

**MINISTRY OF EDUCATION  
AND TRAINING**

**MINISTRY OF  
CONSTRUCTION**

**HO CHI MINH CITY UNIVERSITY OF ARCHITECTURE**

**NGUYEN SONG HOAN NGUYEN**

**CHARACTERISTICS OF TRADITIONAL CULTURE  
EXPLOITATION IN RESIDENTIAL ARCHITECTURE  
IN BIG CITIES IN VIETNAM**

Major: Architecture

Code: 62.58.01.02

**SUMMARY OF DOCTORAL THESIS OF ARCHITECTURE**

Ho Chi Minh City - 2016

The work is completed in:

HO CHI MINH CITY UNIVERSITY OF ARCHITECTURE

Science instructor

**1. ASSOCIATE PROFESSOR PH.D. LE THANH SON**

**2. ASSOCIATE PROFESSOR PH.D. TRINH DUY ANH**

Opponent 1:

**ASSOCIATE PROFESSOR PH.D. TON THAT ĐAI**

Opponent 2:

**ASSOCIATE PROFESSOR PH.D. NGUYEN QUOC THONG**

Opponent 3:

**ASSOCIATE PROFESSOR PH.D. PHAM ANH DUNG**

The thesis is protected in front of the University-level Thesis  
Examination Board in: HO CHI MINH CITY UNIVERSITY OF  
ARCHITECTURE

At.....on.....

The thesis can be investigated in the library:

HO CHI MINH CITY UNIVERSITY OF ARCHITECTURE &  
HO CHI MINH CITY GENERAL SCIENCE LIBRARY.

## **PREAMBLE**

### **1. The reason for the research**

The current exploitation of the traditional culture (TC) in the residential architecture (RA) in the big cities in Vietnam faces many choices on both theory and practice aspects. It is because of the appearance of many new elements that have been unprecedented in the traditional houses.

From the actual residential architecture development, applicable theoretical basis is necessary to orient the traditional development for higher efficiency, and promote the role of technology and creativity, which is suitable with using demand, and maintain the ability to identify ethnicity. The current researches and suggestions often select the characteristics of the culture and the architecture to exploit but they *have not approached from the systemic relationships* between them, resulting in the subjective and emotional judgment. As a result, with the system approach, the exploitation from the selection to the introduction of the traditional culture value application model in the urban residential architecture in Vietnam has never been researched before, and this is also the reason for the research topic of the thesis.

### **2. The object and scope of the research**

- ***The object of the research*** is the relationship between the traditional culture and the urban residential architecture, including 2 components as function & form. Through this relationship analysis, the typical values will be selected, and the application model will be built in the current urban residential architecture.

- ***The Scope of the research:*** limit to the traditional culture of the Vietnamese (Kinh) in the big cities such as Hanoi, Da Nang, Ho Chi Minh City...

### 3. The aim of the research

- Group up the traditional culture value system and identify its manifestation in the current residential architecture in the big cities in Vietnam;
- Analyze the relationship between the traditional culture value and the function and form, thereby select the values with high impact to continue the inheritance;
- Build the model and method to exploit the traditional culture value selected in the residential architecture in the big cities in Vietnam.

### 4. Related researches and remaining issues

The thesis briefly introduces 10 research topics relating to the traditional culture exploitation in the current architecture and the urban residential architecture, which shows the existing issues as follows:

- ***The systematic:*** the relationship between the traditional culture and the residential architecture is determined in a quite diversified way on both tangible and intangible aspects, corresponding to function and form components; however, the values are often separated to be considered without approach to the ***traditional culture value system***.

- ***The interdisciplinary:*** the research on the role and impact of the traditional culture in the urban residential architecture in Vietnam can be considered to be an interdisciplinary research that requires manipulating the definition, theories relating to the *culturology, architecture, psychology, aesthetics, and semiotics*.

### 5. Research method

- Method of history
- Method of structural system
- Method of theory analysis and summary
- Method of modeling

## CHAPTER I

### THE TRADITIONAL CULTURE VALUE IN RESIDENTIAL ARCHITECTURE IN VIETNAM

#### 1.1 The cultural value in traditional architecture of Vietnam

Traditional Culture is the *system of values* selected from the past, always *moves and changes*, and has potential strength dominating many human operation areas in the current society. It includes architecture and other forms of art. Value system of traditional culture is *diversified and relative*, and is united in some typical values but it is not duplicated in some other values, which depends on the research perspective of each author.

The determination of the cultural value system in the traditional architecture and the residential architecture of Vietnam is isolated to 2 tendencies that show the duality of the culture as *the display values and the non-display values*. While the opinions that give prominence to the display values as the national character exist, the contrary opinions that support the non-display values also appear. Due to this inconsistency, the thesis establishes the basis from the harmony of the 2 opinions above, which means the display values and the non-display values are both selected for the research contents.

When many authors investigate the traditional residential architecture of the Vietnamese in the Northern region, Central region and Southern region, they conclude the typical values but different opinions also exist. Thus, this thesis uses methods of collection and inference to select 10 typical values: *harmony with nature, flexibility/versatile, community, private ownership, profitability, hospitality, Vietnamese family tradition, worship culture, fengshui, the signifier*.

## 1.2 Manifestation of the cultural value in the traditional residential architecture in Vietnam

Each cultural value impacting *the traditional rural residential architecture* causes the specific manifestation in both function and form elements.

***On function aspect:*** *the harmony with nature* creates the residential space organically connected to the surrounding natural environment, scattered layout and uses the sunshade porch; *the flexibility/versatile* promotes the development of the open space structure, general using functions; *the private ownership* is shown through fence and gate boundary, regulating private using scope of each family; *the Vietnamese family tradition* forms ancestor worship space and family member reunion space, distributed in a diversified way in accordance with many activity forms; *the community, hospitality* are recognized in the spacious communication space, focused in the middle space of the main house and outwards; *the worship culture* establishes many worship areas in the house (ancestor worship, god worship); *the profitability* alternate between production, profession space with residential space; *the fengshui* orients the house in accordance with the wind direction, the odd house rooms, the gate direction deflective to the main house or with shielding screen.

***On form aspect:*** the house is impacted by *the signifier* including 3 elements

- *The traditional technique:* represented by the method of using natural materials and craft production; dynamic, movable structure (column frame, buck ban door, wattle...);
- *The visual art:* uses carved decorations with natural colors, rhyme, symmetry/balance, harmonic ratio, geometry, horizontal

combination;

- *Method of harmony to the nature*: natural ventilation; sunshade porch and roof reaching beyond the walls; indirect light source, rain splash prevention; creating shade area on the house; humidity resistance

Analysis of the ***cultural value conversion in the traditional urban residential architecture*** (*the first segment – the special phase shift*) shows the enhancement or decentralization of the values' manifestation.

***On function aspect***: *the harmony with nature* changes from active to passive, adapting by courtyard form and buffer space (porch/loggia); *the flexibility/versatile* increases the coordination of the living space; *the profitability* changes to trading and production space in front of the house; *the Vietnamese family tradition* continues to maintain ancestor worship and reunion spaces; *the community, hospitality* narrow the activity scope; *the private ownership* is shown in the private owned boundaries of the house; *the worship culture* flexibly organizes the worship space in accordance with the functional areas; *the fengshui's* manifestation is reduced.

***On form aspect***: continues to maintain the method of using the natural materials and the mobile structures (*traditional technique*); however, the house has multi-storey structure so redundant and decorative elements are reduced. Most rural house shaping rules are manipulated (*shaping art*) with *climate adaptation measures* but they are changed to be suitable with the new form.

### **1.3 Manifestation of the traditional culture value in the current residential structure in the big cities in Vietnam**

On basis of characteristics of the function space and form of the traditional residential architecture to analyze the manifestation in the

current urban house: *the traditional culture value continues to change to satisfy the demand of the new era and maintain the tradition and indigeneity*. This is *the second segment – the phase shift on the time* and is also the strong conversion stage of the traditional culture. ***In the function element***, the urban houses are clearly divided in accordance with the demand levels from the basic level to maintain the living activity to the higher development levels, directing to the convenience and the personal requirements. The expression demand structure is changed with the process of widening the functional space of the typical forms of houses as *row-houses, apartments and villas*. The participation and intervention of the traditional culture is relevant to this process by *2 tendencies as enhancement or decentralization, depending on the characteristics of each value*. ***In the form element***, due to the strong impact of the technology and the personal creativity, the method of house shaping is changed considerably, except the inconsistent factors, and tends to inherit the aesthetic rules or the method to adapt the climate conditions;

The summary of the manifestation of the traditional culture value in the row-houses, apartments and villas shows that ***the harmony with nature, the flexibility/versatile, the private ownership, the community and the Vietnamese family tradition*** tend to increase the impact on the *function element*, and they are converted to satisfy the higher demands unprecedented in the traditional houses. On the form aspect, the traditional shaping method is converted in spirit of the creativity and the advanced construction technology application. As a result, the houses tend to inherit the aesthetic principles and rules such as: ***geometry, harmony, symmetry, rhyme, mobility, climate adaptation***.



## CHAPTER II

### THE RELATIONSHIP BETWEEN THE TRADITIONAL CULTURE VALUE AND THE RESIDENTIAL ARCHITECTURE IN THE BIG CITIES IN VIETNAM

#### 2.1. The relationship between the traditional culture values in the urban residential architecture

*The system approach* in the traditional culture research is considered to be *the dynamic and comprehensive approach*, establishes the relationship between the value elements in accordance with *the hierarchical structure, can be measured by mathematical formula* to build the value scales. In addition, the traditional culture value system is considered to be an *open system, characterized by the continuous interaction and changes*. Among many system approaches, the thesis chooses the *analysis and model building approach*. Analysis approach minimizes the basic elements of the system (including 10 cultural values) in order to carry out detailed research and investigate its types of relationships. This approach helps to *analyze the structure and the interaction* of the values. *Model building* is the consolidation of the values to consider the act of the system as a whole.

*Structure of the traditional culture value system* is shown through the *order* (culture value scale) and the *interaction* between the values. 2 ways to approach to the value scale of each form of house are *qualitative* (*interpolate*) and *quantitative* (*extrapolate*) ways. The interactions are also divided to 2 contents: endogenous interaction (between the culture values – endogenous) and exogenous interaction (between the culture values and function and form of the residential architecture – exogenous). The summary of the endogenous and exogenous results is the importance

basis to detect the ability to maintain the stability or fluctuation of the traditional culture in process of the house model conversion. The values kept in the high stability level will be the main selected objects to build the traditional culture exploitation model.

*Considering the **endogenous relationships** between the traditional culture values by the **qualitative** method can establish the value scales in accordance with the increase and decrease shown in each house model; comparing these value scales helps to identify the **varying trends** of each value; therefrom the **general traditional culture value scale** for forms of urban houses is suggested. The **quantitative** method develops the analysis of the relationships between the values in accordance with the models, showing the connection ability through **similarities and differences**. These abilities' summary can build the traditional culture value scale. Combining 2 value scales in accordance with the qualitative and quantitative methods results in suggestion of **the general traditional culture value scale in the current residential architecture in the big cities in Vietnam (argument 1)** – [table 2.6].*

**TABLE 2.6 - [ARGUMENT 2]: the general traditional culture value scale** in the current residential architecture in the big cities in Vietnam (combining the qualitative and quantitative methods)

Order on value scale	The traditional culture value		
Priority 1	The flexibility/versatile	Group I	Stability
Priority 2	The harmony with nature		
Priority 3	The private ownership	Group II	Fluctuation
Priority 4	The Vietnamese family tradition		
Priority 5	The community		
Priority 6	The signifier		

The method of comparing the opinions of the world architecture theory shows the similarities of the traditional culture values; in which the

*Neo-vernacular Architecture* and the *Cultural Symbiosis Theory*, *Phenomenology*, *Place*, *Semiotics* have many close opinions with the exploitation of the traditional culture in the current urban residential architecture in Vietnam.

## 2.2. The relationship between the traditional culture value and the function space in the urban residential architecture in Vietnam

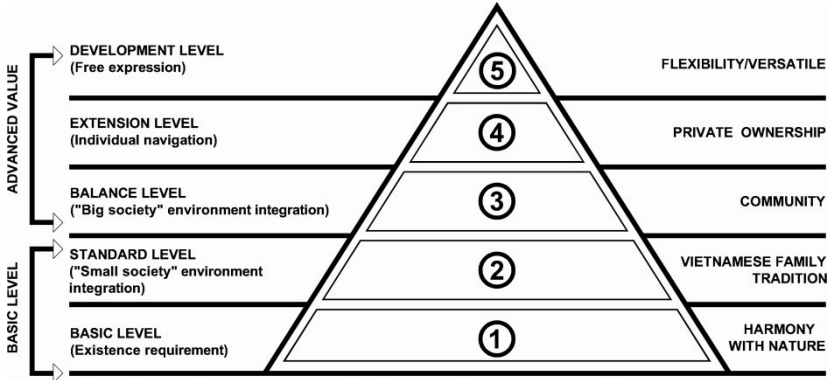
Considering the *exogenous relationship* between the traditional culture value and the urban house function shows that: the interaction model building helps to select the values and appoints the architecture components to be exploited. The interaction index summary leads to *the traditional culture value scale in the function element (argument 2)*. In addition, it establishes the space area more likely to transfer the traditional culture.

**Table 2.10 - [Suggestion 3]: The Traditional Culture Value Scale On The Function Aspect In The Current Residential Architecture**

Order on value scale		The traditional culture value scale on the function aspect
Stability	Priority 1	The harmony with nature
	Priority 2	The flexibility/versatile
	Priority 3	The vietnamese family tradition
Fluctuation	Priority 4	The community
	Priority 5	The private ownership

The nature of human demand is *decentralized*, is established from the basic level and increases in accordance with the development status. This characteristic is described by Maslow in the theory of Demand Tower and rephrased by many authors in different research areas. The traditional culture is the object of human demand and is decentralized, institutionalized in the value scales; thus, the division principle of the theory above can be used to *build the traditional culture scale in accordance with the human demand (The traditional culture value*

*tower*) [figure 2.8]. This value scale is absolutely independent to the value scale in accordance with endogenous and exogenous interactions, and is determined on basis of the general theory basis generally recognized (*argument 3*).



*Figure 2.8: "The traditional culture value tower" in the urban residential architecture*

The function space in the residential architecture is also a decentralized object that is enhanced and developed with the human demand and establishes the convenient quality house forms from basic to high-grade. As a result, the thesis continues to use the theory of Maslow to divide the structure of the groups of the function space, and express the important and necessary level in accordance with the development level, building the *model of "Function Tower" in the urban residential architecture (argument 4) – [Figure 2.7]*.

Combining 4 arguments above shows that the traditional culture value, the house function and the human demand have the decentralization originated from the human; as a result, they have relevant relationship with each other and possibly establish the same structure model with order expressed from low to high. This collects adequate basis to infer that in the urban residential architecture, the following rule

development process will occur: *any demand will have relevant function and culture.*

### 2.3. The relationship between the traditional culture value and the form of the urban residential architecture in Vietnam

The approach to *Aesthetics and Architectural Aesthetics* shows that the traditional residential architecture form is the aesthetic object that expresses the unification between the objective shaping rule and the subjective implication of the human; thus it possibly contributes to the current urban residential architecture form in Vietnam 3 roles: *to build the traditional aesthetic rule, to transfer the awareness morphology of the Vietnamese, to build the traditional aesthetic principle [figure 2.10].*

The approach to the *Semiotics* opinion identifies 3 traditional aesthetic value conversion mechanisms in the current urban residential architecture in Vietnam: the original conversion, the partial conversion, and the corresponding conversion *[figure 2.16]*. In which, the *corresponding conversion* can exploit the advantage of the technology and creativity, and also inherit the traditional culture value by the aesthetic principles and rules. This is the selective encryption and decryption process and the research aim of the thesis.

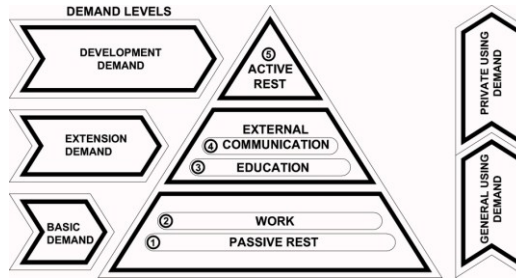
From the interaction model between the traditional culture value and the urban residential architecture form element, the necessary objects are selected to build the exploitation model. These are the elements of the **important group** (*the typical covering structure, doors, roofs, and porch/loggia*) and **9 traditional aesthetic characteristics** (*natural ventilation form, sunshade, shade creation, natural materials, the symmetry/balance, harmonic ratio, geometry, mobility, rhyme*).

## CHAPTER III

### THE TRADITIONAL CULTURE VALUE MODEL IN THE RESIDENTIAL ARCHITECTURE IN THE BIG CITIES IN VIETNAM

#### 3.1 The traditional culture value exploitation in the function element

Theory of Maslow is manipulated to divide the function structure in accordance with 3 levels (*basic – extension – development*), expressing the increasing process of the human demand satisfaction ability in the residential space [figure 3.2].



**Figure 3.2 :** “Function Tower” model in accordance with 3 demand levels

Along with that process, the traditional culture value is also divided to 3 corresponding groups to participate and show the identical development rule between the culture and the function (*the culture corresponding to the function*). With the summation, the reference and argument of the relationship between the culture value scales in accordance with the endogenous and exogenous interactions and the demands, the *general model of the traditional culture value in the function element (theoretical model)*–[f3.3] can be built. Coordinating this model with the *Function Tower Model* (restructured in accordance with 3 demand levels) results in the **applicable model** of the traditional culture in the urban residential function [f 3.5]. Through the applicable

model, the residential space structure will select the culture groups to participate and develop (*the culture conversion function*). Thus, ***the traditional culture exploitation in the function element is the process of selecting the values corresponding to the residential space demand levels.***

Each traditional culture value has the conversion in accordance with 3 different space demand levels. In the ***basic demand level***, the residential space has 2 main function groups as *passive rest and work*, and only 2 culture values participate as *the harmony to the nature and the flexibility/versatile (pre-level)*. These values are universal and show the house organization method to be suitable with small area condition (all general using functions), directing to the balance with the natural environment passively. Proceeding to the extension demand level, the house function is structured by 4 official function groups as *passive rest, work, education and external communication*; along with the personal living space shaping. In this condition, 5 traditional culture values capable of participating and dominating are *the harmony with nature, the flexibility/versatile (pre-level), the community, the Vietnamese family tradition, the private ownership*. Reaching the *development demand level*, the houses include 5 function groups, establishing the official existence of the active rest space with high-grade living convenience, lengthening from the general using space to private using space. This demand level has the impact of 5 traditional culture values as *the harmony with nature, the flexibility/versatile (advanced), the community, the Vietnamese family tradition, the private ownership*. The analysis of the intervention of the culture to the residential space shows that: the higher the function development level is, the wider the scope of traditional culture value is exploited. In which, *The harmony with nature, the flexibility/versatile*

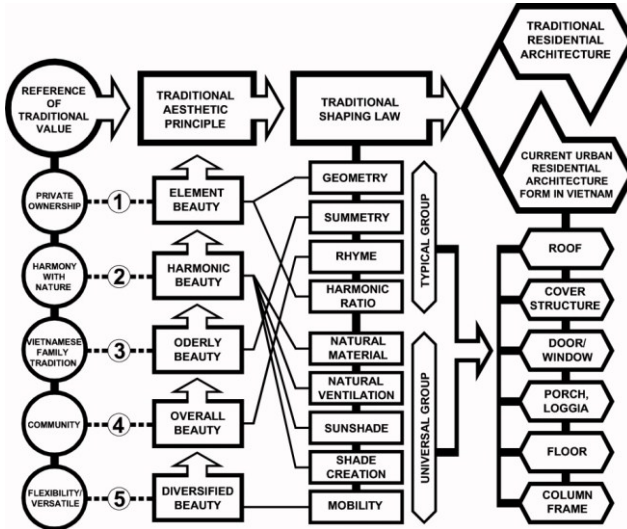
reach the highest interaction level in the conversion process; the *private ownership* tends to increase with the formation of the personal spaces; the *community expands* the participation in the internal living space, and the *Vietnamese family tradition* develops the operation area in accordance with the function group, associated to the physical and mental developing activities.

### 3.2 Exploitation of the traditional culture value in the form element

The traditional aesthetic value exploitation model in the urban residential architecture form is built on basis of the interaction between 9 aesthetic values (determined in Chapter II) with the shaping components of the house. Through assessment and comparison of the interaction index, 2 object groups that are selected can provide high exploitation efficiency. They are: *the culture object – the typical culture group* (the geometry, the symmetry, the rhyme and the harmonic ratio) and *the shaping object – the important structure group* (roof, covering structure, door, and porch/loggia). Besides, this is also considered to be the *ideal exploitation model* [figure 3.14] because it fully determines the intervention ability of the traditional aesthetic value in each constitutive element; therefrom, it can be the basis to expertise the actual built works on the traditional culture exploitation level. The selected aesthetic value is the objective shaping rules related to establishing the subjective aesthetic principles and results in the traditional culture value, showing the idea and spirit content of the Vietnamese. The summation of the interaction indexes of these values creates the *order of the traditional aesthetic principle in the urban residential architecture* [figure 3.18]. As a result, the combination between 3 elements (the aesthetic value, the aesthetic principle, the traditional culture value) creates *decentralized theory frame*



*to orient the exploitation;* shows the similarity to the decentralization of the traditional culture value scale and the demand theory.



**Figure 3.18:** The traditional aesthetic value conversion and identification process in the urban residential architecture form in Vietnam

On basis of each model, many exploitation levels can be divided, represented by the decentralization indexes (gained through the interaction index assessment). The thesis chooses 2-level division method to analyze and establish 2 exploitation groups as the *limited group* and the *typical group – the main exploited object*. The analysis of the combination between the shaping elements in the typical group leads to 7 *exploitation statuses* [f.3.19] and is also the aim of the traditional culture exploitation model application in the urban residential architecture form.

### 3.3 The conversion tendency of the traditional culture value in the residential architecture in the big cities in Vietnam

In the next phases, the traditional culture value will continue to change as an indispensable rule of the development process. The dynamic

conversion of the age elements continuously impacts the traditional culture value system and makes it change to establish the new traditional culture systems. The analysis contents of this thesis show the relationship between the traditional culture value and the urban residential architecture in Vietnam characterized by the decentralization, which impacts both function and form. In each aspect, the traditional culture shows the intervention level through the decentralization order of the value scales. Thus, from the interaction with the new age elements, the conversion tendency of the traditional culture value is also the conversion tendency of the value scales.

With the function, the development of the residential space structure is the condition for the culture to participate and develop in accordance with the nature of the demand. The Maslow's opinion and the opinion of the world architecture development show that: *The harmony with nature, the flexibility/versatile, the private ownership* will continue to be strongly developed; *the community, the Vietnamese family tradition* will be customized in accordance with living style of each object [figure 3.20]. In general, the traditional culture value scale tends to be divided to 2 value scales: *the basic demand and extension demand* manipulate *the basic traditional culture value scale*; *the development demand* manipulates *the advanced traditional culture value scale*.

In the form element, due to the intervention of the technology and the creativity, the traditional aesthetic principle order tends to change also. It is the increase of the principles of *the harmonic fineness with nature, the diversified fineness* and the decrease of *the element fineness*. However, these 3 principles lead the aesthetic principle system and are similar to the common opinion in the world. The reversal of the aesthetic principles changes the traditional culture value order and creates the new

traditional value scale in the residential architecture in the big cities in Vietnam [figure 3.21].

### **3.4 The discussion on the characteristics of the traditional culture exploitation in the residential architecture in the big cities in Vietnam**

- ***The traditional culture exploitation in accordance with the value system:*** the approach to the value system enables general assessment on the potential and participation tendency of the traditional culture in the residential architecture in the big cities in Vietnam.

- ***The traditional culture exploitation with the law:*** on the function aspect, it is the *similar development law*; on the form aspect, it is the *order law of the traditional aesthetic principle*.

- ***The quantifiable traditional culture exploitation:*** developed in accordance with the interaction index between the traditional culture values and between the traditional culture values and the (function and form) components of the residential architecture.

- ***The traditional culture exploitation with the active and passive attributes:*** *passive* selection of the culture groups to be corresponding to the function; *passive* manipulation of the traditional aesthetic laws and principles after determining the roles of the modern materials and techniques, the personal creativity. The *active* selection of the typical value and the value scale is applied to enhance the ethnicity on the function and form aspects

- ***The traditional culture exploitation on basis of referring the residential architecture development opinion in the world:*** avoiding the variation due to the subjective prejudice – the reason leading to the backwardness of the residential architecture in Vietnam compared with the world - in the exploitation process.

## CONCLUSION AND RECOMMENDATIONS

1. The current traditional culture value in the residential architecture in the big cities in Vietnam is converted to 2 phases: from rural to traditional urban phase, and from traditional urban to modern urban phase. In these conversion phases, the cultural value shows the conversion of the intervention level on the components of the residential architecture in increasing or decreasing tendency. This shows the ***development inheritance*** or ***culture rejection*** in accordance with the conversion of the house models through the centuries. The access to the definitions shows that the traditional culture is the 2-grade structure system (display and non-display) that continuously interact each other and other external systems during the conversion process to be suitable with the new existing condition. This can explain the rejection mechanism stated above and also is the theoretical base for the identification of the traditional culture impact in the urban architecture in Vietnam – the research object of the thesis.

2. The important characteristic of the traditional culture system is the decentralization, displayed by the value scales. The order of these value scales is established through the ***endogenous relationship*** (*between the traditional culture values*) and ***exogenous relationship*** (*between the traditional culture values and the architecture components*). The first value scale is formed from the rural house; however, when it is converted to the traditional urban house, the change of the original house conditions *fluctuates the culture value scale for the first time*; therefrom we recognize the weakening of some values and the “durability” of some other values. In the next conversion phase - the traditional urban to the modern urban phase, the conditions impacting the residential architecture

strongly increase and *change the traditional culture value scale for the second time*. The house types are developed fast and break the simple and pure characteristics of the traditional house to form the new living spaces and new aesthetic form. This phase marks many rejections of the old traditional values, especially on the shaping aspect. However, the traditional culture still has great impact on the Vietnamese communities in the cities, so it is still maintained. The analysis of the manifestation of the townhouse, villa and apartment form shows 6 values collected to be the traditional culture value scale/system including: *the harmony with nature, the flexibility/versatile, the private ownership, the community, the Vietnamese family tradition, the signifier*. These are the values selected in the conversion process and suitable with the current development condition.

The aim to inherit and develop the traditional values in the urban residential architecture in Vietnam requires these values above to be continuously exploited. The thesis develops this aim in accordance with ***4 approach bases*** (*system theory, demand theory, semiotics, aesthetics and architectural aesthetics*), and is combined with ***reference of the architecture development opinion in the world*** of 11 theories and 13 authors who won the Pritzker awards in recent years.

**3. On the function aspect**, the approach to the system theory enables to establish the relationship between the values by endogenous and exogenous interactions. In which, the endogenous interaction (between the culture values) results in the results recommending ***the traditional culture value scale in accordance with the qualitative and quantitative analysis***. The exogenous interaction develops the components of the residential space and the culture value, resulting in ***the culture value scale on the function aspect***. These two value scale is the

dialectical result of the relationships so they contain the subjective characteristic of the research. Thus, the thesis applies the demand decentralization theory of Maslow to compare the order of the values in accordance with the importance and necessity, gradually changing from the basic to development level, building *the traditional culture value scale in accordance with the human demand – “The traditional culture value tower”*. The use of the summation of 3 value scales above results in the summary *model of the traditional culture value in the function element (theory model)*. Besides, the culture and function are originated from the human demand, so the space structure is divided to 3 levels, *forming the “Function Tower” model*. The coordination of 2 models above *creates the application model, expressing the traditional culture exploitation process, depending on the residential space development characteristic (culture corresponding to function)*.

4. The comparison of the correlation between the function and the culture shows that the impact of the culture value increases and enhances in accordance with the space demand levels. *In the basic demand level*, the residential space has 2 main function groups that are *the passive rest and work*, so only 2 culture values as *the harmony with nature and the flexibility/versatile (pre-level)*. Proceeding to *the extension demand level*, the house function is structured by 4 official function groups as *the passive rest, work, education, external communication*; along with the formation of the individual living space. In this condition, 5 traditional culture values capable of participation and domination is *the harmony with nature, the flexibility/versatile (pre-level), the community, the Vietnamese family tradition, the private ownership*. Reaching *the development demand level*, the house has 5 function groups, establishing the official existence of the private using

space. In this demand level, the impacts of 5 traditional culture values are *the harmony with nature, the flexibility/versatile (advanced), the community, the Vietnamese family tradition and the private ownership*. The analysis of the intervention of the culture and the residential space shows that: the higher the function development level is, the wider the exploitation scope of the traditional culture value is.

5. The reference to the opinion of the architecture and the residential architecture in the world shows that the traditional culture values are divided to 2 groups including: ***the general tendency group*** (*the harmony with nature, the flexibility/versatile, the private ownership*) and ***the native tendency group*** - *the characteristics of the Vietnamese culture (the community, the Vietnamese family tradition)*. By this division method, the general tendency group is inferred to be developed in the future; the native tendency group is the condition to exploit and identify the tradition, enhances the intervention of these characteristics, which means to inherit and develop the traditional culture in the residential space in the big cities in Vietnam.

With the two development tendencies above, ***the basic and extension demand levels*** can apply the ***basic traditional culture value scale***; ***the development demand level*** applies ***the advanced traditional culture value scale***. Thus in the next development phases, the traditional culture value scale in the residential function tends to be divided to ***2 different value scales***, showing the conversion of the traditional culture to be suitable with the new existence condition.

6. ***On the form aspect***, *the approach to the system theory* to build the interaction model between the traditional aesthetic value and the structure components (*roof, covering structure, door, column frame, floor*) leads to the selection of ***9 typical aesthetic values*** as *the geometry,*

*the symmetry, the rhyme, the harmonic ratio, the mobility, the natural material, the sunshade method, ventilation, shade creation.* Besides, the approach to *the aesthetics and architecture aesthetics* shows that the traditional culture can contribute to the urban residential architecture 3 roles: to ***build the traditional aesthetic***, to transmit the awareness morphology of the Vietnamese, to build the traditional aesthetic principle. A correlation relationship exists between the aesthetic law - the aesthetic principle - the awareness morphology; forming the decentralization order of the aesthetic principle, corresponding to the decentralization order of the traditional culture value. Thus, the inheritance of the traditional culture in the form of the urban residential architecture is the conversion of the aesthetic rules and aesthetic principles (leading to the traditional culture) and the decentralization order system of these elements. This is the conversion method suitable with the current development condition; developing the role of the technology - creativity and avoiding the replication situation of the old form of house.

The approach ***to the semiotics shows*** that the traditional aesthetic value can be converted in the form of the urban residential architecture in accordance with 3 mechanism: ***original conversion, partial conversion, corresponding conversion*** (conversion of the aesthetic laws and principles). In which, *the corresponding conversion* is proved to be possibly exploited, maintaining the traditional characteristic with "incognito" dominance and developing the advance of the technology and the creativity in the indication aspect.

7. The traditional culture value exploitation model in the urban architecture form is built on the interaction between the selected aesthetic value and the shaping elements; therefrom establishes ***7 exploitation statuses***, showing the necessary coordination ability between the structure



elements to direct to the highest exploitation index. Corresponding to each status, the manipulation of the traditional aesthetic principle and law will lead to different exploitation results, gradually changing from the average exploitation level (enough to identify the tradition, 55%) to the highest level (ideal level, 100%).

8. The comparison of the architecture and the residential architecture development opinion in the world shows that the residential architecture tends to create the forms to adapt the climate conditions, combined with the natural materials (*harmonic fineness with nature*); enhances the flexibility of the structure element (*diversified fineness*); highly evaluates the ratio and geometry law (element fineness). These are the general principles that are similar to the traditional aesthetic principle and continue to be developed. Besides, the analysis of the relationship between the traditional aesthetic value and the intervention elements to the current house shaping (technology, creativity, nature, culture – society, economics) shows the possibility of appearing the new traditional aesthetic principle order, showing the conversion rule of the traditional culture to satisfy the requirements of the age. Thus, the exploitation of the traditional culture in the urban architecture will include *the maintenance of the old traditional aesthetic principle order and development of the new tradition*. Both of these two method can identify the ethnicity and the identity; showing the flexibility of the exploitation process to match the general tendency in the world.

9. On the summary of the research contents, the thesis recommend the inheritance and exploitation of the traditional culture value in the residential architecture in the current big cities in Vietnam as follows:

- *On the function element*: the exploitation process needs to

determine the demand of the object to build the residential space architecture suitably, creating the balance between “the residential convenience” and “the cultural convenience”. This means, the traditional culture value groups to be transferred will corresponding to each determined demand level. ***With basic demand level***, the space structure is unconditional to exploit the traditional culture value to create the characteristics. In ***the extension demand level***, the residential house needs to build 4 function space groups (*passive rest, work, education, communication*); exploits ***the basic traditional culture value scale*** or ***the value scale in the application model***. ***For the development demand level***, the house needs to establish 5 function space groups (*passive rest, work, education, communication, active rest*), exploits ***the advanced traditional culture value scale*** or ***value scale in the application model***.

- ***On form element***: continuing to develop the positive role of the technology and the creativity in forming the residential architecture form. Depending on the balance between the 2 elements above and demand to transfer the traditional aesthetic value, one of 7 exploitation statuses can be selected. Besides, that process needs to be combined with the selection of the old or new traditional aesthetic principles. The new traditional aesthetics is similar to the general tendency in the world so it can create the modern work and also shows the ethnicity and the indigeneity. The expertise of built residential works on the tradition exploitation level can use the models introduced in the thesis contents. This model application helps to determine the exploitation quantitatively instead of sensible identification. Besides, the construction method of the traditional culture value exploitation model can be applied similarly to enhance other exploitation works beside the house.

## WORK LIST OF THE AUTHOR

1. Nguyen Song Hoan Nguyen (2009), *Traditional Culture in Townhouse Architecture in Vietnam*. Construction Magazine No. 40/2009;
2. Tran Van Khai, Nguyen Song Hoan Nguyen (2009), *Proposal of Some Urban and Suburban Residential Architecture in Developing Economic Condition*, Conference “Quy Nhon City Development Planning to 2030 and Vision to 2050”;
3. Nguyen Song Hoan Nguyen (2015), “*Performance Tower*” *Model in Residential Architecture*, Construction Magazine No. 11/2015;
4. Nguyen Song Hoan Nguyen (2016), *Traditional Aesthetic Value in Current Urban Residential Architecture in Vietnam*, Construction Magazine No. 04/2016;
5. Nguyen Song Hoan Nguyen (2016), *Rural Architecture in Wetlands in Mekong Delta (adjacent to Cambodia Boundary)*, Special Subject of Ministry-level research topic: “Research on Architecture Development Orientation of Mekong Delta”, Faculty of Architecture, Ho Chi Minh City University of Architecture;

F2.7

## MODEL

EXTENSION OF  
THE FUNCTION SPACEENHANCEMENT OF THE QUALITY  
OF THE RESIDENTIAL  
CONVENIENCE"PEER-TO-PEER"  
MULTI-FUNCTION  
CONTACT"MULTI-LEVEL"  
MULTI-FUNCTION  
CONTACT

"FUNCTION TOWER MODEL" IN THE URBAN RESIDENTIAL ARCHITECTURE

## NOTE:



BASE SPACE TO DEVELOP THE  
CONTACT TO "PEER-TO-PEER"  
MULTI FUNCTION

SELF- ACTUALIZING NEEDS

⑤

ACTIVE REST FUNCTION  
(PHYSICAL, MENTAL & AESTHETIC DEVELOPMENT)

④

ESTEEM NEEDS

EXTERNAL COMMUNICATION  
FUNCTION

③

SOCIAL NEEDS

EDUCATION FUNCTION

②

SAFETY NEEDS

WORKING FUNCTION

①

PHYSIOLOGICAL NEEDS

PASSIVE REST  
FUNCTION

## SINGLE FUNCTION SPACE

- Meditation, Yoga space
- Specialized entertainment space (billar, bing bong...)
- Children playing space
- Sauna + massage
- Art composing space
- Swimming pool
- Gymnastic space
- Atrium (large area)
- Garden, mini sence, rockeries
- Audio visual entertainment

- Living space
- Garden
- Porch/lobby
- Gate
- Main dining space
- Public corridor

- Family library
- Ancestor and god worship space
- General living space
- Study & research space
- Family memory space

- Trading space
- Service space
- Craft space
- Office

- Sleeping space
- Kitchen
- Dinning (internal)
- Individual living space (relaxing)
- Atrium/green space (small area)
- WC
- Loggia

1. UNIVERSAL 2. LIMIT 3. SPECIALIZED 4. ECOLOGICAL

20

10

5

6

7

2

2

2

3

2

4

4

ADVANCED DEMAND

BASIC DEMAND

# INTERACTION AMONG TRADITIONAL CULTURE VALUES IN URBAN RESIDENTIAL ARCHITECTURE IN VIETNAM TODAY

F2.3

NOTE



Row house (Trading)

Row house (Residence)

Villa

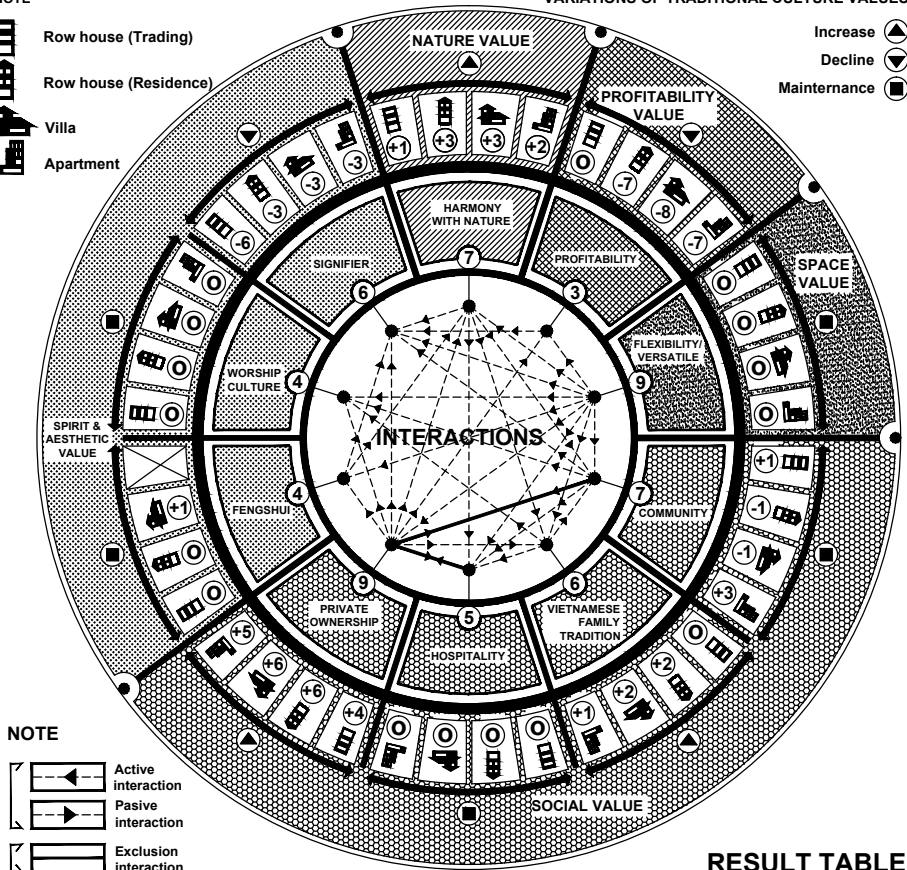
Apartment

VARIATIONS OF TRADITIONAL CULTURE VALUES

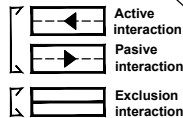
Increase ▲

Decline ▼

Maintenance ■

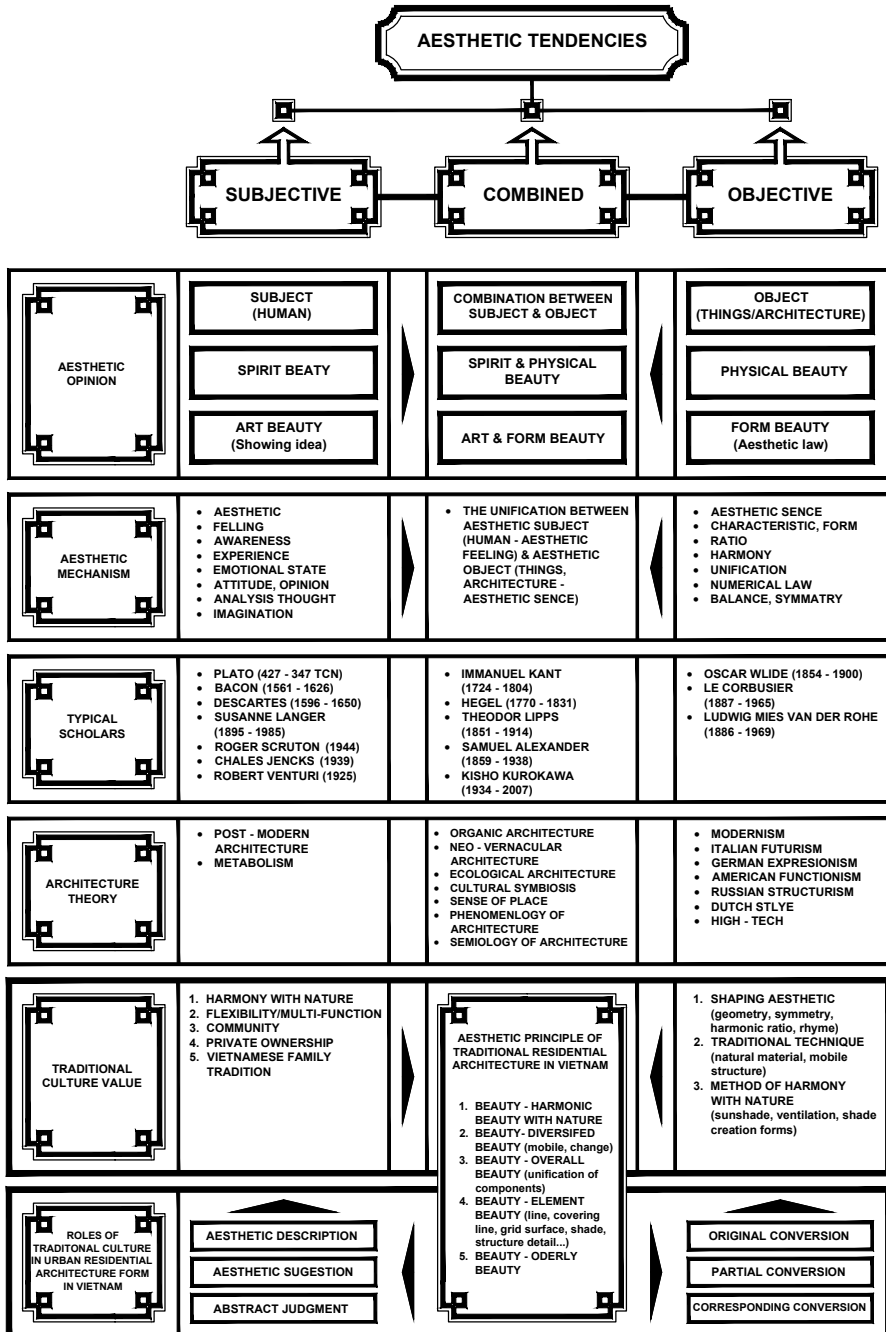


NOTE



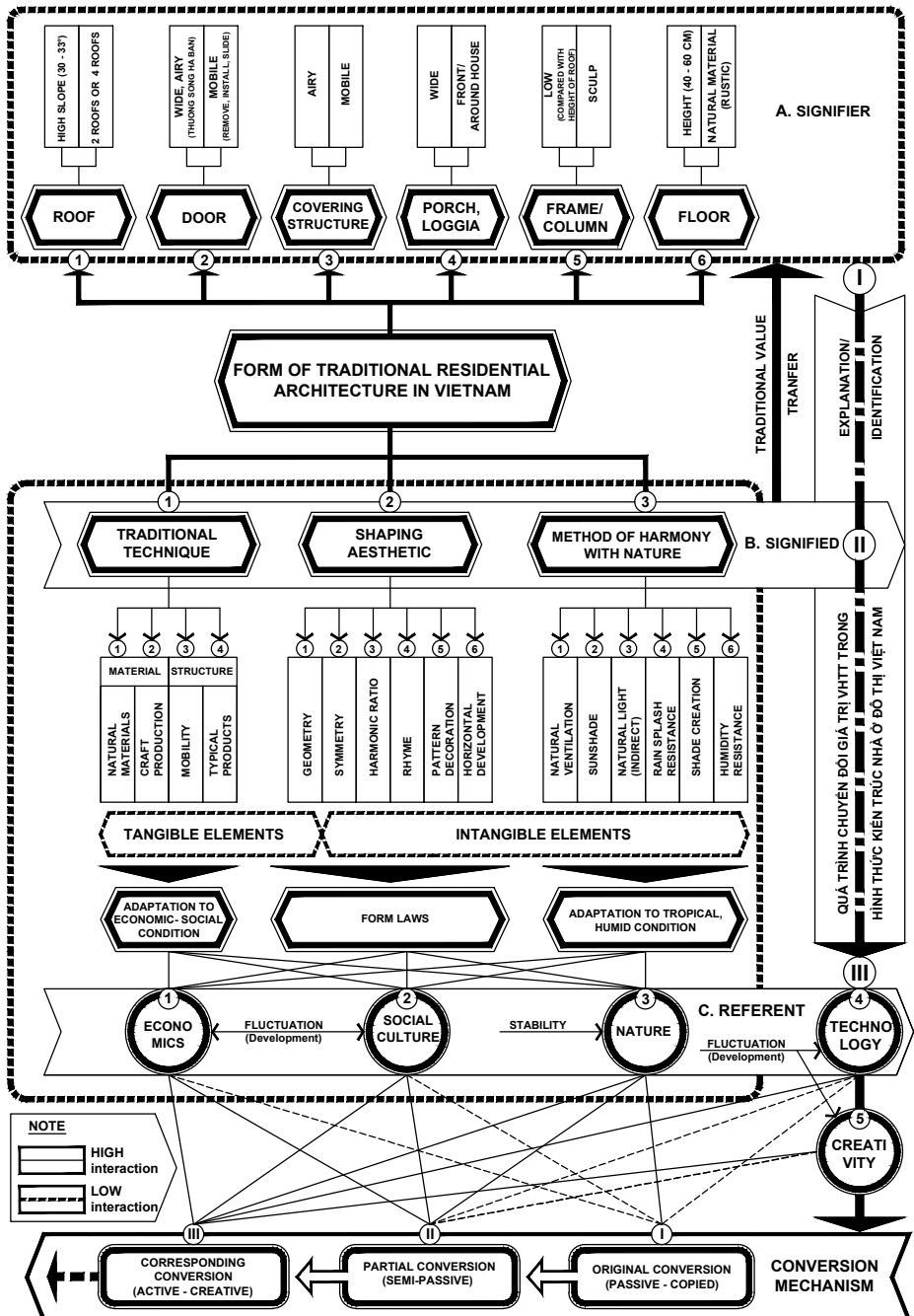
RESULT TABLE

N.O	THE TRADITIONAL CULTURE VALUE SCALE					TOTAL INTERACTION
			ACTIVE INTERACTION	PASIVE INTERACTION	EXCLUSION INTERACTION	
01	HIGH INTERACTION	FLEXIBILITY/VERSATILE	09	9	0	09
02		HARMONY WITH NATURE	04	7	03	07
03		PRIVATE OWNERSHIP	06	7	02	09
04	AVERAGE INTERACTION	VIETNAMESE FAMILY TRADITION	03	6	03	06
05		SIGNIFIER	0	6	06	06
06		COMMUNITY	03	6	03	07
07	LOW INTERACTION	FENGSHUI	02	4	02	04
08		WORSHIP CULTURE	0	4	04	04
09		HOSPITALITY	0	4	04	05
10		PROFITABILITY	0	3	03	03



# TRADITIONAL CULTURE VALUE CONVERSION MECHANISM IN URBAN RESIDENTIAL ARCHITECTURE FORM IN VIETNAM

F2.16

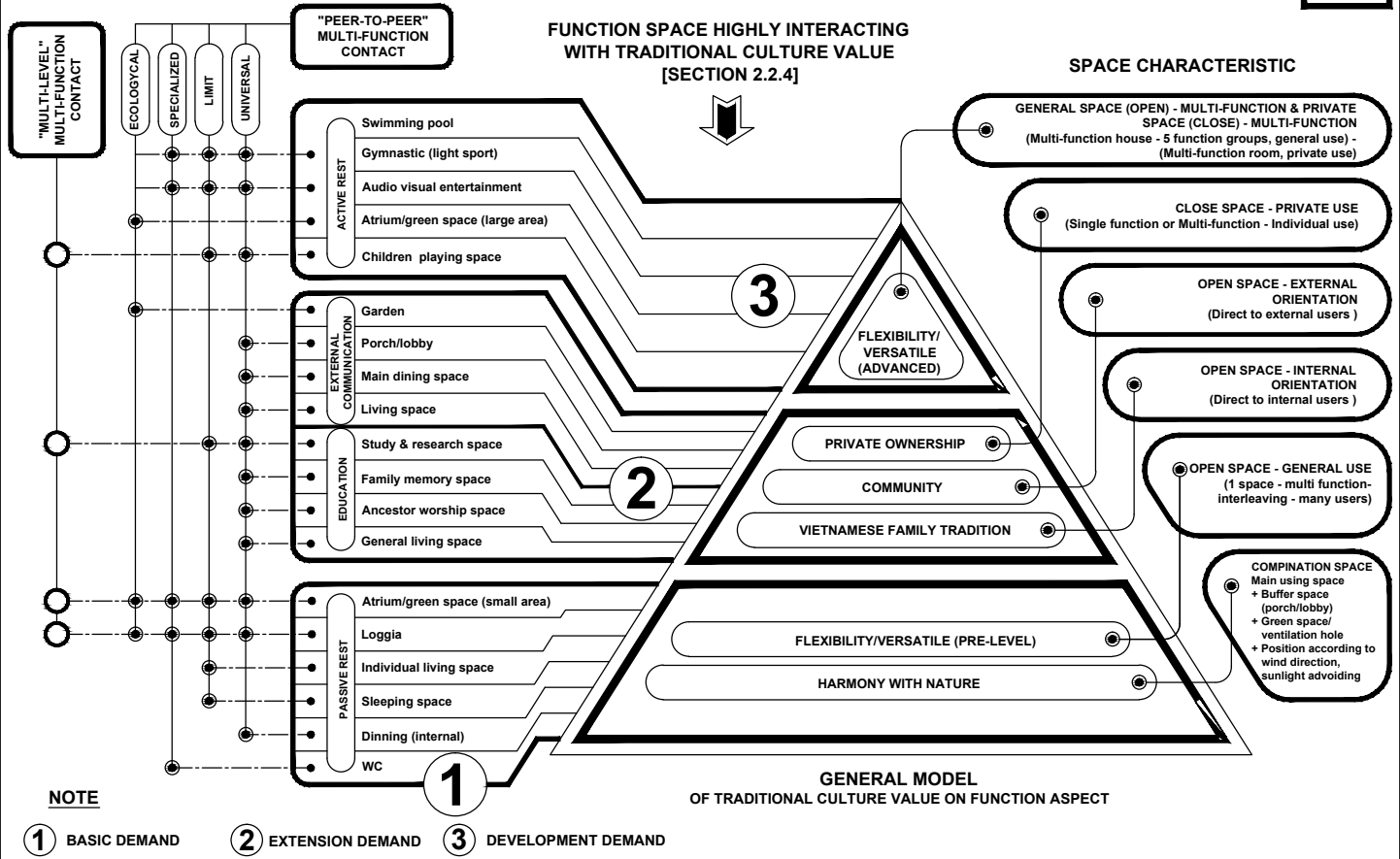






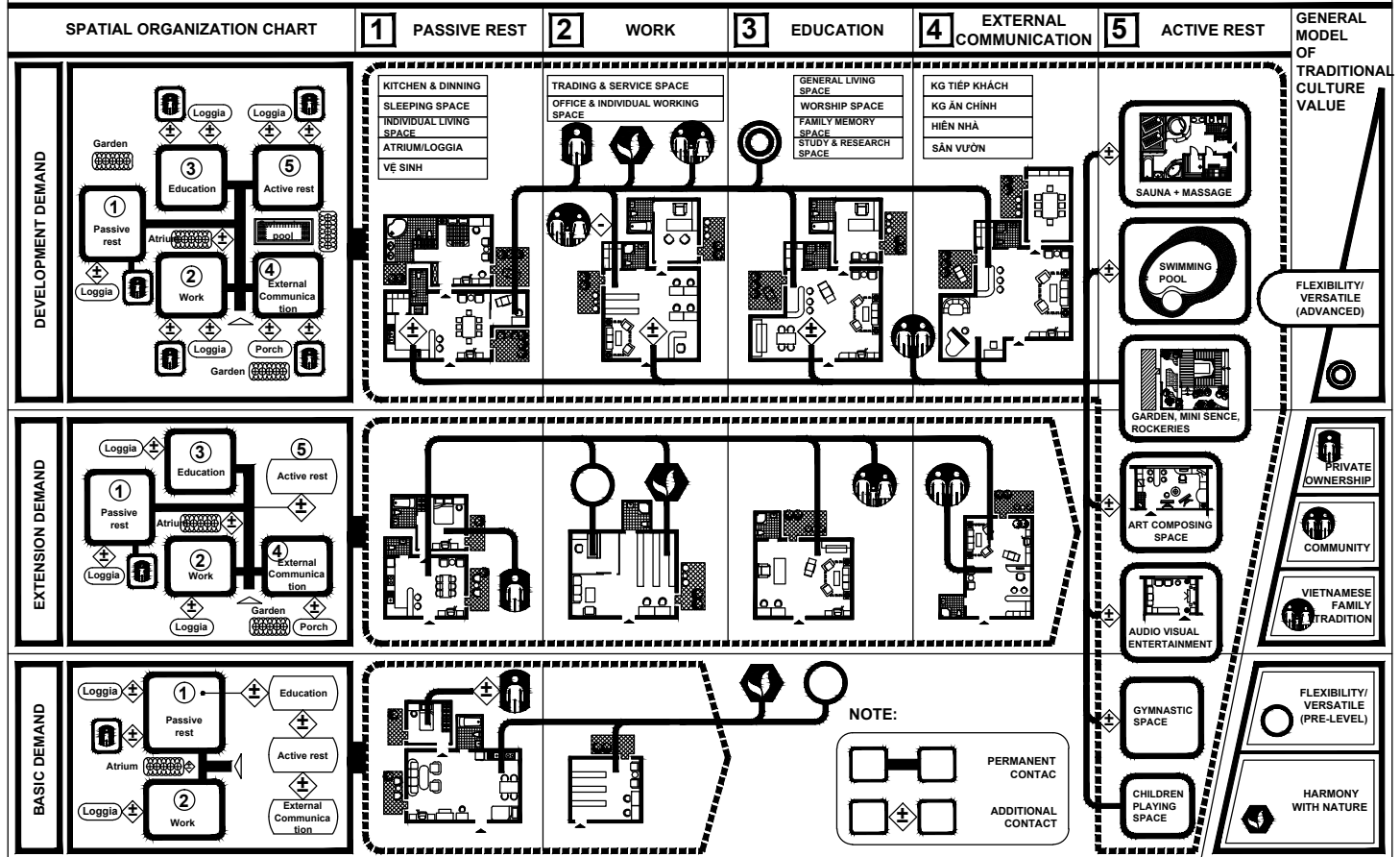
# APPLICATION MODEL OF TRADITIONAL CULTURE VALUE ON FUNCTION ASPECT

F3.5

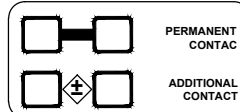


# EXPLOITATION CHARACTERISTICS OF TRADITIONAL CULTURE VALUE ON FUNCTION ASPECT

F3.12



NOTE:



# EXPLOITATION MODEL OF TRADITIONAL CULTURE VALUE IN RESIDENTIAL ARCHITECTURE FORM IN BIG CITIES IN VIETNAM

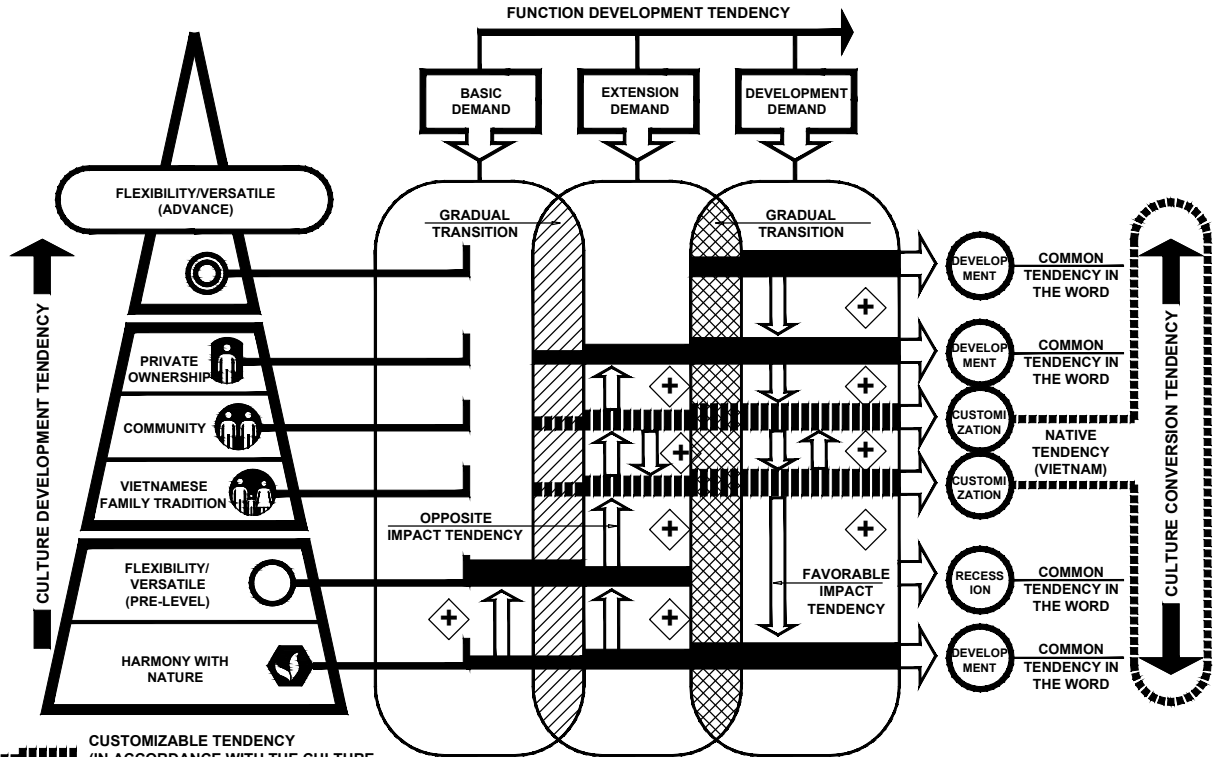
F3.14

TRADITIONAL AESTHETIC VALUE		STRUCTURE COMPONENT OF RESIDENTIAL ARCHITECTURE FORM IN VIETNAM URBAN												EXPLOITATION INDEX			
		ROOF/ CORNICE		TYPICAL COVERING STRUCTURE		WINDOW/ DOOR		PORCH/ LOGGIA		FLOOR		COLUMN FRAME					
GEOMETRY	Vertical, horizontal line													39	TYPICAL		
	Diagonal line																
	Flat surface																
	Tilted surface																
	Grid surface																
SYMMETRY	Absolute symmetry													36	TYPICAL		
	Balanced symmetry																
RHYME	Identical structure													33		TYPICAL	
	Repeated structure																
HARMONIC RATIO	Human ratio													19	TYPICAL		
	Vertical percentile																
SHADE CREATION	Behind door, covering structure													15		UNIVERSAL	
	Shade under cornice																
	Shade under roof																
NATURAL MATERIAL	Rock, terracotta brick													13	UNIVERSAL		
	Wood																
	Tile																
MOBILITY	Mobile structure (space extension, sunshine, ventilation)													9			UNIVERSAL
NATURAL VENTILATION	Alternative solid & hollow structure													9			
	Roof ventilation hole																
SUNSHADE	Cornice, baffle plate													6			
	Roof outreaching the wall																
EXPLOITATION INDEX OF EACH HOUSE TYPE														SINGLE INDEX			
AVERAGE INDEX																	
METHOD TO CALCULATE COMBINATION INDEX														COMBINATION INDEX			
EXPLOITATION LEVEL														RATIO EXCHANGE %			
NOTE																	



# THE TRADITIONAL CULTURE CONVERSION TENDENCY ON FUNCTION ASPECT

F3.20



## NOTE

- ①  CUSTOMIZABLE TENDENCY (IN ACCORDANCE WITH THE CULTURE DEMAND)
- ②  DEVELOPMENT TENDENCY
- ③  RECESSION TENDENCY

# CONVERSION TENDENCY OF THE TRADITIONAL CULTURE VALUE ON THE FORM ASPECT

F3.21

