city in Taiwan. The house, shown in plan in figure 4, has two main buildings, though without the inner secondary buildings being connected to the main buildings. There are three rooms in each of the main buildings. The inner courtyard was used, primarily, for celebratory occasions. Owing to its rural setting, the house was essentially a farmhouse. A feature of the house is its extreme neatness despite its rural setting and being located near mountains. The generation of this house plan is shown in figure 5.

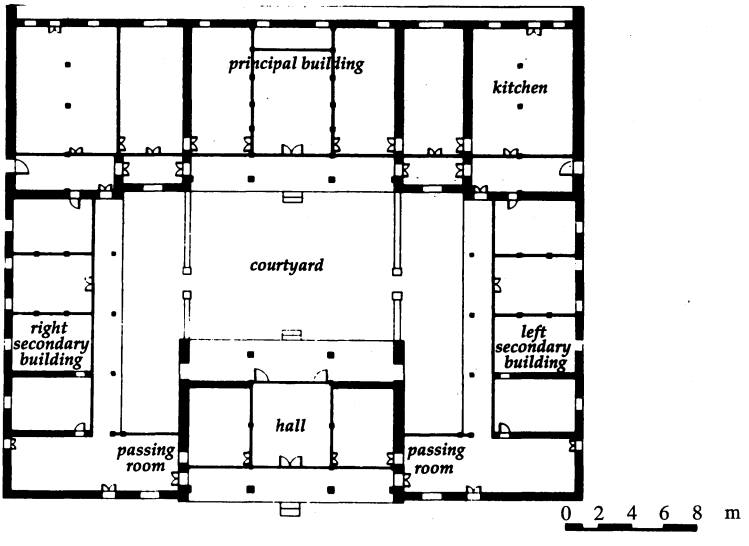


Figure 4. Plan of *Dūn-běn Táng* (after Lin, 1990, page 22).

The *Lín Ān-tài* residence in Taipei

The *Lín Ān-tài* residence is a large farmhouse built, in 1822, by *Lín, Zhì-néng*, who was a fourth-generation immigrant to Taiwan of the first *Lín* family. This house is among the best examples of existing traditional houses in Taipei. In 1977 it was moved to another site. The house has two main buildings and four secondary buildings, with five rooms in each of its main buildings. The outer secondary buildings were rebuilt during the period of Japanese colonization (1895–1945). An interesting feature of this house is its series of *yàn-wěi* (swallow-tail) roofs, an indication that its owner held an elite position socially.[4] See figures 6 and 7. The plan of the building is shown in figure 8, and its generation in figure 9.

[3] *Lín, Yuè-tīng* was an elder of his village and also served as village head.

[4] Generally, only officers or generals (*guān*) were allowed to use the *yèn-wěi* roof for their own houses. One is more likely to find *yèn-wěi* roofs on temples.

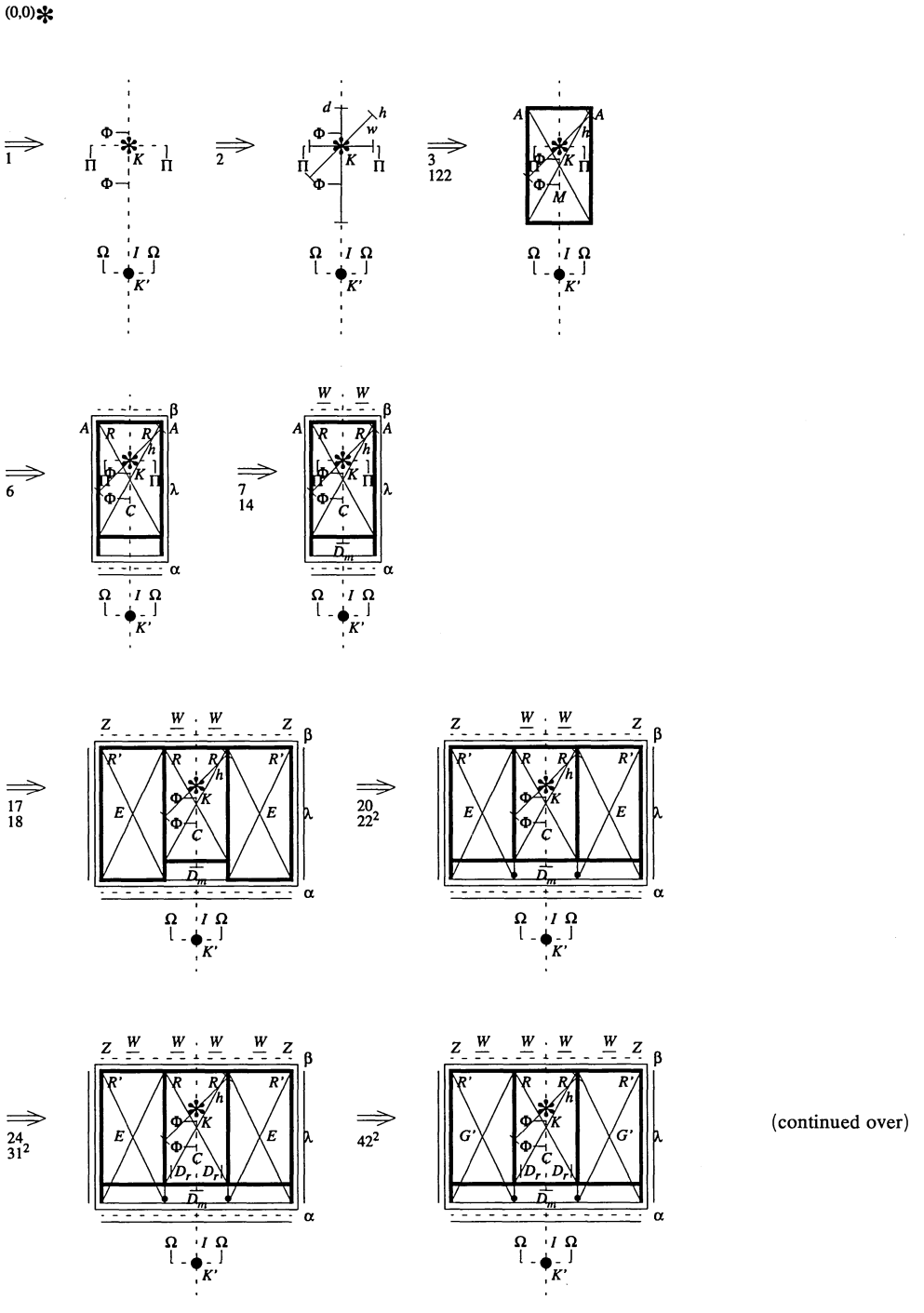


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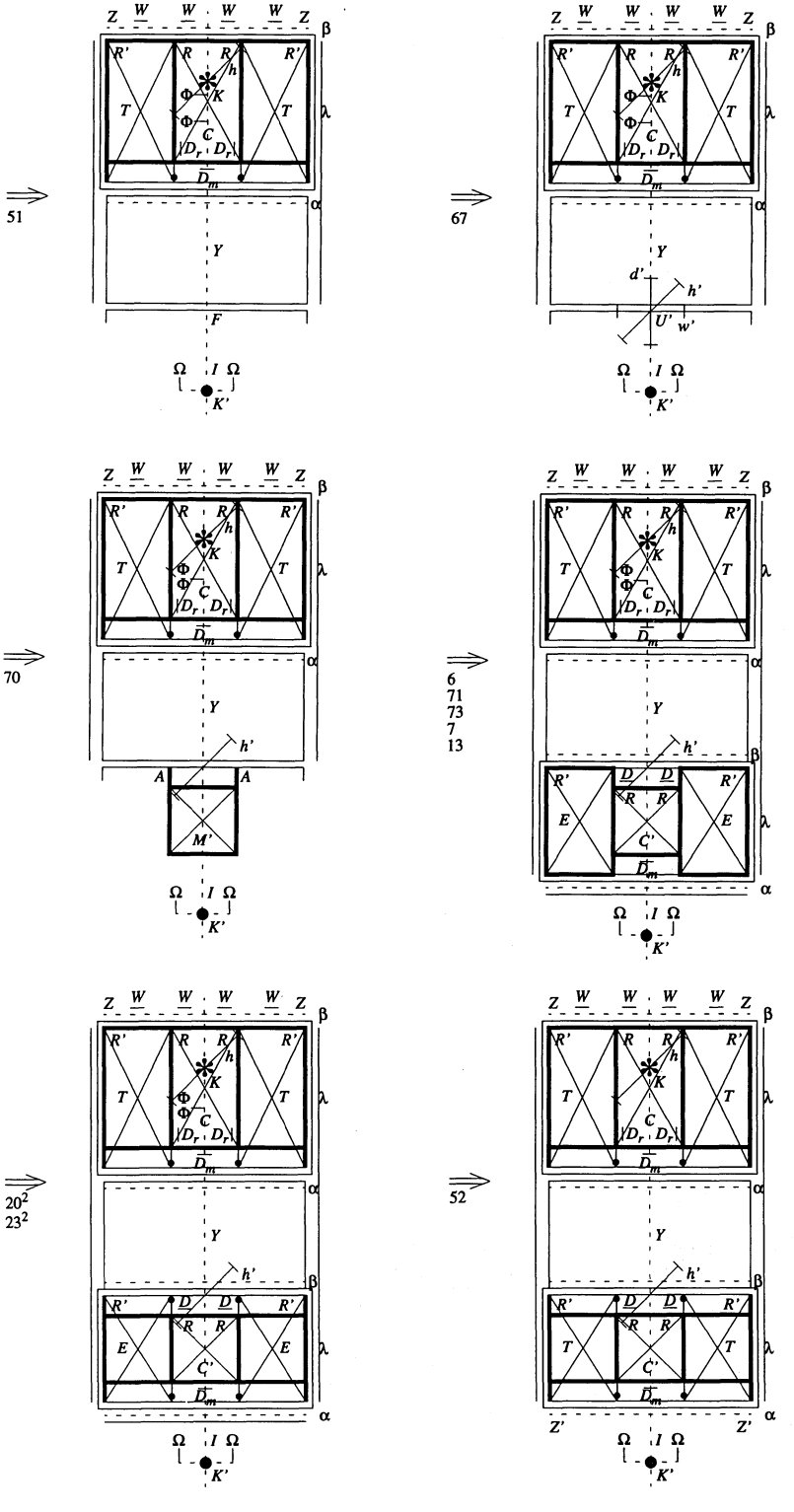
Figure 5. Derivation of the plan of *Dūn-běn Táng*.



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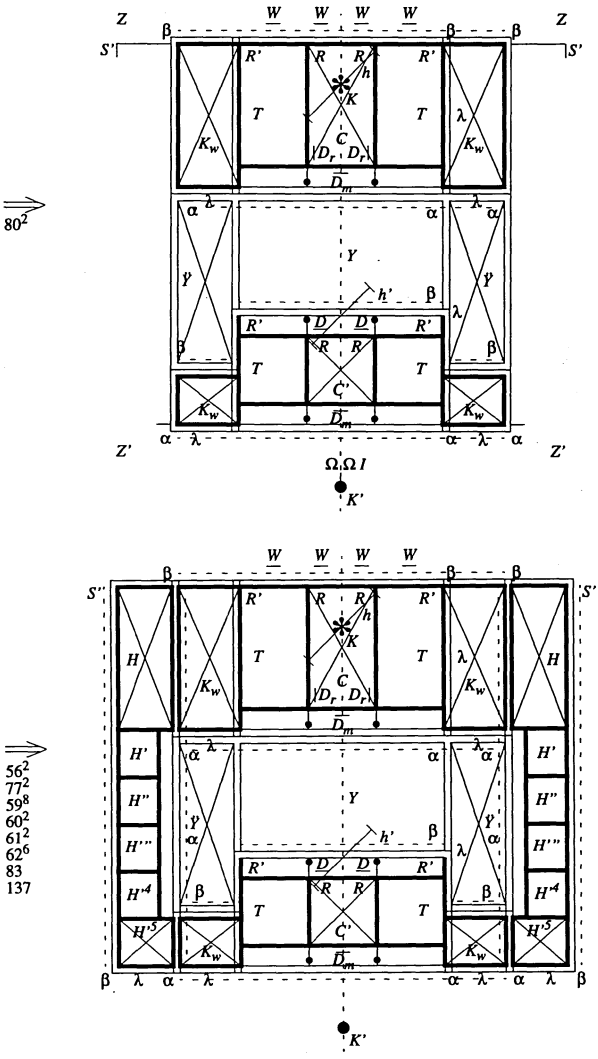

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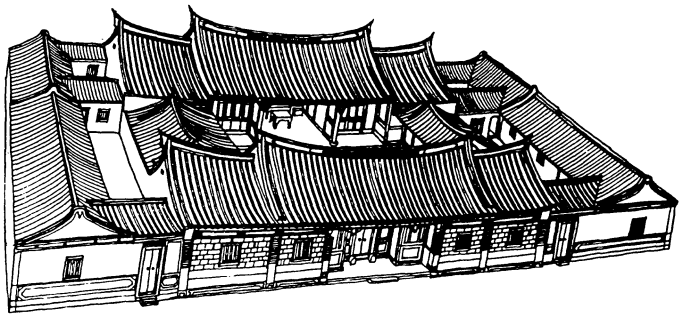


Figure 6. View of the *Lín Ān-tài* residence (after Li, 1980, page 137).

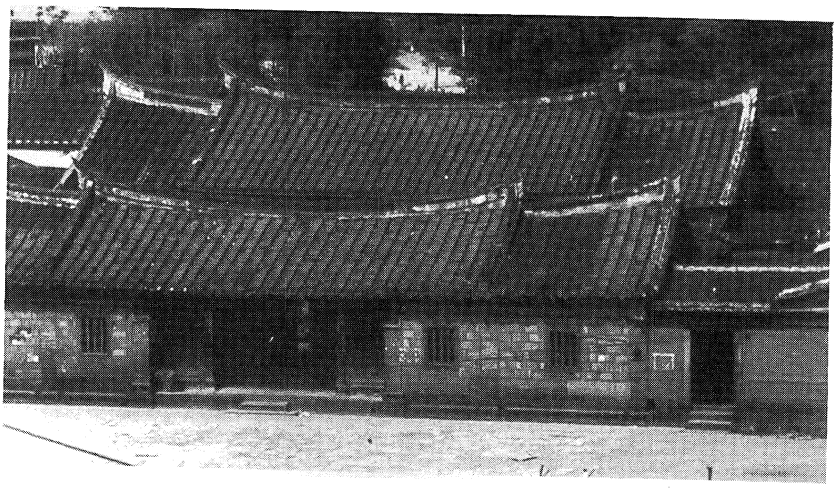


Figure 7. The *Lín Ān-tài* residence (after Li, 1980, page 126).

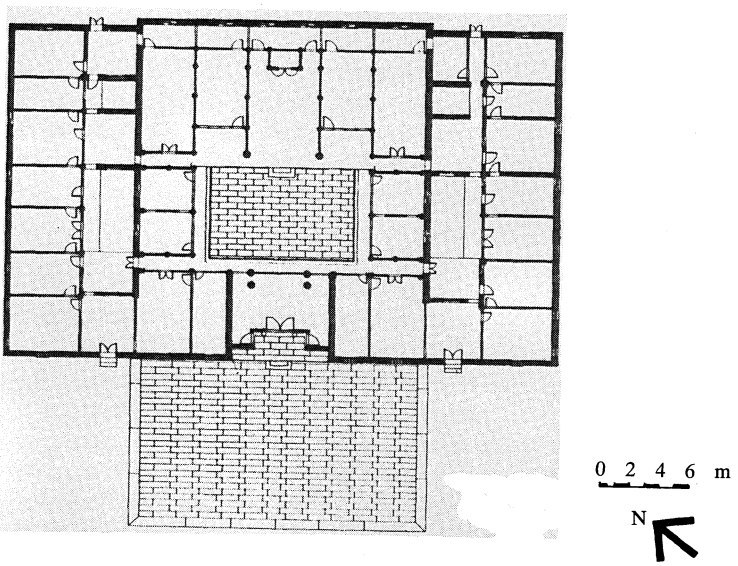


Figure 8. Plan of the *Lín Ān-tài* residence (after Dillingham and Dillingham, 1985, page 52).

The Lín family great house in Tainan

The *Lín* family great house, shown in plan in figure 10, is a large farmhouse built in 1875. The house, in Tainan, the oldest and the fourth largest city in Taiwan, is still in good condition with good wood carvings. In 1978, the left part of the house was torn down for apartments. It used to have three main buildings and two duo-secondary buildings. The original front main building was used as an independent entrance hall. The principal building has five rooms. The generation of this house plan is shown in figure 11.

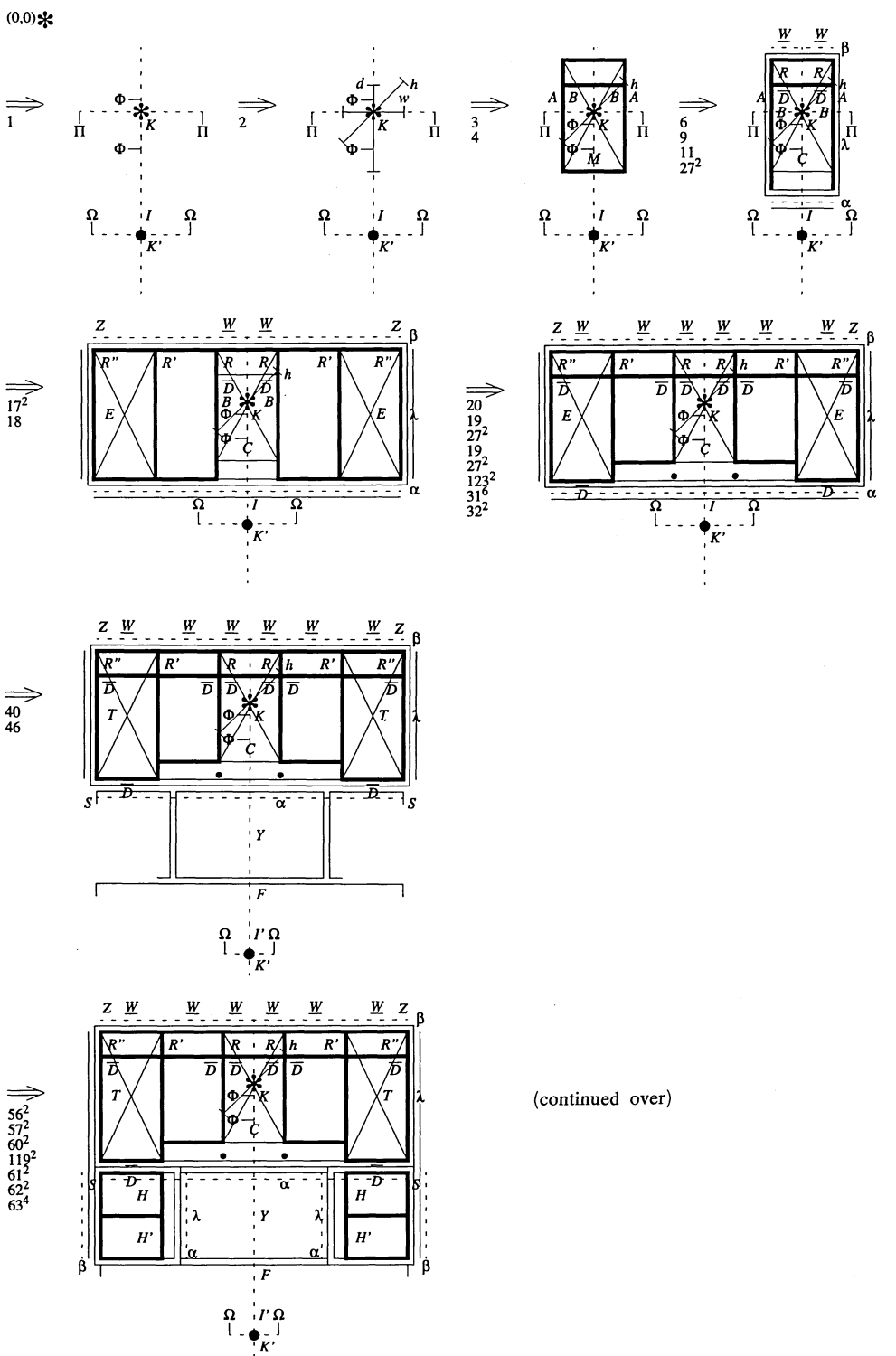
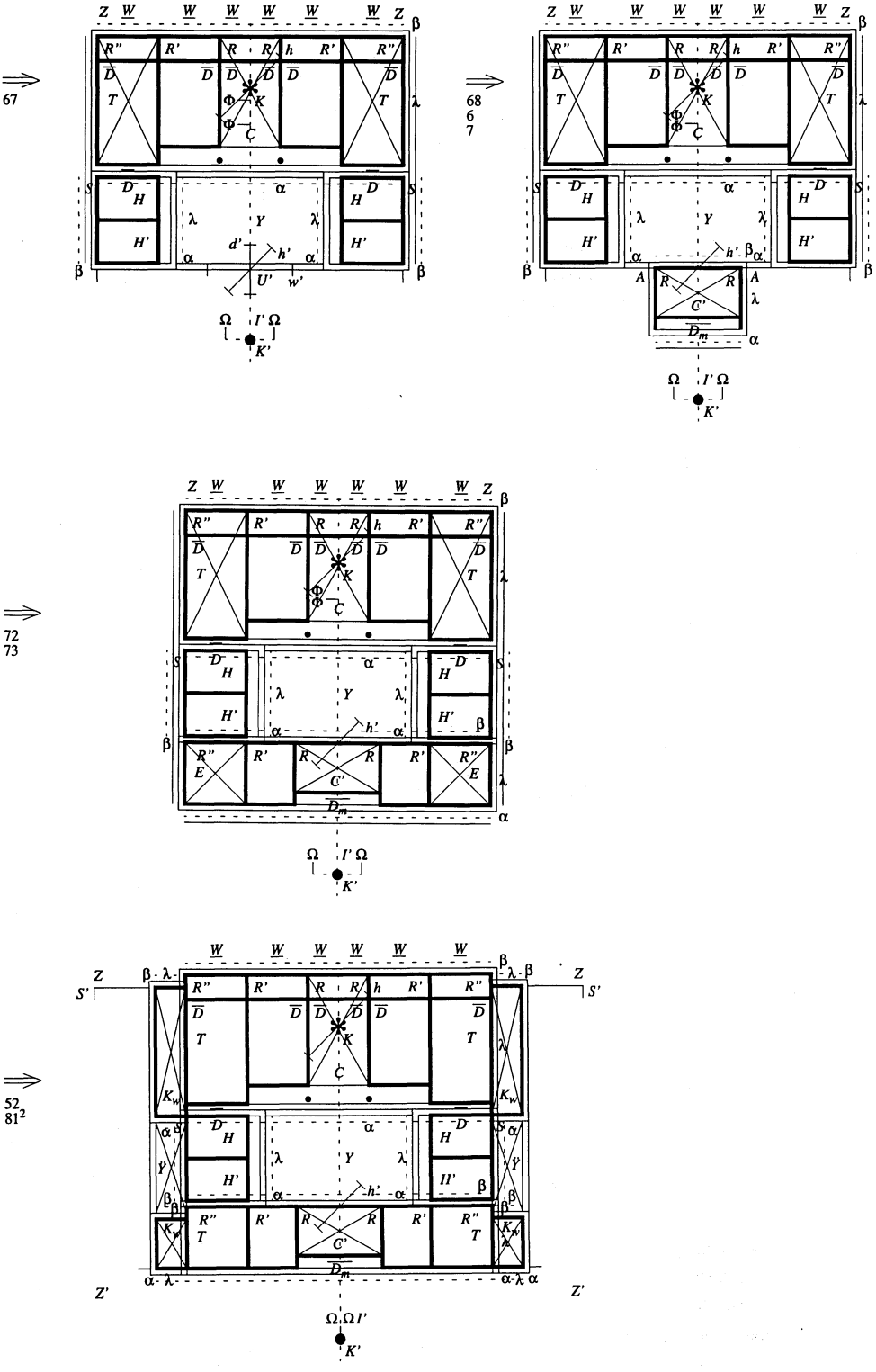


Figure 9. Generation of the *Lín Ān-tài* residence.



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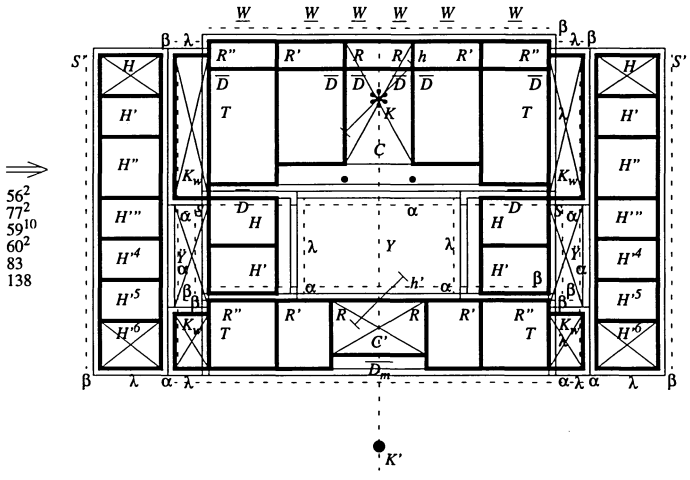

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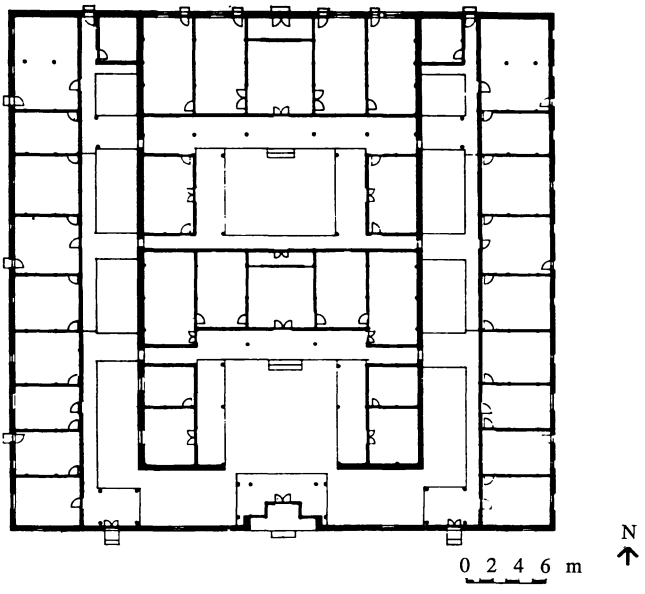


Figure 10. Plan of the *Lín* family great house (after Li, 1980, page 180).

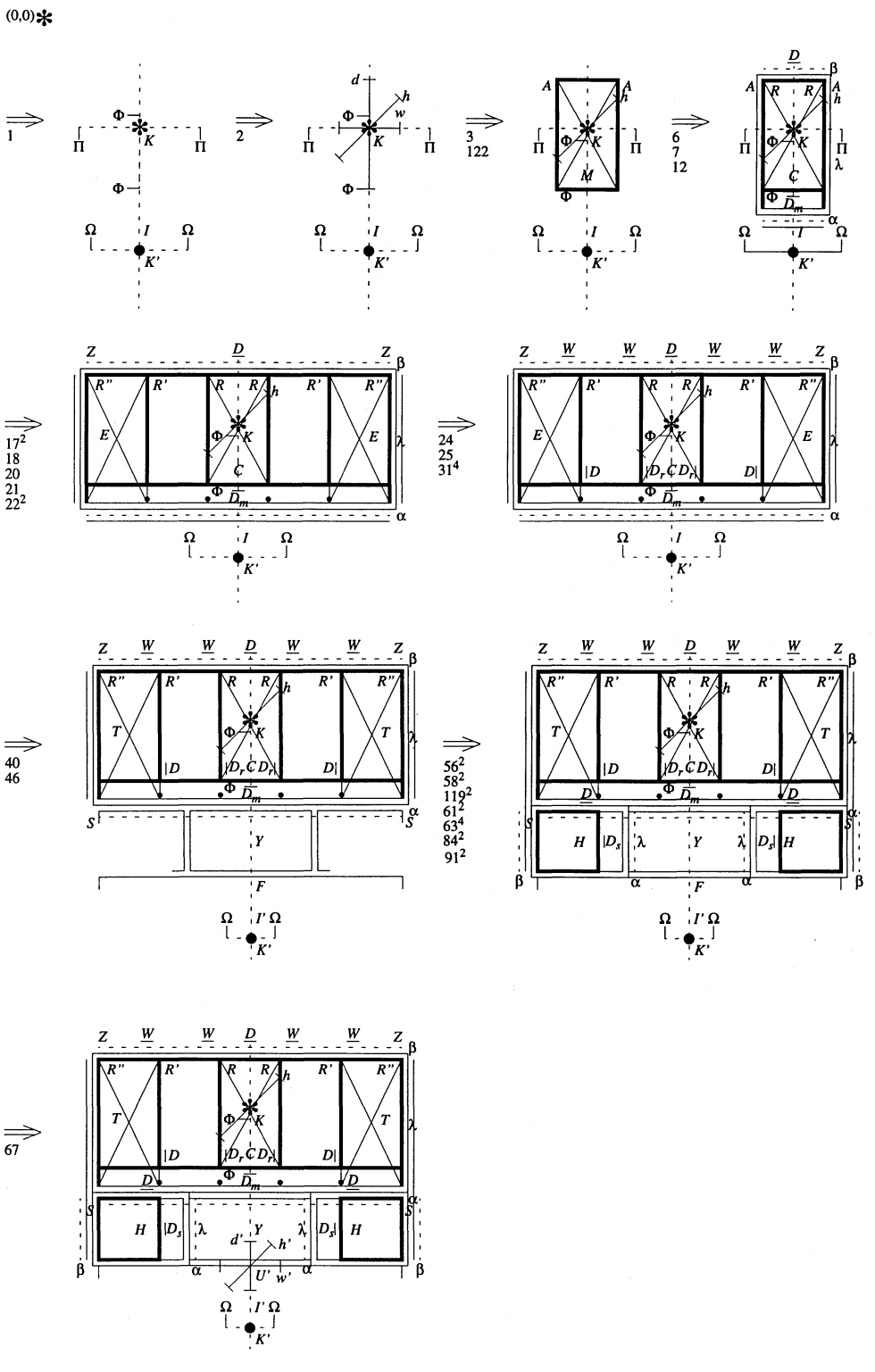
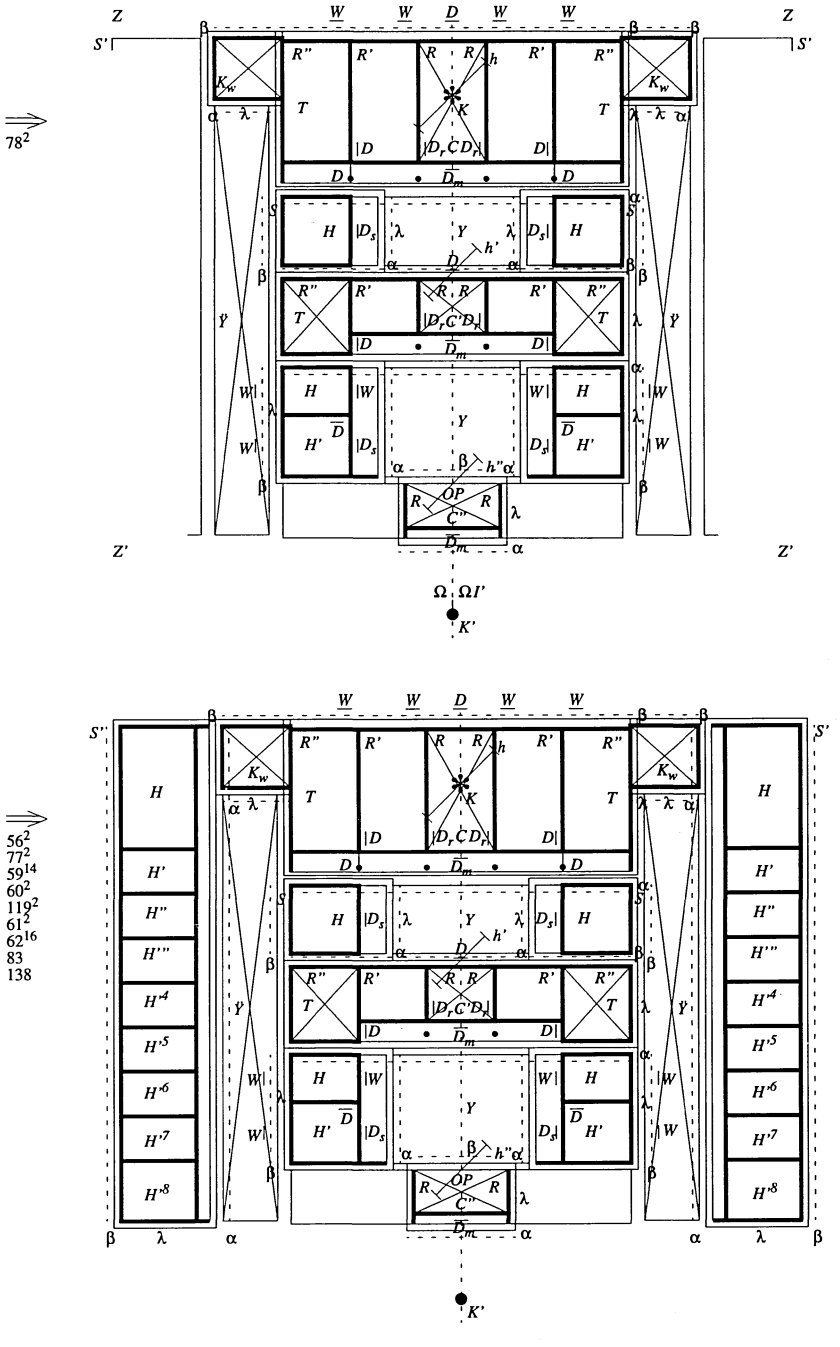


Figure 11. Generation of the *Lín* family great house.



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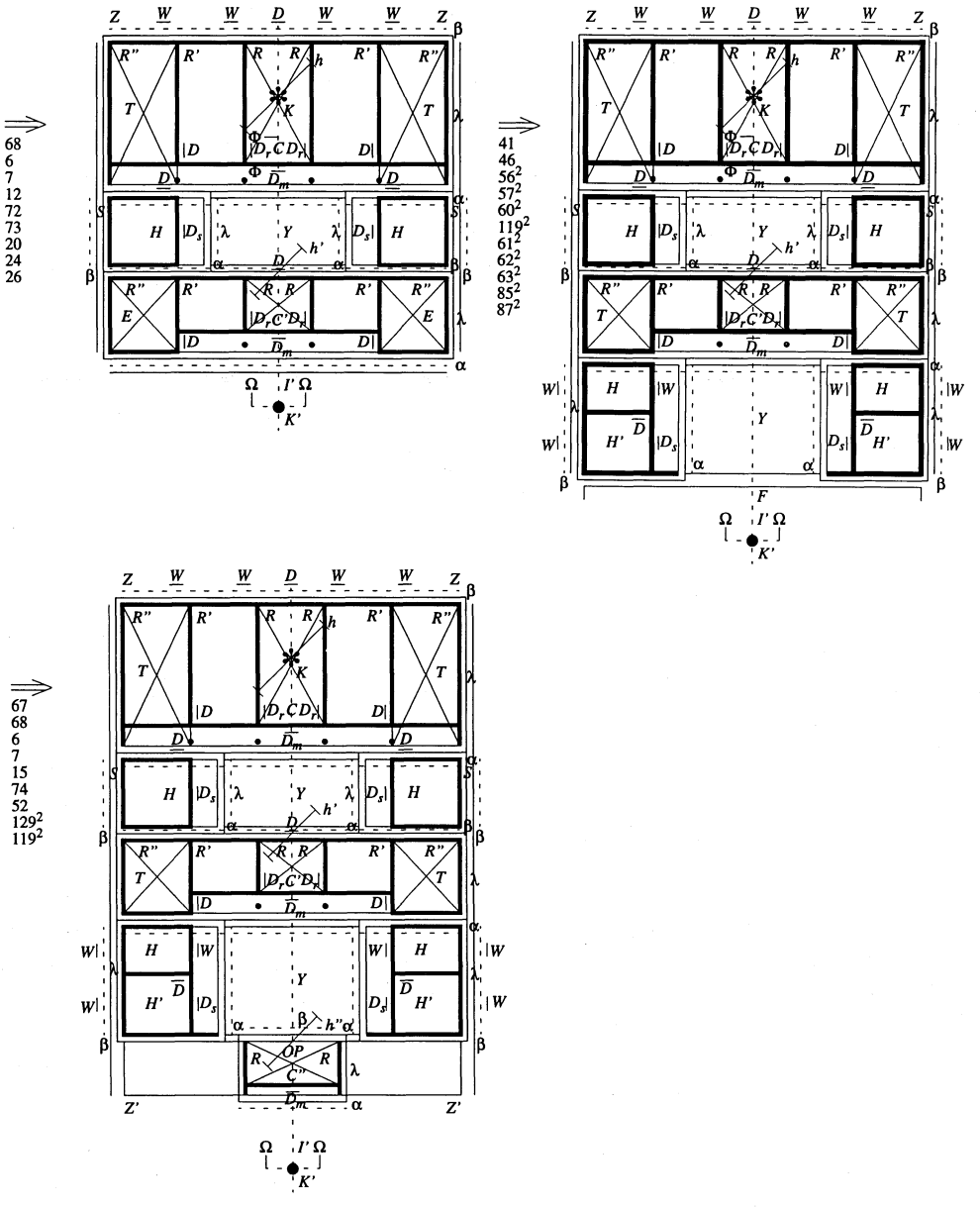


Figure 11 (continued)

On the Taiwanese grammar and style

Although artisans did not produce architectural plans or working drawings, one can imagine how they might have designed and built traditional buildings. We have done so both grammatically and through the eyes of the artisans. In each instance of the four example houses to which we applied the grammar we obtained a plan. Although we did not apply specific shape rules to produce details such as openings, we can still offer some general observations. In each case:

(1) The shape rules generate plans that are not dissimilar from the original plans. It should be possible to generate exact replicas provided additional shape rules are

specified in each case. Whether this would add significantly to an understanding of the basic Taiwanese traditional style of design is questionable.

(2) Taiwanese traditional architecture is rigid by comparison with other architectural styles. And it is rich in variation. Yet it is also flexible and simple. Although we have imposed some restrictions on the constraints in deriving the plans, in practice the artisans were not afraid to relax some of these constraints (of course, within bounds dictated by the principles of geomancy, and by auspicious measurements on the appropriate ruler). This is shown in the way in which we set the constraints for the fortunate dimensions where we catered for the general situation. Of course, even in traditional practice, some constraints were hard, such as the one that required that the drop line of the front roof of the secondary buildings did not intrude into the opening in the main building.

(3) In general, Taiwanese (and Chinese) traditional architectural designs were not based on specific architectural and physical functions, or usage.[5] For example, in general, the use or function of spaces in a building were kept flexible in the sense that the same underlying plan was often adapted for a house, temple, or a public building. On the other hand, occupancy and usage within a house were often determined by the seniority or rank of each individual family member or occupant of the building. Each building generally followed a space hierarchy which determined, in principle and practice, the hierarchy of functions, the dimensions, decorations, and so on. There was a correlation between specific space hierarchies for buildings and the space hierarchy of a building type.

(4) The main walls (or frames) of the central room in the principal building and its structure were the core of the design of the entire building. The walls defined the modulus of the building. The development of a grammar for the main frame is another important issue that one might have to consider.

(5) The building decorations were probably the most important features that distinguished the building, its type, functions, and its owner's socioeconomic situation.

In their paper, "The Palladian grammar", Stiny and Mitchell (1978) offer a characterization of architectural style based on three purposes, namely, (1) that it should clarify the underlying commonality of structure and appearance, (2) that it should supply the conventions and criteria necessary to determine an instance of the style, and (3) that it should provide the compositional machinery needed to design new buildings that are instances of the style.

We have deviated marginally from their definition, when developing the grammar, by deliberately not starting with a corpora of existing designs. Nor did we do a detailed analysis of existing plan forms. We wanted the grammar to emerge from an unraveling of the traditional processes of design and construction, and from the cultural influences thereupon. As a result, whenever we discovered a shape rule, we attempted to endow it with meaning that arose from some aspect of historic design, in the belief this could help us, visually (and also historically), to explain this

[5] That is, according to contemporary Western notions of function. There were, of course, cultural factors that determined the use and size of rooms. For instance, the larger dimensions of the central room in the principal building may be attributed to the fact that it was often the altar room for the entire household. However, this did not necessarily apply to the central room in the secondary buildings. Certain factors did influence design, for example, the location of the kitchen, the rank (and hence, usage) of passageways and pathways, and entrance sequences. The end room was used for functions that required larger areas [see Chiou and Krishnamurti, 1995b, footnote (18)]. The protection of *qì* could be viewed as a definite functional consideration. However, in the absence of hard evidence, one can only speculate on the cultural functions that may have been associated with rooms, or influenced their design.

particular architectural style. The grammar was as much an effort in design as the building designs that we wanted to explore with it.

Still, it is possible to evaluate our grammar against the three criteria in the Stiny-Mitchell definition. Recall figure 1. It should be apparent that each site plan given in figure 1 can be generated by the shape rules. If we accept that figure 1 serves as a representative collection of plan forms, the first Stiny-Mitchell criterion is satisfied in that the grammar captures the underlying structure of the houses. It is understood, of course, that the plan forms are no more than representations of real plans let alone real buildings. If we wanted to generate exact replicas of actual plans, in each case, additional shape rules would have to be supplied.

The grammar demonstrates the feasibility of going from basic compositional rules to real design. In this respect, we can claim that the grammar fulfills the second criterion, namely, given a real plan, it is possible to state whether that plan is a manifestation of a Taiwanese traditional building.

In one sense, the third condition is evidently satisfied, in that we can always produce a new basic plan form which has all the ingredients of, and satisfies all the constraints on, a traditional dwelling. Thus, we can claim that the shape rules collectively represent the style of Taiwanese traditional vernacular houses.

The Stiny-Mitchell definition has a distinctly mechanical feel. So, can shape grammars really help us to understand particular architectural styles? Can we use them in design? With respect to these issues, Stenvert (1991, pages 139-141) offers the following criticisms:

> "... the whole Palladio issue can not be regarded as an attempt to understand the qualities of historic design. In the end this comes down to rephrasing the modern issue of design and cramming it into a straitjacket of an entirely formalized shape grammar: a computational exercise, rather distant from the actual design process but even more distant from historic design."
>
> "... for people who follow the Bible very strictly, its instructions have to be obeyed literally, but when one regards the Bible as a mere historical book written by several authors, possible contradictions gain more attention. This is very similar with Palladian villas seen as plans representing the villas themselves in the strictly orthodox sense, or on the other hand seen in a more moderate sense, in the knowledge that a drawing is only a construction of reality. Really experiencing architecture involves more than just analyzing plans. Architecture is about real buildings capturing space and this can only be reflected very schematically in plans and elevations. Just evaluating these plans does not necessarily mean that at the same time the presumed design qualities are grasped entirely."

Stenvert is not alone in his criticism; there are others who share his conviction, for example, Fleisher (1992). Stenvert is not incorrect insofar as architecture is more than the sum of its drawings. However, he raises a number of other points that are worth addressing.

Consider quality—any judgment is bound to be highly personal. Experts may agree on the exquisite beauty and qualities of a physical artifact, an opinion that may not be shared by its owner or occupant. As an extreme hypothetical example, consider a room much admired by expert critics for its design and quality, but less so by its occupant—say, a child—who, among other things, proceeds to adorn the room, to give it 'character', in a manner that would dismay the experts. Who is right? The experts or the child? Admittedly, this is an absurd question, but underlying it is a notion of intention, be it for use, design, appreciation, function, or some other consideration.

Stenvert is not altogether correct when he says drawings are simply constructions of reality. They are representations—of an intended reality. Buildings are invariably designed in drawings and, in general, drawings provide the specifications from which designs are ultimately constructed. There have been more drawings of intended reality produced than artifacts of constructed reality. Students of architecture are taught, primarily, to design through drawings. Students are taught to appreciate real buildings with the view that they can then relate their designed reality to a possible constructed reality. Students are taught not only to evaluate completed designs of the great architects but also their unbuilt projects as seen through drawings and models. To suggest that drawings offer little or no experiential value is ludicrous in the extreme.

Computation in architecture is as old as architecture itself. The constructability of forms is as much a concern to the designer as the constructability of buildings. One has only to look at perspectives or other such geometrical transformations; constructions such as gothic traceries; proportional systems, the best known example being Le Corbusier's *Modulor*; and so on. These are all formal devices. One can admire Richard Meier's perspectives, Rob Krier's use of proportional systems, and Frank Gehry's sculptured designs. The techniques which these individuals use, the same techniques which we teach students, are deeply rooted in mathematics and computation.

Taiwanese, indeed Chinese, architecture, as a whole, is based on a long tradition of rigidly applied rules and regulations that were, and perhaps still are, linked to their way of life. Their system of architecture, especially their methods of design and construction make it eminently suitable for formal computational analysis.

Shape grammars are formal computational devices. But, unlike the devices listed above, critics appear to confuse computation and computer programs, in the process making the claim that shape grammars are nothing more than automatic generators of design from a predetermined set of rules.[6] On the contrary, shape grammars encapsulate spatial change. By experimenting with change, one can explore worlds of possibilities in which spatial forms and patterns emerge, sometimes surprisingly so.[7] In this sense, a shape grammar is as much a design device as the other formal devices.

The hallmark of style is its recognizability.[8] By fiat, style is associated with a certain period of time; with a particular designer, community, or society. Individual artifacts may be appreciated for their singular unique qualities, collectively for their shared characteristics. Shape grammars offer an appropriate language for succinct

[6] This seems to feature constantly in criticisms of shape grammars and appears to stem from the critics' confusion between a model of computation as a means of explanation and prototypical rule-based computer programs that are used in the creation of designs.

[7] The phenomenon of emergence or emergent forms plays an important role in understanding designs. It is formally shown by Stiny (1993; 1994) and Krishnamurti and Stouffs (1995)—using concepts from topology—that the structure of any argument from precedent to present that can be deemed to be articulately consistent or continuous must account for the emergent forms within the argument. This cannot be achieved by purely symbolic (nongeometric) means.

[8] The issue of recognizability may be problematical here. Clearly, if one were to show any of the plans generated by the grammar to a geomancer, in all probability, he would not recognize a plan for what it is—a representation of a traditional dwelling. Traditional designs were not designed on paper, but held in documents and people's heads. On the other hand, if these plans were shown to contemporary Chinese architects, who are trained to read and produce drawings such as plans and elevations, it is more than likely that these architects would recognize such plans for what they represent. Nevertheless, contemporary architects may still have problems recognizing usage in a building from plans alone, because different building types may share the same plan layout [see footnote (5)].

descriptions of shared spatial features and relationships. It is merely an incidental matter of fact that grammars can produce new forms.

Shape grammars have a mechanical touch. The production of new designs follows as a consequence. By nature, design and analysis have a large element of the mechanical or routine. Otherwise, the activity would, in the main, be chaotic. The pleasure that derives from creation, explanation, appreciation, or anything else lies chiefly in setting the 'framework' for that activity. Shape rules are not predefined but postrationalized. By using a grammar to produce new forms one may get insights into the spatial workings of a style of designs. This is not dissimilar to the practice of aspiring architects mimicking in their designs their architectural heroes.

The formulation of a shape grammar is not necessarily separated from historic design and practice. We have clearly shown that one can produce a grammar from considerations of traditional design practice alone. We have also shown that the grammar can produce known designs. We may even use the grammar to create a corpora of designs for further study.

Architecture is a deliberate act, and as such deserving of deliberate devices for analysis and design, even if they do not tell the whole story.

The preceding is perhaps best summed up by the following timeless paragraph taken from Noam Chomsky's (1957) *Syntactic Structures*. We have taken the liberty of replacing, in the Chomsky original, the words *linguistics* and *linguist* by the words *design* and *designer* respectively.

> "The search for rigorous formulation in *design* has a much more serious motivation than mere concern for logical niceties or the desire to purify well-established methods for *design* analysis. Precisely constructed models for *design* structure can play an important role, both negative and positive, in the process of discovery itself. By pushing a precise but inadequate formulation to an unacceptable conclusion, we can often expose the exact source of this inadequacy and, consequently, gain a deeper understanding of the *design* data. More positively, a formalized theory may automatically provide solutions for many problems other than those for which it was explicitly designed. Obscure and intuition-bound notions can neither lead to absurd conclusions nor provide new and correct ones, and hence they fail to be useful in two important respects. I think that some of those *designers* who have questioned the value of precise and technical development of *design* theory may have failed to recognize the productive potential in the method of rigorously stating a proposed theory and applying it strictly to *design* material with no attempt to avoid unacceptable conclusions by ad hoc adjustments or loose formulation" (page 5).

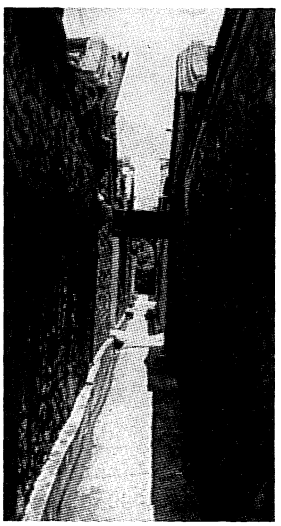
The Chinese (and latterly, the Taiwanese) have certain understood this for well over several hundred years.

The traditional Taiwanese house

No description of Taiwanese traditional dwellings is complete without (even) the briefest of reference to the decorations and ornaments that adorned them. The traditional building reflected its owner or occupant's wealth and social status. The traditional architectural laws that governed the scale, color, number and size of spaces (rooms), types of roofs, and the number and location of the beams in the central room—in effect, the form of the building—were based on rules of social hierarchy. Thus, from a description of the dwelling, it would have been an easy matter to ascertain the social position of its owner.

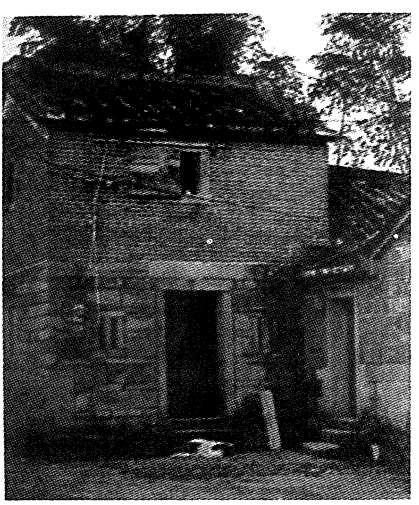
In some respects, the Taiwanese traditional house reflected more than the owner's wealth and social status. For instance, owners went to considerable lengths

to protect their 'emotions of frontier' (*fáng-yù* or *zì-wèi*). In China there was a saying, "The emperor is as far as heaven", which describes the relationship between the government and populace. The numerous skirmishes among the early immigrants to Taiwan necessitated the safeguarding of one's family and property. Many defensible features were designed into buildings to protect this emotion of frontier such as small doors (*ài-mén*), which served as gates to a community or as entrances to a group of houses, peepholes for guns (*qiāng-kǒng*), gun towers (*chòng-guì*), ponds, and groves of bamboo. See figure 12.

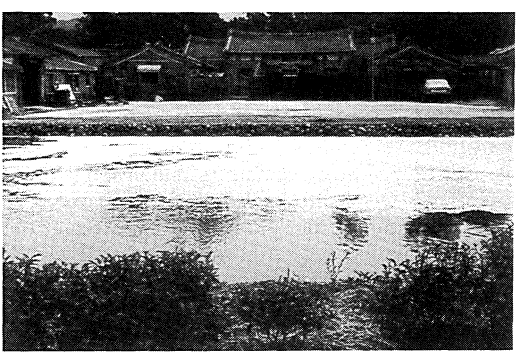


(a)

(b)



(c)



(d)

Figure 12. Defensible spatial features (a) small door (*ài-mén*), (b) peephole for gun (*qiāng-kǒng*), (c) gun tower (*chòng-guì*), (d) pond (front) and grove of bamboo (rear) (after Lin, 1990, page 176).

Owners also had high expectations for their descendants. These were encoded into the building decorations. A typical example of decorations found in Taiwanese vernacular houses is shown in figure 13. Some of the decorations took the form of 'dreams of paradise', which are based on Taoism[9] and fairy tales of eight supernatural beings.[10] Most Chinese dreamed of living like the supernatural beings. They believed that the supernatural beings live in paradise.[11] There are many tales

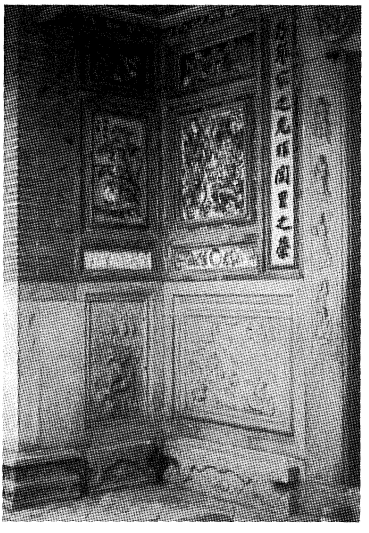


Figure 13. An example of building decorations in Taichung, Taiwan (after Lin, 1990, page 54).

[9] The first two proponents of Taoism were *Lǎo-zǐ* (his real name was *Lǐ, Ěr*. *Dān* was another of his first names; so, he became known as *Lǎo Dañ*) and *Zhuāng-zǐ* (*Zhuāng, Zhōn*). *Lǎo Dān* (circa 604 BC) developed the fundamental ideas of Taoism (the scripture of the *Dào* and its individuating power, *Dào Dé Jīng*). The philosopher *Zhuāng, Zhōu* (circa 369–286 BC) once dreamt that he was transformed into a butterfly and found great happiness in flitting hither and thither sipping nectar from innumerable flowers. Hence the insect is an emblem of joy. It is also a symbol of summer (Williams, 1976, pages 51–53). In "The equality of things and opinions" (*Qí-wù Lùn*), *Zhuāng-zǐ* ,

> "Once upon a time, *Zhuāng, Zhōu* dreamt that he was a butterfly, a butterfly flying about, enjoying itself. It did not know that it was *Zhuāng, Zhōu*. Suddenly he awoke, and veritably was *Zhuāng, Zhōu* again. We do not know whether it was *Zhuāng, Zhōu* dreaming that he was a butterfly, or whether it was the butterfly dreaming that it was *Zhuāng, Zhōu*. Between *Zhuāng, Zhōu* and the butterfly there must be some distinction. This is a case of what is called the transformation of things" (Shi, 1992, pages 148–149).

[10] The supernatural beings were *Zhōng Lí-quán, Zhāng Guǒ-lǎo, Lǚ Dòng-bīn, Cáo Guó-jìu, Lǐ Tiě-guǎi, Hǎn Xiāg-zǐ, Lán Cǎi-hé*, and *Hé Xiān-gū*. According to Williams (1976, pages 151–152): "The *bā-xiān* [eight immortals] are legendary beings of the Taoist sect, said to have lived at various times and attained immortality through their studies of Nature's secrets. They are not infrequently depicted on porcelain. They are also to be found as separate figures, standing or seated. Sometimes they ornament the edges of plates, standing on various animals among the waves of the sea, and their symbols occasionally occur as devices. ... Also, the eight immortals each represent a different condition in life: poverty, wealth, aristocracy, plebeianism, age, youth, masculinity, and femininity."

[11] The Chinese character for supernatural beings, *xiān*, combines the character for people and the character for mountains. Thus, *xiān* means a person who lives in a mountain. Consequently, paradise is not in heaven, but in a mountain.

about the eight supernatural beings.[12] These tales were often the subject of the decorations.

Building decorations also took the form of injunctions to the owner's descendants. Agriculture (plowing) and studying were regarded as two most important activities of Chinese daily life. Agriculture provided people with food and their daily necessities. Studying provided the only opportunity for one to become an 'officer'.[13] Thus, it is not surprising that agriculture and studying feature among the more prevalent themes found in building decorations. The decoration shown in figure 14 translates into the following antithetical couplet: "A nodding supernatural being is possible, but there are no heroes who do not study hard."

Figure 14. A decoration about studying (after Lin, 1990, page 136).

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[12] The *xiān* have the power of crossing rivers and seas standing or sitting on their respective symbolic appurtenances which are called the eight treasures (*bā-bǎo*). These are the sword, fan, flower-basket, lotus, flute, gourd, castanets, and musical tube (Williams, 1976, pages 151-157). The most famous story about the eight immortals is "*bā-xiān guò-hǎi*" ("the eight immortals cross the sea").

[13] The Chinese word *guān* translates to officer, but it embraces bureaucrats, civil servants, military officers, and, in general, individuals who had influence and were empowered to govern. In feudal times, people aspired to becoming 'officers'.

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